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Russia's War on Ukraine

Strategic and Operational Designs and Implementation

Pentti Forsström (ed.)

MAANPUOLUSTUSKORKEAKOULU
SOTATAIDON LAITOS
JULKAISUSARJA 2: TUTKIMUSSELOSTEITA NRO 29

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PENTTI FORSSTRÖM (ED.)

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HELSINKI 2023

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1

INTRODUCTION TO THE THEME OF THE SEMINAR 2023

Pentti Forsström

The presentation by Pentti Forsström[1] in the Russia Seminar 2023 can be found on the FNDU YouTube-channel: https://www.youtube.com/watch?v=iI-1U5kKwd8 starting from 24:10.

On behalf of the organizers it was a pleasure to welcome quite remarkable group of researchers – in person – to take part in the Russia Seminar 2023 in Santahamina. Especially now, when finalizing these lines, I'd once again like to express my gratitude to all the contributors to the seminar. The title of the seminar was "Russia's war on Ukraine – strategic and operational designs and implementation". We had been monitoring the short "special military operation" in Ukraine for more than year and unfortunately the final stage of the war is yet to be seen. This means that there are many questions to be asked and answered in terms of research.

I remember back on 4th December 2012 when I was serving as the Finnish Defence attaché to Russia in Moscow, and I met colonel-general Valery Gerasimov, which had been a few days earlier appointed as a Chief of the Russian General staff. I asked him a question – *"could you please describe your feelings in your new post with one word?"* After a short minute of thinking he replied with one word: *"otvetstvennost"* – responsibility. I'm sure that he didn't foresee that after 10 years after that meeting he will be responsible for the military operation in the war against Ukraine. I'd really like to ask him a follow-up question: *"Could you describe your feelings about the responsibility with one word?"*

On the concepts of war and operation

The dilemma between the notions of "War" and "Special military operation" has been a subject to debate in political and analytical discourse and also in practical terms. This discrepancy started ultimately disappear on 21st September 2022, when Russia announced on conducting of a partial mobilization. In this respect Russia in practice admitted being in a war and the society took also part in the endeavour. Afterwards, Russia has proclaimed the martial law on the four Ukrainian administrational areas which it hasn't even fully occupied. By this way Russia turned the set-up upside down in order to justify its activities.

Despite that the terms "special operation" is quite "normal" Russian military concept, the Russian actions should be defined by using the concept of "strategic operation". This is because Russia is waging the war by using peace-time units[2] and formation

[1] Pentti Forsström, D.Mil.Sc., Lt.Col. (ret.) is a Senior Researcher at the National Defence University. He holds the General Staff Officer's Degree from the year 1997 and he served in the Finnish Defence Forces until 2017. Forsström's military experience includes several positions in military intelligence and strategic research in Finland and five years abroad. Forsström's doctoral dissertation (2019) focused on the change of the fundamentals of Russian military strategy.

[2] With regards to the Land forces' permanent readiness units.

according to their operational concept in an armed conflict in the very near-abroad of Russia. The history of this event shows that the military force used was not enough in the light of the goals set for the operation. By this way the question is about over-estimation of Russia's capabilities on one hand and underestimation of Ukraine on the other[3]. The mobilization is meant to correct this problem and reinforce its troops. The mobilization is a proof of the fact that Russia is planning to use its war time units and formations in operations in a war. This is an undisputable fact also in the Russian definitions[4].

Of course, from the Russian point of view not to use the term "war" is understandable – while in that case Russia could be regarded as an aggressor and Russia made an act of aggression on a peaceful country according to the UN Charter. This in turn would mean that Russia is regarded guilty as charged and the internal justification would need totally new arguments. So Russia will use the term "operation" and defines it on national basis and will reinforce its military capabilities for future use.

On Russian military strategy

What comes to the use of military force the occupation of Crimea was an evidence of Russia's turn from reactive military-policy towards a proactive mode of action. It shows also that Russia was capable of grapping the initiative in its hands and by this way to cause surprise for the adversary. It was a surprise also for Europe and Western world. After the reactions because of the Crimean occupation and after 8 years of fighting, it is hard to believe that, Russia's military-political leaders would have not known what kind of defence and resistance was be to expected in Ukraine. But, on the other hand, it's another question on what arguments the decision of the operation against Ukraine was made and why the Russian military leaders did not follow the basic and tested principles of warfare in the first place.

In military strategic terms a shift from deterrence towards coercion with military force took place. A surprise was the fact that the decision was made and Russia started the invasion, although one could not speak about a principle of surprise a' la Crimea. Would it be possible that if Russia had not started the invasion, someone could say that Russia acts as a subordinate to a threat which Russia itself has assessed, or even more, Russia could not make a sovereign decision of the use of force. Therefore, Russia had to start the aggression. Anyhow, the lack of factor of surprise did not prevent Russia to act as it did.

Perhaps the concept of "active defense" launched earlier by General Gerasimov would be sufficient and proper solution for the action in that situation. But, already in March last year, after a few weeks of fighting, it was obvious that the discrepancy between the political goals and the military force needed to achieve them was growing. The Gerasimov's concept of preventive neutralization of a threat didn't succeed.

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[3] The first week of the operation was actually not entirely an offencive action "by the book".

[4] ВЭС, Военное издательство, Москва 2007, p. 154. The Russian concept of war is defined as a phenomena, in which the society is in a special stage caused by the dramatic and profound change in the relations between states, nations, and social groups and which has led to the organized use of armed violence in order to achieve political goals.

Another piece of negligence in terms of principles of art of war was in the deployment of armed forces all around the Ukrainian border. There was no centre of gravity to be seen. This might be because of the possible Russian assessment on the fact that there would not happen any fighting but instead Russian troops would march directly to Kiev. If this was the case it turned out wrong in couple of days - Russian troops had to try to fight with Ukrainian forces having the initiative on their side. After a month of fighting Russia had to redeploy it troops and concentrate them (or what was left) to Donbass direction.

The attrition warfare lasted about five months until when Russian troops were exhausted and Ukrainian forces started to attack last autumn. Von Clausewitz would say – the culmination point was reached. Russia had to withdraw its troops from some of the territories it had occupied. The reason for this was that the Russian troops had heavy casualties both in manpower and hardware and they had no reserves. The second echelon was missing. The correlation of forces was in Ukraine's favour. This means that Russia was unprepared for a long-lasting battle and again, did not followed the principle of sufficient forces and resources. The question is about miscalculation enhanced with an underestimation.

Russia compensated partly the lack of forces by mobilizing manpower from the reserve and forming extra units. It is obvious that Russia will use all possible power and means according to words of the military doctrine. General Gerasimov's appointment as the commander of the group of forces indicate that Russia seems to be more determined and follow the principle of united and the "one and only" command ("edinonatshaliye") as a prerequisite of successful action. The mobilization indicates also that Russia tries to follow the principle of sufficient correlation of forces. The fact that one acts according to certain principles doesn't mean that the results are guaranteed.

Achievements

The military-political and -strategic situation in Europe became quite clear. Russia is undoubtedly the factor defining the foundations for assessments and perceptions of future war. This and the Russian way of war form the main focus of this year's seminar. One aim of the Russian military policy is to form advantageous military-political and strategic conditions for anticipated war in a certain area. This is apparently very difficult for Russia to achieve or even to try to achieve.

Russia's war against Ukraine made absolutely their own threat-perception reality, the threat that they tried to prevent and neutralize in the first place. To prevent NATO's enlargement is the pending goal only when Ukraine is concerned. The relations between Russia and Europe is labeled with thorough and total mistrust in every sphere of politics for years to come. In addition to the loss of trust, Russia lost also Ukraine. Russia achieved the point where its actions and military capabilities form the basis of our perceptions of future war.

Price of the war

One practical consequence is that "the letter and nature" of military doctrine have lost the function they are written for, in terms of credibility and value as a source of information.

Despite of that what I've just said, all words which are written in Russia are not fake. I found some true sentences written right after the Crimean occupation[5]. The final price tag can't be printed yet, the time for that will eventually come.

An apparent lesson learned from the last year is the saying by von Clausewitz: Russia has used the military power and violence as means for political ends.

Despite of everything, one should not make the fatal mistake of underestimating the adversary's capabilities. I'm sure that also general Gerasimov remembers this very well now. Russia will continue its existence in some form or in the other and it will continue to prepare for war also in the future. This is why Russia, its military and its thinking should be kept under clear eye also in terms of military scientific research.

Introduction to the publication

This publication consists primarily of articles presented in the 5th annual Russia Seminar 2023 organised by the Department of warfare of the Finnish National Defence University (FNDU) and titled as "Russia's war on Ukraine – strategic and operational designs and implementation".

The purpose of the Russia Seminar was *"to increase discussion on the Russian war on Ukraine and produce new knowledge on Russia's military policy and power. Furthermore, the Russia seminar offers a meeting forum for Finnish and international researchers in pursuit of establishing a research forum on Russian Art of War in the light of the future membership of Finland in NATO".* It should be noted that the publication is neither a complete collection of all the presentations given in the seminar nor a comprehensive source of information what comes to Russian war agaist Ukraine. This leaves room for themes and questions to be researched also in the future.

The use of force is one of the two main functions of the Russian military power, the other one being deterrence, which was discussed at the Russia seminar 2021[6]. The objective of deterrence is to influence the conciousness of the adversary - to change adversary's behaviour and make it relinquish possible ideas of aggression or threat to use military power against Russia. In the 2021 seminar the main emphasis was on the military aspects and prerequisites of preventing a war.

As we know now, these aspects and methods of deterrence conducted by Russia and its military during the past years 2021 – 2022 were not only aimed at preventing war, but also, they were actual preparations for a war[7]. Furthermore, despite the fact that these means and capabilities were partly escalatory and threatening by nature, they did not enable Russia to achieve its political, military-political or military objectives. Regarding Ukraine, or more broadly the security structure of Europe, they were set by

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[5] Sergey Karaganov wrote in his article 'The man behind Putin's pugnacity, Russia in Global Affairs', 1 April 2014: *"My belief is that Russia has nothing to lose and has had nothing to lose for a while. It will either win or collapse. That's my judgement. And Putin, from what I understand, will fight to the end." "We are in a blind alley, or worse, in a crisis that will have terrible human and economic and political costs for all of us."*

[6] See: Pentti Forsström (Ed.) 2021: Russian Concept of Deterrence in Contemporary and Classic Perspective, National Defence University, Department of Warfare, Series 2: Research Reports No. 11. The permanent address of the publication: https://urn.fi/URN:ISBN:978-951-25-3250-6.

[7] See: Pentti Forsström (ed) (2022): Russian Concept of War, Management and Use of Military Power – Conceptual Change, National Defence University, Department of Warfar, Series 2: Research Reports No. 19. The permanent address of the publication: https://urn.fi/URN:ISBN:978-951-25-3288-9.

Russia, perhaps, intentionally on a level which was clearly unacceptable. In this manner Russia could justify to Russian people – after the launch of the operation – that there is no other solution than to conduct "a special military operation" in Ukraine.

The contributors to the Russia seminar 2023 are briefly introduced below in the order of the appearance in the seminar. In each article there is a clock time showing the beginning of the presentation in question. All presentations and discussion can be found on the FNDU YouTube-channel:

https://www.youtube.com/watch?v=iI-1U5kKwd8 (Day 1; Sessions 1, 2 & 4),
https://www.youtube.com/watch?v=dAOcP2Io3Vc (Day 1; Sessions 3 & 5),
https://www.youtube.com/watch?v=muXRFJjq80U (Day 2; Session 6) and
https://www.youtube.com/watch?v=2n_vVxCD8CM (Day 2; Session 7).

Contributors

Keynote speakers:

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Andrii Hrytsenko, PhD, works as a Deputy Chief of Naval Department of National Defense University of Ukraine. He was experience working on different positions in the system of Ukrainian naval intelligence and has worked at the position of Chief of Intelligence Department – Deputy Chief of Naval Headquarters for Intelligence. In 2009 graduated from United States Naval War College in Newport, RI. Since 2012 serving as Deputy Chief of Naval Department of National Defense University of Ukraine.

Session 1: Aspects on Art of War

Dumitru Minzarari, PhD, is a Lecturer in Security Studies at the Department of Strategic and Political Studies, Baltic Defence College (Estonia). Prior to this, Dumitru was a Research Associate with the Eastern Europe and Eurasia Division, Stiftung Wissenschaft und Politic (German Institute for International and Security Affairs) in Berlin. Dumitru also had tenures both as a fellow and visiting scholar with the Research Division of the NATO Defense College in Rome.

Clint Reach, M.P.P, is an International Defense Researcher at Rand. Reach served nine years in the U.S. Navy as a Russian linguist in various position in the Department of Defense.

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Marina Miron, PhD, is an Honorary Research Fellow in the Defence Studies Department of King's College London. As well as works on counter-insurgency she has

several publications in the sphere of Russian information warfare. She has worked on several projects related to emerging technologies including the use of drones and the development of offensive and defensive cyber tools in the context of information warfare as used by Russia and China.

Session 2: Non-kinetic aspects

Juha Kukkola, D.Mil.Sc., Major, serves as an officer in the Finnish Defence Forces. He has specialized in Strategic and Russian studies. His doctoral dissertation Digital Soviet Union examines how the Russian Federation is constructing its national segment of the Internet.

Ivo Juurvee, PhD, is the Head of Security & Resilience Programme and a Research Fellow at the ICDS. Amongst other positions in Estonian public service, he has been an adviser at the National Security and Defense Coordination Unit of the Estonian Government Office and the head of the Internal Security Institute of the Estonian Academy of Security Sciences. His professional and academic areas of interest are information warfare, intelligence services and other forms of hybrid conflict.

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Session 3: Justifying aspects

Ieva Bērziņa, PhD, is a Senior Researcher at the Center for Security and Strategic Studies, National Academy of Defense of the Republic of Latvia, and Associated Professor at Vidzeme University of Applied Sciences. Her current research interests cover such interdisciplinary areas as Russia's information warfare, "colour revolutions," comprehensive national defence, and patriotism.

Marzia Cimmino, M.A., is a Doctoral Researcher at the Finnish National Defence University. Cimmino's background is in political affairs and conflict prevention in Eastern Europe, Western Balkans and Central Asia. She worked for almost ten years as an Italian secondee for the political affairs units of the Organization for Security and Co-operation in Europe (OSCE) in Vienna, Bishkek (Kyrgyzstan), Belgrade (Serbia) and, most recently, in Kiev (Ukraine).

Santeri Kytöneva, M.A., is a Research Assistant at the Finnish National Defence University and a Doctoral Researcher at the University of Helsinki working on the topic Russia's justification of war.

Session 4: Operational assessments

Michael Kofman, M.A., is a Director of the Russian Studies Program at CNA and a Kennan Institute Fellow at the Woodrow Wilson International Center. Previously he served at National Defence University as Program Manager. Kofman's research focuses on security issues in Russia and Eurasia, and he has published numerous articles

on the Russian military, Russian strategy, doctrine, combat operations, and security issues in Russia and Eurasia.[8]

Leonid Nersisyan, M.A., is a Doctoral Researcher at the University of Birmingham and a research fellow at APRI Armenia. He also holds experience in consulting and research. His research interests include CIS countries' armed forces and defence industry.

Cerwyn Moore, PhD, (absent from the seminar) is a senior lecturer in International Relations at the University of Birmingham. He has published widely on foreign fighters and transnational activism, the insurgency in the North Caucasus, and contemporary war.

Bettina Renz, PhD, is a Professor of International Security School of Politics and International Relations at the University of Nottingham, UK. Her research is grounded in context-based area studies and strategic studies. She has an MA and MSc in Russian Studies (Edinburgh) and a PhD in Russian and East European Studies from the University of Birmingham and has previously worked as a senior researcher at the Aleksanteri Institute, University of Helsinki (2015-16) and a distinguished visiting professor at the Canadian Forces College (2020). She has published widely on Russian military and security policy since 2005 and is currently engaged in a British Academy funded project on Ukrainian military reforms (since 2019).

Session 5: Maritime aspects

Yevhenii Vdovytskyi, M.A., Captain (Navy) is a Doctoral Researcher at the Naval Department of the National Defence University of Ukraine. He has worked as a commander of the hydroacoustic team of the anti-submarine ship (2004-2005), engineer of the radio technical combat unit of the anti-submarine ship (2005-2007), officer of the combat training department of the naval operations center (2007-2012), Deputy Chief of Staff of the Surface Ships Brigade (2012-2013), Operation planning officer (Headquarters of Ukrainian Navy, 2015-2017) and Deputy Head of the Main Operational Department of the General Staff of the Armed Forces of Ukraine (2017-2020).

Stepan Yakymiak, PhD, Captain (Navy) is an Associate Professor at the National Defense University of Ukraine and the Chief of Naval Forces Department, National Defense University of Ukraine. He worked as an Adviser of Commander of Maritime Task Force of Defense Forces of Ukraine (2022, February, 24 – May, 30). He holds experience also working as a member of working groups on development of: Maritime Doctrine of Ukraine (2018), Doctrine of Naval Forces of Armed Forces of Ukraine (2020), Maritime Security Strategy of Ukraine (2021).

Stephen Blank, PhD, is a Senior Fellow at the Foreign Policy Research Institute's Eurasia Program. He has published over 900 articles and monographs on Soviet/Russian, U.S., Asian, and European military and foreign policies, testified frequently before Congress on Russia, China, and Central Asia, consulted for the Central Intelligence Agency, major think tanks and foundations, chaired major international conferences in the U.S. and in Florence; Prague; and London, and has been a

[8] The presentation "Russian Military Performance in the Russo-Ukrainian War" by Michael Kofman in the Russia Seminar 2023 can be found on the FNDU YouTube-channel: https://www.youtube.com/watch?v=iI-1U5kKwd8 starting from 6:48:00.

commentator on foreign affairs in the media in the U.S. and abroad. He has also advised major corporations on investing in Russia and is a consultant for the Gerson Lehrmann Group.

Session 6: External and future aspects

Ivan U. K. Klyszcz, PhD, is a Research Fellow at the Estonian Foreign Policy Institute since September 2022. He has successfully defended his doctoral thesis in International Relations at the at the University of Tartu, Estonia. He holds an IM from the University of Glasgow and an MA from the University of Tartu. In addition, he has also studied in Moscow and Mexico City. His research interests include Russian foreign policy and Russian federal politics.

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Session 7: Societal aspects

Jonna Alava, M.A. is a Doctoral Researcher at the University of Helsinki and a member of the Russia Research Group at the National Defence University since August 2019. Her article-based dissertation examines gender aspects in the military-patriotic education in Russia.

Aleksander Malinen, B.A., worked on the topic military patriotic education as a research intern at the Finnish National Defence University.

Eemil Mitikka, M.A., is a Doctoral Researcher at the University of Helsinki and the Aleksanteri Institute. He works as a doctoral researcher in the Doctoral Programme of Political, Social, and Regional Changes (PSRC), and his research is funded by the University of Helsinki. His Ph.D. research deals with the nexus of political participation and authoritarianism in Russia and the Post-Soviet area.

2

RUSSIAN ART OF COERCION: A POST-WAR TRANSFORMATION OF DETERRENCE AND COMPELLENCE

Dima Adamsky

The presentation by Dima Adamsky in the Russia Seminar 2023 can be found on the FNDU YouTube-channel: https://www.youtube.com/watch?v=iI-1U5kKwd8 starting from 46:15.

Abstract

This speech explores impact of the war in Ukraine on the evolution of Russian theory and practice of coercion. A post-war transformation of Russian deterrence and compellence models should come to no surprise. Russian experts and defense establishment have already started to systematically examine combat evidence and distill implications for strategy and operations. Exploration within the field of "strategic deterrence" is likely to become one of the main avenues of postwar learning. Some of the forthcoming novelties were incepted prior to the war, whereas others will be stimulated by the lessons learned from Ukraine.

Russia entered the war with a coherent framework of "strategic deterrence". Arguably, this was far from perfect, but was the most elaborated theory of nuclear, conventional, and informational coercion that Russia has ever had. Similarly, the Western experts have been more knowledgeable of Russia's conceptualization of deterrence than ever before. This war offered a reality check for both the effectiveness of Russia's strategy, and for the ability for the West to accurately grasp it. The lessons, which Russia will learn from this war, are likely to inform subsequent rounds of the innovations in the realm of deterrence.

The weakening of conventional capabilities is likely to erode Russian pre-nuclear deterrence. Russia is likely to feel compelled to reinforce its deterrent posture. Presumably, a conventionally weakened Russia would be more reliant on its nuclear capabilities. This may stimulate new rounds of strategic triad modernization, C2 and early warning systems. In addition, Moscow may seek certain compensatory non-conventional options in order to reinforce its deterrent posture. Prior to the war, some suggested that Russia should introduce nonlethal chemical weapons as an intermediate option on the escalation ladder, in order to precede conventional coercion.

3

AN ASSESSMENT OF RUSSIA'S WAY OF WAR IN THE WAKE OF ITS AGGRESSION IN UKRAINE

Dumitru Minzarari

The presentation by Dumitru Minzarari in the Russia Seminar 2023 can be found on the FNDU YouTube-channel: https://www.youtube.com/watch?v=iI-1U5kKwd8 starting from 1:20:30.

Abstract

This research aims to look into Russia's ways of war, as revealed from its aggression in Ukraine since 2014. In particular it will explore the analytically obscure concept of "hybrid war", which has been prominent in political debates on European security after Russia's annexation of Ukraine's Crimea. The contribution of this analysis to the wider debate includes placing "hybrid war" into a wider analytical context of interstate aggression, proposing a clear mechanism for the "hybrid war" that helps understand its impact, and offering a structured comparison with other types of interstate aggression. The latter strongly suggests that the phenomenon known as "hybrid war" can conditionally achieve the same goals that another tool of interstate aggression – the conventional war – has been traditionally employed for.

Introduction

What can we learn about Russia's ways of war, given its almost a decade-long interstate aggression against Ukraine? Russia used multiple approaches, finally switching in February 2022 to open conventional warfare. Following the Russian aggression against Ukraine in 2014, with its annexation of Crimea and a proxy war in Donbas, a large and continuing debate was triggered discussing Russia's model of conflict and if it had the potential to change the face of modern warfare. This view emerged to dominate the security-related policy and academic debate in Europe, under the loosely defined term of "hybrid war".[1] It even inspired the adoption of the "hybrid threat" official concept by both the European Union[2] and NATO[3], used to describe Russia's aggression against Ukraine and its coercive activities towards the West. Notably, the

[1] The term did not get traction in the United States, where both policymakers and think tank community largely prefer the alternative label of "gray zone conflict".

[2] See European Commission, *Joint framework on countering hybrid threats: A European Union response*. Joint Communication: JOIN (2016) 18 final, 6 April 2016, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52016JC0018.

[3] Following 2014 NATO Wales Summit, a NATO Hybrid Strategy was developed and released in December 2015, as a classified document – see G. Lasconjarias and J.A. Larsen (eds.) *NATO's Response to Hybrid Threats*, NATO Defense College Forum Paper 24, 2015, pp.11. The NATO definition of "hybrid threats" accepted at the NATO Wales Summit in 2014, as "a wide range of overt and covert military, paramilitary, and civilian measures [that] are employed in a highly integrated design"; see "Wales Summit Declaration", https://www.nato.int/cps/en/natohq/official_texts_112964.htm, para 13. NATO's operationalization of this concept evolved, to include *inter alia* "propaganda, deception, sabotage and other non-military tactics"; see "NATO's Response to Hybrid Threats," https://www.nato.int/cps/en/natohq/topics_156338.htm.

EU and NATO preferred to use the term of "hybrid threats" instead of "hybrid war", as both were rather hesitant to imply that they may be in a state of war with Russia.

The operational definition of the term varies but it generally implies the use of a combination of methods of warfare – conventional, irregular, or political – to achieve strategic goals. For instance, the EU definition refer to the "mixture of coercive and subversive activity, conventional and unconventional methods (i.e. diplomatic, military, economic, technological), which can be used in a coordinated manner… to achieve specific objectives while remaining below the threshold of formally declared warfare".[4] Despite formalizing the term in its official documents, there seems to be a growing consensus among European officials that the concept is extremely ambiguous, has little analytic value and that there is little new about it. More recently, a group of NATO officials and professionals interviewed by researchers even went as far as to acknowledge that there was little or no operational value in the concept.[5]

This analysis will avoid addressing the issue of the concept being analytically obscure. Rather than focusing on the label, it will instead focus on the phenomena behind it. From a policy perspective this is crucial, since no effective response can be designed, unless one accurately understands the phenomenon behind the ill-understood concept of "hybrid war". From a scholarly perspective this approach is novel, as to the knowledge of this author there has been no systematic and considerable attempt to clearly understand the underlying mechanism of hybrid war.

Russia developed its own version of "hybrid warfare" – it has learned from the Western respective strategic thinking, consequently adapting these lessons for its own doctrinal and operational use.[6] Therefore, the debate on the semantical origins of "hybrid war", arguing whether the term originated in Russia or the West[7] is inconsequential for the understanding of the phenomena behind it. For instance, the gun powder, artillery, or tanks did not originate in Russia either, but this does not mean Russia did not adopt both these technologies and the related strategies of employment. In fact, Russia's military analysts have been developing concepts related to "hybrid war" – along with their operational employment – similarly to how the EU and NATO invested in it after 2014. For example, an article in a Russian professional military journal claimed that "no goal will be achieved in future wars unless one belligerent gains information superiority over the other", and that "armed struggle has expanded from the ground, sea, and aerospace into an entirely new environment – information".[8]

The approach this paper takes is different from the analytic angles chosen by other scholars, who also examined the phenomenon of "hybrid war". For instance, one of the strongest criticisms of the "hybrid warfare" concept poses that it represents nothing new and even is damaging as it misleads us about Russia's contemporary military

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[4] European Commission, 2016.
[5] Caliscan, Murat and Michel Liegeois, "The Concept of 'Hybrid Warfare' Undermines NATO's Strategic Thinking: Insights from Interviews with NATO Officials," *Small Wars & Insurgencies* 32, no. 2 (2021), pp. 301–304.
[6] Rod Thornton, "The changing nature of modern warfare: Responding to Russian information warfare," *RUSI Journal* 160:4, p. 42.
[7] For this type of argument, see Samuel Charap, "The ghost of hybrid war," *Survival* 57:6, 51-58; or Dmitry Adamsky, "Cross-domain coercion: The current Russian art of strategy," *Proliferation Papers* 54, Institut Français des Relations Internationales, (November 2015), pp. 21–24.
[8] S. G. Chekinov and S. A. Bogdanov, "On the Nature and Content of the New-Generation War", *Voennaya Mysl'* 10 (2013). pp. 13–24.

and security strategies.[9] There are a few issues with this kind of arguments. These statements lack a strong analytic framework that is grounded in a proper comparative methodology. They thus carry the form of untested hypotheses or unverified claims, failing to properly show whether the modern phenomenon of "hybrid war" is different or not from those instances of interstate conflict in the past that might have revealed some similarity.

A more related debate surrounding the "hybrid war" concept, focusses on whether it represents Russia's new way of war.[10] I argue that this analytic angle is not very helpful for knowledge building. Even if the "hybrid war" approach is not a dominant Russian strategy, there is significant policy and scholarly value in examining it since it can be another tool in the Russia's foreign and security policy arsenal. Despite the signs indicating that Russia continues to focus on conventional warfare, this does not mean that Russia has not been developing alternative means of interstate aggression, as some analysts seem to imply.[11] Recent research astutely argued that "there are many kinds of war and many ways to wage it", and that shifting interstate conflict among the various operational domains of war – land, air, sea, space and cyber – affects its costs and therefore is politically important.[12]

In the next sections I will introduce an alternative logical framework of interstate conflict to address the biased primacy on conventional warfare, which dominates the literature. I will use that to conduct a structured and focused comparison among the three types of interstate aggression, including conventional and proxy warfare. Furthermore, I will propose a reviewed conceptual framework for "hybrid war", suggesting its population-centric nature and examine other unique properties and qualities of that conflict technology. Finally, I will present a number of preliminary conclusions, addressing policy related implications.

Comparative analysis of warfare types

A major flaw in existing "hybrid warfare" analysis, is the failure to provide a coherent comparison among different types of interstate aggression and across a number of their relevant common features. To build a methodologically proper comparison we need to identify the most suitable variables across the examined cases and conduct a structured and focused comparison, allowing us to observe the variation of these respective variables and understand how it might affect the compared qualities.[13]

For that purpose, the starting assumption of this analysis is that "hybrid war" is a conflict technology[14] similar to conventional war. To provide sufficient analytic

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[9] For this criticism see Bettina Renz, "Russia and 'hybrid warfare'", *Contemporary Politics* 22:3 (2016), pp. 283–300.

[10] Mark Galeotti, "Hybrid, ambitious, and non-linear? How new is Russia's 'new way of war'?" *Small Wars & Insurgencies* 27:2 (2016), pp. 282–301.

[11] For an illustrative example of the latter camp, see Andrew Monaghan, "The 'war' in Russia's 'Hybrid Warfare'", *Parameters* 45:4 (2015), pp. 65–74.

[12] Jon R. Lindsay and Erik Gartzke, "Politics by many other means: The comparative strategic advantages of operational domains", *Journal of Strategic Studies* 45:5, pp. 743–776.

[13] See Alexander L. George and Andrew Bennett, *Case Studies and Theory Development in the Social Sciences*, (Cambridge, MA: MIT Press 2004), pp. 67–124.

[14] By conflict technology or the technology of aggression, I mean a causal mechanism of conflict process, drawing similarity from the economic concept of "technology of production". Coined in J. Hirshleifer, "The Macrotechnology of Conflict", *Journal of Conflict Resolution*, Vol.44, No.6, 2000, pp. 773–792, a conflict

grounds for accepting and conducting this comparison, it is necessary to introduce the broader concept of interstate aggression, as an umbrella logic containing different types of aggression, such as conventional war, nuclear war, proxy war, and "hybrid war" among others. While this may not be fully justified by the current international law,[15] it can be justified analytically.

I am using the logic that interstate aggression is an attack against the sovereignty of a country. I define sovereignty based on a minimalist definition, logically containing the territory of a country, its people, and its government. Any foreign attempt to control the territory or resources of a country, its people or policies, would then be an act of interstate aggression.[16] This definition follows the spirit and logic of the UN Charter; it also accurately reflects the conceptual meaning of national sovereignty. Coincidentally, the large majority of wars have been conducted to either take control over the territory, the resources on the territory of a state, or to change its policies by putting pressure on the leadership.

For the sake of my analysis, I will examine three types of interstate aggression, and consider whether and to what extent their different causal patterns could lead to similar outcomes. Russia's aggressive activities in Ukraine will be used as the source for my data and related micro-examples. I will consider that the dependent variable is the outcome of aggression – the success or failure in controlling territory or resources, influence population, or policies. To determine the independent variables of each type of aggression, I examine and compare their microdynamics, which follows the logic of process-tracing approach. This will allow us to better capture the internal dynamic of a specific war model. The differences these conflict technologies show, revealing our independent variables of interest, are the attack sequence, the attack target, and the attack means.

If the phenomenon labeled as "hybrid war" after Russia's invasion in Ukraine is at least theoretically able to replace conventional war in achieving its traditional goals, then we are dealing with a potentially new conflict technology. The emphasis on "theoretically" is because even though a conflict technology may not be successful today, it can become so as the related science and technology knowlege evolves. For instance, although drones and Artificial Intelligence today may not be able to determine the difference between victory and defeat at present, they could achieve this later, as engineering technology matures.

Conventional warfare

Simplified, the classical-conventional war aims to basically crash the armed resistance of the target state, which operates as a physical barrier and aims to prevent the attacker

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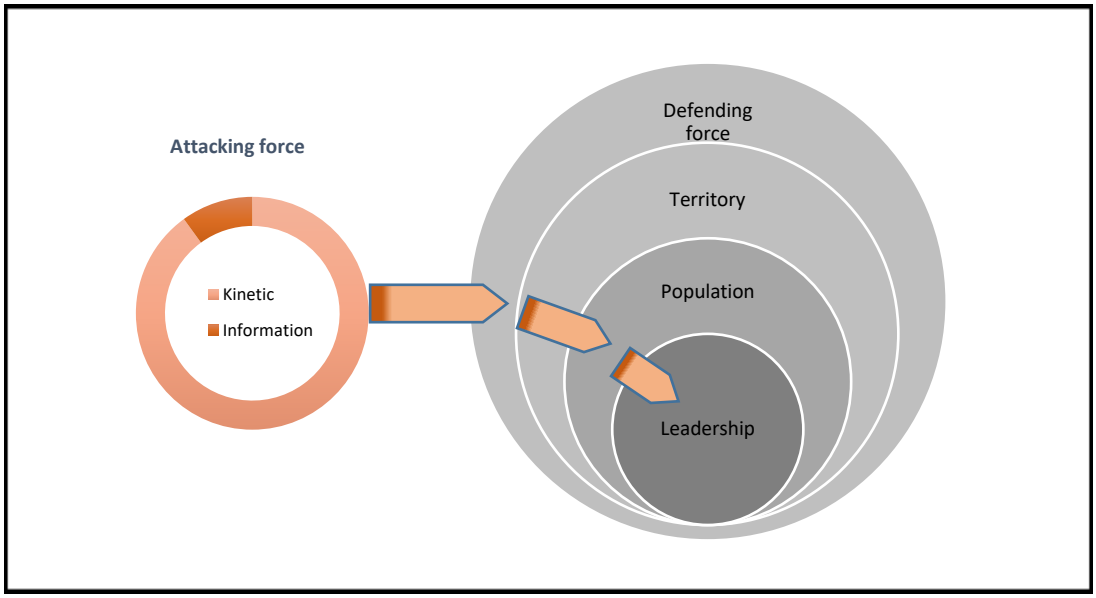
technology takes the conflict efforts from the input, specifically processes them depending on the technology nature, to provide victory or defeat at the output.

[15] International law literature defines interstate aggression as any use of, or threat to use force in interstate relations; see Quincy Wright, "Subversive intervention," The American Journal of International Law 54:3 (1960), pp. 528. The Rome Statute of the International Criminal Court links the crime of aggression to the use of military force, following lengthy negotiations among both members and non-member states of the International Criminal Court; see https://www.coalitionfortheicc.org/explore/icc-crimes/crime-aggression.

[16] For instance, the UN General Assembly call in 1949 upon countries to "refrain from any threats or acts, direct or indirect, aimed at impairing the freedom, independence or integrity of any state, or at fomenting civil strife and subverting the will of the people of any state". See Q. Wright (1960, p. 524).

from achieving control over its objectives (Pic.1). The attacker's objective may be capturing a piece of territory, such as the target country's capital city, among others. It then can replace the governance of the targeted area or country in the attempt to rule it. It uses either brute force - when the objective is fully achieved through the use of military means and thus does not require the decision of the target state - or compellence[17], aiming to convince the target state's leadership to accept the demands of the attacker, by inflicting costs (pain and damage) or threatening these costs. The Russian bombing of Ukrainian cities and infrastructure aims to inflict costs and force the Ukrainian side to come forward and negotiate with Russia a cessation of military activities at the time favorable to Russia.

The sequence of coercion in case of conventional war is the following: the attacking force targets and attempts to destroy the defending force; it then establishes control over the target state territory and its resources by replacing its administration; it then governs the population and/or directs the defeated country's domestic and foreign policies. A shorter sequence would emerge when only change in target state's policy is sought, which could be achieved even after making credible threats of military actions.



Picture 1. The mechanism of conventional war, as an interstate aggression technology

An important trait of conventional war is that kinetic actions form most of its activities. It uses various non-kinetic, information tools, such as disinformation, propaganda, or cyber-attacks *only* in support of and augmenting kinetic activities. Their goal is typically to soften the target state's defending forces and population, either reducing or limiting their potential resistance against the attacking forces. For instance, the Russian take-over Crimea was in essence a traditional conventional attack, as Russia deployed its troops to take over various installations and governmental buildings on the peninsula. The non-kinetic actions, including disinformation and influence operations, aimed at discouraging the Ukrainian troops stationed on the peninsula from fighting back, and instead coercing them to surrender. Another goal of non-kinetic

[17] In security studies *compellence* is a "threat to make an adversary do something", being a subset of coercion and introduced by T.C. Schelling, *Arms and Influence*, New Haven: Yale University Press, 1966, pp. 69–71.

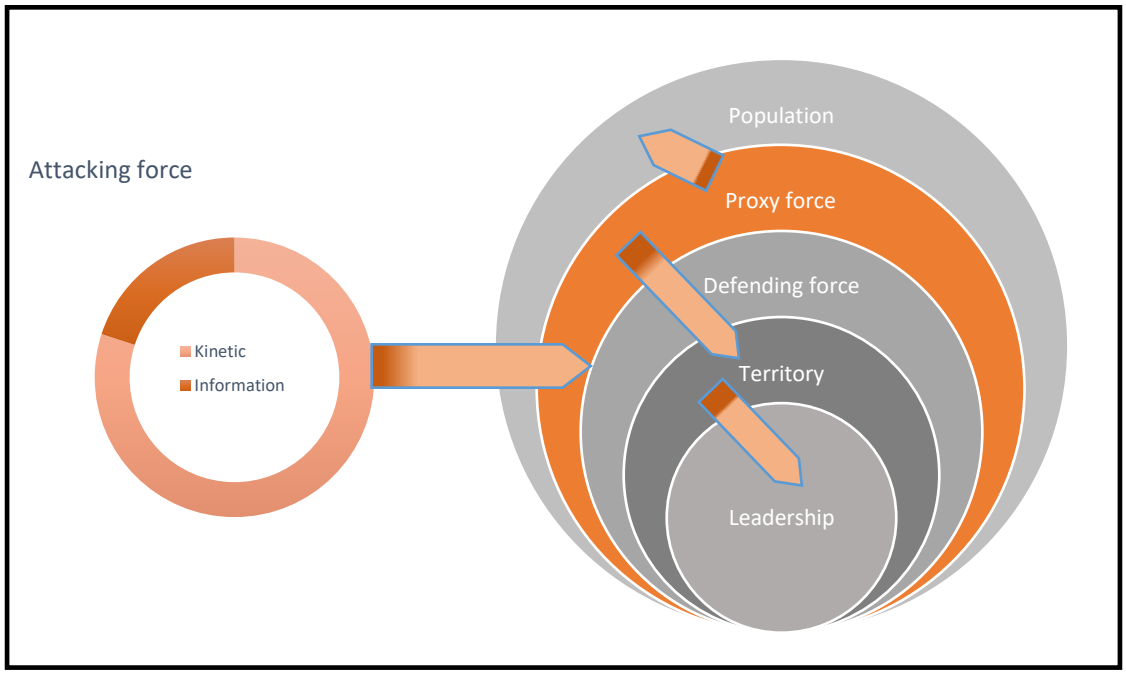
actions is to improve the knowledge about the enemy through the collection of intelligence and thus make the use of arms more effective in hurting the opponent. In the Crimea case, this was done predominantly before the invasion, when Russia collected information about the leadership of different Ukrainian units, the potential for their recruitment, the command-and-control system between the peninsula and the capital, and ways to undermine the effective response of Ukraine's military by the start of the invasion.

However, in this particular case, the non-kinetic means could not achieve the guiding strategic objective alone, at their small scale and without the use of military force. Without the Russian troops taking control over the local government buildings, and replacing the local leadership in Crimea, the Kremlin would not have been able to annex the peninsula. To exclude Russian military units from Crimea's take-over operation would have required a different sequence of actions – a conflict technology with a different causal mechanism. In fact, traditionally and historically the use of information in conventional war, or even the more organized effort in form of information warfare, has not been able to alone achieve the strategic objectives of the attacking state. Even when the aggressor obtained its demands without fighting, it typically was due to the threat to use force, leading to the target state having expectations of potential harm and destruction that the armed attack would produce.

Proxy warfare

Next, it is useful to also shortly examine the phenomena of proxy war. In a proxy war context, the attacking state is basically outsourcing the conduct of military operations against the target state to an apparently non-state group that is operating on the territory of the target state (Picture 2). This non-state group functions as the attacker's proxy, and it is either recruited locally on the target's territory or is being infiltrated across the border by the attacker. It is not uncommon for the attacker to covertly provide the command and control of the armed proxy. The proxy war is thus very similar to the conventional war, with the critical difference being the delegation of coercive actions to an armed actor that is not overtly affiliated with the attacking country.

This allows, in particular, saving on political costs and provides the aggressor with the ability to plausibly deny direct involvement in the armed conflict, usually disguising its aggression as a local civil conflict. The driving force of a proxy war type of conflict is again constituted of kinetic actions, with information having a supporting role. The role of information as a tool of conflict can be more extended in comparison to conventional war. This is so, as the attacking force needs to both try building support for its proxy on the territory of the target country but also cover up its role of conflict participant. The sequence of coercion is similar to one of conventional war, though the attacking country applies armed coercion indirectly, through its proxy.



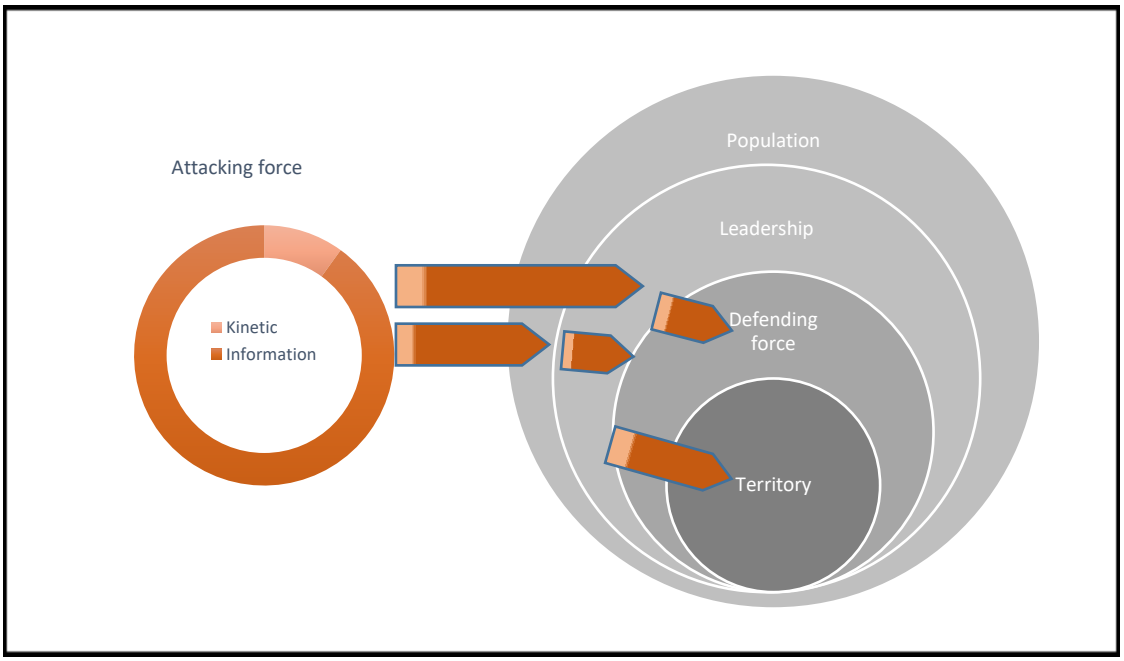
Picture 2. The mechanism of proxy war, as an interstate aggression technology

The Russian actions in Donbas from 2014, following its control of parts of Luhansk and Donetsk region, until 2022 when it started an overt military invasion against Ukraine, is a case resembling a proxy war. Another example is the Russia's aggression in Moldova's Transnistria region. In both cases, Russia did not publicly recognize its participation, while providing indirect support to the fighters in Donbas and the so-called Transnistrian authorities. This allowed Russia to later claim the role of a mediator in the negotiations, securing the consent of the West.

"Hybrid warfare"

In "hybrid war", the attacker – unlike in conventional and proxy warfare – does not first target the territory and defense forces of the opponent. That reveals one of the major differences in the examined independent variables – the target of attacks, the sequence of attacks, and the means of attacks. The sequence of interstate coercion in this particular case requires to first start by targeting the population, the aggressed state's political leadership, or both, depending on the regime type and other political factors. The "hybrid war" type of aggression is used predominantly when territorial conquest is not the main objective of the attacker, but instead change of policy is sought. However, at the extreme, it is possible theoretically to be able to influence the population of the target country to such an extent, or control the political leadership so tightly, that the target country is forced to accept giving up its sovereignty. Lukashenko's Belarus is an example of this scenario. Ukraine, if Viktor Yanukovich did not face protests in late 2013-early 2014, forcing him to flee to Russia, could had embarked on that path. As a result, "hybrid war" actions, the target country may even agree to "benevolently" become part of the attacker's sphere of influence, designed in the form of a regional organization or confederation. This makes "hybrid warfare" potent of delivering indirect control of the target state's territory, which only conventional territorial conquest can offer. That is, under certain conditions, "hybrid war" could be a full-fledged alternative to conventional war. Based on the mechanisms of conflict illustrated in this chapter, and their separate logic, the "hybrid war"

phenomenon referred to by NATO (and the EU) is in reality a distinct conflict technology and not a part of the conventional war. However, the NATO/EU definitions have too much noise in them, confounding many of its aspects together and making it difficult to understand the "hybrid war" logic and mechanism.



Picture 3. The mechanism of hybrid war, as an interstate aggression technology

What are the mechanics of the "hybrid war", then? The largest confusion about this conflict technology comes from the failure to understand its underlying logic, focusing on various mixes of non-kinetic tools rather than on its causal logic and sequence. I argue that "hybrid warfare" preponderantly weaponizes information, in its direct targeting of population (in democracies), or population and leadership in autocracies (Picture 3). This distinction is made to show that leadership of a democratic country is insulated from direct "hybrid" attack of an aggressor, given the checks and balances that democracies have in place, as a rule. The military tool and kinetic actions are used only in support of the major effort of information operations, to protect the gains. It is the other way around in conventional and proxy war cases. To clarify it – and the graphical illustrations reveal this – conventional war can make use of hybrid tools, but they will be in supporting, not dominant roles. As a parallel, consider how conventional war uses intelligence gathering tools and techniques to support warfighting, but this does not make them covert actions – a tool used by intelligence agencies routinely.

By weaponizing information and other non-kinetic tools to acquire control over or the ability to direct the population of the target state and its leadership, the attacker can advance its strategic objectives. At the initial stages, these could include getting the target government to reduce funding for its military, advancing incompetent people into key leadership positions in its military and intelligence agencies, making the target state withdraw from military and political alliances, or even join cooperation arrangements with its recent competitors.

A common error is to believe that "hybrid war" can only be effective against countries that have a national minority of the same nationality as the attacker's main population. The Russian annexation of Crimea comes to mind as the classical modern example,

as some analysts claimed that Crimea or Donbas scenario are not reproduceable elsewhere.[18] However, the objective in "hybrid war" is not necessarily to make the population of the target country become loyal to the attacker. The most frequent approach would be to antagonize the population against an outcome that the attacker would like to avoid. Or, to create chaos and turmoil in the target country, so that it is easier to bring into power a new political leadership that is more likely to advance the attacker's favorite goals. Metaphorically, if conventional war is like a robbery, hybrid war is more similar to a swindle. It is about influencing the target state doing the aggressor's will by either confusing it and directing to erroneously follow the path that the aggressor wants; or mislead the target into believing it is the right thing to do. For instance, at the beginning of Russia's aggression in Donbas, in 2014, the aggressor managed to initially convince both the new authorities in Kyiv and a large part of the population in Donbas that the protests organized across the Eastern Ukraine were simply expressing dissatisfaction with the Ukrainian leadership that replaced Yanukovich regime. This gave the Russian side time to take over a number of administrative centers across the region, under the disguise of popular unrest. It was not until the declaration by the Russian local proxies and operatives that they intended to create local "republics" and conduct referendums of independence in early April 2014 that the Ukrainian authorities reacted.[19] It is illustrative that the official Kyiv declared an anti-terrorist operation to deal with the Russia's hybrid aggression, basically presenting the issue as a domestic conflict,[20] which was in line with the Kremlin's strategy.

Given the described microdynamics and mechanism, the "hybrid" label is analytically misleading. The term "ambiguous warfare"[21] is a more accurate description, along with "deception warfare". While deception has been historically only a lesser part of conventional warfare, it is a main and essential tool in hybrid war. This is another source of misunderstanding in comprehending "hybrid warfare" – confusing means with the ways. Military battles have been won by employing deception in support of kinetic actions. It is important to point out that hybrid warfare uses deception as the preponderant approach - along with its resulting control - to reach its ultimate strategic objectives. Moreover, given the essential emphasis of hybrid warfare on population, it is more accurate analytically describe it as population-centric warfare. One could even argue that "hybrid warfare" is an evolutionary adaptation of statecraft to modern social and technological conditions. While conventional war can conquer territory and replace leadership, it can hardly ensure the cooperation or even the passive response of the population. Quite to the contrary – populations subject to the exigencies of conventional warfare resist their attacker, generating additional costs to the aggressor. "Hybrid warfare" allows an aggressor to address these emerging political

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[18] See Michael Kofman and Matthew Rojansky, "A closer look at Russia's 'Hybrid War'," *Wilson Center Kenan Cable* 7 (April 2015), https://www.wilsoncenter.org/publication/kennan-cable-no7-closer-look-russias-hybrid-war.

[19] See Ivan Shovkoplias, "The Invisible war: 8 years of battles in Donbas," 14 July 2022, https://war.ukraine.ua/articles/8-years-of-war-in-donbas, accessed on 5 October 2022; BBC News, "Ukraine crisis: Protesters declare Donetsk 'republic'," 7 April 2014, https://www.bbc.com/news/world-europe-26919928.

[20] BBC News, "Ukraine says Donetsk 'anti-terror operation' under way," 16 April 2014, https://www.bbc.com/news/world-europe-27035196.

[21] Quoted in K. Giles, "Conclusion: Is Hybrid Warfare Really New?" in G. Lasconjarias and J.A. Larsen (eds.) *NATO's Response to Hybrid Threats*, NATO Defense College Forum Paper 24, 2015, p.321.

trends in a fashion that avoids the complications and costs created by conventional warfare.

Re-conceptualizing "hybrid war"

Conventional wars are becoming increasingly costly, for many reasons – the domestic audience costs as well as the international pressure in economic and political terms being the most obvious. Another important reason for this cost is the difficulty in achieving the goal of effective control over the sovereignty of the target country. The latest military operations, including those run by the US in Afghanistan and Iraq, suggested that destroying the opponent's organized military resistance, in the era of nationalism and even partially operating international law, is unlikely to achieve one's strategic objectives. The population has become the most formidable obstacle against foreign military invasions – it is impossible to coerce it into compliance unless one applies brutal coercion like ISIS,[22] and it is not feasible to persuade it unless the local armed resistance is weak. There is no doubt that Russian planners explored the experience of the US and its Allies in these two conflicts, along with its own lessons from Afghanistan and, more recently, Chechnya.

I argue that targeting population and ruling elites for external control the Russian response in the attempt to mitigate the costs of modern conflict. This does not imply that "hybrid war" preferred by Russia to conventional wars. It rather indicates that when territorial control is not necessary or possible, the same strategic ends – directing or controlling the target state's policies – might be reached through non-kinetic ("hybrid") actions aimed at influencing populations or governments. The modern aggressor can achieve this through a complex system of social engineering measures, implemented by interfering in the domestic political process of the target country. Through economic activities the aggressor alters the physical needs of citizens, creating conditions for the manipulation of their electoral preferences. It generates funding to corrupt politicians and promotes into power loyal or sympathetic political groups. It is hardly a coincidence that Russia began amassing troops at the Ukrainian borders after the official Kyiv started to crack down on Victor Medvedchuk and his pro-Russian party "Opposition Platform – For Life".

Based on these characteristics, it should be argued that we are dealing with a totally different technology of conflict when talking about "hybrid warfare". While it follows ends that are identical to those pursued through conventional warfare, it uses a qualitatively different *distribution* of ways, means and a different causal sequence. To emphasize this, let's consider the observation that never in human history was it possible for one country to have unlimited and complete access to the whole population of another country. Global communication and information networks now make all-

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[22] Russia has also applied brutal policies to curb popular resistance to its military operations, by forcefully displacing and coercing populations that challenged its policies in Chechnya, South Ossetia, Crimea and in Ukraine's eastern regions of Donetsk and Luhansk. More recently, after its military invasion in February 2022, Russian soldiers detained and tortured Ukrainian citizens showing dissent, and forcefully displaced Ukrainian population to reduce the risk of popular resistance against its occupation, see BBC News, "Russia transfers thousands of Mariupol civilians to its territory," 27 March 2022, https://www.bbc.com/news/world-europe-60894142. These actions, meant to prevent local insurgencies, are reminiscent of URSS similar actions in post-WWII Ukraine, see Yuri M. Zhukov, "Population resettlement in war; Theory and evidence from Soviet archives," *Journal of Conflict Resolution* 59:7 (2014), 1155-1185.

encompassing communication a routine activity. This connectivity is an unprecedented phenomenon, which became possible due to modern developments in science and technology. It allows a foreign country to practically operate as a domestic political actor on the territory of another country, provided the aggressor has certain technical knowledge about influencing population masses and sufficient resources to apply this knowledge. For instance, Russia was able to understand "well before the United States that the rise of social media magnified the impact of information warfare".[23] There are no national borders in the information space, which transforms it into a separate operational domain of war. And because of this, it requires a different conceptual framework, different operationalization, different forces and capabilities, as well as a different set of skills.

A major reason why many analysts are misled in their understanding of hybrid warfare, is because they seem to view (implicitly or explicitly) conventional war as the dominant or only type of interstate aggression, building their analysis of hybrid war around that logic. Instead, this research suggests we step back and conceptually view various modes of war as alternative tools of statecraft. They are just different types of interstate aggression, with their own specific logic, costs and advantages. While conventional aggression triggers population-related costs for the attacker – as the US has lately learned in Iraq and Afghanistan – a "hybrid" type of interstate aggression can allow the attacker to transfer many of the population-related costs onto the target state. This may happen when the latter tries to respond to the hybrid war that the aggressor disguised as a domestic conflict, and thus inflicts costs on some of its own citizens.

	Operational domain	**Territorial control**	**Policy control**	**Population control**	**Leadership control**
Conventional war	Physical	+	+	+	+
Proxy war	Physical	+	-	+	-
Nuclear war	Physical	-	-	-	-
Hybrid war	Synthetic	+	+	+	+
Cyber war	Synthetic	-	-	-	-

Table 1. Comparison of various types of interstate aggression and their effects

A careful comparison (Table 1) would suggest that "hybrid war" can achieve the same strategic objectives as conventional war. This is specifically possible due to its population-centric character. It is an important observation, as it suggests that Russia and other West's competitors are acquiring an advanced understanding of the potential of information domain, and develop doctrines, policies and forces to increasingly exploit population-centric warfare (the "hybrid war") as a tool of interstate aggression. It can be as effective as conventional war in achieving strategic objectives, but less costly and considerably less noticeable. "Hybrid war" will not become a dominant tool of Russia's aggressive policies, but a flexible alternative to conventional war.

[23] A. Zegart, "The Race for Big Ideas is On," *The Atlantic*, 13 January 2020.

4

EVOLUTION OF RUSSIAN OPERATIONAL CONCEPT DEVELOPMENT

Clint Reach

The presentation by Clint Reach in the Russia Seminar 2023 can be found on the FNDU YouTube-channel: https://www.youtube.com/watch?v=iI-1U5kKwd8 starting from 1:56:00.

Abstract

It was never clear from the literature or from an examination of Russian military exercises how Russia planned to fight in a military conflict in the non-aligned FSU. Did the Russian military have a developed operational plan for Ukraine prior to or after 2014? We never encountered much discussion of this line of thinking in years of close reading of Russian military officers from the General Staff down into the ranks. The vast majority of writing and speeches, particularly at a senior level, was on responding to the massed aerospace attack by NATO perhaps in conjunction with widespread societal unrest within Russia.

At the same time, Russian military doctrine stated that large-scale war was improbable and that the Russian armed forces would likely be employed in local wars or armed conflicts. The Russian military reforms of 2008 to some extent corresponded to this line of thinking, particularly in the case of the Russian Ground Forces (GF). Russia's GF, of which conscripts comprised around 30%, as of early 2022 probably fielded around 275,000 troops. This is a small number by historical standards and when judged against a theater of operations like Ukraine or eastern Europe, especially after considering that Russia was not planning to deploy conscripts in large numbers to a conflict zone outside Russia.

The logic behind Russian force structure was the following. Modern wars, whether at the local level or at the regional level, are not ground-centric. Rather, they are strike-centric, which would ease the burden on requirements and tasks for ground forces in virtually any scenario. Modern wars were also fought with peacetime forces, which would not have the luxury of months of crisis to mobilize and deploy. Thus, conventional destructive firepower, modernized weapons and C2 equipment, and high-readiness professional soldiers were the guiding light of Russian military strategy. Evidence suggests that the timeline for realizing this plan was into the 2030s.

Given that wars of varying degrees of intensity might largely be fought in the same way, and to reduce redundancy in planning, Russia began consolidating its so-called strategic operations as early as the mid-2000s. Strategic air defense operations, and perhaps naval operations, were folded into a single strategic aerospace operational (SAO) template whose purpose was to achieve air superiority as a primary initial objective. With regard to destructive firepower, Russia developed the strategic operation to destroy critically important targets (SODCIT) as a way to organize its burgeoning long-range conventional strike assets and to use asymmetric targeting both to disrupt

a technologically advanced adversary and to instill panic among the population. In 2019, a General-Major from the Main Operations Directorate of the General Staff suggested that SAO and SODCIT had been or would be merged with the strategic operation of nuclear forces to form the strategic deterrence forces operation (SDFO), leaving less strike (destruction)-centric missions to a so-called general-purpose forces operation (GPFO). At some point in the future, according to Sterlin, Russia's remaining operational concepts would be merged into a single or unified operation.

Our research has yet to find much evidence on the contours of the GPFO. We assume, based on how the Russians define general-purpose forces, that it is an operational template to accomplish military and political objectives primarily along Russia's periphery. But there is little indication from publicly available sources that Russian military leaders were contemplating military action on the scale of the 2022 invasion of Ukraine. As the war in Ukraine has progressed, we have seen Russian attacks against critical energy and water supplies of major cities, which tracks with how Russian strategists were thinking about a high-intensity regional war in Europe and, to some extent, how Russia defines the SDFO.

Indeed, we have seen in Ukraine the very blending of general-purpose and strategic deterrence forces (the conventional component) that General-Major Sterlin described in his 2019 *Military Thought* article[1]. The execution of course has been a complete calamity from the start.

[1] СТЕРЛИН А. Е., ПРОТАСОВ А. А., КРЕЙДИН С. В.: Современные трансформации концепций и силовых инструментов стратегического сдерживания, Военная мысль № 8, 2019 pp. 7–17.

5

THE RUSSIAN USE OF SPACE AND COUNTERSPACE ASSETS IN THE UKRAINE WAR: AN APPRAISAL

Rod Thornton and Marina Miron

The presentation by Rod Thornton and Marina Miron in the Russia Seminar 2023 can be found on the FNDU YouTube-channel: https://www.youtube.com/watch?v=iI-1U5kKwd8 starting from 2:19:30.

Introduction

This paper examines the use by the Russian military of its space-related assets after its invasion of Ukraine in February 2022. It is an examination that covers not only the use made by this military of its own satellites but also of its capabilities in the counterspace realm. The aim here is to make an appraisal of the overall threat that Russian space-related assets might pose in future to NATO in any wider conflict. In terms of structure, this paper looks first at how the military has utilized its own satellites during the war and then moves on to examine how its counterspace or anti-satellite weapons (ASATs) have been employed.

Russian military satellite used in the Ukraine war

Mention must first be made here of GLONASS.[1] This is the Russian equivalent of the Global Positioning System (GPS). Despite the problems that Moscow has faced in recent years over the whole Russian space programme,[2] major efforts have been made to keep the GLONASS array functioning.[3] GLONASS is vitally important not just for the Russian economy (it provides, for instance, accurate timing vital to many Russian industries) but also to the military in terms, principally, of guidance assistance for its strategic ballistic and cruise missiles. Maintaining the full array of 24 GLONASS satellites has proved very difficult over the last few years. Roscosmos, the civilian space agency responsible for the upkeep of GLONASS, has been spending huge sums to both construct the satellites and to deliver them into orbit.[4] An example of the difficulties faced can be found in the fact that, once the 2014 western sanctions were imposed on Russia (after Moscow's seizure of Crimea and the eastern Donbas)

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[1] *Global'naya Navigatsionnaya Sputnikovaya Sistema* (Global Navigation Satellite System).
[2] Dmitri Popov, 'Kosmos, Gniyushchiy Iznutri: Rossiya Iskhodit s Orbity', *Moskosvskii Komsomolets*, 13 December 2021. https://www.mk.ru/social/2021/12/13/kosmos-gniyushhiy-iznutri-rossiya-skhodit-s-orbity.html; Florian Vidal, 'Russian space policy. The path of decline', *French Institute of International Affairs*, January 2021. https://www.ifri.org/sites/default/files/atoms/files/vidal_russia_space_policy_2021_.pdf
[3] Sergey Valchenko, '"Zvezdnye Voyny": Nazvany Rossiiskiye Sredstva Bor'by so Sputnikami NATO', *Moskovskii Komsomolets*, 29 October 2022, https://www.mk.ru/politics/2022/10/29/zvezdnye-voyny-20-kakie-sredstva-est-u-rf-dlya-borby-s-inostrannymi-sputnikami.html
[4] In 2010, for instance, over a third of Roscosmos' budget was being spent on GLONASS. 'Prikladnoi notrebitel'skii tsentr GLONASS', *About GLONASS*, undated. https://glonass-iac.ru/en/about_glonass/

it forced Roscosmos into using domestically sourced, but lower quality, high-tech components (especially those radiation-hardened[5]). This has led to the weight of individual GLONASS satellites more than doubling.[6] This has had knock-on effects in terms, not least, of finding suitable launch vehicles. At the time of writing, the GLONASS systems does appear to have a fully functioning array but some satellites may have ceased to function due to their age.[7]

The Russian military, during its initial 'incursion' into Ukraine in 2014, seemingly expected that GLONASS would be jammed by NATO. At that time, the military, if GLONASS was lost, was looking to ground-based systems to provide for local area back-ups in terms of positioning, navigation and weapons-guidance capabilities. There then began a process of incorporating the redundancy provided by ground-based positioning systems into operational activity. This redundancy came from the large and static Chaika system (with sites in Belarus and at Simferopol in Crimea) and from the Chaika's update, the smaller, mobile Skorpion system.[8] The latter has been called by one Russian source as 'a kind of GLONASS understudy'.[9] It would be expected that during the current (as at mid-2023) war in Ukraine use has been and is being made of the Chaika and Skorpion systems. But GLONASS, however, is probably not being jammed by NATO given its importance to the Russian economy. Jamming it might, indeed, be considered an act of war.

The Russian military has far fewer satellites operating compared to the United States.[10] This is true of those intended to have effect at both the strategic and operational levels. But the shortage is not so egregious at the strategic level. One success story has been the maintenance of the Kupol array that can provide early warning of US ballistic missile launches against Russia. Kupol is replacing the old Oko-1 system, which no longer appears to be functioning. The Kupol array consists (at the time of writing) of six individual Tundra satellites,[11] the latest of which was placed in orbit in November of 2022.[12] More Tundra are slated to be added until the full array of nine is delivered by 2024.[13]

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[5] Hardening against cosmic and solar radiation is vital for objects operating in space.

[6] Mark Krutov and Sergei Dobrynin, 'Blind Russia. Putin's army is losing the satellite war', *Radio Free Europe/Radio Liberty*, 8 April 2022. https://www.svoboda.org/a/slepaya-rossiya-armiya-putina-proigryvaet-sputnikovuyu-voynu/31793090.html

[7] 'S kosmodroma Plesetsk proizveden pusk rakety-nositelya "Soyuz-2.1b" so sputnikom "GLONASS-K"', *Voennoe Obozrenie*, 10 October 2022. https://topwar.ru/203097-s-kosmodroma-pleseck-proizveden-pusk-rakety-nositelja-sojuz-21v-so-sputnikom-glonass-k.html

8 Andrey Bukaev, Alexei Veliky and Alexander Putin, 'Navigatsionnaya sistema bez sputnikov Навигационная система без спутников', *Arsenal of the Fatherland*, 4 March 2021. https://arsenal-otechestva.ru/article/1397-navigatsionnaya-sistema-bez-sputnikov

[9] Yuri Gvozdev, 'Sistema "Skorpion" zamenit GLONASS', *Newsland*, 27 July 2016. https://newsland.com/post/5361564-Fsistema-skorpion-zamenit-glonass

[10] The figures for respective numbers of dedicated military satellites are, as of 2022: US 231 and Russia 125 (many of which are now probably defunct). Pavel Luzin, 'Russia's military space program: 2022 results', *Eurasia Daily Monitor*, Vol. 19, Issue 187, 15 December 2022. https://jamestown.org/program/russias-military-space-program-2022-results/

[11] 'Chislo sputnikov sistemy "Kupol" dovedeno do minimal'no shtatnogo sostava', *TASS*, 5 August 2020. https://tass.ru/armiya-i-opk/9126639

[12] Anthony Zak, 'Kupol (EKS/Tundra satellite)', *Spaceweb*, 3 November 2022. https://www.russianspaceweb.com/eks-tundra.html

[13] 'Sistema predupreshshdeniya o raketnom napadenii "Kupol" popolnilas' "Tundroi"', *RIA Novosti*, 5 August 2020. https://ria.ru/20200805/1575399591.html

Besides the relative success of the Kupol as a strategic-level asset, at lower levels of warfare the Russian armed forces, given their size and overall sophistication, are woefully lacking in the number of satellites at their disposal. If modern multi-domain operations (MDO) and their main desired outcome – the effective conduct of combined arms warfare – are so reliant on space assets then it can be understood (at least partially) why the Russian military performed so badly in its initial 2022 invasion of Ukraine. It seems that a lack of satellite input led to an exacerbation of certain noted problems. Command and control (C2) were poor (brought on by a lack of communication assets) as was situational awareness and the effective targeting of Ukrainian equipment and sites of significance with both medium- and long-range fires.[14] All of these capabilities, for any modern military organization, should have been assisted to a very large degree by space-based assets. The problem was that there were far too few Russian military communications and surveillance satellites.[15]

The overall outcome was severely detrimental to Russian forces. Without reliable secure satellite communications, for instance, messages were often having to be sent across basic ground-based radio systems. This made them liable to interception by the Ukrainian adversary. Not only was information being picked by this adversary, but it also meant that its senders could be geolocated and then targeted.[16] The lack of both optical reconnaissance and remote-sensing (radar) satellites meant that the Russian military not only did not have accurate views of the battlefield, and thus a proper intelligence picture, it also meant limited precision targeting and inaccurate battle damage assessments. Evidence that the Russian side had great difficulty, for instance, in accurate target acquisition, came from reports on how some of its follow-on long-range missile strikes in Ukraine were seemingly being adjusted. This was based merely on the video placed on social media by Ukrainian civilians which showed where previous missile strikes had hit. The Russians were thus, in some cases, having to adjust 'fall of shot' based on what social media was telling them![17]

Much of the problem was down to the fact that the Russian military could call on just two optical-reconnaissance satellites.[18] These Persona satellites were dated and their degree of resolution was poor; at least relative to the sharper images that NATO satellites can currently provide. One of the problems with relying on just two satellites of this type is that they can only pass over Ukraine at most three times a day and the amount of ground they can cover – their 'swathe' – is limited (that is, to about 730km either side of the ground point immediately below them). Naturally, image resolution

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[14] Krutov and Dobrynin, 'Blind Russia. Putin's army is losing the satellite war'.

[15] According to Pavel Luzin, 'the number of active Russian military satellites stands at 108, as of December 2022. These include 25 GLONASS navigation satellites, 48 communication satellites, eight electronic intelligence satellites (including six Lotos-S1), five optical-imaging satellites (including three Bars-M cartography satellites), two radar-imaging satellites, six early-warning satellites, five inspector/space observation satellites, two geodetic satellites and five technology development satellites.' Luzin, 'Russia's military space program: 2022 results'.

[16] Tom Porter, 'Ukraine killed a Russian general after he made an unsecured call that gave away his location, report says', *Business Insider*, 17 March 2022. https://www.businessinsider.com/russia-general-killed-after-ukraine-intercepted-unsecured-call-nyt-2022-3?r=US&IR=T

[17] Krutov and Dobrynin, 'Blind Russia. Putin's army is losing the satellite war'. See also Anastasia Prokayeva, '"U Rossiyan Net Navigatsii: Idut po Zifrovym Kratam" – Pochemu Rakety Okkupantov Promahivayutsya v 60% Sluchaev', *Gazeta.ua*, 25 March 2022. https://gazeta.ua/ru/articles/life/_u-rossiyan-net-navigacii-idut-po-cifrovym-kartam-pochemu-rakety-okkupantov-promahivayutsya-v-60-sluchaev/1078309

[18] There are also three civilian Roscosmos Bars-M cartography satellites that the Russian military can theoretically call upon for optical reconnaissance. Luzin, 'Russia's military space programme: Results 2022'.

weakens as the cameras move to the outer limits of this swathe.[19] A further indication of the poor standards afflicting the overall Russian space programme can perhaps be seen be with the fact that two of the latest optical-reconnaissance satellites – the EO-MKA – both stopped operating a few weeks after being placed in orbit in 2022.[20] The situation in regard to remote-sensing satellites is little better. These rely on radar imaging and are thus not affected by cloud cover. Russia, at the time of the 2022 invasion, had just one operating, a Kondor. Having been launched in 2014 it was already fairly dated and may already have been decommissioned.[21] Another Kondor was, however, launched in May 2023. Relying, though, on just one such satellite to cover an entire battlespace has to work very much to the Russian military's disadvantage.[22]

A 'secret satellite' was launched in February 2022.[23] This may be a Neitron, which is said to also produce radar images.[24] Despite these occasional deliveries of new satellites into orbit (which may or may not actually be operating effectively), they cannot make up for the overall dearth of Russian military satellites assets.[25] One western source has said that this must mean that the Russian armed forces fighting in Ukraine can only be doing so 'practically blind'.[26]

Counterspace operations

Perhaps of more interest when examining the Russian military's space-related capabilities utilized during the war in Ukraine is to look at its counterspace options. The rest of this section will, therefore, concentrate on two forms of non-kinetic, non-physical ASAT weapons that have been made use of in the war. These are systems capable of jamming satellite links and those that designed to deny, disrupt or degrade such links through the use of cyberattacks.

Satellite jamming in the Ukraine war

The Russian military has a myriad of electronic warfare (EW) jamming systems it can employ against the satellites of an adversary power.[27] As soon as the invasion of Ukraine by Russian forces began, jamming operations against US satellite assets were noted. These were against those satellites, both civilian and military, that were perceived to be assisting the Ukrainians. General B. Chance Saltzman, the Chief of Space

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[19] Krutov and Dobrynin, 'Blind Russia. Putin's army is losing the satellite war'.
[20] Luzin, 'Russia's Military Space Program: 2022 results'.
[21] 'V SSHA raskazali o tainstvennom Rossiiskom "Neitrone"', *Lenta*, 8 February 2022. https://lenta.ru/news/2022/02/08/neitron/
[22] 'Sputnik "Kondor-FKA" zapustyat v pervoi polovine 2023 goda', *TASS*, 26 January 2023. https://tass.ru/kosmos/16899177; Anthony Zak, 'Roskosmos launches radar-observation satellite', *Russian Space Web*, 29 May 2023. https://www.russianspaceweb.com/kondor-fka.html
[23] 'Chto govorit statistika zapuskov o sostoyanii kosmicheskoi programmy Rossii', *Kosmolenta*, 23 December 2018. https://kosmolenta.com/index.php/1340-2018-12-23-russian-launches
[24] 'V SSHA raskazali o tainstvennom Rossiiskom "Neitrone"'.
[25] There is one civilian Roscosmos Obzor-R radar-imaging satellite in orbit, which could also theoretically be used by the military. 'Roskosmos zapustit Obzor-R sputnik dlya radiolokatsionnogo monitoringa zemli', *AKM*, 29 April 2022. https://www.akm.ru/news/roskosmos_zapustit_sputnik_obzor_r_dlya_radiolokatsionnogo_monitoringa_zemli/
[26] Bart Hendrickx, quoted in Krutov and Dobrynin, 'Blind Russia. Putin's army is losing the satellite war'.
[27] The Zhitel, the Krasukha-4, the Divnomorye, the Tirada-2S, the Bylina-MM and the Murmansk-BN. See Bart Hendrickx, 'Russia gears up for electronic warfare in space (Part 1)', *The Space Review*, 26 October 2020. https://www.thespacereview.com/article/4056/1

Operations for the US Space Force, said in April 2023 that, 'We've seen…persistent SATCOM and GPS jamming [from the Russians]'.[28] The Russian Foreign Ministry said, indeed, that US civilian satellites were presenting themselves as 'legitimate targets'.[29] Included here was SpaceX's Starlink array. It was targeted because it was classed by the Russians as being a 'quasi-civil infrastructure' that was assisting the Ukrainian military in providing target indication.[30] A new Russian satellite jamming system, the Tirada-2S, was apparently used against the Starlink array.[31]

Overall, though, the degree of satellite jamming engaged in by the Russian military is lower than many experts expected. One source called it a 'Russian EW no-show'.[32] The much-vaunted power of this military's EW tool has, as another report puts it, been 'exposed as a myth'. One reason for this may be that the Russian capabilities in this field had been overestimated.[33] There is also the idea that Moscow is 'risk averse'; that it does not want to risk 'either a US or European spacecraft indirectly serving Ukrainian forces be[ing] destroyed'. This might escalate the whole conflict.[34] There is also the fact that a degree of 'sandbagging' may be occurring. That is, the Russians, with a possible future conflict with NATO in mind, do not want to reveal their true jamming capabilities. As Dana Goward puts it, 'Deploying Russia's most sophisticated and powerful electronic weapons in Ukraine would enable adversaries to study technologies and tactics. This would lead to the development of countermeasures and make the weapons less effective in future conflicts.'[35]

Having said all this, however, it must also be borne in mind that, as the Ukraine war progressed and as it, from the Russian point of view, entered a more static, defensive phase, the use of EW assets for jamming (including that of satellites) became easier. The initial war of movement did not show Russian EW assets to their best advantage.[36] By early 2023, though, it was noted that the effectiveness of the jamming of weapons systems supplied to the Ukrainians (such as JDAMs and HIMARS) had become 'significant'. Their satellite-guidance capabilities were being undermined.[37] All in all, however, it is still difficult to judge the true effect that Russian satellite jamming

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[28] Charles Pope, '"Complacency" must be avoided to maintain U.S. superiority in space, Saltzman says', *Space Force News*, 19 April 2023. https://www.spaceforce.mil/News/Article/3368200/complacency-must-be-avoided-to-maintain-us-superiority-in-space-saltzman-says/

[29] 'Rossiya mozhet nachat' sbivat' sputniki nad Ukrainoi', *Voennoe Delo*, 6 January 2022. https://voennoedelo.com/ampposts/id36740-th6oub0qpy4c6ycbqk3d

[30] SpaceX did later prevent Ukrainian forces from using Starlink for the military purpose of target indication. Christian Hensen, '"Die Russen werden uns finden" – Warum Starlink für ukrainische Soldaten inzwischen eine Gefahr ist', *Stern*, 26 March 2023. https://www.stern.de/digital/technik/warum-starlink-fuer-ukrainische-soldaten-inzwischen-eine-gefahr-ist-33318574.html

[31] Sergey Andreyev, 'Secret "Tirada": what is known about the Russian "switch" of satellites in Ukraine', *Stalker Zone*, 26 October 2022. https://www.stalkerzone.org/secret-tirada-what-is-known-about-the-russian-switch-of-satellites-in-ukraine/

[32] Bryan Clark, 'The fall and rise of Russian Electronic Warfare: the Ukraine invasion has become an old-fashioned slog, enabling Russia to unleash its electronic weapons', *IEEE Spectrum*, 20 July 2022. https://spectrum.ieee.org/the-fall-and-rise-of-russian-electronic-warfare

[33] Goward, 'Ukraine attacks changed Russian GPS jamming'.

[34] Anne Maurin, 'Russia's offensive cosmostrategy', *Aether: A Journal of Strategic Airpower & Spacepower*, Spring 2023. https://www.airuniversity.af.edu/AetherJournal/

[35] Dana Goward, 'Why isn't Russia doing more to jam GPS in Ukraine?', *C4ISRNET*, 22 July 2022. https://www.c4isrnet.com/opinion/2022/07/22/why-isnt-russia-jamming-gps-harder-in-ukraine/

[36] Clark, 'The fall and rise of Russian Electronic Warfare'.

[37] Alex Marquardt, Natasha Bertrand and Zachary Cohen, 'Russia's jamming of US-provided rocket systems complicates Ukraine's war effort', *CNN Politics*, 6 May 2023. https://edition.cnn.com/2023/05/05/politics/russia-jamming-himars-rockets-ukraine/index.html

might be having. No official body in the West or in Ukraine is going to give the Russian military the benefit of knowing just how effective their EW counterspace operations are.

Cyberattacks on satellites during the Ukraine war

Here is perhaps the most sophisticated form of Russian ASAT weapon. Cyberattacks can be classed as ASATs because all of the uplinks and downlinks to or from any satellite have to pass through IT systems based at ground stations. These can be as susceptible to an attack using cyber means as any other IT system. Satellite data can then be blocked, disrupted and satellites can even be rendered unserviceable by cyberattacks. Satellites can also be subject to control by malicious cyber actors.[38] There is a specific danger additionally from spoofing: actors such as NATO militaries may, if they suspect spoofing, lose trust in the data they are receiving from their satellites. This could have a significantly detrimental effect on operational activity.[39]

The Ukraine war has, of course, seen evidence of attempts by Russia to use cyberattacks against satellite links. The most high-profile example was the hack of the ground terminals of the ViaSat KA-SAT satellite network which served Ukraine.[40] This attack was designed, in an example of MDO thinking by the Russian military, to be conducted at the same time as the actual ground invasion began.[41] The effects of this cyberattack were felt not just by the Ukrainian military (losing C2 and surveillance capacities),[42] but also by much of the Ukrainian civilian population as well. Indeed, many other users across Europe had their Internet connection cut.[43] By October 2022, the Starlink satellite array was also being subject to hacking attempts.[44]

Given, however, the history of Russian cyberattacks against a range of states seen to be its adversaries prior to the 2022 war, the severity of those employed during the war itself seems to have quite limited. There could be several reasons for this. Ukrainian cybersecurity will undoubtedly have improved given the lessons learned since the crippling *NotPetya* attack of 2017 and others directed from Moscow. NATO cyber

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[38] Nicholas Eftimiades, 'Small satellites: The implications for national security', *Atlantic Council*, 5 May 2022. https://www.atlanticcouncil.org/in-depth-research-reports/report/small-satellites-the-implications-for-national-security/

[39] Richard Thomas, 'Russian aggression shows the West's GNSS weakness', *Army Technology*, 19 August 2022. https://www.army-technology.com/interviews/russian-aggression-shows-the-wests-gnss-weakness/

[40] See 'The war in Ukraine from a space security perspective', *European Space Policy Institute Short Report*, October 2022. https://www.espi.or.at/reports/new-espi-short-report%E2%80%95the-war-in-ukraine-from-a-space-cybersecurity-perspective/

[41] Courtney Albon, 'Experts say Russia's use of counterspace capabilities could make 2022 a "pivotal" year for space security', *Defense News*, 4 April 2022. https://www.defensenews.com/battlefield-tech/space/2022/04/04/experts-say-russias-use-of-counterspace-capabilities-could-make-2022-a-pivotal-year-for-space-security/; A J Vicens, 'UK, EU, US formally blame Russia for Viasat satellite hack before Ukraine invasion', *Cyberscoop*, 10 May 2022. https://cyberscoop.com/viasat-hack-russia-uk-eu-us-ukraine/

[42] Viktor Zhora, 'How to ride a bear – Russian cyber posture and security implications, Presentation given at the CyberSec Forum/Expo, 18 May 2022, Katowice, Poland. https://www.youtube.com/watch?v=lI7PQP_IcdA

[43] Matt Burgess, 'A mysterious satellite hack has victims far beyond Ukraine', *Wired*, 23 March 2022. https://www.wired.com/story/viasat-internet-hack-ukraine-russia/

[44] Elizabeth Howell, 'Elon Musk says Russia is ramping up cyberattacks on SpaceX's Starlink systems in Ukraine', *Space.com*,14 October 2022. https://www.space.com/starlink-russian-cyberattacks-ramp-up-efforts-elon-musk

experts have also been assisting Kyiv since the first Russian 'invasion' of 2014.[45] But it is also likely, as with the jamming observed, that the best Russian offensive cyber tools are being held back for use in any future major conflict with NATO. Moscow might be wanting to husband its best cyber tools in order to generate a cyber 'shock and awe' if ever a major conflict with NATO countries did ever break out. If Russia showed its true cyber hand now in Ukraine then NATO cybersecurity actors would be forearmed and defences created. As Kofman, et al, express it, 'high-end cyber capabilities may have been held in reserve for conflict with the United States and NATO.'[46]

In whatever way it is that the cyberspace operations conducted against satellite links by the Russian side during the war are to be judged, the writing might be seen to be on the wall. Cyberattacks may probably represent the future of Russian counterspace operations. They appear to be cost-effective while promising profound results. Before the Ukraine war, it was being mooted that because western satellites where now appearing in massive arrays – fleets – rather than in single units, then it made no sense for the Russian military to have ASATs (such as its Nudol and Burevestnik systems[47]) based on kinetic principles. These could only target individual satellites. The logic of one missile (or its Kinetic Kill Vehicle) 'killing' just one satellite appeared to make no sense in an era of satellite arrays.[48] But with the cyber ASAT tool the dial is now moving. As David Burbach expresses it, 'The success of Russia's attack on ViaSat…shows that an invulnerable satellite fleet is irrelevant if cyberattacks can impair its ground-based control systems and user access.'[49]

Everything, though, cannot be put in this one counterspace basket. Cyberattacks can never be totally relied upon. There is no real way of knowing what cyber defences an adversary has – including at satellite ground stations – until those defences are tested. As an ASAT tool, cyberattacks will always carry an element of 'hit and miss'. As such, the Russian military will always be maintaining other forms of ASAT weapons, most notably in the EW realm.

Conclusion

The war in Ukraine has seen the use of several of the Russian military's space-related assets. The paucity of these assets in terms of available satellite support served to stymie, to a large degree, this military's combined-arms operational endeavours. And there seems to be no quick fix involved here – the Russian armed forces will, for the foreseeable future, continue to labour with a massive inferiority in terms of satellite

[45] Nick Beecroft, 'Evaluating the international support to Ukrainian cyber defense', *Carnegie Endowment for International Peace*, 3 November 2022. https://carnegieendowment.org/2022/11/03/evaluating-international-support-to-ukrainian-cyber-defense-pub-88322

[46] Michael Kofman, Richard Connolly, Jeffrey Edmonds, Andrea Kendall-Taylor and Samuel Bendett, 'Assessing Russian state capacity to develop and deploy advanced military technology', *Center for a New American Security*, October 2022, p.7. https://www.cnas.org/publications/reports/assessing-russian-state-capacity-to-develop-and-deploy-advanced-military-technology

[47] Anton Lavrov and Aleksei Ramm, 'Zvezdnyi voin: chto skryvaet rossiiskaya sistema protivosputnikogo oruzhiya', *Izvestiya*, 18 November 2021. https://iz.ru/1251400/anton-lavrov-aleksei-ramm/zvezdnyi-voin-chto-skryvaet-rossiiskaia-sistema-protivosputnikovogo-oruzhiia.

[48] Eftimiades, 'Small satellites: The implications for national security'.

[49] David T. Burbach, 'Early lessons from the Russia-Ukraine war as a space conflict', *Atlantic Council*, 30 August 2022. https://www.atlanticcouncil.org/content-series/airpower-after-ukraine/early-lessons-from-the-russia-ukraine-war-as-a-space-conflict/

support compared to NATO forces. However, where counterspace abilities are concerned, the picture is very different. The Russian military, by using its counterspace assets, appears capable of generating a significant effect on the operational capabilities of adversary forces, which may one day include those of NATO. It is counterspace assets that can, it seems, go a long way to 'levelling the battlefield' in the Russian military's favour. It should be expected, moreover, that this military will have learnt significant lessons from the experience gained in the Ukraine war and will be improving the likes of its ASAT EW and cyber tools.

6

RUSSIAN ASYMMETRIC, INDIRECT, AND NON-MILITARY METHODS IN THE CONTEXT OF RUSSIA'S WAR ON UKRAINE – THEORETICAL AMBIVALENCE AND PRACTICAL COMPLICATIONS

Juha Kukkola

The presentation by Juha Kukkola in the Russia Seminar 2023 can be found on the FNDU YouTube-channel: https://www.youtube.com/watch?v=iI-1U5kKwd8 starting from 4:17:10.

Introduction

For the last thirty years Russians have used the concepts of asymmetric, indirect and non-military means, methods and measures to analyse the changing character of war. From the Russian point of view these concepts transcend the borders between war and peace and offer a formula for winning interstate competition with or without force by using the weaknesses of the opponent or by manipulating it. The roots of asymmetry, indirectness and non-military measures are in creativity, cunningness, and in the principle of surprise which penetrate all military art.

The idea that Russians have been interested in asymmetric, indirect and non-military means is not new. During the last eight years Western military scholars have been very interested in Russia's so-called 'hybrid', 'Next Generation', or 'New Type' warfare. For example, Charles Bartles has claimed that: "Russia's indirect and asymmetric methods are seen as a response and countermeasure to similar methods initially developed in the West."[1] According to Dmitry Adamsky: "'asymmetry' and 'indirect approach' have deep, idiosyncratic roots in Russian military tradition. The tricky stratagem, indirectness, operational ingenuity, addressing weaknesses and avoiding strengths are expressed in Russian professional terminology as 'military cunningness'..."[2]

Timothy Thomas has written about:"…the apparent similarity among the terms asymmetric, indirect, and nonmilitary, terms that the major military figures in Russia all use."[3] Katri Pynnöniemi has argued that Russia uses *asymmetric approach* to prevent or neutralize: "the emergence of a conflict that would threaten Russia's sovereignty and domestic political stability."[4] For Jānis Bērziņš this asymmetric warfare "has a systemic and comprehensive nature, employing political, diplomatic, informational,

[1] Bartles, C. K. (2016): Russia's Indirect and Asymmetric Methods as a Response to the New Western Way of War. *Special Operations Journal*, Vol. 2, No. 1, pp. 1–11, pp. 9.
[2] Adamsky, D. (2018): From Moscow with Coercion: Russian Deterrence Theory and Strategic Culture. *Journal of Strategic Studies*, Vol. 41, No. 1-2, pp. 33–60, pp. 17.
[3] Thomas, T. (2019): *Russian Military Thought: Concepts and Elements*. MITRE Corporation, McLean VA, 2019, pp. 5–11.
[4] Pynnöniemi, K. (2019): The Asymmetric Approach in Russian Security Strategy: Implications for the Nordic Countries. *Terrorism and Political Violence*, Vol. 31, No. 1, pp. 154–167, pp. 156.

economic, military, and other indirect forms at the same time."[5] Ultimately, Michael Kofman et al. have argued that Russia's military strategy is based on "achieving surprise, decisiveness, and continuity of strategic action. Identifying an opponent's vulnerabilities, finding asymmetric counters to neutralize their advantages, and seizing the strategic initiative."[6]

Despite of previous research the role of asymmetric, indirect and non-military means, methods and measures' in the Russian military art remains an interesting problem – more so in the context of Russia's current aggression against Ukraine. I have previously analysed the historical, Russian roots of these concepts in a Finnish language working paper called "The Promise of Cunningness. Asymmetry, Indirectness, and Nonmilitary Methods as the Key Elements of the New Russian Art of War." After Russia invaded Ukraine in February 2022, I used the results of my previous research to analyse the Russian 'special military operation' as a continuation of Russia's strategy of indirect actions against Ukraine.

Consequently, this paper asks the following questions: What are the Russian asymmetric and indirect methods, and non-military measures according to Russian military literature? How these methods have been employed in the Russia's war against Ukraine in practise? Why Russia succeeded and/or failed in employing these methods in the light of current publicly available evidence? What can we learn from Russia's 'special military operation' about the use of asymmetric and indirect methods and non-military measures concerning future wars? The answers provided will be preliminary as this paper is a based on a work in progress and as many events relating to the 'Russian special operation' in Ukraine are still under the fog of war and sources are unavailable because of operational security reasons.

The sources concerning the Russian concepts of asymmetric and indirect methods, and non-military measures used in this paper are mainly presented in my previous research.[7] They include the leading Russian military journals and some of the most cited Russian military theoretical monographs from the 1960s onwards. In analysing the events in Ukraine, I have used both Western and Russian news sources. However, I have relied heavily on the excellent academic reports and journal articles on the Russian-Ukraine conflict written by leading Russia specialists - some of which are based on field studies among the Ukrainian military.

Conceptual Development and Interaction with the 'Main Enemy'

It can be argued that for the last thirty years the Russians have been trying to find out ways to win against a technologically superior great power opponent i.e., the United States. Russians have combined old Soviet era ideas like active measures, reflexive control, Evgeni Messner's мятежевойна, materialistic principles of warfare, the doctrine of deep operations, and systems theory with Western theories and doctrines like,

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[5] Bērziņš, J. (2020): The Theory and Practice of New Generation Warfare: The Case of Ukraine and Syria. *The Journal of Slavic Military Studies*, Vol. 33, No. 3, pp. 355–380, pp. 362.
[6] Kofman, M., Fink, A., Gorenburg, D., Chesnut, M., Edmonds, J. & Waller, J. (2021): *Russian Military Strategy: Operational Concepts*. CNA Research Memorandum, 2021, pp. ii.
[7] Kukkola, J. (2022): *Oveluuden lupaus: Asymmetria, epäsuoruus ja ei-sotilaalliset toimenpiteet uuden venäläisen sotataidon kiintopisteenä*. Maanpuolustuskorkeakoulu, Sotataidon laitos, Julkaisusarja 2: Tutkimusselosteita nro 22. Maanpuolustuskorkeakoulu, Helsinki.

for example, Sir Basil Liddell-Hart's Indirect Strategy, Network Centric Warfare (NCW), Effect-Based Operations, and Full-Spectrum Dominance, and more opaque concept such as Information and Cyber Warfare, Strategic Communications, Soft Power, Clash of Civilizations, Classic Geopolitics etc.[8]

Russians have used asymmetric, indirect and nonmilitary actions and effects to describe the way in which warfare has been changing. This change has many sources. Strategic nuclear weapons have made a conventional great power war almost an impossibility. The development of information technology has changed the methods of influencing opponents and changed the nature of human societies and the economy. Globalization has produced disruptive shifts in power and ideas. And new forms of competition like cyber, cultural, financial, and even ecological have changed the nature of interstate rivalry.

Despite strenuous efforts the Russian military scholars have not succeeded in producing a coherent theory of asymmetric, indirect and nonmilitary actions. Even despite an implicit order to do so by the Chief of the General Staff general Valery Gerasimov.[9] The three concepts are highly interconnected and difficult to separate and define in an analytical way. Over the years they have been used by the Russians as adjectives to many different nouns like ways, means, methods, measures, principles, strategies, tactics, actions etc.

It Is All Based on Cunningness and Surprise

Despite the problems in exactly defining what is meant by asymmetry, indirectness, and nonmilitary measures, it is clear, as Dmitri Adamsky has argued, that these concepts are related to the Russian concepts of cunningness, creativity, and the surprise achieved through them.[10] As the head of the All-Russian General Staff Alexander Svechin declared in his magnum opus Strategy: "Military cunningness, stratagem, penetrates operational art, is its essential part similarly as the understanding of force, its organization and rational use in battle are for tactics."[11] Later Soviet theorists argued that cunningness and creativity enable the commander to manipulate the objective laws of war and warfare to his/her advantage.

In 2001 General of the army V. N. Lobov wrote a book about the role of cunningness in the Russian military art.[12] He argued that surprise is based on the manipulation of information. Surprise is an event created by protecting information about one's own actions while at the same time manipulating the information received by the opponent. There is no ready-made formula for surprise – it is always achieved in unique, historical, situational way. Moreover, surprise never creates power out of nothing, it

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[8] Cf. Adamsky, D. (2010); Thomas (2019): *The Culture of Military Innovation: The Impact of Cultural Factors on the Revolution in Military Affairs in Russia, the USA, and Israel*. Stanford University Press, Stanford, 2010; Jonsson, O. (2019) *The Russian Understanding of War: Blurring the Lines between War and Peace*. Georgetown University Press, Washington, DC, 2019; Kukkola, J. (2020): *Digital Soviet Union: The Russian national segment of Internet as a closed national network shaped by strategic cultural ideas*. Doctoral Dissertation. National Defence University, Helsinki; Kukkola (2022).

[9] Герасимов, В.В. (2013): Основные тенденции развития форм и способов применения Вооруженных Сил, актуальные задачи военной науки по их совершенствованию. Вестник академии военных наук, № 1(42), pp. 24–29.

[10] Adamsky (2018).

[11] Свечин, А. А. (1927): Стратегия. Военный вестник, Москва, pp. 204.

[12] Лобов, В. (2001): Военная хитрость. Голос, Москва.

is only a variable, coefficient, although highly orthogonal and disproportionate. According to the Russian Military Encyclopaedic Dictionary surprise can be achieved with new and unexpected methods or weapons, secrecy, deception, quick and decisive action, unpredictability, and maskirovka.[13] Asymmetry, indirectness, and nonmilitary measures incorporate all these characteristics.

Nonmilitary measures

Nonmilitary measures were outside the legitimate interests of the Soviet armed forces for ideological reasons. When the originally Marxist idea of continuous intersystem struggle was adopted in the 1990s to explain modern great power rivalries, non-military measures became relevant for military purposes. Currently these include diplomatic, political, economic, information-psychological and information-technological, humanitarian, moral-ethical, ideological, judicial, scientific-technological, and even ecological measures. Information warfare is currently the most pronounced as it is thought to have independent strategic effects because it can affect the decision-making, will, mentality and even culture of the target nation. Nonmilitary measures are used to isolate, weaken, pressure, deceive, manipulate, destabilize, and disorganize an opponent. Their objective is to acquire more power, lessen or neutralize military threats, restrict the enemy, and even force it to abandon aggressive policies.

Nonmilitary measures require resources and do not create power out of thin air and require creativity to manipulate opponent's systemic interconnections and weaknesses. Thus, nonmilitary and military measures support each other, can replace each other, can be used either in parallel or successively, and can have interdomain effects, depending on the phase of interstate conflict, but only if the target state is well understood and is susceptible to manipulation.[14]

Asymmetric methods

The concept of asymmetric response was created in late-Soviet Union as an answer to the challenge posed by the Strategic Defence Initiative (SDI). It was resurrected in the turn of the millennium as the United States once more became Russia's primary competitor. Asymmetric methods include new weapon systems or wonder weapons, anti-NCW warfare, non-military measures, mainly information warfare, and non-traditional methods, whatever they might be. Information warfare is considered by the Russians to be asymmetric because it is new and thought to be cheap, but still providing strategic effects. Moreover, information itself is thought to be asymmetric in nature.

Interestingly, in the 2020s Russian scholars developed the idea of the 'asymmetric strategy of the strong.'[15] It is based on the purposeful activity to exploit the known weaknesses of the weak and increasing own advantage with traditional and non-

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[13] Министерство обороны Российской Федерации (2007): 'Маскировка' Военный энциклопедический словарь 2007 [Online]
[https://encyclopedia.mil.ru/encyclopedia/dictionary/details.htm?id=7917@morfDictionary],
visited 7.6.2022.
[14] On the sources on this chapter Cf. Kukkola (2022).
[15] For example cf. Селиванов, А.А. & Чварков, С.В. (2020): О стратегии и концепции ассиметричных действий. Вестник академии военных наук, № 3 (72), pp. 57–63.

traditional, open and secret measures by the strong. This theory is a continuation of the development of the Russian understanding of asymmetry. It began with the asymmetry of the weak or smart i.e., the Soviet Union's response to SDI, then concentrated on the asymmetry of the strong when the United States' technological superiority was seen as asymmetric. In the 2000s asymmetry again became the tool of the weak as Russia sought to counter the United States.

In short, asymmetry is something non-traditional, even unlawful, that gives a disproportionate advantage. The advantage is based on the surprise which the shock effect of implausible use of unthinkable means produces. Asymmetry is supposed to produce 'game-changing' effects with minimal input. Asymmetric methods can be described as creative, manipulative, non-rule bound, cost-effective, qualitative, situational actions to affect the opponent disproportionally based on exploiting its weaknesses or using own strengths. Asymmetry can be applied on all levels of warfare and phases of interstate relations.[16]

Indirect actions and strategy

'Indirect strategy' was considered to be a product of bourgeois ideology up until the Perestroika. It was Army General and the Chief of Military Academy M. A. Gareev who in his 1995 book If War Comes Tomorrow? finally made indirect methods politically and doctrinally acceptable for the Russian military.[17] For Gareev and later others, indirect actions included manoeuvre warfare, special forces operations, information operations, subversive actions, space warfare, economic sanctions, blockades, use of opposition parties, partisan and noncontact warfare, military political activities, non-traditional operations, use of proxies, military exercises, strategic deployments, and peacekeeping operations.

During the 2000s Russian military scholars including I. N. Vorobev, V. A. Kiselev, S. G. Chekinov, S. A. Bogdanov developed indirect actions into a concept of Strategy of Indirect Actions which was a way to achieve military-political objectives without the costly use of force through nonmilitary measures, manipulation, cunningness and, if necessary, military surprise enhanced with new or non-traditional ways of warfare.

In essence indirect actions are used to avoid (prevent) war altogether – in such a way that is beneficial to Russia – or to minimize war's costs. Indirect actions have different character during peace and war time. In peace time they are used to destabilize target societies, their political decision making and economic potential. During war time they are characterized by violence. Manipulation has an important role in indirectness. Opponent is understood as a system and tailored information is used to make it act in a way beneficial to the manipulator. According to the more traditional view, indirect methods are only disproportionate variables in correlation of forces calculations or something non-traditional, creative, and new.[18]

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[16] On the sources on this chapter Cf. Kukkola (2022).
[17] Гареев, М. А. (1995): Если завтра война? ВлаДар, Москва.
[18] On the sources on this chapter Cf. Kukkola (2022).

Russia's Strategy of Indirect Actions towards Ukraine

It can be argued that Russia conducted a long-term strategy of indirect actions against Ukraine at least from 2014. After other, nonmilitary and covert and indirect military measures failed this strategy was implemented through a military operation based on a surprise invasion and regime change. Surprise and subsequent victory were planned to be achieved through a combination of symmetric, direct and military and indirect, asymmetric and nonmilitary methods. After the first phase of the war failed Russia has slowly adopted mass and attrition-based warfare with limited objectives where asymmetry, indirectness and non-military measures have limited roles on strategic and strategic-operational level.

A chronological analysis, based on news sources, official statements and social media reporting of Russia's policies and actions show how it utilized symmetric and asymmetric, direct and indirect, and military and nonmilitary methods simultaneously, consecutively and in mutual support to try to achieve political ends in 2021-2022.[19]

Based on Russia's actions and transpired events, it can be argued that as Russia's nonmilitary and limited military measures as primary methods to affect Ukraine's policies failed by 2021, Russia used wide ranging nonmilitary and overt and covert indirect military measures to create a basis for the military operation during the spring 2021 and early winter 2022.[20] These methods have included increased military pressure in the Donbass and strategic redeployment of forces to train Russian forces and pressure Ukraine; information-psychological operations to discredit, manipulate and isolate Ukraine; cyber espionage and support for INFO-OPS to destabilize Ukraine and to gather strategic intelligence; economic blackmail and influencing Ukrainian oligarchs to weaken Ukraine; a coup attempt and engineering of 'post-invasion puppet government' to compromise Ukraine's sovereignty and enable regime change; military build-up and the use of Belarus and Moldova to create an asymmetric situation where Ukraine is threatened from multiple directions; diplomatic initiatives to pressure, destabilize and deceive Ukraine and its Western supporters; nuclear deterrence signalling to isolate Ukraine, limit support given to it and limit the scope of the conflict; efforts to legitimate the military intervention as defensive and false flag narratives to manipulate Ukrainian, Russian and international audiences; and recruiting agents and infiltrating Ukrainian military and security services, and maximizing secrecy on timing, direction and objectives of the invasion to paralyze and deceive the Ukrainian military.

The attack itself was meant to be quick and decisive, to decapitate Ukraine's leadership, prevent mobilization of armed forces, fix and paralyze its permanent readiness forces, capture critical infrastructure and administrative centres and stop outside powers from interfering with limited amount of direct, lethal force.[21] Methods used included, among others, destructive cyber operations, missile strikes against critical

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[19] The sources are too numerable to be cited here. The author is in the possession of all the relevant sources.
[20] Harris, S., DeYoung, K., Khurshudyan, I., Parker, A. & Sly, L. (2022): Road to war: U.S. struggled to convince allies, and Zelensky, of risk of invasion. *The Washington Post*, August 16th 2022; Schwirtz, M., Troianovski, A., Al-Hlou, Y., Froliak, M., Entous A. & Gibbons-Neff, T. (2022): How Putin's War in Ukraine Became a Catastrophe for Russia. *New York Times*, December 16th 2022; Bilefsky, D., Pérez-Peña, R. & Nagourney, E. (2022): The Roots of the Ukraine War: How the Crisis Developed. *New York Times*, October 12th 2022.
[21] Zabrodskyi, M., Watling, J., Danylyuk, O. & Reynolds, N. (2022): Preliminary Lessons in Conventional Warfighting from Russia's Invasion of Ukraine: February–July 2022. RUSI, London.

military targets, and electronic warfare to disorganize Ukraine's military and break the will of its people and leadership; air supremacy operation, ground attack conduct through multiple axis, airborne assaults, special forces operations, attempted assassinations and elimination of the government to destabilize, paralyze and destroy Ukraine's armed forces and political leadership; sea blockade to pressure Ukraine and achieve freedom of action for Russia on the maritime domain; use of local agents, proxies, criminals and so-called 'savage ethnic groups' to create terror and obfuscate the character of the conflict; information operations, annexation of occupied areas to frame invasion as defensive, isolation of Russia's own information space and creating an alternative reality to break Ukraine's will, to isolate it, and to create support for the Russian war effort at home; grain and energy export blackmail to pressure and isolate Ukraine; intensified nuclear and cyber deterrence signalling to deter Ukraine's allies; destruction of energy infrastructure with long range weapons to inflict terror and weaken Ukraine; and the use of wonder weapons, air defence and naval missiles against ground targets, and use of cheap long-range weapon systems to create confusion and disorganize Ukraine's resistance.

Failures of Russia's Actions

As of this moment the military component of Russia's strategy of indirect actions towards Ukraine has failed. Some of the actions have failed altogether and when actions in themselves were successes they have not produce the desired results. The true reasons for this are still very much unknown put some speculative answers, based on previous studies and my own analysis, are provided here.

It can be argued that the Russian armed forces did not have enough time and freedom to plan and train their forces because of secrecy and political interference. Therefore, the armed forces were surprised themselves when the operation began. Moreover, the use of direct, violent force was somewhat restricted by the Russian political leadership to portray the operation as non-aggressive as possible. This was based on the Kremlin's assumption that the Ukrainians would not resist the invasion.[22]

The Russian armed forces trusted too much in its ability to conduct New Type or Next Generation Warfare. In reality the military was not trained, equipped, or staffed for this kind of operation. Leadership culture was faulty. The political leadership and the military high command did not know about these deficiencies and could not plan accordingly or chose to ignore the facts. Therefore, the chosen doctrine did not fit the situation, the adversary, and the capabilities available. This resulted in poor combined warfare, inefficient use of indirect fires and failure in joint warfare.[23]

To deceive, destabilize, and paralyze an opponent a certain freedom of action is required. Forces in different domains must be able to support each other so that systemic effects on the opponent can be achieved. Russia failed to achieve freedom of action, to speak nothing about supremacy, in any but the maritime domain. Russia

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[22] Zabrodskyi et al. (2022); Kofman, M. & Lee, R. (2022) Not Built For Purpose: The Russian Military's Ill-Fated Force Design. *War on the Rocks*, June 2, 2022 [https://warontherocks.com/2022/06/not-built-for-purpose-the-russian-militarys-ill-fated-force-design/]; Dalsjö, R., Jonsson, M. & Norberg, J. (2022): A Brutal Examination: Russian Military Capability in Light of the Ukraine War. *Survival*, Vol. 64, No. 3, pp. 7–28.
[23] Baev, P. (2022): *Russia's War in Ukraine. Misleading Doctrine, Misguided Strategy*. Russie, Nei.Reports, No. 40, Ifri, October 2022; Kofman & Lee (2022); Dalsjö, Jonsson & Norberg (2022).

was unable to supress Ukraine's air defence and it was not able to paralyze Ukraine's armed forces command and control or fix and destroy Ukraine's forces.[24] Air and information superiority, critical necessities for victory, were not achieved. Cyber operations, although sophisticated and destructive, ultimately failed to have strategic effects.[25] Russia also failed to create a successful insurrection or pro-Russian opposition inside Ukraine to destabilize Ukraine leadership and limit its legitimacy and political freedom of action.

Technological solutions promoted as 'asymmetric responses' failed to deliver. The modernization efforts of the Russian armed forced were shown to be riddled with problems.[26] Network centric warfare and anti-network centric warfare failed, mostly because the volume, size and speed of the operation caused problems that the Russians did not anticipate. The use of novel methods or technologies failed to destabilize Ukraine's armed forces, or civilian society.

Russian military academic texts on asymmetric and indirect strategies often present the opponent as a passive and plaint object. This was no so in the Ukrainian case. The Russian secret services and armed forces failed to understand the enemy and had no contingency plans. They also lacked situation awareness and were therefore paralyzed themselves when the initial offensive failed.[27] Moreover, Russia failed to isolate Ukraine. Russia's intentions, propaganda and disinformation were exposed and efforts to build a moral-ethical basis for the invasion failed outside Russia.[28] Ukraine has denied Russian freedom of action both in the information-technological and psychological space. Russia totally failed to influence the international institutions capable of pressuring Ukraine. Consequently, Western military and private sector support for Ukraine did not stop but Russia itself was hit with sanctions.

Russia's use of terror, attacks against civilian targets, and efforts to divide Ukrainians have failed. The threat and use of military force have not created enough pain to pressure Ukraine to negotiations.

To summarize, the Russia's indirect strategy's operational plan was based on wrong premises and was too complicated compared to the capabilities Russia had – or thought it had. Politics placed restrictions on the indirect and asymmetric methods because they could not be combined with sufficient direct and symmetric use of force. Russia was unable to fully shape the strategic environment because military and non-military measures failed to synchronize. Indirect operations failed when joint warfare failed, and no new or novel technology or doctrine produced surprises.

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[24] Bronk, J., Reynolds, N. & Watling, J. (2022): *The Russian Air War and Ukrainian Requirements for Air Defence*. RUSI, London.
[25] Bateman, J. (2022): *Russia's Wartime Cyber Operations in Ukraine: Military Impacts, Influences, and Implications*. Carnegie Endowment for International Peace, Washington.
[26] Kofman (2022); Zabrodskyi et al. (2022); Massicot, D. (2023): What Russia Got Wrong. Can Moscow Learn From Its Failures in Ukraine? *Foreign Affairs*, March/April 2023.
[27] Zabrodskyi et al. (2022).
[28] Akrap, G., Mandić, I. & Rosanda Žigo, I. (2022): Information Supremacy, Strategic Intelligence, and Russian Aggression against Ukraine in 2022. *International Journal of Intelligence and CounterIntelligence*, DOI: 10.1080/08850607.2022.2117577

Potential and Contingent Successes

It is quite easy to find reasons for the failure of Russia's asymmetric and indirect methods and non-military measures in the initial period of the invasion. However, there were potential successes and as the war has continued some of Russia's methods might still produce desired effects.

On the international level Russia avoided global condemnation of its clearly illegal invasion and even manage to retain the indirect support of China. Moreover, Russia managed to use, at least indirectly, some countries' dependencies on its energy exports and its import markets to manipulate their political decision-making.[29]

Before the invasion Russia succeeded in convincing Ukraine's leadership that mobilization would be economically disastrous and too provocative a measure.[30] It also managed to project such a military strength and competence, through long-term information operation, that many believed Russia to succeed easily and thus Ukraine lacked direct military support in the initial period of the war. By using information influencing, economic clout, and deterrence messaging Russia managed to begin its operation without any real restrictions from other great powers or military alliances.

Russia succeeded in manipulating Ukraine's threat assessments which led Ukraine to wrongly estimate the direction, scope, and objectives of the Russian offensive.[31] It used troops in Belarus and Moldova as an indirect threat to divert Ukrainian forces away from the main battle lines. Russia basically achieved an operational surprise by beginning an operation in a way that did not really make sense from operational art point of view and with forces that seemed, and were, inadequate.

Although Russia's coup efforts failed, it has been able to find collaborators in occupied areas either to work as agents or occupation officials.[32] These people can form the basis of an 'alternative Ukraine' which Russia can use to destabilize and delegitimize Ukraine's statehood and nationhood. Also, the destruction of Ukraine's cultural heritage makes it easier to claim that Ukraine was never an independent and distinct nation.

Russia has used, or at least allowed for its forces the use of, unconventional and unexpected, immoral, and illegal methods such as summarily bombing civilian targets, taking nuclear power plants as hostage, and torture and assassinations.[33] Its invasion broke multiple international treatises and bilateral agreements with Ukraine. However, no successful punishment has been inflicted on Russia and international war crimes tribunals are currently powerless to affect Russia's operation. It can be argued that Russia seems to have different standards of humanity than Ukraine when it comes to

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[29] Economist. (2022): Who are Russia's supporters? *Economist*, April 4th 2022; Mac Dougall, D. & Palfi, R. (2022): Despite diplomacy, Hungary & Turkey still blocking Sweden and Finland from NATO. *Euronews*, November 11th 2022; Ryan, M. (2022): As Finland and Sweden wait to join NATO, Turkey extracts concessions. *Washington Post*, December 7th 2022.
[30] Harris et al. (2022).
[31] Zabrodskyi et al. (2022).
[32] Saito, M. & Tsvetkova, M.: How Russia Spread a Secret Web of Agents Across Ukraine. Reuters, July 28th 2022; Khurshudyan, I. & Somasundaram, P. (2022): Zelensky removes security head, top prosecutor in high-level shake-up. The Washington Post, July 17th 2022.
[33] Tondo, L. (2022): Russia has committed war crimes in Ukraine, say UN investigators. *The Guardian*, September 23rd 2022.

civilian and even its own soldiers. Ultimately, unexpectedness and surprise can be achieved by doing something that the opponent has ruled out as morally inconceivable.

Russia has utilized the ability to strike targets deep inside Ukraine while Ukraine does not have similar capabilities or has been restricted by its allies from striking such targets.[34] Russia has successfully used nuclear deterrence and information operations to restrict Ukraine's operations and its allies' support. Russia has also managed to harness its state and societal characteristics for the war effort. These include control of domestic information space and manipulation of patriotic feelings, the recruitment of patriotic volunteers, prisoners and ethnic minorities, use of local government to gather troops, recruitment of separatist proxy forces, the mobilization of state and private industry and vast natural resources, and the use of extensive transport infrastructure.[35]

Russia's efforts to destroy Ukraine's electric network has had an effect and cyber and kinetic attacks have heavily impacted Ukraine's economy and make it very difficult for Ukraine to sustain its war efforts in the long-term. Russia has also learned from its mistakes and incorporated new technologies. Electronic warfare has been used more efficiently and Russia has developed tactics for the combined use of cruise missiles and drones.[36] This creates an asymmetric situation where Russia controls the way in which the war is fought and on which conditions it is terminated.

To summarize, Russia achieved limited surprise and was able to act like an independent great power. It lost but has now taken back the initiative in its military operation. Russia has been able to start switching to the 'asymmetry of the stronger' by mobilizing its human, material, and information potential. In this kind of situation resources and time create initiative, freedom of action, and ultimately surprise and victory. Already Russia is forcing Ukraine to fight a war that might eventually favour Russia.

Conclusion

Although the idea of the strategy of indirect actions might have been sound, Russia's 'special military operation' has initially been based on groundless belief in indirect, asymmetric and nonmilitary methods. There is nothing new in the history of politics and warfare in Russia's mistakes. Indirect and asymmetric methods are historical and situational. One cannot copy & paste successful operational plan form the past and expect it to work. When asymmetric and indirect methods are used, risks of unforeseen consequence rise. It is all well and easy to write about holistic, all-of government, multidomain military strategies, but quite another thing to pull one off. Especially if you manage to succeed once but your opponents have enough time to learn your ways and device effective counter methods.

Russia's war against Ukraine has shown that without strong armies to fight in symmetric and direct ways, i.e., to try annihilation, great powers can be tempted to use

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[34] Kofman, M. (2022): *The Russo-Ukrainian war ten months in: taking stock*. Riddle, December 22nd 2022; Wheeldon, T. (2022): Why the US declined to send Ukraine long-range missiles, tanks. *France24*, December 22nd 2022.

[35] Klein, M. & Holger, Schreiber, N. (2022): The Attack on Ukraine and the Militarisation of Russian Foreign and Domestic Policy. *SWP Comment* 2022/C 71, 22.12.2022

[36] Zabrodskyi et al. (2022).

absolute weapons to avoid attrition. The Russian leadership has given such signals many times during the ongoing conflict. Indirect strategies of great powers can have consequences for all. Thus, escalation management is not a 'dirty word', too close to appeasement for the liking of some, but a necessary survival mechanism for as all. However, asymmetric and indirect actions and strategies can make escalation management difficult as they are based on making the opponent highly vulnerable and on achieving strategic and operational surprise.

The most important lesson from the 'special military operation' for countries sharing a border with Russia is that Russia will use time, geography, economic linkages, information tools, subversion, and strategic movements of its armed forces to create an asymmetric, strategic situation where the weaker opponent must sacrifice almost everything if it wants to survive. Russia will leave the door open for an apparent negotiated solution which basically means regime-change and the abandonment of basic national interests and values. Russia will go for a quick military solution if it thinks there is one but is prepared for long attrition warfare to secure at least minimal victory. Therefore, a permanent full-domain military, well-resourced military allies, comprehensive security strategy and anti-fragility of society are required to survive. The ability to cause unacceptable damage is required to win.

7

RUSSIAN TACTICAL PSYOPS IN UKRAINE – DO THEY PLAY BY SOVIET HANDBOOK?

Ivo Juurvee

The presentation by Ivo Juurvee in the Russia Seminar 2023 can be found on the FNDU YouTube-channel: https://www.youtube.com/watch?v=iI-1U5kKwd8 starting from 4:45:30.

Abstract

While the influence operations of Soviet foreign intelligence (KGB FCD) or active measures have had a wide coverage in literature, the influence operations of Soviet armed forces have been overlooked. However, there is evidence of wide use of tactical PSYOPS – *spetspropaganda* – in Soviet war in Afghanistan (1979-1989). The author has access to Soviet PSYOPS handbook from 1987 (i.e. the last one published in USSR and based on experience in Afghanistan) and has conducted interviews with Estonian born officers trained in PSYOPS in 1980ies and conducting them in Afghanistan in 1980ies.

Careful examination of Soviet toolbox in Afghanistan allows establishing the PSY-OPS toolbox used the time. Comparison with what is known on RU PSYOPS in the war against Ukraine allows some interesting comparison. The presentation is based on the author's Brigade Staff Officer Course thesis of 2022 at the Estonian Military Academy.

8

OBSERVATIONS OF THE RUSSIAN CYBERWARFARE DURING THE UKRAINIAN WAR

Juha Wihersaari

The presentation made by Juha Wihersaari in the Russia Seminar 2022 can be found on the FNDU YouTube-channel: https://www.youtube.com/watch?v=ywyasBuw7vg&t=3263s starting from 5:16:30.

Introduction

When Russia one year ago started so called Special Military Operation (SMO) and invaded into Ukraine, a wide audience and cyber warfare specialist waited for overwhelming and highly sophisticated cyber operations which would have paralyzed the whole country. During the war, Russia has conducted a lot of cyber operations, but they have not been in the scale or on the level as expected. This matches with results of Russian conventional warfare in Ukraine but does not match with the overall assessment about the Russian cyber warfare[1] capability. The target of this presentation is to enlighten the possible reason for this contradiction. First is needed to study the basis and pre-war situation of the Russian cyber warfare and then cyber operations during the Ukrainian war.

How the Western specialists assess the Russian cyber warfare capability?

Per the recent assessment i.e. The US National Cyber Power Index 2022[2], *Russia ranks third in the world*, behind the United States and China. Two years earlier Russia was ranked fourth in the world per Cyber Power Index 2020[3]. Although this study evaluates, not just state's cyber-attack capability, but also capability to defend itself in the cyber domain, it nevertheless indicates the magnitude of Russia's cyber-attack capability. And it tells, that Russia poses increasing threat.

From OSINT, it is not easy to find reliable information of the strength of the Russian cyber force. Perhaps the most reliable information is from the spring of 2016 - *the German intelligence service BND estimated the strength of Russia's cyber forces at 4,000 people*.

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[1] Giles, Keir: *Handbook of Russian Information Warfare*, NATO Defence College, 2016, pp. 16–19, The Russian definition of *information warfare (Информационная война) convers both, however it is divided into psychological and technical information warfare.* Information warfare closely links both sub-elements even though psychological information warfare can be conducted without the use of electronic systems. However, for the sake of clarity, this article uses *the term cyber warfare when referencing the above-mentioned technical information warfare.*

[2] Voo, Julia; Hemani, Irfan & Cassidy, Daniel: *National Cyber Power Index 2022*, Belfer Center, Harvard Kennedy School, September 2022, pp. 10.

[3] Voo, Julia; Hemani, Irfan; Jones, Simon; DeSombre, Vinnona; Cassidy, Daniel & Schwarzenbach: *National Cyber Power Index 2020*, Belfer Center, Harvard Kennedy School, September 2020, pp. 8.

This assessment was based on the total number of cyber personnel of the military intelligence GRU, the security service FSB and the foreign intelligence service SVR.[4]

Electronic Transactions Development Agency's Threat Group Cards[5] gives a good picture of the overall situation. In total, nearly 50 hacker groups known to be connected to the Russian state, 35 belongs to the most dangerous APT-class[6] group. However - as seen below in the Table - China is the strongest global hacker power before Russia. It is also useful to notice that Iran is reaching Russia.[7]

Nation	All	ATP	Others	Unknown
China	138	118	4	16
Russia	49	33	12	1
Iran	40	38	2	0
North-Korea	11	10	0	1

Table 1. Number of the most dangerous hacker groups in the world[8]

According to the assessment made by the information security company Cybernews in 2021, two of the five most dangerous APT-class[9] hacker units in the world are estimated to be Russian, with the others linked to the other three states practicing hacking activities[10]. Although this is a listing drawn up by an individual company and in some estimates the order of Russian hacker groups is reversed, the list expresses well the assessed level of competence of Russian hackers and the threat they pose.

The APT hacker groups linked to the states will be referred to as *the hacker unit*. This is intended to highlight the systematic, scale and level of competence of government organisations compared to, for example, criminal hacker groups. And the entity of the Russian hacker units will be referred as *(The Russian) Cyber Force*.

Rank	Name	State	Note!
1.	Cozy Bear (APT 29)	Russia	Foreign intelligence
2.	Lazarus Group (APT 38)	North-Korea	
3.	Double Dragon (APT 41)	China	

[4] Oliphant, Roland: Who are Russia's cyber-warriors and what should the West do about them, The Telegraph, 16.12.2016.
[5] Threat Group Cards: A Threat Actor Encyclopedia, Electronic Transactions Development Agency (ETDA), https://apt.etda.or.th/cgi-bin/aptstats.cgi.
[6] The most capable and dangerous hacker groups have been given the definition Advanced Persistent Threat (APT). This means they can execute APT campaign i.e. a resource demanding and long-lasting sophisticated cyber-attack on a chosen target.
[7] Electronic Transactions Development Agency (ETDA).
[8] Ibid.
[9] The most capable and dangerous hacker groups have been given the definition Advanced Persistent Threat (APT). This means they can execute APT campaign i.e. a resource demanding and long-lasting sophisticated cyber-attack on a chosen target.
[10] Mikalauskas, Edvardas: The world's most dangerous state-sponsored hacker groups, Cybernews, 16.2.2021.

4.	Fancy Bear (APT 28)	Russia	Military intelligence
5.	Helix Kitten (APT 34)	Iran	

Table 2. The most dangerous hacker groups in the world[11]

Summa summarum, Russia's cyber warfare capability is assessed to be all the time more and more effective and dangerous. One big reason for this is, that since 2014 Ukraine has been training area for Russian cyber warfare troops[12]. Another reason is that Russia is extremely systematically developing its cyber capability. The situation has not been changed even considering The Russian cyber forces' poor results in the Ukrainian war. For example, John Gunn, CEO of cybersecurity provider Token, puts Russia among the greatest cyber threats – even as it faces setbacks in its so-called "Special Military Operation" against Ukraine. Per Gunn other great cyber threats are China, North Korea and Iran.[13]

The desired end-state and tasks of the Russian cyber warfare

Per Russia's leading hybrid warfare specialist, Colonel (ret.) Aleksander Bartosh[14], Russia's hybrid warfare strategy increasingly includes an attempt to achieve a deterrent effect asymmetrically through cyber weapons, whereas in the earlier stages of warfare development it was carried out using conventional armed forces. The impact of modern cyber weapons on the armed forces, industry, transport and the lives of citizens is already estimated to be close to that of a nuclear weapon. The long-term nature of Russia's efforts is also illustrated by the fact that already in 2013, students were being recruited to Armed Forces cyber sector[15] to develop a "new nuclear weapon" for Russia.

Russian plans to develop cyber weapon to the new level has caused discussion in the United States – the need to respond to cyber-attacks with nuclear attacks is being considered[16]. In addition, there is growing concern in Western countries that their nuclear strike capability could be paralyzed by Russian cyber-attacks[17].

In 2017 Russian expert told in an interview that the most significant tasks of the Russian cyber forces are 1) to monitor potential adversaries' networks and they activity and to search for all possible vulnerabilities in these; 2) to strive for the systematic creation of backdoors in the opponent's networks for future cyber operations and to develop new methods and tools (malwares) for penetrating these networks; 3) support

[11] Mikalauskas, Edvardas: The world's most dangerous state-sponsored hacker groups, Cybernews, 16.2.2021.
[12] Greenberg, Andy: How an Entire Nation Became Russia's Test Lab for Cyberwar, Security, Wired, Jun 28, 2017
[13] Suciu, Peter: The Not-So Secret Cyber War: 5 Nations Conducting the Most Cyberattacks, ClearangeJobs, Oct 17, 2022
[14] Бартош, Александр Александрович: Стратегия и контрстратегия гибридной войны, Военная Мысль, № 10, 2018, s. 7 – 8
[15] Lilly, Biljana & Cheravitch, Joe: The Past, Present, and Future of Russia's Cyber Strategy and Forces, 12th International Conference on Cyber Conflict, NATO CCDCOE Publications, Tallinn, 2020, p. 142
[16] Bommakanti, Kartik: The Impact of cyber warfare on nuclear deterrence: A conceptual and empirical overview, Observer Research Foundation, 2018.
[17] Stoutland, O & Pitts-Kiefer, Samantha: Nuclear weapons in the new cyber age, NTI, September, 2018.

other operations with cyber operations. Above described process demands time and human resources, specialists. When cyber troops manage to hack into an extraordinary target, preparations to develop the appropriate software begins. When tools are ready, they will be established to adversaries' networks to wait proper moment to use these.[18] Even though the interview is given six years ago; it is valid in the light of Russian cyber operations.

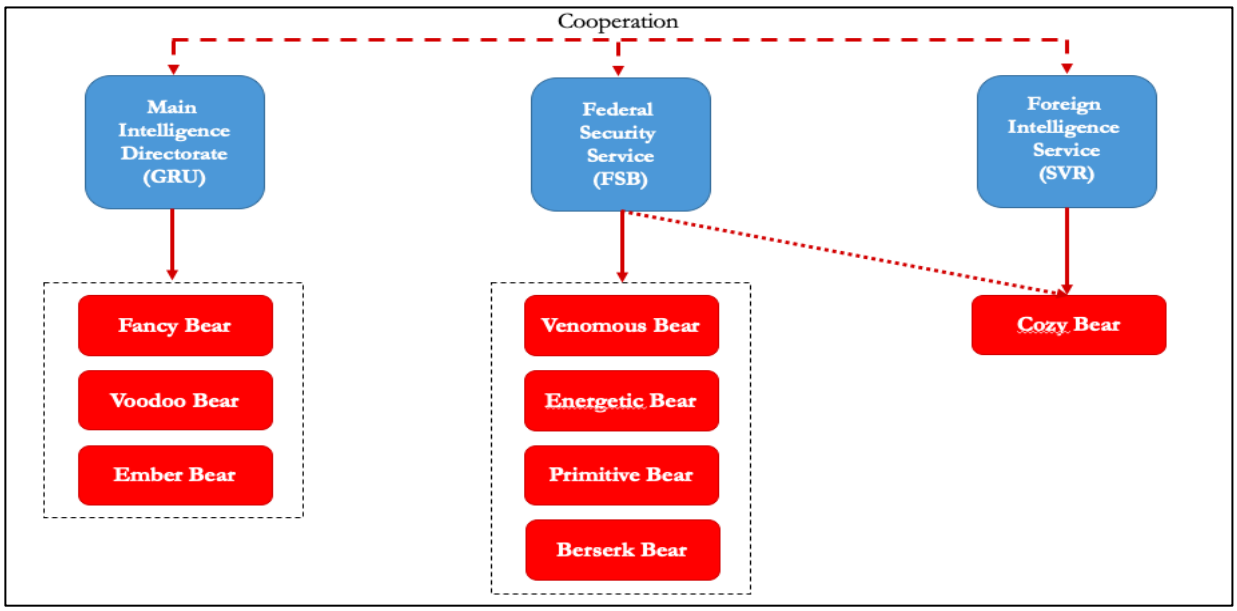
Russian cyber warfare's tasks - from results i.e. defender's point of view - are told, for example in the website of Russian security company ANTI-MALWARE. Per it, all cyber warfare efforts aim to disrupt the information systems of the enemy's economic and financial institutions and state organizations, as well as disrupt the daily life of the entire state. About the latter, the primary aim is to disrupt areas that are important for the viability of the centers of population and the functioning of society, such as drinking water and sewage systems, electricity distribution systems, and signal and transport communications.[19] Even though this is an overall picture of threats that Russia could face in cyberwar, it also characterizes the way in which Russia operates. Above mentioned tasks of the Russian cyber warfare match with Russian acts during the Ukrainian war.

The strength and ORBAT of the Russian cyber force

Russia's most significant and competent hacker units are clearly linked to state organizations - the Federal Security Service (FSB), the Main Intelligence Directorate (GRU) or the Foreign Intelligence Service (SVR). The Federal Security Service is not known to have any links to hacker groups.[20] Usually each unit belongs to one service, but Cozy Bear is assessed to be an exception. It presumably gathers intelligence also for FSB.

Fancy Bear[21] (ATP 28) belongs to the most prominent Russian hacker units according to Western cyber security companies. It has operated since the mid-2000s and is incredibly experienced and knowledgeable. The group has highly sophisticated custom-made software at its disposal, which is an indication of state-level experience. Fancy Bear often targets governments, military actors, security organizations and defense companies. Based on these targets, Fancy Bear is justifiably linked to the GRU. The group's best-known aliases are Sofacy Group, Tsar Team and STRONTIUM.[22]

[18] Эксперт: Россия не уступает США в киберпространстве, pravda.ru, 10.1.2017.
[19] Кибервойны (Cyberwarfare), ANTI-MALWARE, https://www.anti-malware.ru/threats/cyberwarfare.
[20] Cunningham, Conor: A Russian Federation Information Warfare Primer, Research report, The Henry M. Jackson School of International Studies, University of Washington, 12.11.2020.
[21] In this report, all Russian hacker units are called by their *Bear-name*.
[22] *Russia's Most Dangerous Cyber Threat Groups*, IntSights, http://wow.intsights.com/rs/071-ZWD-900/images/RussianAPTs.pdf.



Picture 4. The most dangerous Russian hacker units[23]

Cozy Bear (APT 29) is assessed to be the most advanced and experienced Russian hacker unit. It is specialized in cyber intelligence and it is assessed to be serving both the FSB and the SVR. Western governments and diplomatic organizations have been main targets of Cozy Bear, however the unit has also targeted military, energy and telecommunications companies around the world. Like Fancy Bear, Cozy Bear also has in its tool box also sophisticated custom-made software, which underlines hacker unit's status. Cozy Bear is also known as The Dukes and NOBELIUM.[24]

Venomous Bear is a cyber espionage group, which has targeted government organizations and embassies in more than 100 countries. Nasa and USCENTCOM are known targets. Venomous Bear has repeatedly used psychological manipulation as a method of attack prior to phishing operations. The group is linked to the FSB and is also known as Turla and Snake.[25]

Voodoo Bear is Russian hacker unit specializing in subversive operations that can be devastating. It is this group that is responsible for the first blackout[26] caused by hackers in a history. Typical targets have been companies associated with the Ukrainian government, the energy sector, media and telecommunications, academic institutions and industrial control systems. Voodoo Bear is associated with GRU's operations, and the group is also known as BlackEnergy, Telebots and Sandworm Team.[27]

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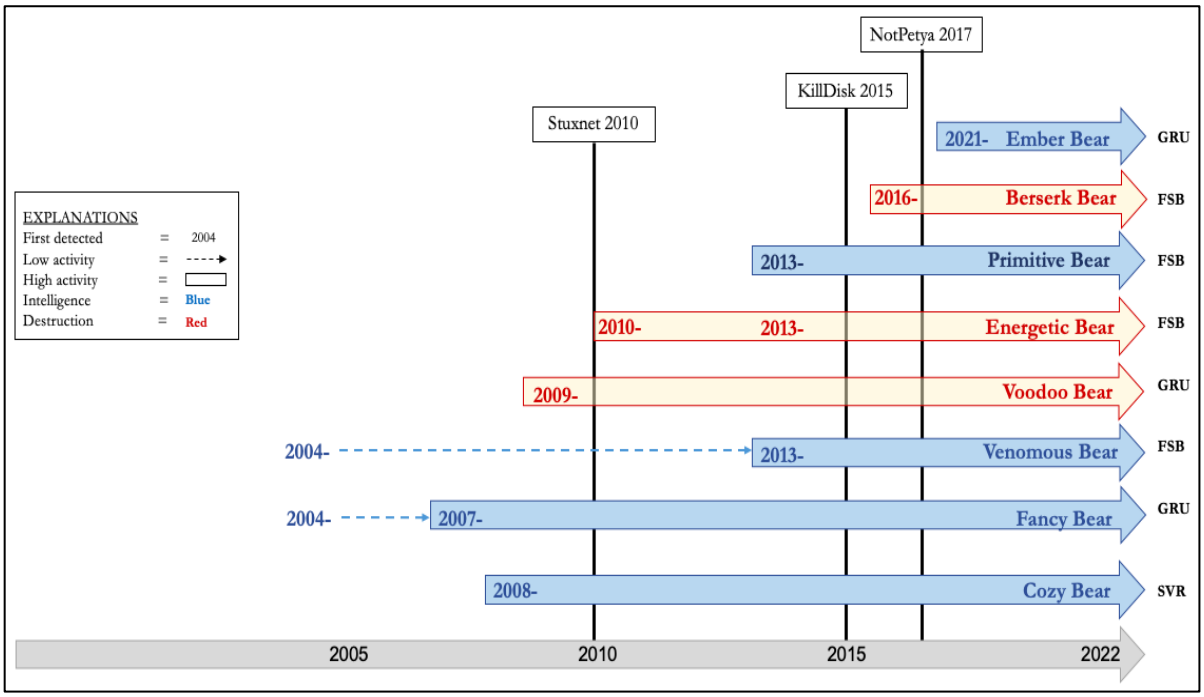
[23] Cunningham (2020) and *Russian Cyber Units*, Congressional Research Service, January 4, 2021 and CrowdStrike Threat Intel Team: *Who is EMBER BEAR?* CrowdStrike, March 30, 2022.
[24] *Russia's Most Dangerous Cyber Threat Groups*, IntSights, http://wow.intsights.com/rs/071-ZWD-900/images/RussianAPTs.pdf.
[25] Osborne, Charlie: Russian APT Turla targets 35 countries on the back of Iranian infrastructure, ZDNet, 21.10.2019.
[26] As above told, Voodoo Bear caused black out in the Ivano-Frankivsk region of Western-Ukraine on December 23, 2015.
[27] Russia's Most Dangerous Cyber Threat Groups and The story of the four bears: Brief analysis of APT groups linked to the Russian government (Part 3), Cybersecurity Help, https://www.cybersecurity-help.cz.



Picture 5. Set up of the most dangerous Russian hacker units

Energetic Bear is Russian hacker unit, which is specialized in sabotage and destruction. It initially targeted defense and aviation companies but shifted to focus on the energy sector in early 2013. They have also targeted companies related to industrial control systems and related to industries as diverse as education and pharmaceuticals. According to an assessment and has infected roughly 2,800 targets in 38 countries, mostly in EU and NATO countries. Energetic Bear is associated with GRU's operations, and the unit is also known as Dragonfly and Crouching Yeti.[28]

Primitive Bear is a hacker unit belonging to the APT class and has been associated with the FSB. It was first discovered in 2013 and the initial motive for the establishment was to oppose the association agreement between Ukraine and the European Union. Since then, Primitive Bear has conducted cyber operations against the Ukrainian government, armed forces and security organisations, journalists, and NGOs. However, its most significant role has been estimated to be to test new cyber tactics, technologies, and practices in Ukraine before their use is expanded possibly into other target countries.[29] Primitive Bear is also known as Gamaredon and ACTINIUM.

Berserk Bear is an APT-class hacker unit, which supposedly is specialized in in sabotage and destruction. The focus of the unit is energy industry and facilities relying on ICS. But, while the threat actor has major capabilities in breaching critical infrastructure, there have been no evidence of disruptive effect of these attacks. Berserk Bear focuses on intelligence gathering from ICS networks with an unknown intent. Per

[28] Energetic Bear, Dragonfly, Threat Group Cards: A Threat Actor Encyclopedia, Electronic Transactions Development Agency (ETDA), A similar group emerged in 2015 and was identified by Symantec as Berserk Bear, Dragonfly 2.0. There is debate over the extent of the overlap between Dragonfly and Dragonfly 2.0, but there is sufficient evidence to lead to these being tracked as two separate groups.
[29] Demboski, Morgan & Fitzpatric, Joey & Rydzynski, Peter: Russian cyber-attack campaigns and actors, Threat Research, IronNet, 8.4.2021.

observations, Berserk Bear has in recent years focused on preparing for the paralysis and destruction of target countries critical infrastructure.[30]

In the spring of 2020 several companies part of the critical German infrastructure discovered that Berserk Bear had been long active in their information systems. The companies did not detect any activity related to harassment, sabotage, or destruction of their systems, but there was obviously an enquiry of companies, information systems related to their production and critical systems in the event of future operations.[31]

In October 2020, a similar observation was made in the United States. The Berserk Bear group had conducted a cyber operation against US government and aviation networks without causing any visible impact. The aim had obviously been to collect as much information as possible on network configurations, passwords, and data from system manufacturers.[32] Same year, the CISA and FBI warned U.S. organizations about possibility of implanting malware into their networks to cause damage in future attacks[33]. Per assessments Berserk Bear is led by FSB and it has targeted critical infrastructure mainly in EU and NATO countries[34].

Ember Bear is the newest Russian APT-class hacker unit starting its activity first in 2021. It has operated against government and military organizations in eastern Europe, likely to collect intelligence from target networks. Ember Bear appears primarily motivated to weaponize the access and data obtained during their intrusions to support information operations (IO) aimed at creating public mistrust in targeted institutions and degrading government ability to counter Russian cyber operations. Ember Bear is also known as Lorec53, Lorec Bear, Bleeding Bear, Saint Bear.[35]

InvisiMole is APT-class hacker unit specialized in cyber espionage. It was first uncovered in 2018, with cyberespionage activity dating back to 2013 in operations in Ukraine and Russia. Before the Ukrainian war, the unit was attacking a few high-profile organizations in the military sector and diplomatic missions, both in Eastern Europe. These attacks were "highly targeted," affecting only a few dozen computers. Specialists assess that InvisiMole has cooperation with Primitive Bear, which plays a role in initially infiltrating networks of interest (typically via spear-phishing attacks) using these simple tools, and possibly gaining administrative privileges. Then, InvisiMole, whose more advanced tooling requires elevated rights, steps in. InvisiMole has tried to be invisible and acted in the shadow of Primitive Bear.[36]

In addition to the hacker units mentioned above, there are several semiprofessional criminal hacker groups in Russia, that do not have direct links to state security or intelligence organizations, but whose activities serve Russia's interests. These include various hacker groups targeting banks and financial institutions all around the world

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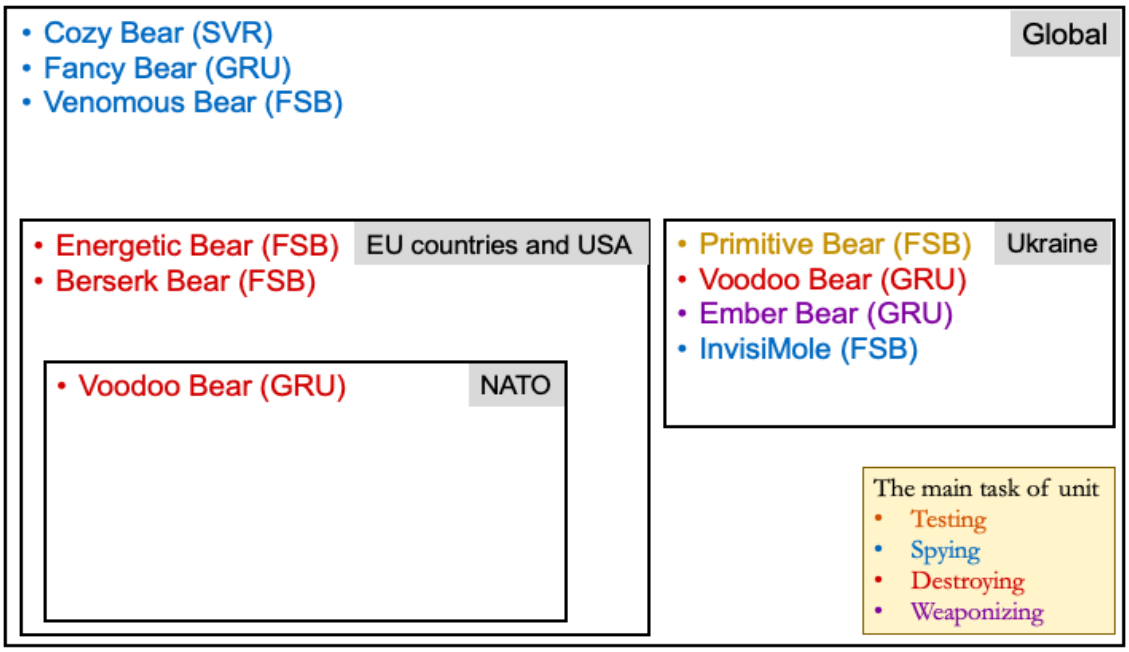
[30] The story of the four bears: Brief analysis of APT groups linked to the Russian government (Part 4), Cybersecurity Help, https://www.cybersecurity-help.cz/blog/2512.html.
[31] Demboski, Fitzpatric & Rydzynski (2021).
[32] Ibid.
[33] The story of the four bears: Brief analysis of APT groups linked to the Russian government (Part 4).
[34] Berserk Bear, Dragonfly 2.0, Threat Group Cards: A Threat Actor Encyclopedia, Electronic Transactions Development Agency (ETDA).
[35] CrowdStrike Threat Intel Team: Who is EMBER BEAR? CrowdStrike, March 30, 2022.
[36] O'Donnell, Lindsey: *InvisiMole Group Resurfaces Touting Fresh Toolset, Gamaredon Partnership*, Threatpost, June 18, 2020.

outside Russia. These hacker groups do not have to worry about government intervention. These include groups such as Carbanak, FIN7 and Cobalt Group.[37]

Per the Military Balance 2022, 33% of Russia's military cyber forces are focused on effects, compared to 18.2% of Chinese military forces and 2.8% of U.S. forces. This data was derived from the composition of principal cyber forces according to roles assigned to individual units. Authors of the report clarified that "effects" generally refers to actions to deny, degrade, disrupt or destroy as well as those conducted by proxies in conjunction with a government actor. It can also include a range of other capabilities such as the ability to research vulnerabilities, write or use malware, and maintain command and control through exploits.[38] The Military Balance's assessment matches well with the above-mentioned share of work among the Russian hacker units.



Picture 6. AOR's of the most dangerous Russian hacker units

The Russia's APT-class hacker units could be divided into three main categories: (1) The three most capable globally operating cyber espionage units form the first category. Each intelligence or security service has its own globally operating hacker unit. As mentioned earlier Cozy Bear unit has possible relationship also with FSB; (2) The second group consist of western-focused hacker units for critical infrastructure sabotage and destruction activities; (3) The third group is composed of hacker units that are focused on oppressing Ukraine. At the same time these units - at least partly – are developing and testing new cyber-attack capabilities to use them against Western targets.

According to some experts, Russia has developed a concept in which two hacker units attack the same target independently. This would be aimed at ensuring that the intrusion into the target is successful. Hacker groups in other countries do not usually do

[37] *Russia's Most Dangerous Cyber Threat Groups.*
[38] Pomerleau, Mark: *Russia and China devote more cyber forces to offensive operations than US, says new report,* C4ISRNET, Feb 15, 2022.

this.[39] However, some experts believe that this is only due to Russia's inability to coordinate the activities of cyber units.[40] However, the real reason for the above-mentioned situation is most likely competition between GRU and FSB.

Cyber warfare is turning into kinetic warfare

Cyber domain has more and more developed towards the real word. For example, branches of intelligence (HUMINT, SIGINT, IMINT etc.) have their equivalents in the cyber domain. Year 2010 conventional kinetic warfare got its equivalent, when the first "virus bomb" - Stuxnet – physically destroyed numerous centrifuges in Iran's Natanz uranium enrichment facility by causing them to burn themselves out. Stuxnet is a computer worm that was originally aimed at Iran's nuclear facilities and has since mutated and spread to other industrial and energy-producing facilities. Over time, other groups modified the virus to target facilities including water treatment plants, power plants, and gas lines. Stuxnet is assessed to have been created by the U.S. National Security Agency, the CIA, and Israeli intelligence.[41] Russia adapted the new way to conduct cyber-attacks – to destroy adversary's infrastructure or crucial data - very soon and the next steps on this road were presumably conducted by Russian hacker units as told below.

Five years later Russian cyber force conducted first Stuxnex-type cyber-attack, when a powerful cyber-attack came close to destroying - partly physically - French TV5 Mondo network. The noticeable action began when the broadcasts of the TV network ceased on the evening of 8 April 2015. The attack was very sophisticated and only lucky coincidence saved TV network. The perpetrators had first penetrated the network on 23 January. They carried out reconnaissance of TV5Monde to understand the way in which it broadcast its signals. They then fabricated bespoke malicious software to corrupt and destroy the internet-connected hardware that controlled the TV station's operations. Twelve TV5 Monde channels were taken off air.[42] Multiple information security firms has concluded that the attack appeared to have been launched by the Russian hacker group called Fancy Bear, which is allegedly linked with Russia's military intelligence group, the GRU.[43]

Same year Russian cyber force conducted a complex cyber-attack and used data wiping malware to destroy data. On December 23, 2015, a cyber operation targeting three electricity distribution companies was carried out on the electricity distribution networks in the Ivano-Frankivsk region of Western-Ukraine. As a result of the operation, more than 230 000 people were in severe cold on Christmas at worst for more than 6 hours without electricity. The attack was the first of its kind. Behind the attack is

[39] Soshnikov, Andrei: Bears with keyboards: Russian hackers snoop on West, BBC News, 16.10.2016.
[40] Demboski, Fitzpatric & Rydzynski (2021).
[41] What is Stuxnet, Trellix.
[42] Corera, Gordon: How France's TV5 was almost destroyed by 'Russian hackers', Tech, News, BBC, 10 October 2016.
[43] Schwartz, Matthew J.: French Officials Detail 'Fancy Bear' Hack of TV5Monde, Bank Info Security, June 12, 2017.

estimated to have been a hacking unit under the GRU aimed at sabotage and destruction, Voodoo Bear. [44]

The attack was carried out in several steps. Hacker unit 1) sent targeted phishing emails to electricity distribution company employees with BlackEnergy malware in the Microsoft attachments; 2) collected user credentials; 3) took over the information system and remotely controlled the closure of substations; 4) made the components of the information system unusable; 5) destroyed files in the company's information system with the KillDisk malware; 6) blocked calls to the company's center by a denial-of-service attack. The aim of this was estimated to be to increase the annoyance of people affected by the power outage.[45] According to some experts, the hacker unit that carried out the cyberattack would have been able to easily destroy the equipment of the power plants permanently. However, it did not do so, and the attack has been seen as a warning to Ukraine and even to the West in general.

In 2017 an alleged Russian hacker unit attacked Ukrainian business with NotPetya ransomware, which encrypted hard drive. It has been called one of the most devastating cyber-attacks in history and caused an estimated 10 billion USD in damage to not only Ukrainian businesses but foreign companies as well. The attack started off by spreading the ransomware used to execute the attack to the victims' computers. At first the ransomware was not activated by the attackers, meaning it was installed on the victims' computers, but was not given the order to execute the attack. The ransomware could spread laterally in networks from the infected computers, allowing it to infect an even larger number of computers. After enough computers had been infected, an order to activate the software was sent out to the software by the attackers.[46]

Not only were computers in Ukrainian businesses infected, but a significant amount of the computers of companies with branches or offices in Ukraine were also infected. About 20% of the infected computers were not Ukrainian. About 9% of the total infected computers were in Germany, which was affected the worst after Ukraine by the attack. Most notably global logistics company Maersk, which represents close to fifth of the entire world's shipping capacity, was reported to have suffered tremendous losses - 17 out of 76 of Maersk terminals had to be shutdown. It took Maersk almost two weeks to get their IT infrastructure back and running, and they reported over 300 million USD losses in revenues.[47]

The world's largest and most sophisticated cyber operation

In December 2020, cybersecurity firm FireEye reported it was the target of a cyberattack. It was a supply chain attack carried out through a back door to the Orion Platform management software from SolarWind, a Texas-based software company. When the management software was updated, the Sunburst malware was distributed to servers that use Orion. Once installed, Sunburst malware provided attackers with access

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[44] Whitehead, David E., Owens, Kevin, Gammel, Dennis & Smith, Jess: *Ukraine Cyber-Induced Power Outage: Analysis and Practical Mitigation Strategies*, Power and Energy Automation Conference Spokane, Washington, 21.-23.3.2017.
[45] Cyber Warriors*: Ukraine 2015 Power Grid Cyber Attack*, Cybersecurity L, Aalto yliopisto.
[46] Team GAIT: *THE NOTPETYA CASE, Attack against Ukraine on 27th of June 2017.*
[47] Team GAIT: *THE NOTPETYA CASE, Attack against Ukraine on 27th of June 2017.*

to systems and networks to collect data. The malware can e.g. collect critical data, remotely access commands, and covertly transport results to an attacker-controlled server.[48] Microsoft Corp President Brad Smith said that SolarWinds hack is "the largest and most sophisticated attack the world has ever seen" and he estimates that "at least 1 000 IT-engineers" have participated in the implementation of the cyber operation.[49]

According to the latest publicly available information, the attacker had access to the systems of the software company SolarWinds as early as September 4, 2019. Sunburst malware was distributed to customers' systems in connection with updates at the beginning of the following year by 20th February. However, the first findings of the malware were not received until 12 December, almost 15 months later.[50]

This SolarWinds software company has more than 300 000 customers worldwide, Orion management software is used by more than 30 000 companies, and it is estimated that up to 18 000 customers have Sunburst malware in their system. What makes the matter threatening is that Orion's users include e.g., Pentagon, U.S. Departments of Foreign Affairs and Justice, NASA, NSA, U.S. Federal Postal Service, three major telecommunications operators, the Federal Weather and Ocean Research Organization of the United States, and the National Nuclear Security Administration, which is part of the U.S. Department of Energy and is also responsible for nuclear weapons. The threat of the situation is significantly increased by the fact that in the spring of 2021 new back doors were detected, as well as three tailored malwares.[51]

Based on the definition of security companies, the cyber operation was conducted by the Cozy Bear hacker unit. Given the long-term nature and nature of the attack, one can conclude that this is an operation led by the Russian foreign ground intelligence SVR, which does not, of course, rule out the possibility of another hacker unit also being involved in the future.[52] According to experts, SolarWinds hack and following cyber operations – including operations made by Chinese hacker units - are still ongoing[53].

Russian cyber warfare in Ukraine

As stated already in the beginning, the Russian cyber warfare in Ukraine has been less effective than expected. To analyze reasons for this is necessary to study main targets of cyber-attacks, most typical tools and tactics to conduct cyber-attacks, the strength of Russian cyber force in Ukraine and Western support for Ukraine.

Since military networks are typically hard targets, the Russian hacker units have logically been focusing more on Ukrainian civilian infrastructure. CERT-UA announced

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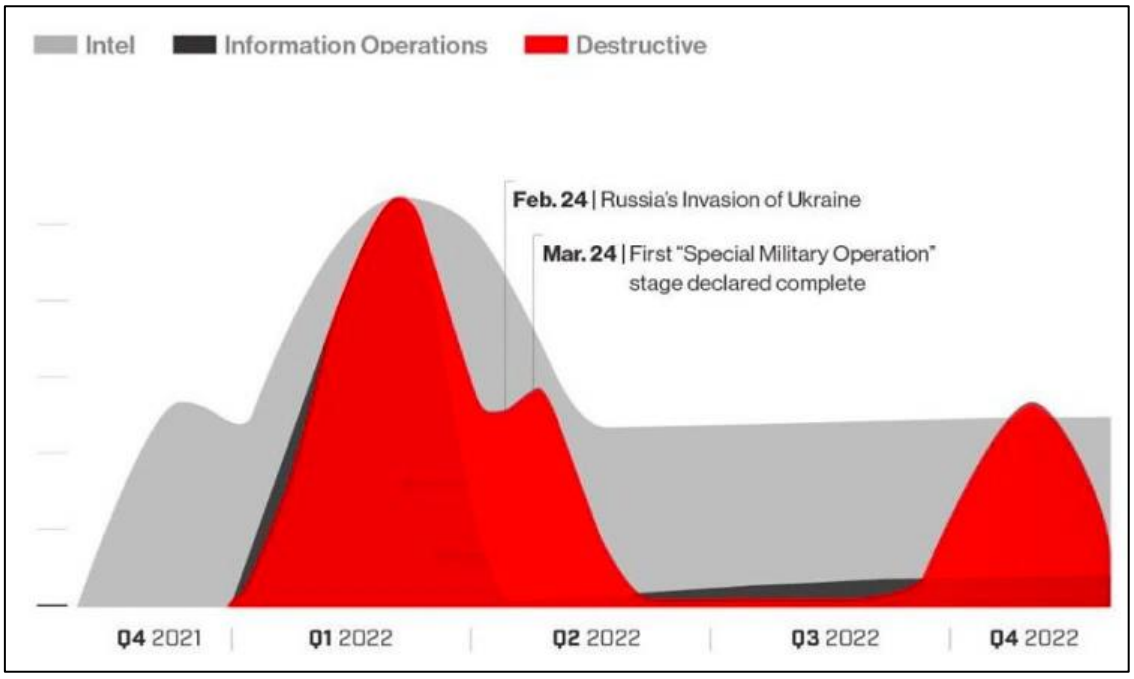
[48] Kumar, Anil: Analysis of SolarWinds hack, CloudControl.
[49] Reuters staff: SolarWinds hack was 'largest and most sophisticated attack' ever: Microsoft president, Media and telecoms, Reuters, February 15, 2021.
[50] Paganini, Pierluigi: SolarWinds hack: the mystery of one of the biggest cyberattacks ever, Cybernews, 12.3.2021.
[51] Ibid.
[52] Tung, Liam: Microsoft: SolarWinds attack took more than 1,000 engineers to create, ZDNet, 15.2.2021 and Reuters staff (2021).
[53] Paganini (2021) and Oladimeji, Saheed & Kerner, Sean Michael: SolarWinds hack explained: Everything you need to know, WhatIs, TechTarget, June 29, 2022.

at the end of the last year, that Ukrainian public sector was most targeted in the last Q4, followed by the energy sector. Ukrainian officials say there's been a considerable increase over the course of the year in attacks targeting power grid operators, regional electricity distributors, customer service firms and design institutions. One challenge is that the cyber-attacks are targeting all parts of the energy supply chain, which makes them more difficult to detect and block. In the second half of the year, attacks targeting Ukraine's commercial sector reportedly rose, only to be supplanted by attacks targeting the telecommunications and software development sectors, apparently again because of their facility in providing entry points to hackers. The logistics sector has also been a target, imperiling moving critical equipment needed by both the military and civilians.[54]

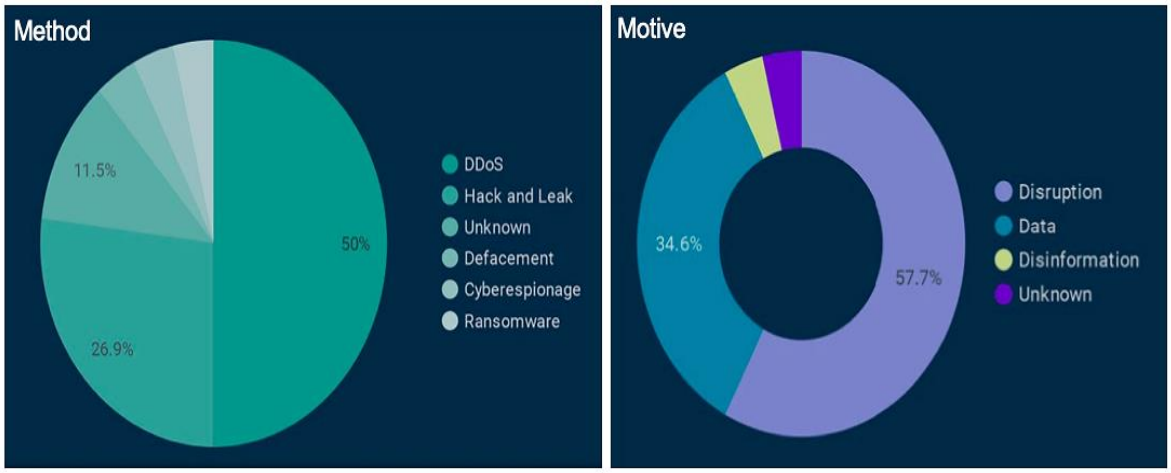
Russian cyberattacks initially centered on Ukraine's communication department, which aimed to disrupt military and government operations. But after Russia's first defeat at the front, the focus shifted to maximizing damage to civilians. Adam Meyers, Head of Intelligence at security firm CrowdStrike, believes Russia had expected a quick and decisive victory. Thus, the Kremlin may have initially avoided destructive cyberattacks, because it would have needed Ukrainian infrastructure to prop up a friendly government. "As Russian operations failed to take Kyiv and make advances as rapidly as planned, we saw more tactical cyber operations paired with kinetic effects targeting Ukraine and did not see broad attacks against the West — as we all had prepared for".[55]



Picture 7. Russia-nexus operational activity against Ukraine[56]

[54] Bagwe, Mihir: *Ukraine: Russian Hackers' Focus Is Civilian Infrastructure*, Bank Info Security, December 30, 2022.
[55] Macaulay, Thomas: *Ukraine's year of war exposes changing roles for cyber weapons*, Data and Security, TNW, February 24, 2023.
[56] Macaulay (2023).

The symbol of the cyber war in Ukraine has been hacktivism, which is back into the fields of cyberwars. In the first half of 2022 hacktivism rose across the world. The main tool for hacktivists is distributed denial of service (DDoS) attack and the main motive to disrupt the target. IoT[57] devices were the preferred choice of adversaries to launch DDoS attacks[58] - a trend that has been growing in recent years. In 2022, the use of IoT devices expanded during the Russia-Ukraine war.[59] It was not a surprise that Ukraine was in February hit with the largest DDoS attack ever in the country's history, impacting government websites and banking web services. As the conflict continued, there was a ripple effect to western countries, including the UK, US, and Germany. UK financial services firms experienced a significant increase in DDoS attacks as they were heavily targeted by nation state attackers and hacktivists looking to disrupt Ukraine's allies.[60]



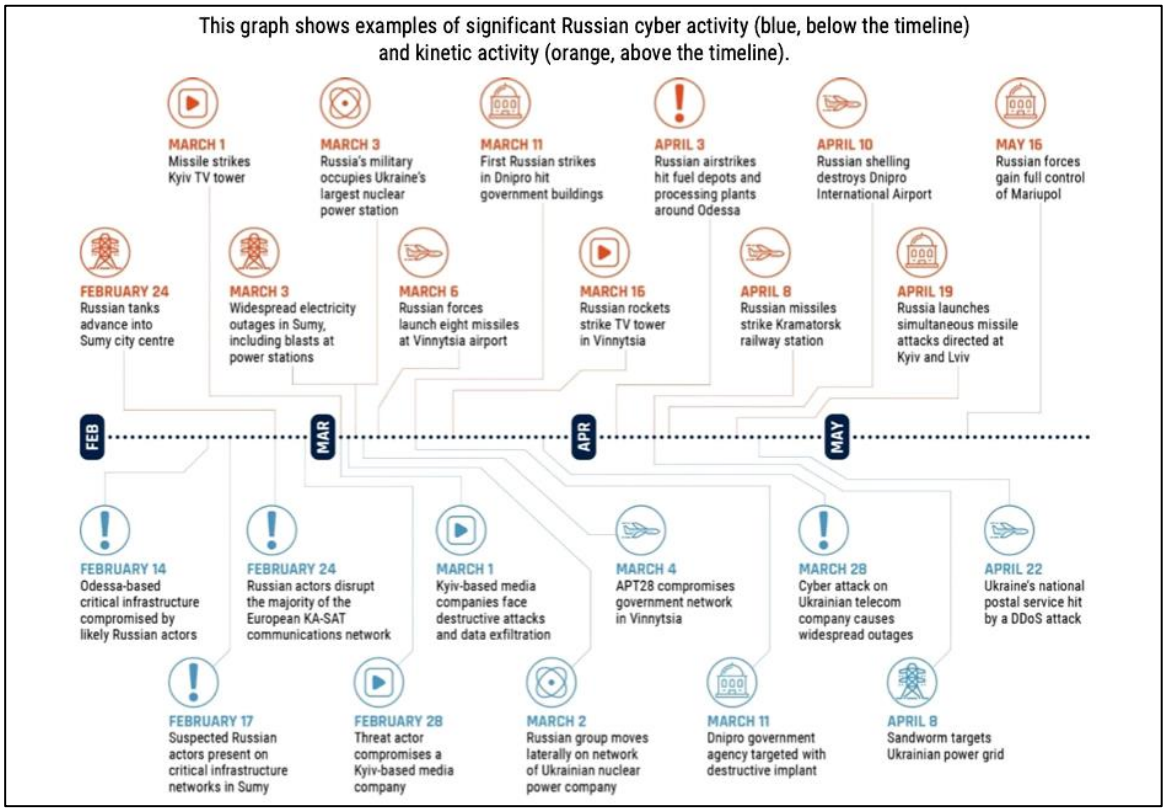
Picture 8. Methods and motives of the Russian cyber-attacks in Ukraine during Q4, 2022[61]

Another rising trend in the Ukrainian cyberwar has been use of wiper malware. There have been only 17 notable destructive wiper malwares in the last decade. What makes the situation in Ukraine interesting is that ten of those wipers have been deployed against Ukrainian organizations and companies. Ten of those in the current year. Probably the most interesting of these attacks is AcidRain malware used in Viasat's KA-SAT cyber-attack. The AcidRain was successfully deployed to satellite modems in a supply-chain attack[62]. This is a sophisticated tactic, and has most likely needed a very long time for planning and executing pre-war. This is also the only cyber-attack performed by Russia that has shown in the current war Russia's typical high tolerance for taking operational risk with the attack spilling over to other European countries. The other wipers used against Ukraine have been effective. According the reports they have managed to destroy hundreds if not even thousands of computers, but it

[57] The Internet of Things (IoT) is a network of physical objects that use sensors and APIs to connect and exchange data over the Internet.
[58] The biggest reason for this is weak or zero cyber security level of Internet connected devises.
[59] Bagwe, Mihir: *DDoS Attacks Becoming More Potent, Shorter in Duration*, Bank Info Security, February 23, 2023
[60] Azure Network Security Team: *2022 in review: DDoS attack trends and insights*, Microsoft Security, Microsoft, February 21, 2023.
[61] *Cyber Dimensions of the Armed Conflict in Ukraine*, Quarterly Analysis Report Q4 October to December 2022, CyberPeace Institute, pp. 6.
[62] Supply-chain attack was also nucleus of the SolarWinds hack.

seems that the effects of these attacks have stayed relatively low and the attacks have not been able to cripple their targets.[63]

The report from the State Special Communications Service of Ukraine tells, that Russia has been coordinating cyberattacks with physical warfare. "In the autumn and winter of 2022, after a series of cyberattacks on the energy sector, Russia launched several waves of missile attacks on energy infrastructure, while simultaneously launching a propaganda campaign to shift responsibility for the consequences (power outages) to Ukrainian state authorities, local governments, or large Ukrainian businesses".[64] Such coordination is widespread, although it is not an absolute constant rule.[65]



Picture 9. Timeline on Military Attacks and Cyber Operations in Ukraine: 14 February – 16 May[66]

For example, cyber specialists said that Russia hit Ukraine's energy infrastructure with a series of cyberattacks in late 2022 before launching massive missile strikes. At the same time, Moscow launched a propaganda campaign aimed at shifting responsibility for the nationwide power outages caused by these attacks onto the Ukrainian government, state authorities and private energy companies. Similarly, the shelling of the city of Lviv in western Ukraine on May 13 was accompanied by a cyberattack on City Hall,

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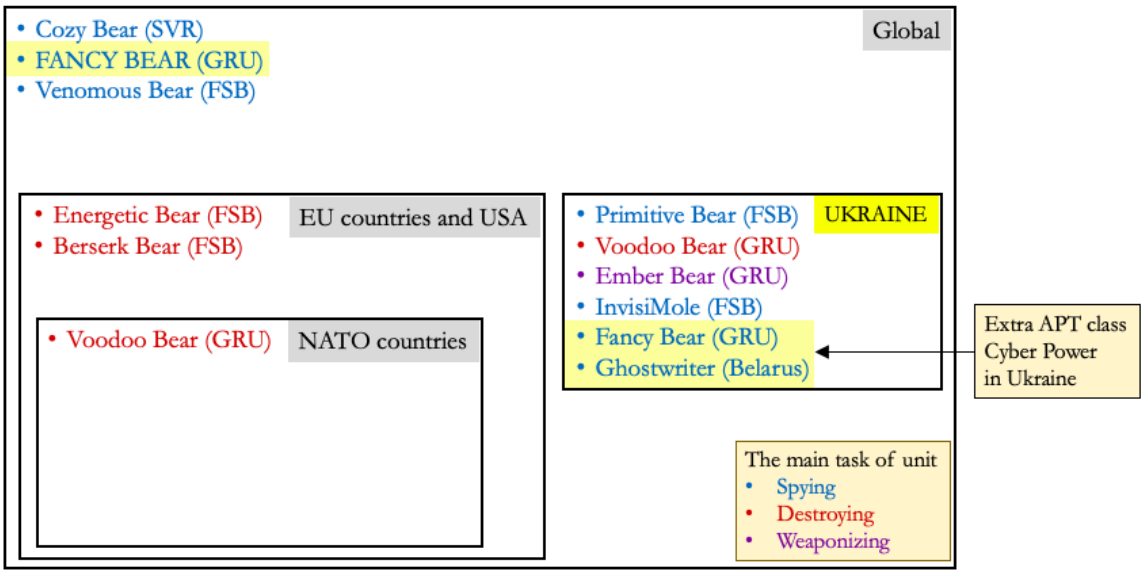
[63] Juutilainen, Jari: *Cyber Warfare: A Part of the Russo- Ukrainian War in 2022,* Master's Thesis, Master's Degree Programme in Information Technology, Jyväskylä University of Applied Sciences, September 2022, pp. 70-71.
[64] Glover, Claudia: *UK and Ukraine hold cybersecurity summit as details of Russian attacks revealed*, TechMonitor, January 19, 2023.
[65] Antoniuk, Daryna: *Ukraine says Russia is coordinating missile strikes, cyberattacks and information operations*, The Record, January 18, 2023.
[66] *Cyber Threat Bulletin: Cyber Threat Activity Related to the Russian Invasion of Ukraine*, Canadian Centre for Cyber Security, pp. 3.

while the massive missile strike on Ukraine's civilian infrastructure on June 20 was accompanied by a cyberattack on Ukraine's critical infrastructure facilities.[67]

In the above-mentioned report from the State Special Communications Service of Ukraine is listed the most active hacking units targeting Ukraine in year 2022: Russian Primitive Bear, Voodoo Bear, Fancy Bear, Cozy Bear and Belarussian Ghostwriter. All the units belong to the APT-class. The list doesn't match totally with the information of the CyberPeace Institute or other OSINT-sources. Ember Bear is quite high in the CyberPeace Institute's list of conducted cyber-attacks and on the other hand Cozy Bear is not at all in the list. Interesting information is that Belarussian hacker unit "fights" in the ranks of the Russian cyber force.

Hacker Unit	Task	NoA	Link
Voodoo Bear	Sabotage and destruction	17	GRU
Ember Bear	Data Weaponizing	10	GRU
Fancy Bear	Information theft and espionage	7	GRU
Ghostwriter	Information theft and espionage	7	Belarus (GRU)
Primitive Bear	Information theft and espionage	6	FSB

Table 3. The most active hacker units in the Ukrainian war[68]



Picture 10. AOR's of the Russian hacker units during the Ukrainian war

Belarussian GhostWriter is cyber espionage unit targeting audiences in Poland, Latvia, and Lithuania. It is a state-sponsored APT group partaking in malware campaigns and credential harvesting attacks. GhostWriter has been targeting Ukrainian government officials and military personnel with mass phishing emails. After the account is

[67] Antoniuk (2023).
[68] *Ukraine: Russian Hackers' Focus Is Civilian Infrastructure*, Bank Info Security, 30.12.2022 and Cyber Attacks in Times of Conflict, Platform #Ukraine, Cyber Conflicts, Cyber Peace Institute.

compromised, the attackers, by the IMAP protocol, get access to all the messages. Later, the attackers use contact details from the victim's address book to send the phishing emails.[69] GhostWriter hacker unit is associated with the GRU, Russia's military intelligence service.[70]

Beyond any doubt "Special Military Operation" is led by Armed Forces, since approximately 80 percent of the Russian cyber force serves Military Intelligence, GRU. The most active hacker unit is Voodoo Bear, which tells about destructive nature of Russian cyber warfare in Ukraine. It is also interesting to notice that ORBAT of the Russian hacker units is almost the same as before the war. The major changes are to order Belarussian Ghostwriter and Fancy Bear (obviously only part of it) to conduct cyber-attacks in Ukraine.

Hactivist Group	Task	NoA	Link
KillNet	Defacing websites	84	
People's Cyber-Army	Defacing websites	74	
XakNet	1) Disrupt networks 2) Disrupt servers	14	(GRU)
Z-team	Sabotage and destruction	7	

Table 4. The most active hacktivist groups in the Ukrainian war[71]

To be able to conduct intensive cyber war in Ukraine, Russia had to mobilized hackers i.e. to establish "cyber militia". It consists of several lower level hacker groups, which mainly use DDoS-attacks. However, per the latest reports of cybersecurity companies, hacktivists shift tactics from data theft and DDoS attacks to using more destructive malware with an aim towards destabilizing critical infrastructure[72].

KillNet has been the most active Russian hactivist group. Killnet is radically different from Russia's highly skilled hackers like Fancy Bear and Voodoo Bear. Killnet, is more like an angry, nationalist online mob armed with low-grade cyber-offensive tools and tactics. Its big success is in setting a narrative about the war. Killnet has said it wants to cooperate with the Russian government, but so far there are no signs it's under the direct control of state officials.[73] Until the Russia-Ukraine war, Killnet was known as the name of a DDoS attack tool that only subscribers could rent and use. With the Ukrainian war, Killnet emerged as a hacker group and continued its attacks under the name "Killnet." Afterward, the Killnet hacker group carried out many attacks to support Russia and fight for Russia's interests. They targeted countries that supported Ukraine in the war between Russia and Ukraine. For months, the Killnet group has

[69] *Rewterz Threat Alert – APT Group GhostWriter/UNC1151 Targeting Ukraine – Active IOCs – Russian-Ukrainian Cyber Warfare*, Rewterz, March 10, 2022.
[70] Toulas, Bill: *Poland warns of attacks by Russia-linked Ghostwriter hacking group*, BleepingComputer, January 03, 2023.
[71] Toulas, Bill: *Poland warns of attacks by Russia-linked Ghostwriter hacking group*, BleepingComputer, January 03, 2023.
[72] Zurier, Steve: *Russia-Ukraine war influenced hacktivists use more destructive tactics*, SC Media, January 18, 2023.
[73] Roussi, Antoaneta: *Meet Killnet, Russia's hacking patriots plaguing Europe*, Politico, 9.9.2022.

attacked the countries that support Ukraine, and their political interests are against the Russian government. They do not seem interested in financial gain; they aim to harm web services by disrupting them with mainly DDoS attacks.[74]

U.S. Cybersecurity & Infrastructure Security Agency (CISA) warns

U.S. Cybersecurity & Infrastructure Security Agency (CISA) gave on May 09, 2022 cybersecurity advisory by name Russian State-Sponsored and Criminal Cyber Threats to Critical Infrastructure. Per it, Russian state-sponsored cyber actors have demonstrated capabilities to compromise IT networks; develop mechanisms to maintain long-term, persistent access to IT networks; exfiltrate sensitive data from IT and operational technology (OT) networks; and disrupt critical industrial control systems (ICS)/OT functions by deploying destructive malware. Especially CISA underlined dangerousness of Berserk Bear hacker unit, which - so far - has not conducted any destructive cyber-attacks.[75]

In October 2022, top U.S. cyber officials warned that now is no time for governments or private sector companies to let down their guard and assume Russia's struggles on the battlefield in Ukraine will carry over into the Kremlin's efforts in cyberspace. Instead, they say the recent denial of service attacks targeting the public websites of major U.S. airports – and claimed by the Russian hacker group Killnet – could be "the leading edge of other types of attacks." Jen Easterly, the director of the U.S. Cybersecurity and Infrastructure Security Agency (CISA), told "We should remain very concerned, very vigilant about potential attacks on U.S. critical infrastructure," she said.[76]

Russian cyber warfare during the Ukrainian war

As the Ukrainian war continued, there was a ripple effect to western countries, including the UK, US, and Germany. UK financial services firms experienced a significant increase in DDoS attacks as they were heavily targeted by nation state attackers and hacktivists looking to disrupt Ukraine's allies.[77]

While the Russian APT-class hacker units have acted quite stealthily, KillNet has been extremely active – not just in Ukraine but especially - beyond Ukraine and it has become a symbol for Russian cyber war. Politically motivated DDoS attacks ramped up on a large scale in 2022 and Killnet targeting western government, healthcare, education, and financial firms was the biggest reason for this.[78] According to the CyberPeace Institute, KillNet has launched 86 attacks against pro-Ukrainian countries since the war began in February.[79] Killnet used DDoS attacks as its primary weapon to create chaos in western countries.[80] An anonymous Western cyber specialist told, that KillNet works in an emotional way. They seek revenge and retaliation against wrongs

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[74] SOCRadar Research: *Dark Web Profile: Killnet – Russian Hacktivist Group*, SOCRadar, December 16, 2022.
[75] *Russian State-Sponsored and Criminal Cyber Threats to Critical Infrastructure*, Cybersecurity advisory, News & Events, Cybersecurity & Infrastructure Security Agency (CISA), U.S. Department of Homeland Security, May 9, 2022.
[76] Seldin, Jeff: *US Not Ruling Out Russian Cyber Offensive*, VOA, October 11, 2022.
[77] Azure Network Security Team: *2022 in review: DDoS attack trends and insights*, Microsoft Security, Microsoft, February 21, 2023.
[78] Ibid.
[79] Bagwe (2023).
[80] Azure (2023).

they believe have been dealt against Russia and its people. They are extremely reactionary to current geopolitical events.[81]

It is interesting observation, that only in Viasat's KA-SAT cyber-attack - just in the beginning of the Ukrainian war - Russia that has shown typical high tolerance for taking operational risk with the attack spilling over to other European countries.[82] Since the beginning of the Ukrainian war, the biggest part of the Russian hacker units has kept low profile – only hactivist groups have raged with DDoS-attacks in Europe. That situation and CISA's warnings, indicates that Russia probably is preparing for the major cyber war against NATO. In this war the main targets would most likely be member countries' critical infrastructure and critical databases. SolarWinds hack and the Russian operations in the U.S. and Germany in 2020 are alarming examples - Russian cyber war in Ukraine gives a hint about the likely targets.

Something from history

In his famous book Strategy (1926), the great soviet strategist and military thinker, Aleksandr Svechin criticized German actions in World War I. Per him Germany made a mistake, when it just tested new weapons, like chlorine gas and the Paris Gun with the firing range up to 130 km. In both cases Germany had new kind of weapons and by testing them in small scale they lost possibility to gain technological surprise in the war. Instead of testing, Germans should have produced large numbers of these weapons in secrecy in isolated rear area, tested them in top secret testing range and then used these technologically new weapons in large numbers.[83]

[81] Roussi, Antoaneta: *Meet Killnet, Russia's hacking patriots plaguing Europe*, Politico, 9.9.2022.
[82] Juutilainen, Jari: *Cyber Warfare: A Part of the Russo- Ukrainian War in 2022,* Master's Thesis, Master's Degree Programme in Information Technology, Jyväskylä University of Applied Sciences, September 2022, pp.70–71.
[83] Свечин, А: Стратегия, Военный Вестник, Москва, 1927, pp. 69–70.

9

THE EQUALIZATION OF NATIONALISM AND NAZISM IN RUSSIAN STRATEGIC NARRATIVES: A POSTCOLONIAL PERSPECTIVE

Ieva Bērziņa

The presentation by Ieva Bērziņa in the Russia Seminar 2023 can be found on the FNDU YouTube-channel: https://www.youtube.com/watch?v=dAOcP2Io3Vc starting from 19:45.

Abstract

Russia's strategic narratives concerning its aggression against Ukraine exploit the concepts of "nationalism" and "Nazism" as complementary or even interchangeable. The research-project presented by Ieva Bērziņa addresses the problem of the equalization of these two concepts through the postcolonial theoretical framework because it has implications for the security of countries once being part of the Russian Empire and/or the Soviet Union. By equalizing nationalism and Nazism, Russia challenges the right of self-determination of its neighboring countries and creates a pretext for aggression.

The research-project aims to answer the following research questions: How does Russia relate the concepts of "nationalism" and "Nazism" in its strategic narratives about ex-Soviet countries? How the strategic narratives of "nationalism" and "Nazism" are being used to justify military aggression against neighbouring countries? To answer the research-questions the thematic analysis of the speeches of Russian officials, reports, media publications, expert opinions, and other sources that provide an in-depth understanding of nationalism and Nazism from a Russian official perspective will be conducted.

The time frame of the study is limited to a period from 2014, when Russia started a hybrid warfare against Ukraine, till 2022 when Russia's aggression against Ukraine turned into full-scale high-intensity warfare. A comparative perspective with other ex-Soviet states is expected to provide insight how the strategic narrative of the equalization of nationalism and Nazism is being used in Russian foreign policy in relation to the so called "near abroad" countries.

10

CREATING AN ENEMY: DENAZIFICATION IN THE CONTEMPORARY MILITARY STRATEGY OF THE RUSSIAN FEDERATION

Marzia Cimmino

The presentation by Marzia Cimmino in the Russia Seminar 2023 can be found on the FNDU YouTube-channel: https://www.youtube.com/watch?v=dAOcP2Io3Vc starting from 45:30.

Abstract

Vladimir Putin's declaration of war ('special military operation') included the promise that Russian forces 'will seek to demilitarize and denazify Ukraine'. Similarly, Russian Ministry of Defence Sergei Shoigu stated that 'the fight against any manifestation of Nazism must be uncompromising and comprehensive'. Since the protests in Maidan Square in Kyiv (nowadays Nezalezhnosti Square), "neo-fascism" suddenly became a key point of the information war unleashed by the Kremlin and Russia's state-controlled media, first against the anti-government protesters and later against the new Ukrainian authorities. Although the attempts to classify the current government of Ukraine as "Nazi" are largely seen as an engine of social cohesion and propaganda, it is important to reflect on how and why the fight against Nazism plays the central role it does in the war in Ukraine.

This presentation aims at understanding the notion and reaching a definition of denazification according to the Russian leadership. Specifically, the research explores whether it is only a rhetorical expedient to feed propaganda narratives or it entails a deeper meaning at the core of the national defence strategy of the Russian Federation. More broadly, it sets out to grasp the process which led to the creation of the enemy no. 1 for a State, thereby outlining the key indictors possibly applicable to other conflict settings and/contexts. The methodological approach draws evidence from references to "Nazism", "fascism", "neo-fascism" and "neo-Nazism" in Russian media, official documents, and statements in both civilian and military sources.

There are several disagreements among scholars on the use of different references related to "Nazism", "fascism", and "neo-Nazism", used by Putin and his close circle. For instance, some argue that the focus on the far-right element in the protests and the revolution was aimed at lowering its support among Russian citizens, among Ukraine's ethnic Russian/Russian-speaking community, and from the European Union. Secondly, it became a synonym of the "ultranationalist" character of Ukraine's struggle for independence. Thirdly, the myth of the "fascist junta in Kyiv" reminds the historical references to the the "Great Patriotic War", thus invoking the heroic Soviet imagery and rhetoric of to mobilise the population in eastern and southern Ukraine (the Kremlin's "Novorossiya") to start an "anti-fascist struggle" against the new Ukrainian authorities. Fourthly, it represents anything or anyone perceived as "anti-Russian" and "anti-Soviet".

The second question in the reseach focuses on the concept of "perception of threats" from the Kremlin's perspective. For instance, it can be argued that the distortion and manipulation of the past is one of the first steps towards the creation of Putin's enemy. In a recent article it was argued that Vladimir Putin is determined to shape the future to look like his version of the past: he ordered his "special military operation" because he believes that it is Russia's divine right to rule Ukraine, to wipe out the country's national identity, and to integrate its people into a Greater Russia.

Putin laid out this mission in a 5,000-word treatise, published in July 2021, entitled, On the Historical Unity of Russians and Ukrainians. In it, Putin insisted that Belarusians, Russians, and Ukrainians are all descendants of the Rus. He asserted that they are bound together by a common territory and language and the Orthodox faith. In his version of history, Ukraine has never been a sovereign country, except for a few historical interludes. In Putin's telling, since the Soviet collapse, the West has used Ukraine as a proxy or platform to threaten Russia, and it has supported the rise of "neo-Nazis" there. One conclusion might be that Putin's manipulations of history suggest that his claims go beyond Ukraine, into Europe and Eurasia: the Baltic states might be on his colonial agenda, as well as Poland, part of which was ruled by Russia from 1772 to 1918.

According to preliminary findings of the research, perceived national threats include also conspiracy theories "all-against-us" and the notion of existential survival ("us-or-them"). For instance, the Kremlin has spread alleged evidence of a conspiracy by the United States and NATO against Russia and the "Russian World". This was part of the larger conspiracy theory that the anti-government protests were inspired by the West, specifically the US, to further Western expansionism and the enlargement of NATO and to undermine Russia's standing in its sphere of influence. The concept of victimization was also used to further feed the idea of an enemy. After the adoption of EU and US sanctions, the narrative of victimization was used to portray Russia as a victim of Western aggression, referencing the USSR's suffering as "a victim" of the Third Reich.

The third part of the research focuses on the measures of strategic defence designed by the Kremlin to address the above-mentioned threats. This part looks thoroughly at the national defence strategy of the Russian Federation to evaluate how it is linked to the concept of denazification.

The "enemy" is undoubtedly an object of controversy in contemporary conflicts and wars. The purpose of this research is to explore the academic debate about the definition of "enemy" according to the Kremlin's ideology and military strategy, as well as the process that led to the label Ukraine's alleged "fascists" or "new-Nazis" as enemies no. 1 of the Russian Federation from 2014 to 2022.

11

STRATEGIC OBJECTIVES OF RUSSIA'S ATTACK IN RELATION TO KREMLIN'S POLITICAL RHETORIC DURING 2022

Santeri Kytöneva

The presentation by Santeri Kytöneva in the Russia Seminar 2023 can be found on the FNDU YouTube-channel: https://www.youtube.com/watch?v=dAOcP2Io3Vc starting from 1:07:45.

Abstract

In this article Santeri Kytöneva evaluates the initial strategic objective of Russia's offensive operation in Ukraine and the following developments in Russia's aims of the war during the year of 2022. The conceptual framework of Russian military sciences is utilized to tie together the political rhetoric and the implementation of military force in Ukraine. In the article it is argued that the initial strategic objective of the operation was to change power in Kiev, seize land areas and to paralyze the Ukrainian armed forces. After the failure to achieve this strategic objective, the maximalist political goals were still held by the Russian political elite to end of the year 2022. The presentation also brings forward insights on how the Russian political elite is merging widely different aspects of justifying the war.

Introduction

Strategic operation (стратегическая операция) is a Russian military scientific concept used to describe strategic level military action. Research has been conducted on the concept due to its centrality in Russian military scientific thinking and encyclopedias[1]. Viitaniemi and Kytöneva utilized the theoretical framework provided by the Russian military sciences to explore the initial implementation of the attempted large-scale invasion of Ukraine started on the 24th of February 2022[2]. The concept of strategic operation and the closely related central definitions offer one way of conceptualizing Russia's attack on Ukraine. The utility of these concepts comes from their direct con-

[1] Clint Reach, Alexis A. Blanc, and Edward Geist: Russian Military Strategy: Organizing Operations for the Initial Period of War. Santa Monica, CA: RAND Corporation, 2022. https://www.rand.org/pubs/research_reports/RRA1233-1.html. Michael Kofman, Anya Fink, Dmitry Gorenburg, Mary Chesnut, Jeffrey Edmonds, and Julian Waller: Russian Military Strategy: Core Tenets and Operational Concepts. CNA 2021. https://www.cna.org/reports/2021/10/Russian-Military%20-Strategy-Core-Tenets-and-Operational-Concepts.pdf. Michael Kofman, Anya Fink, Jeffrey Edmonds: Russian Strategy for Escalation Management: Evolution of Key Concepts. CNA 2020. https://www.cna.org/archive/CNA_Files/pdf/drm-2019-u022455-1rev.pdf. Dave Johnson: Russia's Conventional Precision Strike Capabilities, Regional Crises, and Nuclear Thresholds. Center for Global Security Research 2018. https://cgsr.llnl.gov/content/assets/docs/Precision-Strike-Capabilities-report-v3-7.pdf Johan Norberg: Training for War Russia's Strategic-level Military Exercises 2009–2017. FOI 2018.

[2] Viitaniemi Jukka and Kytöneva Santeri: Venäjän hyökkäys Ukrainaan vuonna 2022: Käsiteanalyyttinen tapaustutkimus maaoperaatioiden toteutuksesta. Maanpuolustuskorkeakoulu (2023). https://urn.fi/URN:ISBN:978-951-25-3379-4.

nection to Russian military scientific thinking. Disadvantages come from the fact that the official public definitions are limited in describing practical implementation and some of the key definitions are either lacking in quantity or do not exist at all. Therefore, these missing definitions need to be construed by the researcher.

This article focuses on the Russian military scientific concept of strategic objective (стратегическая цель) and its relation to political goals. The concept of strategic objective relates to the goal of a strategic operation. In the article I clarify the initial political goals of Russia's attack on Ukraine and how they evolved during the year of 2022. Due to the limitations in the accessible source material, my analysis will focus on drawing conclusions from the available sources. The source material consists of publications on Kremlin's website (kremlin.ru) linked to the president of the Russian federation. My analysis brings forward some of the key turning points in these Kremlin's publications in relation to the implementation of the Russian attack from its onset in February 2022 to the end of the year. My analysis shows that despite the failure in the initial operation to achieve set strategic objectives, the Russian political elite has not shown any signs of backing down in Ukraine.

Findings

My argument is the following: the analysis shows that the Russian political goals have remained constant during the year of 2022. I argue that the conceptualising the beginning of the special military operation as a strategic operation with a strategic objective offers a good starting point for further research, but as time passes the Russia's full-scale attack shifts into war of attrition and has no longer any clear strategic objectives. My article therefore argues that Russia's political goals regarding the war in Ukraine did not change during the year of 2022, although Russia failed to achieve its initial strategic objective. My argument is that a conceptualization of the "special military operation" as a strategic operation offers solid theoretical starting ground for clarifying the goals of the attack and sets the groundwork for further research.

Moving forward I argue that it is critical to study both the political and military scientific aspects together. Understanding the initial plans of the operation and the goals related to it are central in understanding where we are at now. Research on the political speeches can help us to understand the limitations and uses of the epistemologically shifting Russian concepts such as "special military operation", "denazification" and "demilitarisation". These concepts need to be interpreted with a wider theoretical framework to understand their use.

Political goals and strategic objectives

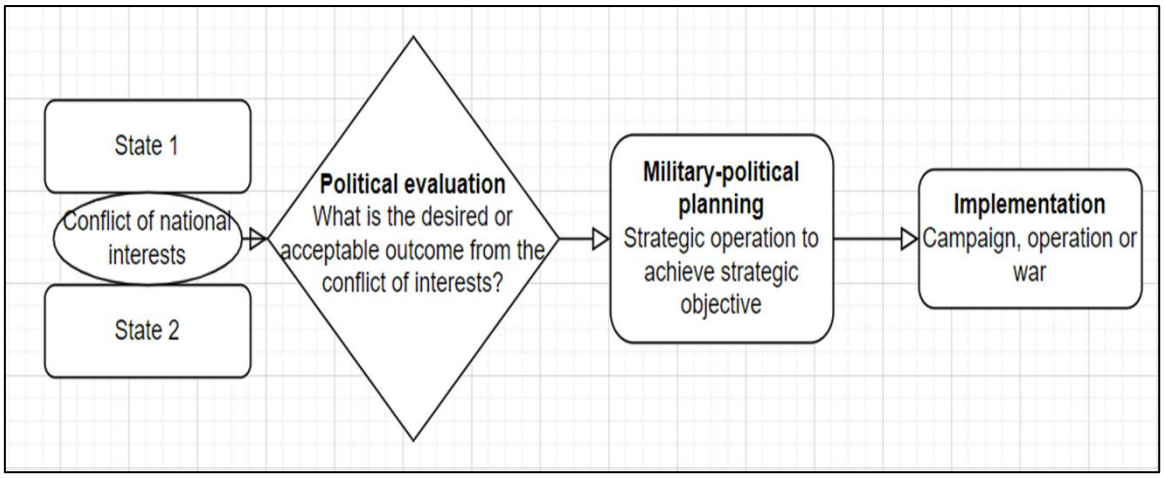
First, we need to look at the definition of strategic objective (стратегическая цель) from the official military encyclopedia of the Russian Defence Ministry[3].

According to the definition found on the Russia's Defence Ministry's encyclopedia, the concept of strategic objective is the planned end goal of war, campaign or strategic operation. The fulfilment of the strategic objective is defined as a significant change

[3] Russian Ministry of Defence 2023, "СТРАТЕГИЧЕСКАЯ ЦЕЛЬ" https://encyclopedia.mil.ru/encyclopedia/dictionary/details.htm?id=10379@morfDictionary.

in the military-political and strategic conditions. The strategic objective is defined by the political and military leadership of the state. The definition depends on the military-political factors (situation at the global and local level, strategic assessments physical-geographical features military capabilities and other factors).

The formulation of a strategic objective is therefore a multifaceted process and largely involves political evaluation, the following picture shows the simplified formulation of it.



Picture 1. Author's simplified interpretation of the process leading to the implementation of a strategic operation

Political situation contradicting the state's national interests usually first leads to diplomatic measures. Further political evaluation ensues when diplomatic measures are deemed ineffective. Although they may not even be genuine in the first place. Strategic operation in the form of a campaign, operation or war may then be implemented aiming to change the military-political situation drastically. Strategic operation is a large-scale military operation with the aim of changing the military-political and strategical situation significantly. These goals are defined as strategic objectives. The definition seems to well describe the attack Russia launched on Ukraine with one exception being that the "special military operation" was launched during peacetime.

The definition of strategic objective has remained widely unchanged for a long time in the official military scientific encyclopedias. The scale of Russia's attack on Ukraine supports the assumption of looking for a strategic objective in the "special military operation". After all it is the largest operation that the Russian armed forces have conducted during their existence.

The concept of political goal is an elusive one to define. Here I want to emphasize that the goals read directly from Putin speeches are political goals. This is due to the language and the setting they are delivered in. Therefore, these goals from political speeches need to be translated into the conceptual framework of Russian military science. This is the task I aim to explore. More precisely I explore the relation between these different settings of language games two to bring forward insights.

Methodology

The method of the article is interpretative analysis of publications linked to the president of the Russian federation on the Kremlin's website. My analysis focuses on interpreting the goals of the "special military operation" and observing qualitative changes in it during 2022. I have not systematically categorized the content of these speeches, but I have focused on the sections that link to significant turning points on the battlefield and elaborate on the goals of the "special military operation". The analysis emphasizes Putin's speeches released on the Kremlin's website (kremlin.ru) due to them signifying the official Russian political rhetoric and giving closed material that can be analysed for qualitative changes. For understanding the situation on the battlefront, I have relied on public material released mainly by Ukrainian sources and different Telegram-channels.

Theoretical framework of the article comes from Russian military scientific encyclopedias. These concepts of Russian military science set up a closed system upon which we can build on. Deciphering political speeches into the language of Russian military science requires interpretive methods. The method I have utilized is hermeneutical in nature. Hermeneutical method means looking at both the parts that make up whole as well as the individual details. Combining these different levels of analysis is the task I have set up to do here. Background understanding of the researcher inevitably has effect on how the political statements are interpreted. Critical to the analysis of Putin's speeches, I argue, is also taking into consideration the empirical evidence gathered from Ukraine of the actual ground force operations.

The initial political goals

When considering the question, what were the initials political goals of Russia and how have they evolved, it is important to consider the concepts of demilitarisation and denazification. On the 24th of February 2022 Putin's speech released by the Kremlin brings forward the goals of "special military operation" as demilitarisation and denazification of Ukraine[4]. Now what is meant by these concepts and how do they translate into military strategic concepts tying into the planning and performing the operation.

Denazification means changing the Ukrainian political leaders into lead that is completely subordinated to Russian political leadership. My interpretation of denazification is that it describes the aim to change the political leadership of Ukraine entirely. The concept draws on historical memory of the great patriotic war by referring to strong enemy images of nazis. Putin in his speeches uses the concept neo-Nazis, to refer to Ukrainian nationalism. This means that any form of support for Ukrainian sovereignty is deemed as Neo-Nazism, which is of course very twisted interpretation.

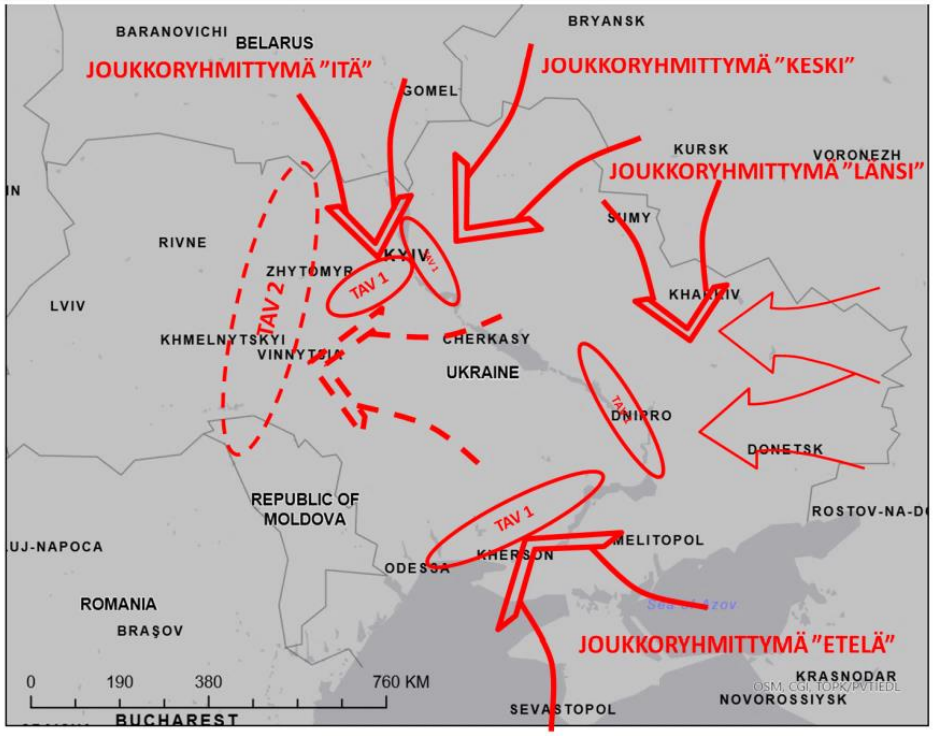
Demilitarisation means destroying the capabilities required for the functioning of the Ukrainian armed forces. Demilitarisation aims to disable the working capabilities of Ukrainian armed forces either temporarily or completely. The concept describes the task given to the Russian armed forces to disable any form of systematic resistance

[4] "Обращение Президента Российской Федерации", 24.2.2022, http://www.kremlin.ru/events/president/news/67843.

under Ukrainian government. The Russian false assumption at the onset of the special military operation seemed to be that the Ukrainian armed forces would be weak and disoriented.

Both of these concepts utilize the prefix "de" and also the concepts are broad. The same applies to the concept of "special military operation". These concepts are political instruments with shifting epistemological contents, they can be filled with content and used in different context to work together with the desired narrative of the contemporary Russian political elite. The prefix "de" emphasizes that the content is mainly defined in relation to an enemy image rather than giving positive definitions.

Now before moving on to exploring the possible changes in the Kremlin's rhetoric, let us turn our attention back to the initial strategic objective from the point of view of Russian ground forces usage on the 24th of February.



Picture 2: Assessment on the structure of the strategic operation (land operations)[5].

The picture 2 shows an interpretation of the initial implementation of Russia's ground forces operations on the 24th of February. This interpretation is based on Telegram sources and Ukrainian official sources. The map also shows interpretation of goals which were never achieved in reality of course as we know. The words in Finnish are merely the names of military districts, as the initial implementation of the attack was organised largely by the military districts.

The initial strategic objective for Russia is to change political leadership in Ukraine, paralyze the Ukrainian armed forces and capture land areas. The Russian offense was launched as an interbranch operation in accordance with the Russian military districts. The strategic objective in February to March of 2022 shifted from trying to capture entire Ukraine into warfare with the Russian aim of achieving control of four areas of Ukraine (Donetsk, Luhansk, Zaporizhzhia and Kherson).

[5] See: Viitaniemi J. & Kytöneva S. (2023) Venäjän hyökkäys Ukrainaan vuonna 2022: Käsiteanalyyttinen tapaustutkimus maaoperaatioiden toteutuksesta, https://urn.fi/URN:ISBN:978-951-25-3379-4, p. 22.

Observing changes in the Russian political rhetoric

Next, here are some of the key turning points in Kremlin's publications in relation to the implementation of the Russian attack from its onset in February 2022 to the end of the year. The initial public reaction by the Kremlin was that everything is going according to plan[6]. Although it can be safely assumed they had to realise also that this was in fact not the case. On the 27th of February the readiness of strategic missile forces of Russian armed forces was raised[7].

A speech given by Putin on the 16th of March 2022 gives hints into the upcoming publicly claimed changes in the Russian rhetoric on the implementation of the "special military operation"[8]. This means that only in the latter half of March does the Kremlin reshape its communicating on the implementation. On the 29th of March the deputy of the Russian Ministry of Defence Alexander Fomin notes that Russia will lessen its military activities on the Kiev and Chernigov directions[9]. Fomin says this follows from negations between Ukraine and Russia in Istanbul, but this seems unlikely. Rather negotiations are used as a reason to justify publicly the already earlier observed initial failure of the Russian troops. On the next day 30th of March Igor Konashenko notes that the special military operation will move into a next phase[10].

During June and July of 2022 much of the same political rhetoric is repeated. Noteworthy during these months is also Lavrov's and Patrushev's assessments of the ongoing situation. Even on the 5th of July 2022, more than four months after the beginning of "special military operation", Patrushev noted in an interview to RIA Novosti that the goals of the operation remain the same[11]. In my view this highlights the differences between political goals and strategic objective. The political goals have remained the same. It is however evident that the strategic objective of the Russian armed forces has changed significantly. Significant part of the remaining Russian troops has also been relocated from North of Ukraine to the East and South-Ukraine.

Later the same month Lavrov noted that the Russian special military operation is not limited to the Donetsk and Luhansk regions[12]. At this point it is evident that Russia is concentrating its remaining military capabilities on trying to control Kherson and Zaporizhzhia. However, I would refrain from framing this as the second strategic objective due to the fact that at the that stage the situation is very much reminiscent of war of attrition and the Russian military leaders are reacting to the situation at hand.

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[6] "Совещание с постоянными членами Совета Безопасности", 3.3.2022, http://www.kremlin.ru/events/president/news/67903.
[7] "Встреча с Сергеем Шойгу и Валерием Герасимовым", 27.2.2022, http://kremlin.ru/events/president/news/67843.
[8] "Совещание о мерах социально-экономической поддержки регионов", 16.3.2022, http://www.kremlin.ru/events/president/news/67996.
[9] "Минобороны РФ решило сократить военную активность на киевском и черниговском направлениях", 29.3.2022, https://www.interfax.ru/russia/831942.
[10] " Russian Ministry of Defence 2022, "Брифинг Минобороны России", 30.3.2022, https://z.mil.ru/spec_mil_oper/news/more.htm?id=12415372@egNews.
[11] https://ria.ru/20220705/spetsoperatsiya-1800246996.html.
[12] https://ria.ru/20220720/spetsoperatsiya-1803701411.html.

End of the year 2022

The contents of justifying the special military operation hardly change until the end of September around the time when mobilization is announced publicly for the first time. Noteworthy here is also the hesitancy of Putin to present these news, on the 29th of September Putin used the formulation "on the recommendation of the General Staff and the Ministry of Defence, mobilization is conducted"[13]. The difference in tone is significant when compared to the speeches given by Putin in February or March of 2022.

I want to clarify that mobilization is also a military procedure, it is not a political procedure. This military procedure once again emphasizes Kremlin's still deep commitment to the war in Ukraine. It is not looking to back down. This comes evident when the political procedure of referendums is conducted shortly after the mobilisation to annex the four regions as part of Russia[14]. These measures in the fall of 2022 were significant in once again signalling Russia's political elite's commitment to the political goal of subjugating Ukraine under Russian control.

The speech held by Putin regarding the annexation of these areas also brings forward new aspects in the contents of justification of war. Namely religious elements are brought to the surface explicitly when Putin notes that Russia is fighting satanism in Ukraine. My analysis brings forward the following aspects from Putin's speeches during 2022: firstly, the big story of justifying the war remained largely the same during 2022. When looking philosophically at the concepts Russia employs, denazification and demilitarisation, their contents are not fixed but rather shifting. Kremlin's rhetoric takes a turn into steeper language following the mobilisation in the September of 2022. Despite the fact that unrealistic demands seem to be stemming from the highest command and the set Russian political goals that did change significantly during 2022. Putin's speeches merge together several aspects and effectively utilize them together to justify the use of military force in Ukraine. Different sources emphasize the necessity of the "special military operation". The political speeches offer very little on the actual implementation of Russia's attempted large-scale invasion on Ukraine. Putin's speeches however can offer insight into the the political goals of the Russian state.

Concluding remarks

At the end of the year the Russia's political goal of subjugating Ukraine was still held. Following the failure to achieve the initial strategic objective, Russian military power was concentrated on gaining territorial control over four Ukrainian areas (Donetsk, Luhansk, Zaporizhzhia and Kherson). Due to the scale and implementation of Russia's attack, one good way to conceptualize the operation is as a strategic operation. When looking at the justification of the war in Kremlin's rhetoric, the Russian political elite does not show any signs of re-evaluating their political goals or backing down during 2022. Kremlin's rhetoric merges different aspects of justifying the war together in the official publications.

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[13] Vladimir Putin, "Совещание с постоянными членами Совета Безопасности 29.9.2022", Президент России, http://kremlin.ru/events/president/news/69459.
[14] Vladimir Putin, "Подписание договоров о принятии ДНР, ЛНР, Запорожской и Херсонской областей в состав России 30.9.2022", Президент России, http://kremlin.ru/events/president/news/69465.

12

COMPARING RUSSO-UKRAINIAN WAR AND SECOND KARABAKH WAR: PERFORMANCE AND FAILURES

Leonid Nersisyan (and Cerwyn Moore, absent from the seminar)

The presentation by Leonid Nersisyan in the Russia Seminar 2023 can be found on the FNDU YouTube-channel: https://www.youtube.com/watch?v=iI-1U5kKwd8 starting from 7:09:30.

Introduction

The 2020 Artsakh War and the 2022 Russo-Ukrainian conflict are two instances of contemporary interstate conflict. The comparative study of conflicts may help to explore the latest trends in warfare. Also, the Armed Forces of Armenia and Russia are similar, which gives another reason to study the wars in comparison.

Studies of the 2020 Nagorno-Karabakh war examine the usage of unmanned aerial vehicles (UAV) by Azerbaijan[1], the novel land force tactics and the impact of mobile Azeri groups[2], the general usage of strike and defense capabilities[3]. Some publications provide a general overview of the conflict dynamics[4], or Air Defence and UAVs[5], and others examine mistakes by Armenian leadership in strategic decision-making[6]. Few papers, however, discuss the intelligence, command and control (C2), the role of artillery and armored vehicles, the order of battle, etc.

Since the 2022 Russian invasion a significant amount of data has been produced. Although there have been few scholarly studies, research on unmanned technology[7] stemming from the conflict in Ukraine is widespread. Unlike the literature on

[1] Cooper, J. (2021): The Nagorno-Karabakh war: a spur to Moscow's UAV efforts? International Institute for Strategic Studies and Hecht, Eado, "Drones in the Nagorno-Karabakh War: Analyzing the Data," Military Strategy Magazine, Volume 7, Issue 4, winter 2022, pp. 31–37.
[2] Dulnev, P et al. (2021): The Main Trends of Development of Ground Forces Tactics (According to the Experience of the Military Conflict in Nagorny Karabakh). Voennaya Mysl, (11), pp. 49–62.
[3] Shaikh, Shaan & Rumbaugh, Wes (2020): The Air and Missile War in Nagorno-Karabakh: Lessons for the Future of Strike and Defense. Center for Strategic and International Studies and Terzić, Miroslav. (2022). Critical review of the protection of aircraft defense forces during the conflict in Nagorno Karabakh in 2020. Small Wars & Insurgencies. 33. pp. 1–15.
[4] Popescu, A. I. C. (2021): Remarks on the Fifth-Generation Warfare and The Second Nagorno-Karabakh War. Buletinul UNAP and Iskandarov, K., & Gawliczek, P. (2021): The second Karabakh war as a war of new generation. Journal of Scientific Papers ''Social Development and Security", 11(2), 91–99.
[5] Pukhov, R. et al. (2021): Storm in the Caucasus. Moscow: Center for Analysis of Strategies and Technologies.
[6] Zhirayr Amirkhanyan, "A Failure to Innovate: The Second Nagorno-Karabakh War," Parameters 52, no. 1 (2022): 119-134 and Alexander Khachaturyan. (2020): Mistakes in military developments in Armenia. Eksport Vooruzheniy (Arms Exports), 6 (154), pp. 5–8.
[7] Kutz, Thomas J. Lethal Unmanned Aircraft Systems: Democratizing Air Power. Naval War College Newport RI, 2022 and Bendett, Samuel & Edmonds Jeffrey (2022): Russian Military Autonomy in Ukraine: Four Months In. CNA Corporation.

Karabakh, the work on Ukraine includes intelligence analysis, C2, and organizational and logistic issues, the role of artillery and heavy equipment[8].

Given this overview of available data and research on both wars it is important to focus on several topics. They include the role of UAVs and combat aviation in modern warfare, the effectiveness of artillery on contemporary battlefield, as well as importance of precision guided weapons in combination with effective intelligence. Article will also elaborate if the Karabakh war 2020 and the Russo-Ukrainian war can be considered as "future warfare".

The Role of Unmanned Aerial Vehicles

After the 2020 Nagorno-Karabakh war many researchers were convinced that the UAV's were crucial for Azerbaijan's victory. Judgments about the obsolescence of tanks and barrel artillery reemerged among the expert community.

Also, the PR of Turkish Baykar drone producers amplified the significance of UAV technology. Thus, Armenians overestimated the effects of UAVs: promotional footage produced psychological pressure. Much of the footage and literature focused on the Turkish Bayraktar TB2, an unmanned vehicle of MALE category of drones.

A different way to evaluate the role of UAVs is to review the raw data from the database[9]. Based on that data (see Table 1 below), from overall 829 pieces of equipment, the involvement of Bayraktar TB2's in lethal strikes is 526 (63,4%) pieces, and 66 (8%) of them resulted from loitering munition, whereas 237 (28,6%) are nor resulted from drones. As for separate pieces, the damages of tanks, armored vehicles, artillery assets, trucks and cars, and air defence/EW assets are respectively 58,2%, 49,2%, 85,7%, 55%, 48,2% from Bayraktar TB2's, and the remaining percentages are either the result of loitering munition strikes or not because of drones.

At first glance, with a 63,4% ratio, it certainly looks like drones, especially the Bayraktar TB2, were involved in many lethal strikes. However, most strikes damaged, rather than destroyed, tanks.

One open-source intelligence analyst[10] did his own count of the equipment losses in some categories during the Artsakh war 2020, drawing on the same data compiled by Oryx but augmented with knowledge of the Armenian Armed Forces and the Nagorno-Karabakh Defence Army structure. The results are the following: for the overall tanks decommissioned for Oryx's 255, the Telegram-channel "At Midnight" suggests 225, out of which for Oryx's 146 destroyed tanks, the channel offers 74, for 6 damaged tanks it has 41, and 103 captured tanks the number is 87. Also, the channel has 23 tanks labeled as damaged or destroyed.

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[8] Sam Cranny-Evans (2020). The Role of Artillery in a War Between Russia and Ukraine. RUSI and Jones, S. G., Harrington, J., Reld, C. K., & Strohmeyer, M. (2022). Combined Arms Warfare and Unmanned Aircraft Systems: A New Era of Strategic Competition. Center for Strategic and International Studies.

[9] Stijn Mitzer & Dan (2020). The Fight for Nagorno-Karabakh: Documenting Losses on The Sides of Armenia and Azerbaijan. Oryx.

[10] The results were posted on his Telegram channel called "Мысли в полночь (At Midnight)". The channel has since between deleted, but the author archived the materials. A link to one of the Telegram archives can be found here: https://www.telemetr.me/content/at_midnighti/2.

	Overall	Bayraktar TB2	Loitering munition	Not drone/Unknown
Tanks	146	85 (58,2%)	13 (8,9%)	48 (32,9%)
Armoured vehicles	61	30 (49,2%)	2 (3,3%)	29 (47,5%)
Artillery assets	237	203 (85,7%)	11 (4,6%)	23 (9,7%)
Trucks and cars	331	182 (55%)	22 (6,6%)	127 (38,4%)
Air defence/EW assets	54	26 (48,2%)	18 (33,3%)	10 (18,5%)
All equipment	829	526 (63,4%)	66 (8%)	237 (28,6%)

Table 1. Destroyed Armenian equipment based on Oryx data

The data demonstrate that UAVs destroyed around half of the tanks in the Oryx database. As noted previously, this discrepancy stems from Bayraktar TB2 strikes which can rarely destroy a tank, given that it carries light munitions. The drone strikes were more effective; however, the footage shows that not all the pieces are destroyed.

Another point to consider is the use of a combination of surveillance UAVs, loitering munitions, and Bayraktar TB2s. For example, in the suppression of enemy air defences (SEAD) during the first days of the war often involved combined attacks with UAVs. Most Armenian air defence assets in Nagorno-Karabakh were located at permanent bases, making them easy targets, and 60% of surface-to-air missile systems were destroyed during the first day of war.[11] Same applies to about artillery pieces.

In Ukraine, UAVs have played a significant role and are used more for surveillance. The Bayraktar TB2 has destroyed no more than 100–150 pieces of Russian equipment from the documented more than 9 500 pieces, making it only 1% of losses[12]. Meanwhile, fourteen Bayraktar TB2 are visually confirmed destroyed. Ukraine now confines Bayraktar TB2 to surveillance activity and the coordination of artillery to limit their frequent exposure to Russian Air Defences[13].

The Russo-Ukrainian war provides evidence of another trend: the widespread use of modified civilian drones. Relatively primitive multi-copters have engaged far more targets than Bayraktar TB2. The only available database, created and updated by Faine Greenwood, shows 889 examples of various civil drone engagements during the Russo-Ukrainian war (February-December 2022)[14].

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[11] Pukhov, R. et al. (2021) Storm in the Caucasus. Moscow: Center for Analysis of Strategies and Technologies, pp. 63–73.
[12] Stijn Mitzer & Jakub Janovsky (2022). Attack On Europe: Documenting Russian Equipment Losses During The 2022 Russian Invasion of Ukraine. Oryx.
[13] Mittal, V. (2022, June 23). The Ukrainian Military Is Changing Its Tactics With Bayraktar TB2 Drones. Forbes. https://www.forbes.com/sites/vikrammittal/2022/06/23/ukrainian-military-is-changing-its-tactics-with-the-bayraktar-tb2-drones/?sh=3a505b1b1ec0.
[14] Faine Greenwood. Ukraine War Drone Incidents 2022. https://faineg.substack.com/p/drones-in-the-ukraine-war-march-26th.

The Ukrainian and Russian militaries are involved in "smart" drone warfare. For instance, Ukrainian forces have employed sport drones equipped with first-person view (FPV) goggles[15] as loitering munitions.[16] Equally, they have modernized outdated Soviet Tu-141 surveillance UAVs into medium-range cruise missiles capable of targeting the Engels airbase[17]. However, little data exists on failed missions of civilian drone usage. A comprehensive evaluation will only be feasible after the end of hostilities.

Another trend is the efficacy of light loitering munitions, which have been used against most battlefield targets, apart from tanks. In contrast to large MALE-class attack drones, the use of loitering munitions has continued to gain pace, an example of which is Russian Lancet-3, actively used starting from October. However, the effectiveness of these munitions is limited when employed against heavily armoured targets.

Heavy loitering munitions, such as the Iranian-manufactured Shahed-136, are an easier target for Ukrainian air defence systems because of their size and speed. Nonetheless, these heavy loitering munitions are low-cost, and the use of large quantities of these weapons in waves of attacks continues to cause problems.

The Role of Artillery

In Nagorno-Karabakh and Ukraine, all sides in the conflicts vastly relied on battery munitions, including rocket and barrel artillery.

As for 2020 Nagorno-Karabakh War, the Armenian defence strategy combined artillery batteries and defence infrastructure. Armenian troops often used fewer SPGs and relied on Soviet-era towed howitzers, organized into batteries of four pieces. The aim was to draw on existing territory knowledge and preset strikes coordinates. Armenian forces also augmented their use of artillery with data from high-resolution cameras installed on the line of contact and at heights in the rear. Surveillance UAVs were then employed to correct artillery fire, albeit neither systematically nor with automated processing and C2 systems.

The Azerbaijani Armed Forces had a higher ratio of self-propelled artillery. They used the advantage in numbers and quality to degrade Armenian troop capacity in the rear and frontline. Azerbaijani troops actively and systematically used UAVs to find targets and correct artillery fire.

The 2020 Nagorno-Karabakh war proves that old-fashioned artillery batteries had become more vulnerable. In many cases, whole artillery battery systems were destroyed by Azerbaijani forces, either with UAVs or with counterbattery artillery fire.

Same implies to the Russo-Ukrainian war. A critical insight revolves around software processing and integrating data from different sources into decision-making and targeting. Satellite and UAV information facilitated and automated command and con-

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[15] OSINTtechnical on. (2022, June 12). Twitter. https://twitter.com/Osinttechnical/status/1535786557969379329.
[16] Ukraine Weapons Tracker on. (2022, December 27). Twitter. https://twitter.com/UAWeapons/status/1607727356835254272.
[17] Russian MOD official statement, December 5, 2022. https://z.mil.ru/spec_mil_oper/brief/briefings/more.htm?id=12447639.

trol, providing commanders with data. The integration of this information was effective, as demonstrated by Ukrainian troops, which used Krapiva and GIS Arta C2. Commanders use these systems to coordinate reconnaissance and artillery. Data integration to support decision-making enabled the Ukrainian Armed Forces to mount a defence against the Russian army during the spring and summer of 2022.

Another observation from the Russo-Ukrainian conflict is the effectiveness of guided munitions. The Russian Armed Forces employ Krasnopol-M 152-mm laser-guided artillery shells, which 152-mm calibre howitzers can fire. These munitions are allowing to engage target by 1-2 shots and in general the combination of a surveillance drone equipped with a laser target designator and such munitions can be very effective. However, the limited numbers of footages with Krasnopol-M being used indicates that there is a limited production.

The Ukrainian Armed Forces exploited their advantage with guided munitions. They benefitted from Western military support packages, including M982 Excalibur 155-mm GPS-guided artillery shells and M142 High Mobility Artillery Rocket System (HIMARS) and M270 MRLS equipped with guided multiple rocket launch systems (GMRLS) and GPS-guided rockets. Despite the effectiveness of these systems, Russian troops began to adapt to the new reality, dispersing stockpiles, bases and command posts, employing more camouflage and frequently moving equipment to limit the concentration of units and hardware. Of course, that does not mean guided munitions were any less effective. Instead, it demonstrates that time-sensitive intelligence on valuable targets was limited, which, in turn, hampered the use of guided munition systems.

Country	Barrel artillery	Rocket artillery	Tactical missiles	Overall personnel	Servicemen to artillery piece ratio
Armenia and Karabakh	≈ 260	≈ 100	16	≈ 60.000	160
Azerbaijan	339	147	6	≈ 82.000	167
Russia	3187 (17.000+ stockpiled)	1114 (3220 stockpiled)	162 (unknown number stockpiled)	≈ 900.000	202 (37 if counting stockpiled)
Ukraine	1236+	360+	90	≈ 250.000	Less than 148
USA	3281 (850+ stockpiled)	635	635 (HIMARS and M270 are used to launch ATACMS missiles)	≈ 1.395.350	307 (258 if counting stockpiled)
France	120	13	-	≈ 203.250	1528
Germany	121	41	-	≈ 183.400	1132

Table 2. The role of the artillery

This illustrates the continued effectiveness of artillery, which remains one of the principal components of modern interstate war. This point is underscored when artillery is decentralized and digitalized and when a balance is struck between guided and unguided munitions. If the two cases are juxtaposed, it becomes clear that artillery, especially towed howitzers, were vulnerable to manned and unmanned enemy aviation.

Combat Aviation and Air Defence

Manned aviation was a secondary facet of the Armenian war effort during the Second Karabakh War. Armenian forces operated a small number of aircraft in combat. During the conflict, however, Azeri forces deployed modernized Su-25 attack aircraft with QFAB 250 laser-guided bombs, leading to significant Armenian causalities. In short, given limited Air Force operations, the 44-day–war provides little evidence on the role of combat aviation as a novel feature of modern warfare.

At the beginning of the war, the Russian Air Force had a ten-fold superiority over Ukraine in aviation numbers[18]. Despite the imbalance, Russia is still unable to gain air superiority over Ukraine.

A brief comparison of the number of combat sorties undertaken by the Russian Air Force in Ukraine, with US Air Force sorties during Operation Iraqi Freedom, in 2003 is revealing. From February 24, 2022, to October 18, 2022, the Russian Air Force carried out 34,000 combat sorties[19]. The US Air Force was able to carry out 41,404 sorties between March 19 and April 18, 2003[20]. First reason for this imbalance is that Russian pilots undertake fewer training hours than NATO pilots. As a result, Russian pilots cannot master complex SEAD operations, reducing the overall impact of Air operations. Second, Russia suffers from organizational and logistical problems. Third, the lack of guided airborne munitions restricts modern jet fighters' capacity to use various attacks. Instead, Russian jet fighters bomb targets from low altitudes, thus becoming vulnerable.

The smaller Ukrainian Air Force proved to be operational. Western specialists likely supported the modernization of Soviet fighter jets, enabling them to carry AGM-88 HARM air-to-surface anti-radiation missiles[21] produced by the US. Yet, the most critical lessons from Ukrainian Air Force operations were the dispersion of fighter jets, the transfer of air assets to different airbases and the use of improvised runways and airfieldse, enabling Ukrainian Air Force to survive Russia's attempts to destroy it during the first days of the war[22].

Air defence played a significant role in both conflicts. Azerbaijan quickly targeted Armenian anti-aircraft missile systems and air defence assets. Technological superiority, coupled with disorganized Armenian troops stationed in permanent deployment areas known to Azerbaijani forces, led to the success of air defence suppression. This can be called the first suppression of enemy air defences - or SAED operation - by unmanned aircraft. Armenian air defence relied on Soviet Osa surface-to-air (SAM) systems and only four modern Russian Tor-M2KM short-range SAM systems. These

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[18] The International Institute for Strategic Studies (IISS) (2022): The Military Balance 2022. Taylor & Francis.
[19] В ходе СВО российской авиацией совершено более 34 тыс. боевых вылетов (2022, October 18). ТАСС. https://tass.ru/armiya-i-opk/16090675.
[20] Alexander M. Wathen, "The Miracle of Operation Iraqi Freedom Airspace Management," Air & Space Power Chronicles – Chronicles Online Journal, October 4, 2005.
[21] Independent, K. (2022, August 30): Ukrainian Air Force shows how it uses HARM missiles on a Soviet jet [Video]. YouTube. https://www.youtube.com/watch?v=eoqCMjLtow4&feature=youtu.be.
[22] Buhai, R. (2022, September 9): Самолеты ВСУ могут взлетать с гражданских дорог AFU planes can take off from civilian roads [Video]. YouTube. https://www.youtube.com/watch?v=Jz0mfrLqV0k&feature=youtu.be.

were able to shoot down up to 180 Azerbaijani aerial targets during the 44 days of hostilities[23].

As for Russo-Ukrainian War, Russian intelligence could not get contemporary, actionable coordinates for air defence sites; thus, they could not target the bulk of Ukrainian air defence assets and disable them. Ukrainian forces also moved and camouflaged radars and SAM systems. According to some sources[24], the Ukrainian Forces did not use all of their air defence assets in the first few months, affording the them to maintain defensive capabilities later. The Iranian Shahed-136 usage by Russia became a further challenge. It took the Ukrainian Forces time to adapt to it, turning to old-fashioned artillery and trucks mounted with heavy machine guns to counter waves of attacks. Importantly, the trend of using aged defence artillery in combination with modern electronic targeting systems to counter waves of attacks is likely to become commonplace.

Both conflicts don't demonstrate new trends in the use of combat aviation. However, they illustrate that the Western capacity to conduct air warfare is far more advanced. Also, the two conflicts shed light on some new air defence tactics.

Intelligence and precision-guided weapons

The integrated use of intelligence alongside precision-guided munitions was an emerging feature of both conflicts. Armenian Forces had to rely on traditional unguided munitions. The only precision-guided weapons available to the Armenian Armed Forces were a limited number of Iskander-M tactical ballistic missiles used during the last day of war[25]. By contrast, the Azerbaijani Armed Forces operated a wide range of guided munitions.

The impact of UAV-related and loitering munitions was significant. It is hard to extrapolate a detailed understanding of the use of Spike missiles. The Spike-LR and Spike-NLOS are systems that look almost identical. According to the data compiled by Oryx, 21 Armenian tanks were destroyed by Spike munitions. Other weapons, like Lora ballistic missiles, were used infrequently. Strikes with QFAB-250 LG laser-guided bombs conducted by Su-25 attack aircraft were also use of precision-guided munitions. Unlike the Bayraktar-TB2 drone strikes, these inflicted heavy casualities on troops hiding in fortified areas[26], again demonstrating that UAVs cannot replace manned aircraft.

Azerbaijani Armed Forces had an integrated intelligence-gathering capacity allowing them to plan precision strikes on Armenian targets. Azerbaijan employed various types of intelligence-gathering technology, such as surveillance UAVs and data from satellites, alongside espionage and infiltration by special forces. By contrast, Armenian Forces failed to use technology for intelligence-gathering.

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[23] Pukhov, R. et al. (2021): Storm in the Caucasus. Moscow: Center for Analysis of Strategies and Technologies, 63–73.
[24] Anonymous sources of author.
[25] Trevithick, J. (2020b, November 9): Video Indicates Armenia Has Fired Its Russian-Made Iskander Ballistic Missiles At Azerbaijan. The Drive. https://www.thedrive.com/the-war-zone/37518/video-indicates-armenia-has-fired-its-russian-made-iskander-ballistic-missiles-at-azerbaijan.
[26] https://twitter.com/clashreport/status/1612362064927903744.

The trend of integrating intelligence-gathering technology and using the information to enable precision-guided strikes increased in the 2022 Russo-Ukrainian war. Russia fired more than 3700 missiles at targets in Ukraine[27], while the Ukrainian Armed Forces responded using incidental strikes with Tochka-U missiles in the first four months of hostilities. Ukrainian forces were, however, able to deploy HIMARS MLRS after July 2022. These launch systems use six guided multiple launch rocket system (GMRLS) missiles and Excalibur 155-mm artillery shells in precision strikes.

In the first few months, Russia sought to attack and degrade Ukrainian defence infrastructure using long-range guided missiles. While Russia used hundreds of missiles, Ukrainian airbases or aircraft were not severely damaged, partly due to the poor quality of missiles. Another component limiting Russia's success was moreover the lack of information on the location and movement of Ukrainian aircraft limited their success.

Over the first six months of the conflict, Russian claimed substantial number of aircraft destruction, but figures mentioned were highly inflated. Only five Russian satellites – the Persona and Resurs-P class ones – are comparable, optically, with Western civilian satellites.

Another trend of modern warfare in Russo-Ukrainian war is the use of operational-level guided munitions. Russian Forces had a limited number of tactical class airborne guided weapons. According to official Ukrainian Ministry of Defence data[28], Russia fired only 638 airborne missiles. In recent months, Russian Forces have altered their strategy, directing missile attacks against power plants and energy infrastructure. Dwindling stocks mean it will be impossible for Russian Forces to target and degrade the entire energy infrastructure in Ukraine.

The Ukrainian Armed Forces, in contrast, often rely on tactical-level guided munitions. The effectiveness of Ukrainian strikes stems from capacity to convey actionable information to troops. The Starlink satellite and communication with and intelligence from Western partners have ensured success in that sense, allowing Ukrainian Forces to have shorter OODA (observe–orient–decide–act) loops[29] and outmatch Russian troops. However, the lack of longer-range guided munitions constrains the Ukrainian capacity to target Russian troops and military hardware stationed far behind the frontlines.

The analysis highlights that access to precision-guided munitions alone does not necessarily lead to battlefield successes: the capacity to find targets and communicate actionable data to frontline troops is as essential.

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[27] Official infographic from Ukrainian minister of defence, https://twitter.com/oleksiireznikov/status/1611449870040109058.
[28] Official infographic from Ukrainian minister of defence, https://twitter.com/oleksiireznikov/status/1611449870040109058.
[29] Boyd, J. R. (2018). Appendix: The OODA Loop. In G. T. Hammond (Ed.): A Discourse on Winning and Losing (pp. 383–386). Air University Press. http://www.jstor.org/stable/resrep19552.13.

Conclusions

Based on the analysis above, several important conclusions can be drawn. Firstly, large MALE-class attack UAVs are not yet able to fully replace manned aircraft. Bayraktar-TB2 drone usage in the Second Karabakh created an image of huge effectiveness of the weapon, while the success was enabled by the failure of Armenian Air Defence and in Bayraktar-TB2 drones were not as effective. UAVs are effective in gathering intelligence or as attack instruments if an enemy has limited air defence capabilities. Second, light loitering munitions are very effective even in complex air defence environments. There are no practical means to counter them. Both interstate wars highlight the effectiveness of loitering munitions against most targets, except tanks and fortified positions. Also, upgraded civilian-class multi-copters are an important feature of the war in Ukraine, and further research is needed into this trend.

As for the tanks, the detailed analysis shows that many tanks were slightly damaged, rather than destroyed in both wars. Heavily armored vehicles remain central to offensive operations. Same applies to the importance of artillery. It remains one of the cornerstones of modern warfare. New trends associated with artillery stem not from the integration of software (an analogue called Advanced Field Artillery Tactical Data System[30]) but the accessibility of this technology. Software like Krapiva will soon be available in many countries.

Another conclusion is that modern command and control, automation, and integration tools for barrel and rocket artillery improve the accuracy of older systems and reduce the volume of attacks with unguided munitions. Moreover, using integrated artillery systems allows the deployment of dispersed gun batteries. Situating artillery in this way reduces the impact of counter-battery fire and enemy intelligence in general. Meanwhile, acquiring and using precision-guided munitions effectively requires access to real-time quality intelligence.

Also, few novel air warfare trends associated with manned aircraft are in evidence in either conflict. Yet, both wars demonstrate the importance of adequate air defence. The Karabakh conflict indicates that failures in air defence can alter battlefield dynamics. The war in Ukraine shows the importance of finding effective ways to defend against light-loitering munitions and drones: a solution to this problem may lie in digitalized and automated air defence artillery systems.

From all the information presented above, it can be concluded that none of the wars can be characterized as "new generation warfare", as according to most of such theoretical classification such warfare should be conducted in non-contact way.

At the same time, both wars are showing some new warfare trends and novelties. The only episode which with some idealization can be called "Future War" concept element was the Azerbaijani SEAD operation during first days of Second Karabakh war.

[30] Official datasheet Advanced Field Artillery Tactical Data System (AFATDS) 7.0 https://www.leidos.com/sites/g/files/zoouby166/files/2021-10/AFATDS-Fact-Sheet-Digital-2021.pdf.

13

UNDERSTANDING THE RUSSIAN 'WAY OF WAR'? WESTERN ESTIMATES OF RUSSIAN MILITARY POWER AND THE WAR IN UKRAINE

Bettina Renz

The presentation by Bettina Renz in the Russia Seminar 2023 can be found on the FNDU YouTube-channel: https://www.youtube.com/watch?v=iI-1U5kKwd8 starting from 7:36:00.

Abstract

Western intelligence accurately predicted Russia's invasion of Ukraine on 24th February 2022. An area where expectations turned out to be less exact was the performance of Russian troops in the weeks and months that followed. Many in the West had expected Kyiv to fall within days and the war to end after a few weeks, based on the assumption of strong Russian military capabilities that far outmatched the Ukrainian armed forces in terms of quantity and quality.

Instead, the world witnessed blunder after blunder as poorly organised and equipped Russian troops attempted an ill-fated push towards Kyiv, incurring high losses of kit and personnel on the way. As the former NATO secretary-general, Anders Fogh Rasmussen, admitted in June 2022, 'We have overestimated the strength of the Russian military'. Questions were asked why the West got this so wrong: 'some may wonder if this is really the same Russian military that had been feared around the world for decades?' (RAND Corporation, 2022). 'When it comes to functional military power, is Russia a paper tiger?' (The National Interest, 2022).

Attempting to explain the failure to predict the abysmal performance of Russian troops, fingers were pointed at Western analysts with expertise in the subject. As the military historian Phillips O'Brien put it, this 'is embarrassing for a Western think-tank and military community…For years, Western "experts" prattled on about the Russian military's expensive, high-tech "modernization" […] Basically, many people had relied on the glamour of war, a sort of war pornography, to predict the outcome of Russia's invasion of its neighbour' (The Atlantic, 2022). In his view, and that of other critics, the major reason for the overestimation of Russian military capabilities had been analysts' preoccupation with numbers and technology: 'basic metrics…counting tanks and planes and rhapsodizing on their technical specifications'. This preoccupation, in these critics' view, came at the expense of studying other material and non-material factors required for using this equipment effectively: logistics, manpower problems, lack of experience in fighting complex combined-arms operations, command and control, motivation, corruption, and poor intelligence. In addition, Ukrainian capabilities had been underestimated.

It is beyond doubt that Russian military failures in Ukraine came as a surprise to many in the West and this had potentially grave consequences. If it is correct, as US Senator Angus King noted, that the United States (and maybe other Western governments)

would have delivered military assistance to Kyiv sooner and in larger volumes if a more accurate picture of the situation had been available, overestimates came at a devastating cost for Ukraine (The New York Times, 2022). Moreover, faulty estimates of Russian fighting power raise questions about potential inadequacies in the assessment of other states' capabilities, particularly China.

The desirability of more accurate future analysis is clear and, reportedly, efforts to revise approaches to the study of foreign armed forces are already underway (Politico, 2022). Clearly, there are lessons to be identified but, as the military analyst Christopher Dougherty noted, 'the relevant question now is, what lessons?' (War on the Rocks, 2022).

The paper will engage in an in-depth discussion of the possible reasons for why many Western analysts overestimated Russian military power, arguing that they are far more complex than Western experts' obsession with counting tanks. Distorting effects of prevailing Western narratives about Russia since the Cold War and problematic assumptions about 21st century warfighting contributed to inflated expectations about Russian performance in Ukraine.

However, chance and contingency have made predictions about the outcome of wars historically difficult. As such, adjustments to how the Russian military is studied can contribute to more realistic future assessments. At the same time, we need to be realistic about the extent to which accurate predictions of Russian performance in Ukraine were possible.

14

RUSSIAN OPERATION AGAINST MARITIME COMMUNICATION: MAIN CONCLUSIONS AND LESSONS FROM THE EXPERIENCE OF PROTECTING THE ECONOMIC ACTIVITIES OF THE STATE AT SEA IN THE CONDITIONS OF THE RUSSIAN-UKRAINIAN WAR

Yevhenii Vdovytskyi

The presentation Yevhenii Vdovytskyi in the Russia Seminar 2023 can be found on the FNDU YouTube-channel: https://www.youtube.com/watch?v=dAOcP2Io3Vc starting from 2:56:30.

Abstract

The economic activity of Ukraine at sea plays an extremely important role in the economy of Ukraine, and it is not for nothing that the enemy has been trying to exert a negative influence on its conduct since 2014. From February 2022, the Russian Federation began to take measures to prohibit Ukraine from conducting economic activities at sea under conditions of large-scale aggression. At the same time, the Naval Forces of Ukraine, deployed to fight the enemy in the Black Sea operational zone, provide the task of protecting the economic interests of Ukraine, primarily with regard to the restoration of port activities and ensuring the safety of strategic export shipments of grain by sea to foreign ports.

This presentation examines the actions of the Russian Federation regarding the obstruction of Ukraine's economic activity at sea, the main conclusions and lessons from the experience of protecting the economic activity of the state at sea.

Analysis of factors that may affect on the effectiveness of use the Navy duties during the protection of the economic activities of the state at sea in the context of hybrid enemy actions. Maritime trade disrupted the war in Ukraine and its effects on maritime trade logistics. The importance of Ukraine and the Russian Federation for global agricultural markets and the risks associated with the war in Ukraine.

15

RUSSIAN STRATEGY AND OPERATIONAL ART IN THE WAR AGAINST UKRAINE AT SEA: LESSONS LEARNED, TRENDS AND PROSPECTS

Stepan Yakymiak

The presentation by Stepan Yakymiak in the Russia Seminar 2023 can be found on the FNDU YouTube-channel: https://www.youtube.com/watch?v=dAOcP2Io3Vc starting from 3:30:30.

Abstract

The purpose of the presentation is to determine the changes and directions of development of the Russian strategy and operational art in the war at sea from the analysis of actions against Ukraine. The presentation analyzed the main provisions of Russia's naval strategy before the invasion of Ukraine on February 24, 2022 and its implementation in hybrid actions against Ukraine in 2014-2022.

Rapidly developing naval capabilities in the Black Sea and introducing the concept of "force coercion", Russia in 2014-2022 implemented a "strategy of limited actions" at sea or so-called "hybrid actions". Having moved to full-scale military actions, the Russian Federation tried to use classical approaches and introduce the concept of comprehensive command at sea. However, it did not consider certain objectively existing conditions and the real operational situation at sea.

In the presentation are shown the results of analysis of Russian matitime task force operations at sea, obtained using the constructed retrospective model of its actions, and defines the tasks and general goals of the naval forces employment. From the analysis of the results of military actions at sea, tactical, operational and strategic consequences were determined, which influenced further actions and led to changes in the concepts of strategic and operational employment of Russian forces at sea.

Considering the identified trends and forecasting results, the presentation proposed a future model of the employment of Russian forces at sea in the war in Ukraine and in the case of its aggressive actions in other seas, in particular actions from sea directions against Finland in the Barents and Baltic seas.

The questions studied:

The main provisions of the naval strategy and operational art of the Russian Federation on the before the invasion of Ukraine and conclusions regarding their direction.

The prerequisites for a full-scale invasion of the Russian Federation in Ukraine and the conduct of military operations at sea, their impact on the further course of action.

The conduct of military operations by the Russian Federation at sea: determination of the strategic goal, tasks and methods of their implementation based on the analysis of the retrospective model of actions.

Stages of actions at sea, the main losses of the Russian Federation at sea and determination of tactical, operational and strategic consequences from the results of actions at sea.

The main conclusions and lessons from the experience of conducting military operations at sea, determining the trends of changes and prospects for the development of naval strategy and operational art of the Russian Federation in operations at sea.

Recommendations based on the military operations of the Russian Federation against Ukraine at sea in order to improve the defense of foreign countries from sea directions.

16

THE BLACK SEA AND BEYOND; AN INITIAL ASSESSMENT OF RUSSIAN NAVAL STRATEGY AND OPERATIONS IN THE WAR AGAINST UKRAINE[1]

Stephen Blank

The presentation Stephen Blank in the Russia Seminar 2023 can be found on the FNDU YouTube-channel: https://www.youtube.com/watch?v=dAOcP2Io3Vc starting from 3:59:00.

Introduction

A discernible Western tendency exists that downgrades the role of navies in contemporary warfare.[2] Supposedly navies play a secondary or even tertiary role relative to land and air forces in bringing about decisive victory.[3] Nevertheless maritime threats and employment of navies to accomplish strategic missions and realize comparable objectives is increasing.[4] Russia's naval operations in its aggression against Ukraine exposes this conundrum. Russia's naval activities since seizing Crimea in 2014 highlight the critical importance of the Black Sea for Russia as a maritime defense of the realm, a function that includes deterrence of NATO and that implies a deterrence and sea denial strategy. Yet simultaneously it represents a gateway to power projection into the Mediterranean and beyond that is essential not just to Russia's ambition to present itself as a global power but also to its security because power projection in Russian practice constitutes an element of deterrence of the U.S. and NATO. Indeed, the core military rationale for Russia's power projection into the Mediterranean is to protect the Black Sea and deter NATO from entering into it, constituting an explicit linkage of power projection to global deterrence.[5] Therefore, a little-understood subtext of this war is that it is a vital battle for determination of the Black Sea and with it, Moscow's ability to project global power of all kinds, not just military power. Thus, the Black Sea has been a significant theater of operation in the war against Ukraine, though not, as we shall show, the only theater of maritime importance to this war. And its significance goes far beyond those two states.

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[1] In this footnote "this publication" refers to this article:

This publication was funded by the Russia Strategic Initiative, U.S. European Command. The views expressed in this publication do not necessarily represent the views of the Department of Defense or the United States government.

[2] Emma Bjoernhed, "What Is the Value of Naval Forces? Ideas As a Strategic and Tactical Restriction," Defence Studies XXII, No. 1, 2021, pp. 1–15.

[3] *Ibid.*

[4] Jeremy Bachelier and Elie Tennenbaum: "The Return Of Naval Combat: A New Challenge For Western Navies," https://www.ifri.org/fr/publications/editoriaux-de-lifri/retour-combatnaval-unnouveau-defi-marines-occidentales, Editorials From Ifri, January 9, 2023.

[5] Stephen Blank, Gunboat Diplomacy a la Russe: Russia's Naval Base In Sudan and Its Implications," https://www.tandfonline.com/doi/full/10.1080/14751798.2022.2122204, Defense & Security Analysis, XXXVIII, No. 3, 2022, pp. 1–21.

Nevertheless, Russia's naval operations receive much less scrutiny than do terrestrial or aerial operations even though their importance is global as shown by the worldwide grain crisis that has emerged due to the war. And is it possible that one reason for Russia's strategic failures to date owe something to its inability to maximize its naval potential or utilize it effectively? If that is the case, that finding would then refute other assessments that argue that that, "regardless of the legitimacy of the Russian aggression, the legality of the maritime operations, and clear movement toward war crimes, through the lens of naval strategy and in dramatic comparison to the failures of the Russian army, the Russian navy did its job effectively."[6]

While this neglect may be understandable because the main combat action has been on the land; this neglect limits our ability to understand Russia's overall strategy and operations against Ukraine and its overall naval strategy not just its naval strategy in this war. Indeed, as discussed below, it is quite unlikely that Russia's navy possesses a strategy of its own other than as a participant in the military. Therefore, naval operations are a key Russia's overall strategy. This neglect of naval operations also obscures the significance of naval actions in this war and limits our ability to grasp the nuclear and power projection elements of Russian strategy.

For these reasons this essay aims to begin to redress that balance by assessing Russian naval operations in this war. This assessment may contribute to observers' and even participants' insights concerning this epochal war and Moscow's overall naval strategy. To be sure, this is not an analysis of Russian strategy in its naval domain but rather an analysis of naval operations in this war that nonetheless reveals much about Russian general strategy. It begins by examining Russia's pre-war maritime operations and initial operational plan and then proceeds to analyze maritime operations during the war. Since the virtually universal opinion is one of Moscow's overall strategic and operational incompetence in this war, we hope thereby to show to what degree that incompetence afflicts the Navy. But beyond that we also hope to shed some light on Russian strategy in general.

We expressly avoid the term naval strategy because Russia's naval and nuclear naval operations leading up to and during this war must be seen as component parts of the larger mosaic of overall Russian strategy. If we examine the totality of naval operations relating to the runup and actual combat operations to this war we will see that the naval dimension of this war went far beyond the Black Sea and its eponymously named fleet. This fact reflects both the global scope of Russian strategic planning relating to the navy and its operational subordination to a Russian concept of jointery and joint operations.[7] As Andrew Monaghan has observed, the idea of a separate service strategy, especially one for the Navy, flies in the face of Russian thinking and practice. Monaghan argues, correctly, in our view, that the Russian Navy cannot and does not have a service strategy independent of from that of the rest of the armed forces, let along the state.[8] Therefore the navy's successes and failures in this war reflect upon Moscow's larger, overall strategy as well as upon itself.

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[6] B.J. Armstrong, "The Russo-Ukrainian War At Sea, Retrospect and Prospect," https://warontherocks.com/2022/04/the-russo-ukrainian-war-at-sea-retrospect-and-prospect/, April 21, 2022.
[7] Mykhaylo Zabrodskyi, Jack Watline, Oleksanr' V. Danylyuk, and Nick Reynolds, "Preliminary Lessons In Conventional Warfighting From Russia's Invasion of Ukraine: February-July, 2022," www.rusi.org, 2022.
[8] Andrew Monaghan, "How Moscow Understands War and Military Strategy," CNA Paper, Center for Naval Analysis, www.cna.org, 2020, p. 7.

Moscow's Initial Strategic Plan and Operations

Russia originally envisioned a short, triumphant war with Russian forces virtually simultaneously collapsing all of Ukraine's major cities, including those on the Black Sea coast.[9] It also apparently planned for joint army-navy operations against Ukraine's coastal cities. Prewar planning assigned the navy three tasks that are classical naval missions, particularly insupport of ground and air forces: blockade of the Black Sea, including Ukrainian ports to isolate the theater, conducting amphibious landings in advance of ground forces advancing along the Kherson-Mykolaiv-Odessa axis to seize the entire coastline, open up lines of advance for regular ground forces, and shut down Ukraine's navy and maritime trade, and lastly, providing a platform for missile strikes upon the entire Ukrainian theater across its depth, using Kalibr' cruise missiles.[10] A fourth but implicit mission for the Black Sea Fleet is that through its activities it would also deter Western intervention, presumably by virtue of the speed of its successful operations and its diverse capabilities in the Black Sea.

Thus, the combat missions assigned to the Black Sea Fleet comprised blockade, preparation and execution of amphibious landings in tandem with ground forces, SODCIT operations ("strategic operation to destroy critically important targets."), and together with air, air defense, and ground-based missiles, deterrence of foreign intervention. All of these Russian operations were to be expected and they conform to classic naval doctrine. These missions also reflect Russia's presumption that, owing to its enormous supposed superiority to Ukraine's navy that it could control the course of operations in the Black Sea. Thus, by the combination of its allegedly superior naval and air power it could deny Ukraine and air power the option of bringing its inferior air and/or naval power to bear to prevent the unhampered movement of Russian naval and other forces who could then project power throughout the entire Ukrainian theater.[11] Consequently Russia sought to use its expectation of sea control to gain unhampered command of the sea while Ukraine's strategy, of necessity, had to be one of sea denial at least of that unhampered command of the sea if not Russia's actual control of the sea.[12]

In support of these missions Moscow undertook a substantial buildup of land and sea forces in and around the Black Sea throughout 2021.[13] This build-up also included an equally demonstrative augmentation of Russia's amphibious forces in that area.[14] Yet it neglected the need for a coordinated command structure to oversee and synchron-

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[9] Sinead Baker, "Ukraine Said Russian Troops Brought Parade Uniforms To Kyiv, Expecting a Quick Triumph That Never Came," https://www.businessinsider.com/ukraine-saidfoundrussian- parade-uniforms-left-behind-in-kyiv-2022-4, April 7, 2022.

[10] "Preliminary Lessons In Conventional Warfighting From Russia's Invasion of Ukraine: February-July, 2022," p. 10; www.rusi.org, 2022.

[11] Lukas Milevski, "Fortissimus Inter Pares: The Utility Of Landpower In Grand Strategy," *Parameters*, XLII, N O. 2, July, 2012, p. 8.

[12] Niklas Granholm, Linus Fast, Staffan Lundin, "The War At Sea: Naval an Maritime Operational and Strategic Aspects of Russia's War Against Ukraine," Jenny Lunden et al, Eds., *Another Rude Awakening: Making Sense Of Russia's War Against Ukraine,* Stockholm, www.foi.se, 2022, p. 39.

[13] Sergey Sukhankin, "The Expanding Military Capabilities Of Russia's Area Denial Zone In the Black Sea," *Eurasia Daily Monitor*, www.jamestown.org, April 27, 2021.

[14] Tim Ripley and Bruce Jones, "Update: Russia Amasses Amphibious Forces in Black Sea," https://www.janes.com/defence-news/news-detail/update-russia-amasses-amphibious-forcesinblack-sea, April 20, 2021; David Axe, "Russia Has Rehearsed An Amphibious Invasion Of Ukraine. But that's the Least Of Kiev's Problems," www.forbes.com, January 18, 2022.

ize these operations. As Aleksandr' Golts recently revealed, the command structure needed to execute those tasks was nowhere to be found. And this failure represents a major cause of Russia's failures through the first 11 months of the war.

> *"At first, a joint command was not even created (at least nothing was officially reported about it). Based on official information, the command of each of the four military districts led the fighting in the first months of the conflict. Each of the generals commanded units from "his" district. The air force and navy were subordinate to their own command. That is seemingly what motivated the creation of a hitherto unknown body: the Joint Headquarters of the Armed Forces Engaged in the SVO, the existence of which became known from press reports after Putin visited it. The very emergence of a "joint headquarters" spoke to the fact that a "joint operation" – with a command system and including combat units from the ground forces, navy and air force – had never been realized. It follows that the units and formations of various branches of the armed forces had their own management, support, supply and communications systems. The headquarters was created to coordinate them. Naturally, such coordination takes time."*[15]

Meanwhile, the ongoing shelling of Odessa and other coastal cities also literally adheres to Russia's naval doctrine. To conduct its deterrence and other combat missions the navy needs to carry out or at least threaten SODCIT missions to destroy the enemy's economy and infrastructure.[16] This mission is a critical requirement for the Navy and its strike platforms. As the 2017 Maritime Doctrine that was still the latest iteration of strategy for the navy then, stated,

> *"The Navy is one of the most effective instruments of strategic (nuclear and non-nuclear) deterrence, including preventing 'global strike.' This is due to the Navy possessing strategic nuclear and conventional naval forces and the ability to implement its combat potential in virtually any area of the World Ocean; ability to deploy naval expeditionary groups in a short period of time into the areas of conflict and remain in these areas for an extended period of time without violating the sovereignty of other states; as well as a high level of readiness for actions, including strikes on critically important enemy targets. With the development of high-precision weapons, the Navy faces a qualitatively new objective: destruction of enemy's military and economic potential by striking its vital facilities from the sea."*[17]

Reflecting those taskings during the initial period of the war Russia carried out an amphibious operation against Ukrainian forces on the Azov and Black Sea coasts, launched naval artillery attacks against Ukrainian territory such as Snake Island, deployed Black Sea ships to blockade the Sea of Azov and Ukrainian ports, chiefly

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[15] Alexander Golts, "What Is Behind the Reshuffle In the Command Of the 'Special Military Operation?' https://russiapost.info/politics/reshuffle?fbclid=IwAR1gq8F90vHP2qzaaFAh72d2QXy079VPN3jSyLpDrhLdmEK0auqVr7ZAfVM, January 24, 2023.

[16] SODCIT is a "strategic operation to destroy critically important targets." See Michael B. Petersen, Strategic Deterrence, Critical Infrastructure, and the Aspiration-Modernization Gap in the Russian Navy," Jeffrey Mankoff, Ed., *Improvisation and Adaptability in the Russian Military,* Washington, D.C.: Center for Strategic and International Studies, 2020, pp. 30–37.

[17] *Fundamentals Of the State Policy Of the Russian Federation In the Field Of Naval Activities For the Period Until 2030,* https://dnnlgwick.blob.core.windows.net/portals/0/NWCDepartments/Russia%20Maritime%20Studies%20Institute/RMSI_RusNavyFundamentalsENG_FINAL%20(1).pdf?sr=b&si=DNNFileManagerPolicy&sig=fjFDEgWhpd1ING%2FnmGQXqaH5%2FDEujDU76EnksAB%2B1A0%3D.

Odessa, to strangle it economically and throttle Ukraine's foreign commerce, and deter any potential NATO intervention there. Russian ships also shelled Odessa and other targets throughout Ukraine's Black Sea coast and, preceding the war, deployed six amphibious landing ships to the Black Sea to threaten an amphibious attack on Odessa.[18] As part of that blockade Russia also deployed many floating mines that have diffused through the Black Sea, making foreign access even more problematic, while Ukraine countered the threat of amphibious landings by extensively mining Odessa.[19]

Russian ships also launched dual-capable Kalibr' cruise missiles in the initial bombardment on February 24, raising the possibility of nuclear or conventional missile strikes against Western ships seeking to enter and operate in the Black Sea.[20] Subsequently Moscow also stepped up its naval-based strikes on Ukraine by employing submarine-launched missile strikes on Odessa; also apparently using Kalibr' missiles.[21] Thus, here again we see this implicit fourth mission of deterrence against the West to forestall any possible intervention through the Black Sea. In launching dual-capable missiles the navy may have been signaling the West about Moscow's capability to deter NATO ships from entering the Black Sea. This hint of nuclear capability is only one of many instances in this war where Russian operations have an implicit, i. e. unsaid, nuclear dimension.

At the same time, the blockade also exemplifies the importance of pre-war exercises in the period preparatory to war delineated in Russian military doctrine. Russia, exploiting its superiority in the Black Sea, blockaded Ukraine's ports to choke off its exports and block imports before hostilities began, thereby attempting to starve it into submission. This blockade, apparently accompanied by cases of Russian piracy, and using civilian ships acquired from Turkey, represents, according to Ukraine if not other observers, an attack on the principle of free navigation or freedom of the seas.[22] The use of these civilian ships for purposes of blockade also evokes similar patterns displayed in Russian operations in Libya and Syria.[23] Moreover, the blockade actually began on February 10, two weeks before hostilities began, providing another example of the illegality of the entire war.[24] Thus the blockade underscores the propensity for

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[18] "Ukraine's Strategic Port City Odessa Faces Shelling, Mounts Resistance," https://www.wbur.org/hereandnow/2022/02/28/odessa-ukraine, February 28, 2022; "Ukraine crisis: six Russian amphibious landing ships headed to Black Sea for drills," https://www.scmp.com/news/world/russia-central-asia/article/3166350/ukraine-crisis-sixrussianamphibious-landing-ships, February 9, 2022; John Paul Rathbone and Ben Hall, "Kyiv Weighs Options On How To Break Moscow's Blockade of the Black Sea," www.ft.com, May 21-22, 2022.

[19] Isabelle Khurushudyan,," Ukraine's Venerable Odessa Readies For Russia's Brutal Push Up the Black Sea Coast," https://www.washingtonpost.com/world/2022/03/04/ukrainerussiaodessa-black-sea/, March 4, 2022.

[20] Thomas Nedwick, "These Are the Standoff Missiles Russia Used To open Its War Against Ukraine," https://www.thedrive.com/the-war-zone/44443/these-are-the-standoff-missilesrussiaused-to-open-its-war-against-ukraine, February 24, 2022.

[21] Tim Stickings, "Russia Admits Firing Submarine-Launched Missiles at Ukraine," https://www.thenationalnews.com/world/europe/2022/04/29/russia-admitsfiringsubmarinelaunched-missiles-at-ukraine/, April 29, 2022.

[22] "Zelensky: Russian Mines Have Already Been Detected in Bosphorous, Near Bulgaria–Romania Border," https://ukrainetoday.org/2022/03/30/zelensky-russian-mines-havealreadybeen-detected-in-bosphorus-near-bulgaria-romania-border/, March 30, 2022

[23] Yoruk Isik, "Russia Is Violating the Spirit Of Montreux /By Using Civilian Ships For War," https://www.mei.edu/publications/russia-violating-spirit-montreux-using-civilian-ships-war, May 18, 2022

[24] Armstrong; AMY MCKINNON, "Russian Black Sea Exercises Raise Specter of Naval Blockade," https://foreignpolicy.com/2022/02/10/russia-ukraine-naval-black-sea-exercisesmilitary-threat-invasion/, February 10, 2022

Russian operations to grow out of exercises and testifies to the ambition of the Russian authorities to have the entire security system perform constantly at a high degree of continuous mobility in order to win decisively in the initial phase of war by moves that, being outgrowths of exercises, carry an inherently escalatory charge.[25] At the same time, of course, the blockade reinforces the utter illegality of this entire operation.

So, as we have suggested above, pre-war strategic planning and the initial operations also contain implicit nuclear dimensions. First, the more we look at these prewar exercises and operations the more we realize that the latter grow out of preceding exercises and second, that, as suggested by the use of dual-capable platforms, they are inextricably connected to Moscow's nuclear strategy and constant presupposition that it actually is at war with NATO. Second, we see here again that Russia's nuclear potential enables it to start conventional wars on its periphery and challenge NATO's arguably vital interests, secure in the belief that nuclear weapons, as intended, will deter and inhibit any cohesive military response. Thus, Moscow's ideas and ensuing policies to use nuclear weapons deter conventional attacks as well as nuclear ones; an idea that is anathema to Western arms control and disarmament advocates, has once again proven to be much more grounded in the reality of war and politics than the idea that nuclear weapons can only deter other nuclear weapons. This latter idea, repeatedly contradicted by facts and the insights of other governments who do not think the way these acolytes of arms control do, must be put to rest if we are to understand this war, Russian policy, and strategy.

But the nuclear dimensions and implications of Moscow's pre-war exercises and initial operations do not end here. In fact, the naval exercises and operations discussed below reveal the extent of the threat posed by Russia to the West as a whole and the linkage of Russian conventional operations to Russian nuclear strategy. They also reveal that Russia's power projection strategy into the Black, Mediterranean, and other seas, as well as the Arctic and North Atlantic are also the flip side of its deterrence strategy. Those operations, like the war, openly threaten European security from the Arctic to the Mediterranean, including the Black Sea, as well as Canada and the U.S. and prominently include nuclear threats. Moreover, the staging of these particular exercises as part of the path to war suggests Russia's ongoing apprehensions concerning potential Western intervention, anxieties that contradict the widespread idea that Putin assumed a priori that the West was too weak and decadent to react. Clearly leading military planners believed they had to make implicit if not explicit threats through these naval deployments and exercises to deter the West.

The nuclear threats to Europe if not the U.S. displayed in these exercises and operations validates The Economist's insight that this is a war of escalation, i.e., whatever the world does and says about it, Russian President Vladimir Putin threatens to act more violently – including nuclear threats.[26] Putin's continuing strategy includes repeated escalatory nuclear threats to wrest victory from the jaws of stalemate or even

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[25] Nicolo Fasola, "Principles Of Russian Military Thought," Institute of International Relations, Prague, 2017, https://www.tepsa.eu/principles-of-russian-military-thought-nicolo-fasolaiirprague/.
[26] "A War Of Escalation," https://www.economist.com/films/2022/03/07/a-war-of-escalation, March 7, 2022.

defeat and override his ongoing crimes and military mismanagement.[27] Even after Putin said Russia would not use nuclear weapons nuclear threats and deployments with the potential to threaten the West continue unabated.[28] This behavior fully comports with the more general purposes of escalation and nuclear threats in Russia's overall nuclear strategy, and with the larger purposes of Russia's general nuclear strategy to secure escalation dominance throughout all stages of a crisis, including not only threats but also actual use of nuclear weapons in a first-strike mode.[29]

Writing about the war in Ukraine and Russian nuclear strategy, Heather Williams of the Center for Strategic and International Studies in Washington, observes that, "But the invasion of Ukraine is escalation of a different sort — it is intentional escalation. Russia's strategic doctrine is made up of offensive and defensive components, to include intimidation and imposing costs in an effort to manage escalation. While often misrepresented as "escalate to de-escalate," Russia's approach to strategic deterrence ultimately is about intentional risk manipulation."[30]

That is certainly the case in regard to this war. This propensity to escalate and intimidate was already clear from pre-war exercises and Putin's February, 2022 speeches.[31] These speeches also threatened nuclear strikes against NATO, making clear that Russia is prepared to use nuclear weapons in a warfighting and first-strike mold.[32] And these naval exercises placed Russian naval forces in a position to carry out these threats. In his speech announcing the war on February 23, Putin said "Anyone who tries to interfere with us, or even more so, to create threats for our country and our people, must know that Russia's response will be immediate and will lead you to such consequences as you have never before experienced in your history."[33] Then on February 27, Putin claimed he was raising the alert status of Russian nuclear weapons because of Western aggressive statements and unfriendly economic actions.[34] Specifically, Putin stated, "Senior officials of the leading NATO countries also allow aggressive statements against our Russian armed forces] to transfer the deterrence forces of the Russian army to a special mode of combat duty, --- Western countries aren't only

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[27] David E. Sanger, Eric Schmitt, Helene Cooper, and Julian E. Barnes, "U.S. Makes Contingency Plans in Case Russia Uses Its Most Powerful Weapons," https://www.nytimes.com/2022/03/23/us/politics/biden-russia-nuclear-weapons.html, March 23, 2022.
[28] "Medvedev Warns Of Nuclear Strike If Russia Is Defeated In Ukraine", https://www.msn.com/en-us/news/world/medvedev-warns-of-nuclear-war-if-russia-defeatedinukraine/ar-AA16w67H, January 19, 2023.
[29] Nikolai N. Sokov, "Russian Military Doctrine Calls a Limited Nuclear Strike "De-escalation."Here's Why," https://thebulletin.org/2022/03/russian-military-doctrine-calls-a-limitednuclearstrike-de-escalation-heres-why/, March 8, 2022; Michael Kofman, "Russian Strategy for Escalation Management: Key Concepts, Debates, and Players in Military Thought, " https://russianmilitaryanalysis.wordpress.com/2020/04/20/russian-strategy-for-escalationmanagement-keyconcepts-debates-and-players-in-military-thought/, April 20, 2020.
[30] Heather Williams, "What We Got Wrong About Nuclear Risk Reduction," https://thehill.com/opinion/national-security/3497843-what-we-got-wrong-about-nuclearriskreduction/, May 23, 2022.
[31] "Word by Word and Between the Lines: A Close Look at Putin's Speech," https://www.nytimes.com/2022/02/23/world/europe/putin-speech-russia-ukraine.html, February 23, 2022.
[32] Nikolai N. Sokov, "Russian Military Doctrine Calls a Limited Nuclear Strike "De-escalation."Here's Why," https://thebulletin.org/2022/03/russian-military-doctrine-calls-a-limitednuclearstrike-de-escalation-heres-why/.
[33] "Word by Word and Between the Lines: A Close Look at Putin's Speech," https://www.nytimes.com/2022/02/23/world/europe/putin-speech-russia-ukraine.html, February 23, 2022.
[34] David E. Sanger and William J. Broad, "Putin Declares a Nuclear Alert, and Biden Seeks Deescalation," https://www.nytimes.com/2022/02/27/us/politics/putin-nuclear-alertbidendeescalation.html, February 27, 2022.

taking unfriendly actions against our country in the economic sphere, but top officials from leading NATO members made aggressive statements regarding our country."[35]

Nobody is sure what this special combat regime meant. Yet there is scant evidence of any visible Russian changes to its nuclear posture.[36] Obviously Putin remains wary of provoking a Western military response. Meanwhile other Russian officials also made nuclear threats, e.g. if NATO does not guarantee an end to its expansion. Likewise, Moscow, in escalating its threats, also demanded that NATO withdraw from Romania and Bulgaria and that Finland and Sweden provide security guarantees to Russia as public support for joining NATO grows in those countries.[37] Further evidence of the risk of a nuclear dimension may also be found in the fact that this war was preceded by a huge nuclear exercise, operation Grom (Thunder) whose message was clearly intimidation of the West. Grom reveals Moscow's habitual reliance upon intimidation threats. In that exercise Moscow simulated nuclear strikes in the Arctic, Finland, Sweden, and Norway. Moscow has further deployed its Yars mobile ICBM that can attack both the U.S. and Europe, reportedly deployed some of its missile and attack submarines to sea. Finally, some reports claim Putin has even relocated to a secret nuclear bunker in Siberia.[38] Finally the trials for Russia's newest frigate that carries the Tsirkon missile will take plac e in the North Atlantic.[39]

Similarly, on the first day of operations Russian captured Chernobyl, a target of little or no strategic significance. That action also threatened a nuclear aspect to this war because Russian forces could now crack open the sarcophagus at the old nuclear reactor there and release the radiation captured there.[40] So too does the attack on nuclear reactors, e.g. at Zaporizhiye, that could trigger another nuclear catastrophe.[41] Finally, since the inception of the fighting Russia has continued making and deploying nuclear threats e.g. on February 27, 2022 when Putin invoked a special combat regime.[42]

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[35] Andrew Roth, Kate Connolly, and Jennifer Raskin, "Vladimir Putin Puts Russia's Nuclear Deterrence Forces On High Alert," https://sputniknews.com/russian-special-military-opinukraine/, February 27, 2022.
[36] Phil Stewart and Idrees Ali-Monday," No Russian 'Muscle Movements' After Putin's Nuclear Readiness Alert, U.S. Says," https://www.msn.com/en-us/news/world/no-russianmusclemovements-after-putins-nuclear-readiness-alert-us-says/ar-AAUqCjc, March 1, 2022.
[37] "Russia Threatens To Deploy Tactical Nuclear Weapons," VOA News, December 14, 2021, Tzvi Joffre, "Russian FM Repeats Nuclear War Rhetoric As Invasion Of Ukraine Continues," Jerusalem Post, March 3, 2022, www.jpost.com; "Get Out of Romania and Bulgaria, Russia Tells NATO Amid Ukraine Tensions," https://www.themoscowtimes.com/2022/01/21/getoutof-romania-and-bulgaria-russia-tells-nato-amid-ukraine-tensions-a76116, January 21, 2022.
[38] Peter V. Pry, "The Nuclear Crisis Nobody Knows," https://www.worldviewweekend.com/news/article/nuclear-crisis-nobody-knows, March 6, 2022.
[39] "Russia Navy Frigate Admiral Gorshkov Fires Zircon Hypersonic Missile In Atlantic," https://www.navyrecognition.com/index.php/naval-news/naval-newsarchive/2023/january/12748-russia-navy-frigate-admiral-gorshkov-fires-zirconhypersonicmissile-in-atlantic.html, January 25, 2023.
[40] Léonie Chao-Fong (now), Jennifer Rankin, Oliver Holmes and Samantha Lock, "Ukraine Crisis Latest News: Russian forces Capture Chernobyl Nuclear Plant Amid Invasion On Multiple Fronts." https://www.msn.com/en-gb/news/world/ukraine-crisis-latest-news-russianforcescapture-chernobyl-nuclear-plant-amid-invasion-on-multiple-fronts/ar-AAUetQS, February 24, 2022.
[41] JIM HEINTZ, YURAS KARMANAU, AND MSTYSLAV CHERNOV, AP, "Russian Forces Take Control of Europe's Biggest Nuclear Plant After Shelling It,", March 4, 2022, https://time.com/6154672/russian-troops-shell-zaporizhzhia-nuclearplant/.
[42] Henry Foy, Max Seddon, and Demetri Sevastapoulo, "Putin Ads To Western Anxiety With Nuclear Weapons Move ," Financial Times, March 1, 2022,," www.ft.com.

We should also understand that these threats, like the nuclear and missile deployments discussed below, are perfectly consonant with Russian doctrine and strategy even as they reflect what can only be called Putin's hysteria on Ukraine. Indeed, already in 2014, in the process of seizing Crimea, Putin mulled the possibility of calling a nuclear alert despite the absence of any threat.[43] So this instinct to invoke nuclear threats and his obsession about Ukraine are well established behavioral patterns. Today that idea of a Ukrainian threat to Russia that triggers Putin's newest efforts at intimidation is equally absurd but much more dangerous and congruent with Russian doctrine. As James Sherr of the ICDS in Tallinn, Estonia rightly observes, Putin's war against Ukraine represents a wager on the survival of his regime.[44] Therefore, and since Russia "reserves the right to use nuclear weapons when the very existence of the state is under threat" and, according to its leaders, Russia itself is allegedly now under threat both domestically and externally. Consequently, this operative condition for nuclear use has now come into play. And since Putin has explicitly stated that an independent, not to say, westward-leaning Ukraine represents an existential threat to Russia, the conditions for nuclear use became operative immediately upon the start of this war.[45] At the same time see here how Putin conjoins information operations, i.e. nuclear threats that seem credible but are actually insubstantial to instrumentalize fear of nuclear war to make others bow to its ambitions."[46] Such processes fully validate the insight of *The Economist* that Putin's modus operandi is escalation not cutting his losses.[47]

Although Russian doctrinal documents equate this kind of threat with the opponent's use of nuclear or conventional weapons, much emphasis in the 2014 defense doctrine is placed on the ideological contest of the "rivalry of value orientations"' as a "military danger"' (one notch below 'threat'), and also upon "the establishment of regimes [in contiguous states], whose policies threaten the interests of the Russian Federation'."[48] Putin could easily conclude due to his hysteria regarding Ukraine that the time for nuclear threats and use has arrived especially if Ukraine gains more victories. Here we should also note that the 2014 doctrine states that, "A characteristic feature' of military conflicts has therefore become: the integrated employment of military force and political, economic, informational or other non-military measures implemented with a wide use of the *protest potential of the population* and of special operations forces."[49] Inasmuch as Ukraine embodies that description of contemporary war the nuclear weapon immediately becomes for Russia an instrument worth considering.

Russia's naval and nuclear operations leading up to and during this war must be seen in this nuclear context as component parts of the larger mosaic of overall Russian strategy. Monaghan's insight above that the navy is an instrument of a larger national

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[43] "Russia Mulled Raising Nuclear Readiness Over Crimea, Says Putin,", https://www.france24.com/en/20150315-russia-putin-nuclear-readiness-crimea, March 15, 2015.
[44] James Sherr and Igor Gretsky, "Why Russia Went To War,: a Three-Dimensional Perspective," https://icds.ee/en/why-russia-went-to-war-a-three-dimensional-perspective/, January 30, 2023.
[45] Obrashchenie Prezidenta Rossiiskoi Federatsii, February 24, 2022; "Obrashchenie Prezidenta Rossiiskoi Federatsii, February 2News, 1, 2022; Communication from James Sherr, February 27, 2022.
[46] Gustav Gressel, "Signal and Noise: What Russia's Nuclear Threat Means For Europe," https://ecfr.eu/article/signal-and-noise-what-russias-nuclear-threat-means-for-europe/, March 2, 2022.
[47] The Horror Ahead," The Economist, Mar 3RD 2922, www.economist.com.
[48] *Voyennaya Doktrina Rossiiskoi Federatsii*, www.kremlin.ru, December 26, 2014.
[49] Communication from James Sherr, February 27, 2022.

strategy is also relevant here.[50] Bearing this in mind the following discussion of Russian naval and nuclear operations applies particularly strongly, though not exclusively, to the activities of the Northern Fleet, operating out of and in the Arctic immediately before the war.

First, in January 2022, the Northern Fleet, ostensibly conducting exercises, surged into the North Atlantic, specifically the Irish Sea, astride the main sea lines of communication (SLOC) between North America and Canada. In turn, this was part of a larger exercise,

> *"Involving 140 combat and supply ships from all four fleets, from the Pacific to the North Atlantic. Three of the Northern Fleet's amphibious assault ships that in mid-January were flexing muscles in the Baltic Sea and made Sweden increase military readiness, sending troops to the island of Gotland, are now sailing into the Mediterranean. Likely on their way to the Black Sea amid growing tensions and part of Russia's military buildup in the area."*[51]

Another assessment of these exercises commented that,

> *"A series of training maneuvers of the Northern Fleet in the Barents Sea began in January. During the exercises, the participating forces practiced maritime communications protection, including in crisis situations. A few days before the war, about 20 Russian ships entered the Barents Sea to search for foreign submarines and to establish control over navigation in this body as well as the airspace above. It is now possible to conclude that those activities were to prepare the ground for potential Russian nuclear ballistic missile submarine (SSBM) operations. During the attack on Ukraine, the Project 1144 cruiser Peter the Great notably remained in the Barents Sea to protect the Russian SSBMs in case NATO were to attempt to enter the conflict."*[52]

Then in February Russia issued the largest warning ever given for the Norwegian part of the Barents Sea for another exercise. This NOTAM (Notice to airmen of Russian missile activity in this zone) stretched about 1000 KM from Kolguchev Island in the Eastern Barents Sea to Bear Gap and half this distance is inside Norway's Exclusive Economic Zone (EEZ) in international waters.[53] And subsequently once Putin supposedly raised the nuclear alert level, the Northern Fleet launched a new exercise around the Kola Peninsula the home base of its nuclear Northern Fleet, ostensibly to "train maneuvering in stormy conditions."[54]

Apart from these exercises some "human activity" was responsible for cutting the cable at Svalbard operated by Space Norway at the SvalSat park that serves over 100 satellite antennas and can provide all-orbit support to operators of Polar-orbiting

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[50] Andrew Monaghan, "How Moscow Understands War and Military Strategy," CNA Paper, Center for Naval Analysis, www.cna.org, 2020, p. 7.
[51] Thomas Nilsen, "Russian Warships Steam From Arctic Storm To Exercise In Irish Waters," https://thebarentsobserver.com/en/security/2022/01/russian-warships-steam-throughstormexercise-irish-waters, January 25, 2022.
[52] Maxim Starchak,"Russian Strategy and Strategic Capabilities In Ukraine," Eurasia Daily Monitor, February 28, 2022, www.jamestown.org.
[53] Thomas Nilsen, "Russia Issues Largest Ever Warning Zone In Norwegian Part Of the Barents Sea," https://thebarentsobserver.com/en/security/2022/02/largest-ever-russian-notamwarningnorwegian-sector-barents-sea, February 15, 2022
[54] Joe Gould, "No Changes Coming To US Nuclear Posture After Russian Threat," www.defense.com, March 2, 2022 Nuclear.

satellites, making this site a key intelligence and communications node.[55] Although this disruption cannot be definitively attributed to anyone; it does smack of a Russian sabotage operations to blind allied intelligence and satellite communications (SATCOM) in the initial period of war. Certainly, the surge into the Irish Sea and the exercises in the Barents Sea along with the potential missile operations inside Norway's Economic Exclusion Zone (EEZ) represent the kind of operations the Northern Fleet would conduct during what Moscow calls the period preparatory to war and /or the initial period of the war against NATO. And since Russian surface vessels and submarines are increasingly armed (as are the air forces based in the Arctic) with dual-capable missiles capable of attacking both Europe and the U.S. the nuclear threats posed by such deployments are clear.[56] Other naval activities during the crisis also merit our close attention and constant scrutiny. Moscow has duly dispatched long-range nuclear-capable TU-22M3 by nuclear-capable TU-22 bombers and MiG-31 fighters carrying the latest Kinzhal hypersonic cruise missile with a range of up to 2000KMs and flying at Mach 10 to Russian bases in Syria and Kaliningrad to threaten U.S., NATO, and Ukrainian targets, including ships in the Mediterranean to deter NATO and U.S. support for Ukraine. These flights also dovetail with the patrols over Belarus of nuclearcapable TU-22 bombers in 2021.[57] These deployments and the threats they embody would, in the case of war, also be preparatory to war so they serve both a deterrent and operational function against NATO and Ukraine.

These implicit nuclear threats from exercises do not only occur in the Arctic. Such exercises and deployments of dual-capable aircraft from Syria have apparently become habitual. For example, in May 2021 three Tu 22-M Backfire bombers landed at Russia's air base in Khmeimin, Syria. Hitherto they flew from Russia to Syria, dropped their bombs and returned home. Now they will be based in Syria giving them coverage of the entire Levant and Middle East. Since these are among Moscow's most potent anti-ship strike platforms the threat to the Mediterranean, the Black Sea, the Red Sea, and Persian Gulf is readily discernible.[58] For example, the improved and new version of the current TU-22M3 Backfire bomber has a range of 1850 miles in any one direction, it could deliver nuclear or conventional missiles not only to Middle Eastern targets but also to Europe or the Indian Ocean.[59] More to the point, recent Russian videos show the loading of long-range nuclear ALCMs on the Backfire either the nuclear-capable Kh-101 with a 4500 KM range or the nuclear only Kh-102 and has a 5000 KM range. Moreover, along with those jets Moscow sent Mig-31 Fighters that are capable of firing the hypersonic and dual-capable Kinzhal (Dagger) missile to Syria

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[55] Atle Staalesen, "'Human Activity' Behind Svalbard Cable Disruption," https://thebarentsobserver.com/en/security/2022/02/unknown-human-activity-behindsvalbardcable-disruption, February 11, 2002.

[56] Stephen Blank and Peter Huessy, " How Russia's Military Buildup Is Changing the Arctic," https://nationalinterest.org/print/feature/how-russia's-military-buildup-changing-arctic-199873, January 26, 2022.

[57] Forwarddefense@atlanticcouncil.org, Russia Crisis Military Assessment, February 16, 2022; Vladimir Isachenkov, "Russia Sends Warplanes To Syria For Naval Drills In Mediterranean," www.militarytimes.com, February 16, 2022

[58] Tim Ripley, "Russia deploys Tu-22M3 Bombers to Syria," https://www.janes.com/defencenews/news-detail/russia-deploys-tu-22m3-bombers-to-syria, May 27, 2021.

[59] David Axe, "Meet Russia's Tu-22M3M Backfire Bomber: Everything We Know So Far," https://nationalinterest.org/print/blog/buzz/meet-russias-tu-22m3m-backfire-bombereverythingwe-know-so-far-42342, January 24, 2019; Mark B. Schneider, https://www.usni.org/magazines/proceedings/2019/january/renewed-backfire-bomber-threatusnavy?fbclid=IwAR2KCqqHffy3RCQVrod-hhiY75S1m-bXXu-urA2Bgal-vzqUqqf5hHVua7g".

as well for Mediterranean and/or Middle East training.[60] These deployments signify Moscow's intention to concentrate meaningful air power throughout the Mediterranean, North Africa, and the Middle East, including potentially the Indian Ocean and Sahel. But they also could be employed to threaten escalatory strikes against any NATO ships seeking entry into the Eastern Mediterranean and then possibly the Black Sea. So while the ostensible aim of converting the navy into a platform for primarily conventional deterrence by 2020 was announced way back in 2014, the reality is rather more clouded, leaving space open for nuclear escalation in the naval domain.[61] Finally these deployments in the Eastern Mediterranean highlight that in Russian theory and practice power projection and deterrence are inextricably tied together and power projection is therefore a prerequisite for deterrence and often intended as such.

Furthermore, these deployments are not restricted to any particular theater. In fact, their size and scope show that a conflict originating over Ukraine could easily morph into a multitheater or global conflict. Thus, naval exercises just before the onset of hostilities also aimed to deter NATO from entering the Eastern Mediterranean and/or blocking ships sent from the Northern and Baltic Seas from entering the Black Sea. Thus in December, 2021 ships from the Pacific Fleet entered and the Mediterranean for exercises there.[62] And then in February, 2022 Defense Minister Shoigu traveled to Syria where he witnessed exercises conducted in the Eastern Mediterranean that showcased, "exercises in operationally important areas of the World Ocean, as well as in the waters of the seas adjacent to Russia," i.e. Russia's global naval ambitions.[63] In these exercises the ships of the Mediterranean Eskadra (Squadron) performed, "measures to search for foreign submarines, establish control over navigation in the Mediterranean Sea and the flight of aircraft over it are also being worked out."[64] This last phrase clearly captures the. strategic benefits that bases in the Eastern Mediterranean offer Moscow regarding possible scenarios in Europe, the Middle East, and Africa, including Ukraine.

Here too the potential nuclear dimension is distinctly visible as Moscow sent over airplanes to be based at Russia's Khmeinim air base in Syria. just before the war. These planes all carry or can carry nuclear-capable missiles. Specifically, they included,

> *"MiG-31K fighter jets containing hypersonic Kinzhal missiles and long-range Tupolev Tu-22M strategic bombers, intended to be used in military exercises in the East Mediterranean. These exercises will be overseen by the Russian Defense Minister Sergei Shoigu, who met with Syrian President Bashar Al-Assad in Damascus on February 15. According to the Associated Press, this is the largest presence of the fighter jets, and over 140 warships. The exercises specified for Syria were also intended*

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[60] Arie Egozi, "Did Russia Test Hypersonic Missile From Syria? Israel May Know," https://breakingdefense.com/2021/06/did-russia-test-hypersonic-missile-from-syria-israelmayknow/, June 287, 2021.
[61] "Russian Navy To Form Strategic, Non-Nuclear Deterrence Force By 2020-Commander," *Interfax-AVN Online*, February 20, 2014, *Open Source Center*, No. CEL2014020205598297
[62] Maxim Starchak,"Russian Strategy and Strategic Capabilities In Ukraine," Eurasia Daily Monitor, February 28, 2022, www.jamestown.org.
[63] "Watch Russian Defence Minister Shoigu Inspect Naval Exercises in Mediterranean," https://sputniknews.com/20220215/watch-russian-defence-minister-shoigu-inspectnavalexercises-in-mediterranean-1093062177.html, February 15, 2022.
[64] *Ibid.*

to be practice in targeting enemy warships. From the Tartus naval base in Syria, Russia could easily target the American carrier strike group in the Mediterranean."[65]

Likewise, Russia's naval base at Tartus, Syria permits Moscow to support ships and submarines carrying long-range land attack and anti-ship cruise missiles to threaten the entry of ships into the Eastern Mediterranean or Black Sea as well as targets throughout southern and southeastern Europe.[66] Here again we see the inextricability of power projection and deterrence in Russian military thinking and practice. But beyond that these exercises and deployments, just as the Arctic deployments during recent exercises, strongly suggest a Russian intention to conduct an operation resembling the exercises we have seen in the North Atlantic in the Eastern Mediterranean. Even though NATO has sizable naval forces in the Mediterranean, amounting to three carrier groups; they clearly will not challenge Russia's own cruiser deployments there to enter the Black Sea.[67]

Thus, Russian preparatory moves on a global scale aim not only to deter and threaten actual or potential enemies, but also to ensure escalation dominance and a free hand throughout all the stages of any crisis. That is by visibly making and deploying nuclear threats - in these cases naval nuclear threats -- Moscow aims to make its world safe for conventional operations that are unopposed by NATO. In Ukraine, Moscow's initial plan for rapid victory went awry. The ensuing strategic readjustment entailed, inter alia, a campaign of terror bombing of much longer duration that also increased the risk of NATO intervention. Hence the ongoing generation of spurious nuclear threats to isolate Ukraine as a theater from NATO and inhibit any potential NATO intervention. So, by isolating, or trying to isolate the Ukrainian theater from NATO, Putin believes he can pulverize Ukraine into victory.

Moscow's operations in this crisis and war also underscore how local conventional superiority, e.g. in the Black Sea, backed up by entirely too credible nuclear threats permits Moscow to control escalation processes in a theater, as in this war. For whenever it has confronted obstacles or barriers, Russia has simply defied them and escalated further, secure in the knowledge that it could do so with impunity in this local war.[68] Indeed, before the war, during the interval between the 2014 seizure of Crimea and the new round of hostilities that began on February 24, 2022, Russia repeatedly and deliberately flaunted its control of the Black Sea against NATO and the U.S.[69] Since Russia's nuclear threats are generally taken as credible immediately upon their issuance because Putin has all along conducted himself in a way that convinces ob-

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[65] Anna Iaccobuci, "Russian Jets Sent to Syria as Part of Naval Training Exercises," https://www.thecaravelgu.com/blog/2022/2/22/russian-jets-sent-to-syria-as-part-ofnavaltraining-exercises, February 22, 2022

[66] Megan Eckstein, "Foggo: Russia Seeking More.,Control Of Black Sea, Mediterranean, and Arctic." www.news.usni.org, July 17, 2020.

[67] Sam LaGrone, "UPDATED: Russian Navy Cruisers Positioned to Counter U.S., French and Italian Carrier Groups in the Mediterranean," https://news.usni.org/2022/02/22/russiannavycruisers-positioned-to-counter-u-s-french-and-italian-carrier-groups-in-themediterranean, February, 24, 2022.

[68] Nigel Gould-Davies, "Putin's Strategic Failure and the Risk Of Escalation," The Moscow Times, March 1, 2022, https://www.themoscowtimes.com/2022/03/01/putins-strategicfailureand-the-risk-of-escalation-a76690Deterrence Force By 202-Commander

[69] James Sherr and Igor Gretsky, "Why Russia Went To War,: a Three-Dimensional Perspective," https://icds.ee/en/why-russia-went-to-war-a-three-dimensional-perspective/, January 30, 2023.

servers that he will use any instrument at his disposal.[70] Thus Russia can aspire to control escalation dominance in such local wars. Finally, we can also see the tight linkage between Russia's power projection activities and deterrence operations.

Russia has long understood how a so-called local war like this invasion of Ukraine could escalate into a global nuclear war. Thus, on November 17, 2011, Chief of the General Staff General Nikolai Makarov told the Defense Ministry's Public Chamber that:

> *The possibility of local armed conflicts virtually along the entire perimeter of the border has grown dramatically . . . . I cannot rule out that, in certain circumstances, local and regional armed conflicts could grow into a large-scale war, possibly even with nuclear weapons.*[71]

Makarov further warned that the cause for such wars in the CIS lies in NATO's advancement to the borders of the CIS and Russia.[72] Makarov echoed previous statements by his predecessor Chief of the General Staff ,General Yuri Baluyevsky, that while Russia faced no direct threat of aggression, "[given] the existence of nuclear weapons, any localized armed conflict—let alone a regional conflict—could lead the international community to the brink of a global war."[73]

Makarov thus postulated the possibility of a seamless transition or even escalation process from local wars like those in Iraq after 2003, or now in Syria and initial operations in Ukraine all the way up to a theater or even strategic nuclear war. Thus, we can see from these exercises that the navy, particularly the Northern Fleet, is increasingly equipped and directed to play a critical deterrent against escalation and a first-strike nuclear role in Russian military planning. Finally, we can also see the tight linkage between Russia's power projection activities and deterrence operations.

Operations: The Blockade

From the standpoint of early 2023 we can see that the navy has only partially achieved any of these missions. Amphibious landings have failed to occur largely due to the land forces' military failure and Ukrainian resistance.[74] The Russian failure to undertake these attacks testifies to the failure to achieve air supremacy that is a prerequisite for naval and terrestrial freedom of action and Russia's apparent inability to conduct joint operations involving the army and navy as many have pointed out. This failure also highlights the failure of Russia's army to achieve its objectives, Russia's inability to execute truly joint operations, and Ukraine's tactical, operational, and strategic acumen in this area. Furthermore, that failure also points to the failure to achieve an

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[70] Weston Blasi, "Fiona Hill Warns Putin Would Use Nuclear Weapons: If He Has An Instrument He Wants To Use it," https://www.msn.com/en-us/news/world/fiona-hillwarnsputin-would-use-nuclear-weapons-e2-80-98if-he-has-an-instrument-he-wants-to-use-ite2-80-99/ar-AAUtt1V, March 2, 2022.
[71] "Border Alert: Nuke War Risk Is Rising, Russia Warns," www.rt.com, November 17, 2011.
[72] Ibid.; Roger N. McDermott, "General Makarov Highlights the "Risk" of Nuclear Conflict," Valdai Discussion Club, December 8, 2011, www.valdaiclub.com.
[73] Andrei Lebedev, "Yuri Baluevsky: The Russian Military Has a Chance to Straighten Its Spine," *Izvestiya,* March 2, 2005, LexisNexis.
[74] David Axe, "Ax Russian Amphiibous Ships Bore Down On Southern Ukraine In February, The Ukrainians' Sole Anti-Ship Battery Opened Fire," https://www.forbes.com/sites/davidaxe/2022/12/14/as-russian-amphibious-ships-bore-downonsouthern-ukraine-in-february-the-ukrainians-sole-anti-ship-batteryopenedfire/?sh=4e5d6e3d6bb1, December 14, 2022.

uncontested naval dominance despite what should be a decisive naval superiority in the theater. Some of this aspect of the navy's failure is evident in the poor quality of seamanship displayed regarding the flagship Moskva of the Black Sea Fleet that Ukraine destroyed. Indeed, poor seamanship led to the destruction by friendly fire of a Russian ship.[75] Thus Michael Kofman's harsh verdict on the Black Sea Fleet that, "it has demonstrated a lack of seriousness in how the fleet has been prepared, positioned itself, and conducted operations given the threat of Ukrainian resistance."[76] Finally, it also reveals the Russian Navy's inability to use its superiority in the maritime domain to negate Ukraine's land and ship-based defenses and manifest a true command of the seas which on paper it should have had. As a result, by February 1, 2023 much of the BSF was confined to safe ports seeming, but not really out of range of Ukrainian drones, and Ukraine, possessing merely a fraction of Russian capability, but utilizing its assets and Western support had negated a considerable amount of the BSF's missions and strategy and also sank a total of 18 Russian ships.[77]

On the other hand, the blockade remains in force and is wreaking havoc on global grain supplies and Ukraine's economy. Likewise, NATO has clearly been effectively deterred from offering a physical presence in Ukraine or the Black Sea. U.S. and NATO naval vessels have left the Black Sea before the war to avoid provoking Russia.[78] Yet even though the Black Sea remains a Russian lake, an outcome that poses great threats to all the other littoral states, including NATO candidate Georgia and NATO members Turkey, Romania, and Bulgaria, the blockade has weakened to the point where Russian ships for several months have been confined to Russian ports or locations out of the range of Ukrainian shore-based missiles as a result of the sinking of the Moskva. Moreover, if Ukraine prevails, as seems increasingly likely the Black Sea Fleet's power, if not capacity will be truncated. This would be particularly likely if reports that Washington is looking increasingly favorable upon a Ukrainian campaign to liberate Crimea.[79] So, while the absence of a countervailing force permits the continuation of the blockade and naval shelling of coastal targets, Russian naval operations remain only partially successful and precarious. However, the more we look at these operations the more we realize that they grow out of preceding exercises and second, that, as suggested by the use of dualcapable platforms, they are inextricably connected to Moscow's nuclear strategy and constant presupposition that it actually is at war with NATO. Furthermore, because they were conceived in the context of a joint operational plan, Moscow's abiding failure to execute joint plans inevitably renders the more successful naval operations like the blockade less effective.[80] Finally, the blockade has also been weakened to a degree by virtue of the agreement of both

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[75] "Putin's Russia Humiliates Itself By Sinking Own Warship In New Ukraine Defeat," www.beyondnews.org, June 25, 2022.
[76] Christopher Miller and Paul McLeary, "Ukraine Has Hobbled Russia's Black Sea Fleet. Could It Turn the Tide Of the War,?" www.politico.com, August 29, 2022.
[77] Iulian Romanyshyn, "Ukraine, NATO, and the Black Sea," *NATO Defense College, NDC Policy Brief*, No. 1, January, 2023, p. 3; Michael Starr, "Ukraine Sinks Five Russian Boats Carrying Recon and Sabotage Teams," https://www.jpost.com/international/article-730285, February 1, 2023.
[78] "NATO leaves Black Sea exposed as Russia invades Ukraine," https://www.reuters.com/world/europe/nato-leaves-black-sea-exposed-russia-invades-ukraine-2022-02-24/, February 24, 2022.
[79] Helene Cooper, Eric Schmitt, and Julian E. Barnes, "U.S.Warms To Helping Ukraine Target Crimea," www.nytimes, January 18, 2023.
[80] Stavros Atlamazoglu, "Putin's Ukraine Nightmare: Has Russia's Military Failed In The Donbas,?" https://www.19fortyfive.com/2022/05/putins-ukraine-nightmare-has-russiasmilitary-failed-in-thedonbas/, May 9, 2022.

sides, brokered with Turkey to permit grain shipments abroad to forestall global hunger.

But the blockade, by mid-May, had also become the poster child for and a major, though not exclusive, cause of an accelerating global food crisis. Russia, by depriving key markets in the Middle East and Africa of the grain they import from Ukraine and with the added impact of spiraling and tough Western sanctions on Russia, and equally spiraling energy prices in the context of many climate -driven droughts, engendered a situation whereby Asian and African customers faced the real threat of a global hunger crisis.[81]

This crisis raised and may still raise the possibility of Russia using the blockade in what is now a long, grinding, war of attrition to mitigate the economic impact upon it due to sanctions, enhance its already visible support in the Middle East and Africa and use it to counter Western pressure.[82] According to the U.S. government, Russia effectively controls all traffic in the northern third of the Black Sea. So Washington, if not others, has accused it of deliberately weaponizing hunger to achieve its objectives.[83] In this fashion some observers have argued that Moscow could use agriculture, comprising the grain and infrastructure it has also seized and destroyed in Ukraine, as a "second front" against Kyiv to blackmail it and its supporters into making a settlement, more or less on Russian terms, leaving it in effective control of key parts of the country.[84]

Thus, command of the sea through blockade could still facilitate Moscow's use of hunger as an international weapon that gives it the needed leverage to achieve an otherwise unmerited victory. Because of the real threat of global hunger and due to the parallel threat that this blockade poses to the future of Ukraine's economy, by mid-May, 2022 international pressure was mounting to devise an effective riposte to the blockade that would either allow for humanitarian trade to resume throughout the Black Sea through a "coalition of the willing," or to break it, i.e using forces other than Ukraine's to demine the Black Sea and break the blockade.[85] Although agreement was reached by late May, 2022 to permit Ukrainian and Russian grain shipments, that obviously does not answer the problems generated by the blockade.[86]

In fact, Ukrainian sources soon reported that Washington is working on a plan to break the blockade and even attack the Russian ships who are conducting it.[87] So far

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[81] *The Economist,* "The Food Catastrophe," May 21-27, 2022, p. 11; "Briefing: The Food Crisis, pp. 19-22; and "Unblocking Odessa," pp. 48-49.
[82] Ibid.
[83] Shane Harris, "U.S. Intelligence Document Shows Russian Naval Blockade Of Ukraine," https://www.washingtonpost.com/national-security/2022/05/24/naval-blockade-foodsupplyukraine-russia/, May 24, 2022.
[84] Sergey Sukhankin, "Agriculture As a Weapon: Russia's" Second Front" Against Ukraine," *Eurasian Daily Monitor,* May 18, 2022, www.jamestown.org.
[85] Patrick Wintour, "UK Backs Lithuania's Plan To Lift Russian Blockade of Ukraine Grain," https://www.theguardian.com/world/2022/may/23/lithuania-calls-for-joint-effort-onrussiablack-sea-blockade?ref=upstract.com&curator=upstract.com, May 23, 2022.
[86] Bojan Pancevski, "Russia Opens Mariupol Port, Allows Ship Passage," https://www.wsj.com/livecoverage/russia-ukraine-latest-news-2022-05-25/card/russiaopensmariupol-port-allows-ship-passage-N6404k2fGmMeaYwCiNwL, May 25, 2022.
[87] Chris Pleasance, "American Anti-Ship Missiles Could Help Avert Global Julian E. Barnes, "U.S. Warms To Helping Target Crimea, " www.nytimes.com,and Food Shortage By Breaking Russian Blockade Of Ukrainian

there is no evidence of this. But whether or not such a plan is in the works; the U.S. and its allies, e.g. Denmark, are transferring potent anti-ship missiles like the Harpoon to Ukraine so that it can break the blockade, possibly on its own.[88] But while these and other anti-ship missiles might mitigate the blockade and certainly inhibit potential amphibious landings; they will not terminate the blockade because the Fleet has decamped to locations beyond Kyiv's reach. Therefore, it is quite unlikely that Russia will relinquish its strong position through the blockade or that NATO will do so anytime soon. Few, if any, NATO navies will easily challenge Russia in a contest that is quite likely to involve the threat of a Russian escalation to the nuclear level because Russian doctrine and policy explicitly state that conventional attacks upon the homeland area justification for nuclear use.[89]

Still, while the blockade has essentially worked until now, it is coming under increasing pressure and we should expect that Ukraine will continue to attempt to break it using both diplomatic pressure from its allies and the military means with which they have provided it to do so, i.e. anti-ship missiles and UAVs. We may therefore anticipate that the Russian navy will continue to suffer losses that, at least to some degree, might degrade the blockade. This Ukrainian course of action is only possible due to the failure of the main prong of the joint operational plan, namely the ground forces, to achieve its objectives. But while the Black Sea Fleet is suffering some losses; it is unlikely that the blockade will go away without some externally superior force playing a role. Indeed, there is evidence of Russia's ongoing reinforcement of the Black Sea fleet.[90] Therefore many observers thought that here Russia enjoys some real advantages that place Ukraine in a serious bind with time on Russia's side.[91]

Attacks on Russian Ships

Nevertheless, these operations have been and are likely to remain at best only partly successful. This likely outcome is indubitably due to the failure of Russia's land forces to attain their objectives and highlights the continuing inability of the Russian military to master joint operations. This last failing, combined with and Ukrainian skill, intelligence, and allied support, has led to the sinking of 18 Russian ships, the negation of the plans for amphibious operations, and potentially to the weakening of the blockade discussed above. Consequently, the naval aspect of the overall naval operational plan is unlikely to realize its full potential. And Russia's capacity to replace the sunken ships with others of equivalent capability is quite dubious. So, because the ground forces failed in their mission, the naval blockade now risks much greater vulnerability be-

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Grain," https://www.dailymail.co.uk/news/article-10834327/U-S-aimsarm-Ukraine-advanced-anti-ship-missiles-fight-Russian-blockade.html, May 19, 2022.

[88] Sam LaGrone, "Denmark Sending Ukraine Anti-Ship Harpoon Missiles To Take on Russian Ships in Black Sea," https://news.usni.org/2022/05/23/denmark-sending-ukraine-antishipharpoon-missiles-to-take-on-russian-ships-in-black-sea, May 23, 2022.

[89] Ukaz Prezidenta Rossiiskoi Federatsii: "Ob Osnovakh Gosuydarstvennoi Politikoi Rossiiskoi Federatsii v Oblasti Yadernogo Sderzhivaniia," www.kremlin.ru, June 2, 2020; In English, "Putin Approves State Policy On Nuclear Deterrence-Text," *BBC Monitoring Former Sweaponoviet Union,* June 4, 2020.

[90] H.I. Sutton, "Sudden Surge In Russian Navy Ships And Submarines In Black Sea," https://www.navalnews.com/naval-news/2023/01/sudden-surge-in-russian-navy-shipsandsubmarines-in-black-sea/, January 11, 2023; Tetiana Lozovenko, Russia Keeps Almost Record Number Of Kalibr' Missiles In Black Sea," www.pravda.com.ua, January 17, 2023.

[91] John Paul Rathbone and Ben Hall, "Kyiv Weighs Options On How To Break Moscow's Blockade of the Black Sea," www.ft.com, May 21-22, 2022.

cause the failed Russian ground offensives have given NATO time to unite behind the provision of ever more and better weapons to Ukraine that might be able to take down several Russian warships. In addition, Ukraine's strategy has maximized the utility of Western support combined with its own homegrown defense industry to the point where one major lesson of this war might be that "security dynamics in the Black Sea are no longer defined exclusively by conventional navies but increasingly by technologically advanced capabilities – missiles and drones – designed to take out those navies."[92] Concurrently and in a possibly perverse way this outcome validates the Russian doctrinal emphasis upon the criticality of the initial phase of the war for the failure of its forces to fulfill their original mission--itself due to a gross misreading of the enemy and the nature of the war—is leading to a war of attrition where Ukraine is visibly gaining strength.

Military failures also stand out in the misconduct of operations that permitted Ukraine to destroy the flagship of the Black Sea Fleet, on April 13, 2022. Those examples are well known but the consequences of this operation are equally if not more consequential. First, although long-range strikes continue as does the blockade, the sinking of the Moskva, coupled with the Ukrainian reconquest of Snake or Serpent Island took the amphibious landing operation off the table for the balance of 2022 and January 2023. Second, the enormity of the symbolism attached to Ukraine sinking the BSF's flagship appeared to validate Ukraine's "mosquito fleet" concept of its sea denial strategy, combining indigenous and foreign weapons with foreign assistance in ISR and targeting.[93] Operationally this attack on the Moskva followed by the use of anti-ship missiles, land-based artillery, and UAV's to attack both Russian ships and bases, including Sevastopol has clearly forced the BSF to retreat into its bases and seek means to defend against those attacks.[94] Although Western commentary that the BSF is now a waste and hopelessly compromised appear to be overheated and wishful thinking, its ability to strike at Ukrainian landbased targets has clearly diminished.[95]

This Russian failure to achieve objectives laid down for the initial period of the war has also compromised Moscow's ability to use its Black Sea Fleet for sustained shelling of the coast, or to conduct amphibious landings against the Ukrainian coast, or seize Snake Island in the Northwest Black Sea for potential use as a missile and air base commanding the entire Black Sea. As CNN has reported,

> *"Allow the Russians to establish facts-on-the-rocks there, and Ukraine would no longer be able to guarantee the freedom of sea lanes between the port of Odessa and the rest of the world. It's through Odessa that much of Ukraine's agricultural wealth travels to global markets. Ukraine's defense intelligence chief, Kyrylo Budanov, said Friday that whoever holds Snake Island controls "the surface and to some extent the air situation in southern Ukraine." --- "Whoever controls the island can block the*

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[92] Iulian Romanyshyn, "Ukraine, NATO, and the Black Sea," *NATO Defense College, NDC Policy Brief*, No. 1, January, 2023, p. 4.

[93] Niklas Granholm, Linus Fast, Staffan Lundin, "The War At Sea: Naval an Maritime Operational and Strategic Aspects of Russia's War Against Ukraine," Jenny Lunden et al, Eds., *Another Rude Awakening: Making Sense Of Russia's War Against Ukraine,* Stockholm, www.foi.se, 2022, pp. 40–41.

[94] Heather Mongillo, "Russian Navy Moving Kilo Attack Boats To Safety From Ukraine Strike Risk, Says U.K. MOD," www.NEWS.usni.org , September 20, 2022.

[95] *Ibid.,* Zoe Stroszewski, "Putin's Great Black Sea Fleet Is 'Total Waste': Retired U.S. General," www.newsweek.com, September 19, 2022.

> *movement of civilian vessels in all directions to the south of Ukraine at any time," Budanov added."*[96]

Snake Island is also important for any effort to maintain the blockade.

> *"If the Russians could establish electronic warfare and air defense systems upon on it they could compensate for the loss of the Moskva, helping to maintain the blockade, and potentially supporting operations to join up with the Russian garrison in the breakaway enclave of Transnistria in Moldova, which is close to Odessa, although this now seems to be well beyond Moscow's capabilities."*[97]

But if allied and Ukrainian anti-ship missiles and the Ukrainian air forces can strike at the island or at other ships based in the Black Sea, it becomes much more expensive and difficult a task for Moscow to keep its fleet in readiness within striking distance of the Ukrainian coast. This sinking also helps explain the upsurge of fighting in May around Snake Island. As Lawrence Freedman has written,

> *"Recently there has been a battle underway for Snake Island. Ukraine has released evidence of attacks on anti-aircraft weapons, a support ship, two landing craft, and a Russian helicopter as it landed Russian marines. For its part the Russian Ministry of Defence claimed that they had thwarted a Ukrainian attempt to take the island and shot down aircraft (pro-Russian social media has been full of stories about how terrible this was for Ukraine). In practice it is difficult to see how any force could feel safe on such a small and isolated space."*[98]

This is the context in which we must assess the Ukrainian sinking of the Moskva, the Black Sea Fleet (BSF)'s flagship. In this case we see a considerable amount of almost unfathomable military incompetence in the fact that Ukraine, using Neptune anti-ship missiles, sank two Russian ships, the Orsk landing ship in Berdyansk's harbor and the Moskva, the flagship of the Black Sea Fleet. Though the sinking of the landing ship merely delayed possible amphibious operations that have yet to occur; it reflects elementary incompetence in leaving a landing ship docked in the harbor without securing the perimeter.[99] The sinking of the Moskva, however, possessed much greater significance and also reflects major problems with its construction.

To begin with, the Moskva was a Soviet-built ship with all that this implies regarding its construction. Thus, construction flaws rendered it vulnerable to catastrophic damage from even one single successful strike.[100] Second its air defenses were antiquated.[101] Yet in a telling indictment of Russian planning the Moskva served as a

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[96] Tim Lister, "Snake Island: The Tiny Speck Of Land Playing An Outsized Role In Russia's War On Ukraine," https://www.cnn.com/2022/05/13/europe/snake-island-ukraine-strategicwarcmd-intl/index.html, May 13, 2022.
[97] Lawrence Freedman, "Breaking the Black Sea Blockade," https://samf.substack.com/p/breaking-the-black-sea-blockade?s=r, May 17, 2022.
[98] Lawrence Freedman, "Breaking the Black Sea Blockade," https://samf.substack.com/p/breaking-the-black-sea-blockade?s=r, May 17, 2022.
[99] H.I. Sutton, "Satellite Images Confirm Russian Navy Landing Ship Was Sunk at Berdyansk," https://news.usni.org/2022/03/25/satellite-images-confirm-russian-navy-landing-ship-wassunkat-berdyansk, March 25, 2022.
[100] Justin Katz, "What Should the US Navy Learn From Moskva's Demise,?" https://breakingdefense.com/2022/04/what-should-the-us-navy-learn-from-moskvas-demise/, April 15, 2022.
[101] Evan Simko-Bednarski, "A Look Into the Moskva, the Russian Flagship Sank By Ukrainian Missile," https://nypost.com/2022/04/15/info-on-moskva-russian-flagship-sank-byukrainianmissile/, April 15, 2022; "Ukraine Sinks Russia's Black Sea Flagship Moskva After a Missile Attack Destroys a Cruiser Weeks After

regional command and control ship and provided most of the air defenses for the Black Fleet. Not surprisingly, this fleet has now retreated out of range of Ukraine's lethal Neptune anti-ship missiles.[102] Since the Moskva also provided support for potential amphibious landings at Berdyansk, this option too is now severely compromised. This relieves for now potential pressure of such a landing on Odessa. As Admiral James Foggo III (USN RET) who commanded the U.S. Navy in Europe, says," "I think the Russian Navy and the Russian naval infantry understand that they might get ashore, but they won't get very far inland."[103]

Finally, even though Russian naval operations against Ukraine continue, the loss of this ship epitomizes the shocking incompetence that has marred the entire Russian campaign. Indeed, since the sinking of the Moskva Ukraine has destroyed at least three more Russian ships on Snake Island, adding to this impression.[104] Subsequent attacks on Russian ships, largely by drone or air-based missiles, generated a similar impression.[105] Thus, as Ukraine adds to its inventory of anti-ship missiles and continues to out-perform the Russian military Russia's blockade will almost certainly come under greater pressure. If that pressure from Ukraine's invigorated arsenal is able to strike enough Russian ships at a distance sufficient to cause serious losses, then and only then will the blockade break. Unless an external source intervenes to help Ukraine break the blockade it is likely to continue and impose serious costs on Ukraine and the global economy, albeit under mounting pressure. Nevertheless, this is not necessarily a comforting conclusion for Moscow nor should it be. Moscow already apparently lacks sufficient ships to perform amphibious landings on Ukraine's coast.[106] These outcomes are clearly not only due to allied assistance to Ukraine but also to its superior performance juxtaposed against the quite lethal incompetence displayed by the Russian leadership and forces. For example, RUSI (Royal United Services Institute) reports that, "By detecting and locating sources of RuAF (Russian armed forces) radio transmission, Ukrainian forces can find, fix, and engage the enemy kinetically and/or electronically."[107]

This certainly applies to the detection of Russian naval as well as land-based targets. More tellingly, if Ukraine and/or the allies are able to sink sufficient ships it appears that there is no way for Russia to replenish them in a timely manner. As Sergei Sukhankin has observed regarding Russia's already problematic shipbuilding sector,

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the Snake Island Confrontation," https://us.bolnews.com/international/2022/04/ukraine-sinks-russias-black-sea-flagshipmoskvaafter-a-missile-attack-destroys-a-cruiser-weeks-after-the-snake-island-confrontation/, April 14, 2022.

[102] "Does the Sinking of Russia's Moskva Warship Matter and Why,?" https://www.russiamatters.org/blog/does-sinking-russias-moskva-warship-matter-and-why, April 22, 2002.

[103] Vazha Tavberidze, "Leading Strategist Questions Russian Forces' Ability To 'Act Like A Western Army,'" https://www.rferl.org/a/foggo-russia-western-army/31817580.html, April 23, 2022.

[104] Aaron Reich, "Ukraine: 3 Russian Ships By Snake Island Destroyed With Bayraktar Drone: Report," https://www.jpost.com/international/article-706105, May 8, 2022.

[105] Lara Jakes, "Sea Drone Attack On Russian Fleet Puts Focus On Expanded Ukrainian Arms, www.nytimes.com, October 31, 2022.

[106] Violetta Orlova, "U Rossii Uzhe Net Korablei Dlya Vysadki Moskogo Desanta-Ekspert," www.unian.net, May 16, 2022.

[107] Sam Cranny-Edwards and Thomas Withington, "Russian Comms in Ukraine: A World of Hertz," https://rusi.org/explore-our-research/publications/commentary/russian-commsukraineworld-hertz, March 9, 2022.

> *Despite its (unsurprising) dominance over Ukraine in the Black Sea, Russia has suffered some critical losses in this theater as well. More troubling for Moscow, however, is the prospect of a (partial) paralysis of its shipbuilding capabilities due to Western sanctions. According to Ukrainian sources, some of Russia's key shipyards are unable to meet their production goals due to a lack of components (including, among others, steering columns, navigation complexes and radio stations). Those critical constituent parts cannot be substituted by domestic or Asian (apparently, Chinese) analogues, which has led to production halts and even some workforce layoffs.*[108]

Lastly, Ukraine's Main Intelligence Directorate reports that Russian ships, unable to get parts due to the sanctions, are utilizing components from Chinese-made domestic appliances.[109] This hardly augurs well for Moscow's ability to sustain its Black Sea Fleet if it comes under serious attack. Should Ukraine obtain aircraft, as it has now begun to urge publicly it will further erode the margin of Russian air superiority which Moscow failed to exploit and this will expose Russian ships to much more risk.[110] Perhaps these facts help explain why Moscow has now decided to expand dramatically the use of its commercial fleet to support military operations in wartime.[111] This also portends that future ships will be inherently dual-use but it also betokens a move towards broader military mobilization of the entire economy which is obviously now occurring.[112]

Concluding Remarks

This is the situation as of February, 2023. And the quasi-stalemate at sea parallels the war of attrition on the ground. Nevertheless, both sides are clearly building towards new offensives that are intended to be dynamic, e.g. Putin's demand to liberate all of the Donbas by March.[113] These offensives will almost certainly have naval dimensions. Ukraine is already reporting a sizable buildup of Russian ships and especially amphibious vessels, possibly to launch an amphibious landing in the direction of Moldova.[114] Similarly, former Russian president Dmitry Medvedev is threatening Ukraine with the loss of its entire coastline which points to precisely this type of amphibious operation coupled with powerful missile strikes that would also target Odessa and the

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[108] Sergei Sukhankin, "The Economic Aspect of Russia's War in Ukraine: Sanctions, Implications, Complications (Part Three)," https://jamestown.org/program/the-economicaspectof-russias-war-in-ukraine-sanctions-implications-complications-part-three/, May 4, 2022.

[109] "Russia Installs On Warships Components From China Made Household AppliancesIntelligence Report," https://www.ukrinform.net/rubric-ato/3490837-russia-installson-warshipscomponents-from-chinamade-household-appliances-intelligence-report.html, May 24, 2022 109 Tom Balmforth," Ukraine Sets Sights On Fighter Jets After Securing Tank Supplies," https://www.reuters.com/world/europe/ukraine-sets-sights-fighter-jets-after-securingtanksupplies-2023-01-25/,January 25, 2023.

[110] Tom Balmforth," Ukraine Sets Sights On Fighter Jets After Securing Tank Supplies," https://www.reuters.com/world/europe/ukraine-sets-sights-fighter-jets-after-securingtanksupplies-2023-01-25/, January 25, 2023.

[111] Paul Goble, "Moscow to Expand Use of Russia's Commercial Fleet for Military Purposes," https://jamestown.org/program/moscow-to-expand-use-of-russias-commercial-fleet-formilitarypurposes/, May 26, 2022.

[112] *Ibid.*

[113] **"**Kremlin Mum On Putin's Alleged Order To Liberate Donbass Before March," https://tass.com/politics/1563237, January 17, 2023.

[114] H.I. Sutton, "Sudden Surge In Russian Navy Ships And Submarines In Black Sea," https://www.navalnews.com/naval-news/2023/01/sudden-surge-in-russian-navy-shipsandsubmarines-in-black-sea/, January 11, 2023.

entire Ukrainian coastline.[115] Here we should remember that Moscow also has access to Tiraspol airport and can use it to receive IL-86 aircraft that give it a regional power projection capability. For example, in 2014, and in conjunction with the seizure of Crimea, Moscow mobilized 2-3000 Spetsnaz forces to march on Odessa once its supporters inside the city had seized power through rioting there.[116] In other words, Moldova cannot be ruled out as a target in order to capture Ukraine's entire coastline up to and including Moldova to create another Novorossiia as Putin tried to do in 2014. Kalibr' bearing ships are also already rejoining the BSF in another sign of the preparation of an offensive possessing a considerable naval dimension.[117] So, this is unlikely to remain a war of attrition much longer.

Meanwhile there already are lessons to be learnt from maritime actions and operations connected with this war. First, Russia's nuclear and naval intimidation or deterrence of NATO has so far succeeded. The illegal blockade is uncontested so far and NATO clearly will not pressure Turkey to open the Black Sea so that it can challenge it. Despite the passage of a lendlease law in the U.S., it is not being implemented when it could lead, as did its predecessor, to real naval relief for Ukraine by leasing U.S. ships or lending them the use of its ports. Discussions of supplying planes to Ukraine, running the blockade, or of no-fly zones are visibly impeded and inhibited due to fears of escalation as if only NATO has to fear nuclear escalation while Putin does not have to do so. Thus Moscow's initial plan of naval operations, including the exercised cited above, has, to a considerable degree succeeded, demonstrating how Ukraine and NATO now must pay for their previous and possibly continuing "sea blindness" regarding the Black Sea.[118] Indeed, there appears to have been an informal agreement among NATO members to limit the weapons Ukraine gets to prevent a supposed Ukrainian offensive lest it provoke a Russian escalation The recent unseemly struggle to give Ukraine tanks reveals the continuing, if declining, power of this Russian deterrence.[119] Thus Putin, in accord with Russian strategy, retains both escalation dominance and the operational-strategic initiative, giving him no reason to refrain from either or both rhetorical threat escalation or operational escalation on the ground, e.g weapons of mass destruction. And those threats, e.g. recent warnings by Dmitry Medvedev about Russia going nuclear to prevent conventional defeat, underscore this process.[120]

Second, Russian naval threats also confirm that Moscow's power projection activities in Europe, the Middle East, and Africa are at least partly driven by its need to compensate for its conventional military inferiority vis-à -vis NATO and secure bases as far forward as possible from which to deter NATO through nuclear threats. Third, the evidence presented here highlights that power projection and deterrence are two

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[115] "Putin Ally Medvedev Says Ukraine 'Will Soon Have No Sea At All,' *Telegram Messaging Service* In Russian, January 25, 2023*, Retrieved From BBC Monitoring*, January 25, 2023.
[116] Conversations with Ostap Kryvdyk, Washington, D.C. June 19, 2014; LTF (RET) Ben Hodges (US Army), Janusz Bugajski, Col. Ray Wojcik (RET) (US Army), Carsten Schmiedl, *One Flank, One Threat One Presence: A Strategy For NATO's Eastern Flank,* Center for European Policy Analysis, 2020, pp. 17-21, www.cepa.org.
[117] Tetiana Lozovenko, Russia Keeps Almost Record Number Of Kalibr' Missiles In Black Sea," www.pravda.com.ua, January 17, 2023.
[118] Butch Bracknell and James Kraska," Ending America's 'Sea Blindness,'" https://www.atlantic-council.org/blogs/new-atlanticist/ending-americas-sea-blindness/, December 6, 2010.
[119] "Nato-Staaten: Durch Absprachen Krieg mit Russland verhindern," https://www.zeit.de/news/2022-05/25/nato-staaten-durch-absprachen-krieg-mitrusslandverhindern, May 25, 2022.
[120] "Medvedev Warns Of Nuclear Strike If Russia Is Defeated In Ukraine.

sides of the same coin. The evidence also shows the seamless web in Russian doctrine and practice between conventional and nuclear strikes, particularly from the Northern Fleet. Despite this situation CIA Director, William Burns, argues that Putin "Putin "has no sustainable political endgame in the face of what is going to continue to be fierce resistance from Ukrainians."[121] Norway's Chief of Defense, General Erik Kristoffersen also agrees that Russia seems so far unable to accept that it cannot win with the resources available to it.[122] Therefore there is no political solution available to Moscow to justify continuing this war. If this be the case will Putin then recognize that reality, retreat, or actually make further escalatory threats, potentially using naval forces, that might actually be credible in order to force a victory? And if, on the other hand he prevails, due, in part, to NATO's absence from the theater, he will have then made these threats and won with impunity. Either way the answers are deeply disquieting. For if Putin can make these threats with impunity and they are allowed to prevail it is not only the threats to NATO that will grow, but rather the overall global order will come increasingly under the sway of those prepared threaten the ultimate weapon to attain their objectives. Observers recognize that Putin has bet the farm and thus cannot afford to lose and that his appetite for further conquests has grown with the eating.[123] But if he can make successful nuclear threats from his current position of inferiority to retrieve victory from the jaws of defeat others will emulate him and the already precarious global nuclear order will also disintegrate.

Third, the course of naval exercises preceding the war and the plan for initial operations appear to confirm the idea that there really is a seamless web linking conventional warfare to nuclear operations in Russian thought. As Pentti Forsström (Ltc. Finnish Army, RET) has written,

> *"In this way the content of the concept of traditional strategic deterrence is broadened to cover both Russian nuclear and conventional assets. On the other hand, the abolishment of the restrictions for the use of nuclear weapons means that the dividing line between waging war with conventional or with nuclear weapons is vanishing. When the principle of surprise is connected to this idea, it seems that Russia wants to indicate that nonstrategic nuclear weapons could be regarded as "normal" assets on a conventional battlefield. This is the basis upon which Russia regulates the level of deterrence, for example in the Kaliningrad exclave. By introducing the concept of pre-emptive strike to its military means, Russia is trying to enhance its non-nuclear deterrence even further."*[124]

Thus, nuclear threats growing out of conventional naval operations do possess at least some credibility that must be kept in mind by policymakers at all times.

Fourth, the continuing reshuffles of the Russian high command demonstrate not only political infighting but the more disturbing fact that despite the huge struggles over

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[121] The Horror Ahead," The Economist, Mar 3RD 2922, www.economist.com.
[122] Aaron Mehta, "Russia's Military Is Now a Wounded Bear' Can it Revive Itself,"? https://breakingdefense.com/2022/05/russias-military-is-now-a-wounded-bear-can-it-reviveitself/ May 20, 2022
[123] "Nuland: War Will End When Putin Realizes It Puts His Own Leadership At Risk," https://news.am/eng/news/690437.html, March 9, 2022; Office Of the Director OF National Intelligence, "Avril Haines, Director of National Intelligence Congressional Testimony Annual Threat Assessment of the U.S. Intelligence Community March 08, 2022 , https://www.dni.gov/files/ODNI/documents/2022-03-08-ATA-Opening-Statement-AsDelivered.pdf.
[124] *Ibid.*

defense reform the Russian military still has no real idea how to organize itself, especially its higher command structures, for contemporary warfare or joint and combined operations, a situation that virtually foredooms any attempt at such operations to suboptimal if not worse outcomes.[125] The significance of this fact for future naval operations should be clear to all observers of this war. As a key explainer of the navy's failure to achieve its full range of objectives this fact also helps us understand how Moscow's larger strategy failed and continues to fail. So, while Russia still retains control of the Black Sea and can still enforce its blockade and shell Ukraine with impunity it has not won the battle for the Black Sea, victory appears elusive, and indeed, Ukraine might ultimately prevail. Thus, it continues to demonstrate to the West a fifth lesson that Russian control of Crimea not only constitutes a threat to Ukraine, it also allows Moscow to dominate the entire Black Sea, threaten all the other littoral states, and use that control as a platform for its gateway to its ambitions for global power projection and thoroughgoing revision of the global order.[126] Finally, and sixth, all these lessons of the war underscore Ukraine's and the Black Sea's centrality to any serious consideration of European, if not international security. Ukraine is therefore not just a keystone in the arch of European security. Its fate also holds a key to our security, nuclear future, and the future viability of deterrence.[127]

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[125] Alexander Golts, "What Is Behind the Reshuffle In the Command Of the 'Special Military Operation?' https://russiapost.info/politics/reshuffle?fbclid=IwAR1gq8F90vHP2qzaaFAh72d2QXy079VPN3jSyLpDrhLdmEK0auqVr7ZAfVM, January 24, 2023.

[126] Andriy Zagorodnyuk, "The Case For Taking Ukraine," www.foreignaffairs.com, January 2, 2023.

[127] Sherman W. Garnett, *Keystone in the Arch: Ukraine in the Emerging Security Environment of Central and Eastern Europe,* Washington, D.C. Carnegie Endowment for International Peace, 1997.

17

MILITARY-POLITICAL AND MILITARY-STRATEGIC SITUATION AROUND BLACK SEA AND CASPIAN SEA REGION

Andrii Hrytsenko

The presentation by Andrii Hrytsenko in the Russia Seminar 2023 can be found on the FNDU YouTube-channel: https://www.youtube.com/watch?v=muXRFJjq80U starting from 12:00.

Abstract

The keynote presentation proposes the assessment on the current military-political and military-strategic situation around the Black Sea and Caspian Sea Region and a forecast of its development for short-time period: the future of Russian military organization and military service for maritime operations.

The focus is on the military-political and military-strategic goals of Russian federation on global and European regional levels. The presentation offers some information about strategic goals of Russia in military-political, military-economical and military-strategical spheres. It also forecasts Russian military formations' strategic mission for short-time period.

18

RUSSIA'S WARTIME MILITARY COOPERATION WITH THE COUNTRIES OF THE 'GLOBAL SOUTH': DRIVERS AND IMPLICATIONS[1]

Ivan U. K. Klyszcz

The presentation by Ivan U.K. Klyszcz in the Russia Seminar 2023 can be found on the FNDU YouTube-channel: https://www.youtube.com/watch?v=muXRFJjq80U starting from 57:45.

Introduction

Russia's widespread use of Iranian armed drones against Ukrainian civilian infrastructure and military targets drew international attention to Russia's wartime international military cooperation. Since the 2014 annexation of Crimea, Russia embraced a grand strategy oriented to the countries of the 'Global South' and China, including in the military sphere. The 2022 re-invasion of Ukraine reinforced this shift, including in the military sphere. However, Moscow's approach has varied, increasing relations with some countries but not with others.

This chapter is an early attempt at understanding Russia's wartime military cooperation. I frame Russia's international military cooperation as an instrument of Moscow's great power revival grand strategy. I argue that Moscow's armed forces cooperate with foreign militaries in the Global South to advance its grand strategy. Namely, these instances of cooperation demonstrate Russia's capabilities for global reach, advancement of a certain understanding of international 'security'.

In 2022, military cooperation continued despite the costs – material and reputational – incurred by Moscow in its full-scale aggression of Ukraine. In this context, there is change that needs explanation. Namely, that Russia is cooperating more closely with some partners but not with others. The evidence from four cases – Iran, Myanmar, North Korea, and Venezuela – suggests Russia's military international relations shifting from being a tool of influence abroad to becoming also 'utilitarian' and more narrowly focused on the gaps evinced by the ongoing war.

Russia's full-scale aggression against Ukraine transformed Russia's international relations, plunging the country into further international isolation. International sanctions, restrictions for financial exchange and an overall loss in prestige have rendered Russia into even more of a pariah than before 2022. While some sectors continue operating internationally, unencumbered by sanctions – such as Russian grain exports –, others have become untenable as international partners. The Russian military is the

[1] This presentation and chapter draw from my ongoing research at the International Centre for Defence and Security about Russia-Global South relations.

author of tens of thousands of war crimes committed in and against Ukraine, rendering this an infamous organisation like few others today.[2]

Yet, the Kremlin insists that Russia is not isolated. When it comes to the Russian armed forces, they continue to seek out foreign partners across the world. A conspicuous effort in this direction was the 2022 edition of the annual Moscow Security Conference, announced to have thirty-five foreign delegations participating either in person or online.[3] The conference, organised by the Ministry of Defence, dedicated extensive attention to international affairs, including plenary sessions dedicated to security in Latin America, and Africa and the Middle East.[4] Despite struggling to prevent the liberation of Ukraine's occupied territories, the Russian armed forces insist that they retain a global reach.

This perspective goes beyond the rhetorical to include concrete measures of international military cooperation. Moscow today is far from having the expansive network of military bases, agreements, and foreign operations the Soviet Union once had. Yet, its engagements today are found in every continent. In Europe, prior to 2014, Russia had military-to-military contacts, particularly in the fight against terrorism. But, with the start of Russia's invasion of Ukraine in 2014, and especially since 2022, cooperation with the West ended, even on arms control.[5] Just as Russian diplomacy had to search for new partners in the rest of the world to avoid and evade sanctions, its military expanded its 'Global South' engagements.

What has driven Russia's military to deepen its engagements with some long-standing military partners and not with others? What do these engagements reveal about Russia's grand strategy, a year into the full-scale invasion of Ukraine? The answer to these questions will have implications for our understanding of Moscow's evolving grand strategy. I briefly present here four cases, showing variation in Moscow's approach to military cooperation with the countries of the Global South: Iran, Myanmar, North Korea, and Venezuela. These countries have four highly authoritarian regimes, all of which enjoy relatively good relations with Moscow prior to the start of the full-scale war. Russia's military cooperated routinely with these countries, including through arms sales and upkeep, joint training missions and other modes of engagement. Yet, paths diverged since the 24th of February 2022. While none of these countries broke military relations with Russia, only some delivered substantial military support to Russia's full-scale war. There is a lot we do not know about Russia's international military engagements, with information surfacing only months after the fact.[6] This limitation makes the following only an early approach at these questions.

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[2] Macias, Amanda, "Russia has committed more than 65,000 war crimes in Ukraine, prosecutor general says," *CNBC*, 1 February 2023. https://www.cnbc.com/2023/02/01/ukraine-russia-war-65000-war-crimes-committed-prosecutor-general-says.html (last accessed 10 March 2023).

[3] "Defense chiefs from 35 countries confirm participation in Moscow Security Conference," *TASS*, 10 August 2022. https://tass.com/defense/1491901 (last accessed 10 March 2023).

[4] Moscow Security Conference website. https://eng.mil.ru/en/mcis/index.htm (cached copy last accessed 10 March 2023).

[5] Picheta, Rob et al, "Putin pulls back from last remaining nuclear arms control pact with the US," *CNN*, 21 February 2023. https://edition.cnn.com/2023/02/21/europe/putin-russia-new-start-nuclear-pact-intl/index.html (last accessed 10 March 2023).

[6] For example, Ukraine, despite its close wartime partnership with the West, did not reveal that Bulgaria supplied a large portion of the ammunition and diesel used during the three first months of the full-scale war. Henley, Jon, "Bulgaria secretly supplied Ukraine fuel and ammunition in early months of war," *The Guardian*,

Military cooperation in Russia's grand strategy

The regions grouped together as the 'Global South' have been of importance to Moscow at least since the Cold War. Notably, they play a role in Russia's claims to being a great power, which are a cornerstone of the country's grand strategy. As Tudor Onea argues, essential to being a great power is having the commensurate capabilities, taking on the burden of managing international institutions, and obtaining international recognition of such status.[7] Along similar lines, Moscow has been pursuing a grand strategy to stand again as a great power. Of foremost importance for Russian grand strategy has been reasserting Moscow's influence among the countries of Eastern Europe, the South Caucasus, and Central Asia, what it possessively refers to as its 'Near Abroad'. A mixture of asymmetric regional integration and military coercion helped Russia prevent greater Western influence in these areas.[8]

Beyond its immediate neighbourhood, Russia has leveraged multiple assets at its disposal to assert its great power ambitions. These include its military industry, energy sector and state tertiary education. Arms exports, investments in energy and scholarships are included in Russia's approach to regaining influence in all continents. Russia has also been seeking recognition as a great power. Of foremost importance has been recognition from would-be peer powers, the United States and Europe. But as it has not been forthcoming, BRICS also functions as a platform for these ambitions.[9]

Russia's military has been actively playing a role in each of these three elements of Moscow's pursuit of great power status. Crucially, military power has underwritten Russia's reassertion over the countries once under Soviet control. In the 1990s, Russian 'peacekeepers' preserved under Moscow's control various breakaway regions in Georgia and Moldova. The 2008 and 2014 invasions of Georgia and Ukraine, respectively, were meant to prevent NATO enlargement into those two countries.[10] Russia's claim to great power status involves, thus, a presumption to a right to intervene in its 'Near Abroad'.

Russia's military contributes to Moscow's quest for great power status in other ways as well, including beyond the countries that share a border with Russia. Military cooperation stands out as a feature in Russia's engagements with the countries of the Global South. Military cooperation can be circumscribed to the broader literature on alliances. Like an alliance, military cooperation is meant to increase the security of the cooperating parties. This commitment to collective security can be seen as a gradient, consisting of different degrees of commitment and actual measures to increase joint security. Military cooperation can be either formal or behavioural. Formal military cooperation refers to the symbolic and legal element of cooperation: agreements, treaties, institutionalisation, and the accompanying rhetoric of collective security.

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18 January 2023. https://www.theguardian.com/world/2023/jan/18/bulgaria-secretly-supplied-ukraine-fuel-ammunition-first-months-war-russia (last accessed 10 March 2023).

[7] Onea, Tudor, *The Grand Strategies of Great Powers*. Routledge, 2020, pp. 24–27.

[8] Onea, Tudor, *The Grand Strategies of Great Powers*. Routledge, 2020, pp. 207–215. On the 'Near Abroad', see Toal, Gerard, *Near abroad: Putin, the West and the contest over Ukraine and the Caucasus*. Oxford University Press, 2017.

[9] Røren, Pål, and Paul Beaumont, "Grading greatness: evaluating the status performance of the BRICS." *Third World Quarterly* 40, no. 3 (2019), pp. 429–450.

[10] Dyomkin, Denis, "Russia says Georgia war stopped NATO expansion," *Reuters*, 21 November 2011. https://www.reuters.com/article/idINIndia-60645720111121 (last accessed 10 March 2023).

Behavioural cooperation refers to the actions engaged by the two cooperating militaries. These typically include joint military exercises, joint training, joint operations, confidence-building measures, personnel exchange, among other activities.[11] Also like alliances, military cooperation can be symmetric or asymmetric. In the latter case, the minor partner is a net 'importer' of security, while the major partner retains its autonomy vis-à-vis its alliance commitments.[12]

Russia's military is active in both forms of cooperation with partners across the world. Russia has many military cooperation agreements signed with the countries outside of Europe and North America. According to the Institute for the Study of War (ISW), between 2014 and 2020 Russia signed several agreements with sixty different countries in Africa, Latin America, the Middle East, South and Southeast Asia.[13] In the case of Africa, for example, the turn to the Global South is made evident with the growth of agreements in that continent from 2014 and especially since 2017. Between 2010 and 2017, Russia signed seven security cooperation agreements with African states. In 2017-2019, Russia signed a total of 20.[14] By the end of 2021, Russia had agreements with 50 out of 54 African states.[15]

Behavioural forms of cooperation are harder to map as comprehensively, but examples abound.[16] Russia has engaged in cooperation against drug trafficking in Central America, even running a training installation in Nicaragua in what is sometimes seen as a military base abroad.[17] Russia's armed forces train officers from many countries, ranging from eSwatini to Peru.[18] Russia also assists foreign militaries with military intelligence, such as assisting Venezuela's radar programme and Mozambique's intelligence capabilities in Cabo Delgado.[19]

No instance of Russia's military cooperation can be said to amount to an alliance *tout court*.[20] Yet, military cooperation with certain countries in the Global South has stood

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[11] D'orazio, Vito, "International Military Cooperation: From Concepts to Constructs." Doctoral thesis defended at Pennsylvania State University (2014), pp. 57–63.
[12] Morrow, James D. "Alliances and asymmetry: An alternative to the capability aggregation model of alliances." *American journal of political science* (1991): 904–933.
[13] "Russian Security Cooperation Agreements Signed July 2014 – May 2020," *Institute for the Study of War*. https://www.understandingwar.org/sites/default/files/List%20of%20Russian%20Security%20Cooperation%20Agreements%20Post-2014.pdf (last accessed 10 March 2023).
[14] Tchoubar, Poline, "La nouvelle stratégie russe en Afrique subsaharienne: nouveaux moyens et nouveaux acteurs," *Fondation pour la Recherche Stratégique*, 11 October 2019. https://www.frstrategie.org/sites/default/files/documents/publications/notes/2019/201921.pdf (last accessed 10 March 2023).
[15] Grissom, Adam R., Samuel Charap, Joe Cheravitch, Russell Hanson, Dara Massicot, Christopher A. Mouton, and Jordan R. Reimer, *Russia's Growing Presence in Africa: A Geostrategic Assessment*. RAND Corporation, 2022. https://www.rand.org/pubs/research_reports/RR4399.html (last accessed 10 March 2023).
[16] There have been several attempts at a quantitative approach to analysing 'behavioural' military cooperation. For instance D'orazio, Vito, "International Military Cooperation" and Bernhardt, Jordan. *The Causes and Consequences of Joint Military Exercises*. Doctoral thesis defended at Stanford University (2020).
[17] López, Alberto, "Rusia inaugura en Nicaragua una academia para luchar contra el narcotráfico," *infodefensa.com*, 21 October 2017. https://www.infodefensa.com/texto-diario/mostrar/3074645/rusia-inaugura-nicaragua-academia-luchar-contra-narcotrafico (last accessed 10 March 2023).
[18] Zedano, Ricardo, "Cadetes peruanos en la Escuela de todas las armas en Rusia," *TeleSURtv.net*, 23 November 2015. https://www.telesurtv.net/imreporter/Cadetes-peruanos-en-la-Escuela-de-todas-las-armas-en-Rusia-20151123-0031.html (last accessed 10 March 2023).
[19] "Malgré le départ de Wagner, Moscou reste impliquée au Cabo Delgado," *Africa Intelligence*, 2 December 2021. https://www.africaintelligence.fr/afrique-australe-et-iles/2021/12/02/malgre-le-depart-de-wagner-moscou-reste-impliquee-au-cabo-delgado,109708351-gra (last accessed 10 March 2023).
[20] The relationship with China – Russia's most pivotal partner – has many formal and behavioural features of an alliance. However, cooperation in neither of them crosses the notional threshold of alliance. See Korolev,

out as a way for Russia to gain scope in its international power projection. For example, every five years Russia has flown its strategic Tupolev Tu-160 bombers to Venezuela and back. These sorties have been widely seen as Moscow's show of force in the Caribbean and a show of support for its embattled partner.[21]

Another important factor – especially since 2014 – is the goal of undermining Western influence and promoting Russia's vision of international 'security'. The military agreements mentioned above are frequently pursued in zero-sum terms; instead of creating security together with the West, Russia positions itself as an alternative to the West. Following a similar logic, Russian military cooperating – particularly in countries in conflict – seeks to undermine 'liberal' and democratic forms of conflict management. It does so by promoting its own 'illiberal' approach to conflict management, one that overly relies on coercion and authoritarian consolidation.[22] In short, Russia's great power revival grand strategy is displayed in its international military cooperation. Russia demonstrates its capability, its commitment to international security according to its illiberal understanding and brings its confrontation with the West to the rest of the world.

Military cooperation since 2022: four case studies

The secretive planning of the full-scale invasion and Russia's expectation of a quick victory meant that Moscow's diplomatic relations – including international military engagements – were not prepared for a protracted war.[23] While military relations have continued between Russia and its partners, Moscow's ability to provide arms or attention to military partnerships abroad came under question for many. For instance, southeast Asia reduced its Russia's arms purchases to a minimum.[24] Russia's diplomacy in 2022 had to accomplish several political goals, among them to reassure its partners that Moscow remains engaged with their joint agenda despite the war.

Despite all the instances of military cooperation, Global South military support for Russia's war is limited. Four brief case studies can help illustrate this broader dynamic: Iran, Myanmar, North Korea, and Venezuela. These four states are different in many ways and their policy response to the war has had different features. They all converge on a rhetorical support for Russia, but their material support has varied.

Iran

Of the four cases considered, Iran has stood out for its wide and symmetrical military cooperation with Russia in 2022. The broader Iran-Russia relationship has had

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Alexander. "On the verge of an alliance: Contemporary China-Russia military cooperation." *Asian Security* 15, no. 3 (2019): 233-252.

[21] Phillips, Tom, "Venezuela welcomes Russian bombers in show of support for Maduro," *The Guardian*, 10 December 2018. https://www.theguardian.com/world/2018/dec/10/venezuela-russian-bombers-maduro (last accessed 10 March 2023).

[22] Jütersonke, Oliver, Kazushige Kobayashi, Keith Krause, and Xinyu Yuan. "Norm contestation and normative transformation in global peacebuilding order (s): The cases of China, Japan, and Russia." *International Studies Quarterly* 65, no. 4 (2021): 944-959.

[23] Eckel, Mike, "Russian Officials Predicted A Quick Triumph In Ukraine. Did Bad Intelligence Skew Kremlin Decision-Making?," *RFERL*, 11 March 2022. https://www.rferl.org/a/russia-invasion-ukraine-intelligence-putin/31748594.html (last accessed 10 March 2023).

[24] Boulianne, Myriam, "In Southeast Asia, buying Russian weapons has become 'a risky bet'," *Le Monde*, 30 June 2022.

periods of estrangement and conflict, and periods of closer cooperation. In the last few years, the bilateral relationship has entered a period of growing engagement across several sensitive sectors. For instance, in Syria, Moscow and Tehran back al-Assad, engaging in limited forms of coordination on the ground.[25] Iran responded to the 2022 full-scale invasion of Ukraine expressing broad support for Moscow. In response, Moscow converged with Tehran on several sensitive topics, such as nuclear proliferation and the JCPOA.[26]

Iran's defence industry is large and mostly developed under sanctions. It features an aviation and missile industries, capable of producing drones, aircraft and missiles of all types and ranges.[27] While Moscow and Tehran deny any such exchange, it has been reported that Russia obtained in the summer of 2022 at least 2400 kamikaze drones from Iran. These reportedly arrived in Russia by Caspian Sea cargo and air freight.[28] In exchange, Russia allegedly rerouted a number of Su-35 fighter jets, originally meant to be sold to Egypt.[29] Iran's enduring nuclear ambitions and Russia's prominent nuclear sector can offer new opportunities for exchanges in the near future.[30]

Myanmar

Since the 2021 military coup d'état in Myanmar, Russia-Myanmar relations have hinged on military-to-military contacts. In particular, the junta seeks Russian arms that would add to its counter-insurgency strategy. Even before the coup, the Myanmar military has seen in Russia a capable partner, a supplier of arms, combat aircraft, and helicopters for two decades. Russia has continued to cooperate with the Myanmar junta since 2022, featuring arms transfers, nuclear energy engagements (allegedly for civilian use) and other areas. The junta echoes all of Russia's views on Ukraine, partly out of disinterest and deference to Moscow.

These military exchanges are asymmetrical, with Russia receiving non-military support in exchange for its help.[31] Despite Russia's war, Russia-Myanmar military cooperation seemingly expanded in 2022. In November 2022, the first official, public meeting of an 'anti-terrorism' committee took place. Nothing is known about the precise agenda of the meeting.[32] But the subject and personnel involved suggest that the junta is interested in Russia's experience in how to fight an insurgency, as they did in Chechnya and Syria.

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[25] Grajewski, Nicole, "The Evolution of Russian and Iranian Cooperation in Syria," *Center for Strategic & International Studies*, 17 November 2021. https://www.csis.org/analysis/evolution-russian-and-iranian-cooperation-syria (last accessed 10 March 2023).
[26] Notte, Hanna, "Don't expect any more Russian help on the Iran nuclear deal", *War on the Rocks*, November 2022. https://warontherocks.com/2022/11/dont-expect-any-more-russian-help-on-the-iran-nuclear-deal/ (last accessed 10 March 2023).
[27] Kvamladze, Tato, "Iran's Defence Industry: What's in Stock for Russia?," *International Centre for Defence and Security*, 18 January 2023. https://icds.ee/en/irans-defence-industry-whats-in-stock-for-russia/ (last accessed 10 March 2023).
[28] "Iran Delivered Ammunition to Russia on Caspian Sea Cargo Ships – Report," *The Moscow Times*, 8 March 2023. https://www.themoscowtimes.com/2023/03/08/iran-delivered-ammunition-to-russia-on-caspian-sea-cargo-ships-report-a80425 (last accessed 10 March 2023).
[29] Czulda, Robert, "What Iran's Purchase of Russian Jets Means for Regional Security," *Stimson*, 8 February 2023.
[30] Kvamladze, "Iran's Defence Industry".
[31] The junta has advocated for Russia in fora such as ASEAN, e.g., "Myanmar Junta in Spotlight After Zelensky Barred from ASEAN Summit," *The Irrawaddy*, 11 November 2022.
[32] "Top Russian General Meets with Myanmar Junta Chief," *The Irrawaddy*, 1 December 2022.

North Korea

North Korea is reported to have materially contributed to Russia's war effort. Relations between the two countries have been distant but cordial since the Soviet collapse, and received a new impulse in 2022. Pyongyang has consistently supported Russia at the UN and recognised Russia's occupation of east Ukraine as an annexation. Otherwise, there is mostly opacity on the bilateral relationship and its evolution since 2022.

Military cooperation between Russia and North Korea can be considered symmetrical, as neither party is dependent on the other. According to the US government, Pyongyang has been supplying Moscow with weapons manufactured after Soviet designs.[33] In November, reports emerged that rail cargo between the two countries resumed after years absent.[34] Speaking to a Seoul-based newspaper, a North Korean officer alleged that Pyongyang sent old munition stocks in exchange of food and fuel.[35] No evidence is available to confirm that this cargo included any weapons as allegedly the trains are returning from Russia empty.[36] North Korea has sold weapons and made overseas deployments in the past, but always in the utmost secrecy.[37] Some have alleged that North Korea may be sending weapons to one of its African partners for Wagner to later forward to Russia.[38] Since North Korea spends about a quarter of its total GDP in defence, presumably there is capacity to take Russian munition manufacturing orders, which some South Korean media have already suggested.[39] Reportedly, North Korea has sought to obtain Russia-captured Western technology in exchange of its support for Russia.[40]

Venezuela[41]

During Hugo Chavez's time in power (1999-2013), Russia went from a distant counterpart to a close partner of Venezuela's rulers. By 2008, Moscow became heavily involved in Venezuela's oil industry and cooperation proliferated among many civilian

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[33] Kube, Courtney, "North Korea is secretly supplying weapons to Russia, White House says," *NBC News*, 2 November 2022. https://www.nbcnews.com/politics/north-korea-secretly-supplying-weapons-russia-white-house-says-rcna55245 (last accessed 10 March 2023).
[34] Williams, Martyn & Makowsky, Peter, "First Traffic Observed on North Korea-Russia Railway Link in Several Years," *38 North*, 4 November 2022. https://www.38north.org/2022/11/first-traffic-observed-on-north-korea-russia-railway-link-in-several-years/ (last accessed 10 March 2023).
[35] Jang, Seulkee, "An interview with a high-ranking N. Korean cadre about weapons exports to Russia," *Daily NK*, 23 December 2022. https://www.dailynk.com/english/interview-high-ranking-north-korean-cadre-about-weapons-exports-russia/ (last accessed 10 March 2023).
[36] Jang, "An interview…".
[37] Abrams, A., "Will We See North Korean Forces in Eastern Ukraine?," *The Diplomat*, 10 August 2022. https://thediplomat.com/2022/08/will-we-see-north-korean-forces-in-eastern-ukraine/ (last accessed 10 March 2023).
[38] Beardsworth, James, "Is Russia Receiving Weapons form North Korea?," *The Moscow Times*, 18 December 2022. https://www.themoscowtimes.com/2022/12/18/is-russia-receiving-weapons-from-north-korea-a79641 (last accessed 10 March 2023).
[39] Jang, Seulkee, "N. Korea may be producing munitions for export to Russia," *Daily NK*, 24 November 2022. https://www.dailynk.com/english/north-korea-may-producing-munitions-export-russia/ (last accessed 10 March 2023).
[40] "Pyongyang's planned military technology transfers from Donbass," *Intelligence Online*, 23 September 2022. https://www.intelligenceonline.com/international-dealmaking/2022/09/23/pyongyang-s-planned-military-technology-transfers-from-donbass,109825298-art (last accessed 10 March 2023).
[41] This section draws from my 2023 article Klyszcz, Ivan, "Russia's Intelligence Agencies in the Global South: the Case of Venezuela," *Riddle*, 9 January 2023. https://ridl.io/russia-s-intelligence-agencies-in-the-global-south-the-case-of-venezuela/ (last accessed 10 March 2023).

and military areas. Military cooperation proliferated across several spheres, from military intelligence, joint training, and exercises. By the mid-2000s, Russia became Venezuela's foremost arms supplier, and remained so until Venezuela's economic difficulties impeded arms imports.[42] In the mid-2010s, military cooperation gained a new urgency. Since 2016, the Trump administration in the US hinted at a military intervention in Venezuela to depose Maduro. By 2018, Caracas accused the US of planning an armed intervention, with Colombia acting as the staging ground for an invasion. On this basis, Caracas leaned even more on Russia for security. In 2022, Caracas expressed support for Russia's full-scale aggression against Ukraine, support that remains in place at the start of 2023.

This military cooperation is asymmetrical, as Caracas offers little support for Russia's armed forces, before and after 2022. According to what is known, military cooperation with Venezuela has not stopped despite the war. In February 2022, Maduro proclaimed that Caracas would expand military cooperation with Russia. But the substance of this enhanced cooperation is unknown. Some have suggested that troubles in Venezuela's military forces (de-professionalisation in particular) render substantive cooperation into an impossibility.[43] At the same time, some indications of cooperation have surfaced. In August 2022, in the framework of international army games, a team of Russian forces participated in the Venezuelan stage of the games.[44] In the second half of 2022, Russia and Venezuela moved towards placing a new GLONASS installation in Venezuela. While civilian in its stated purposes, Russia has lent its military radar technology and expertise to Caracas for years.[45]

Case comparison

All four cases considered here have demonstrated a disposition to cooperate militarily with Russia during 2022 and beyond. None of them has seen the full-scale war as a deal-breaker. None of them care about any potential reputational damage, either. Yet, some of these countries have been able to substantiate their cooperation with Russia with material support, while others have not. There are limitations for how much we can conclude on the basis of the information available on Russia's cooperation with these four countries. But a comparison based on what is publicly known hints at the relevance of a few factors in shaping the wartime military ties between Russia and its Global South partners: access, capacity, and disposition (Table 1).

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[42] SIPRI Arms Transfers Database. https://www.sipri.org/databases/armstransfers (last accessed 10 March 2023).
[43] Ocando Alex, Gustavo, "Siete puntos para entender la cooperación militar entre Venezuela y Rusia," *Voz de America*, 18 February 2022. https://www.vozdeamerica.com/a/siete-puntos-para-entender-hacia-donde-va-la-cooperacion-militar-ruso-venezolana/6446574.html (last accessed 10 March 2023).
[44] Álgarra, Alvaro, "Venezuela prepara juegos militares acompañado de Rusia, China, e Irán," *Voz de America*, 11 August 2022. https://www.vozdeamerica.com/a/venezuela-prepara-juegos-militares-acompanado-de-rusia-china-e-iran/6697976.html (last accessed 10 March 2023).
[45] Klyszcz, "Russia's Intelligence Agencies…".

	Iran	Myanmar	North Korea	Venezuela
Military cooperation	Symmetric	Asymmetric	Symmetric	Asymmetric
Easy access	Yes (ferry)	No	Yes (freight)	No
Capacity	Industry	None	Industry	None
Disposition	Yes	No (insurgency)	Yes	No (repression)
Material support for Russia in 2022	Yes (drones)	No	Yes (shells?)	No

Table 1. Case studies

Distance is likely a factor in facilitating or impeding material exchanges. Iranian ferries can reach Russia while North Korea is known to have restarted freight with Russia. Myanmar and Venezuela would have to rely on long-distance shipping or air transport for any similar deliveries. The difficulties of a long-distance smuggling operation could make it prohibitively expensive for those two cash-strapped regimes. Sanctions are an important factor here too, but all four countries are known to use sanctions evasion instruments, such as crypto currencies, as well as run their own sanctions-busting schemes.[46]

Capacity is another key element. Iran and North Korea have relatively large arms industries. In Iran's case, Tehran produces drones and other systems higher up the value and technology chain. In the case of North Korea, its arms are compatible with Russia's standard kit, most notably artillery shells. Myanmar and Venezuela, despite their respective high levels of internal conflict and militarisation, have no similar arms industries. Cases of large customers of Russian arms re-selling weapons to Russia have not surfaced as of writing.

Disposition is likely also playing a role here. Specifically, local conflict and the needs of these governments must be taken into consideration. Myanmar has within its borders the world's longest ongoing civil war. Venezuela is not usually considered to be in civil war but its regime's reliance on coercion and latent conflict with Colombia both have a military dimension. Iran and North Korea, despite their respective challenges, have a time-tested repressive apparatus that in both cases has overcome internal rebellions against their respective regimes. The different degrees of internal and external conflict in relation to their capabilities might be shaping their disposition to lend material support to Russia's war.

[46] E.g., "¿Las criptomonedas han ayudado a Venezuela a evadir las sanciones de EE. UU.?," *InsightCrime*, 31 July 2019. https://es.insightcrime.org/noticias/noticias-del-dia/las-criptomonedas-han-ayudado-a-venezuela-a-evadir-las-sanciones-de-ee-uu/ (last accessed 10 March 2023).

Conclusions

Russia's military plays a large role in the country's grand strategy of restoring great power status. This role has prominently featured in Moscow's armed interventions and invasions but is also actualised through military cooperation. In the Global South, this cooperation is constant, reaches all continents and takes many shapes. The global reach of this cooperation is meant to demonstrate Moscow's great power capabilities, substantiate its commitment to global 'security' (according to its own understanding of the term) and in some cases make a conspicuous show of Russia's great power claims. Russia's full-scale invasion of Ukraine in 2022 impacted Russia's reputation as a (relatively) reliable arms supplier and partner in military affairs. Yet, cooperation has not been interrupted.

In Iran and North Korea, Russia cooperated with their respective militaries primarily to procure arms for its battlefield needs in Ukraine. While reports only give a partial and tentative look at their transfers, evidence suggests that Russia's approach was transactional. In exchange for arms, Moscow gave other arms to Iran and other goods to North Korea. In both cases, opportunity and access played a role. In the case of North Korea in particular, compatibility in defence systems may be playing a critical role, too. In Myanmar and Venezuela, Moscow finds two loyal partners. But their ability to deliver tangible support to Russia's invasion is – according to what is known – limited. Neither country has easy access to Russia's territory, raising costs and risks in any potential transfer. Opportunity is also lacking as both countries also need arms for their respective internal conflicts. In addition, neither has a large and compatible defence industry (unlike North Korea) or a relatively higher value-added defence industry (unlike Iran).

According to what we know, Russia's leadership planned for the full-scale invasion to last only a few weeks, presenting the world a *fait accompli* in the capture of Ukraine. Ukraine's valiant resistance thwarted these schemes. In doing so, Ukraine also made Russia confront the international consequences of its war. In the Global South, Russia has had to argue for its invasion, deflecting attention away from the economic consequences of its war. Regarding military cooperation in the Global South specifically, Moscow has had to make the case for its continued relevance despite its attention being elsewhere. In the four cases considered here – Iran, Myanmar, North Korea, and Venezuela –, Russia has remained engaged with previous forms of cooperation and even expanded on them. The expansion, however, responds to a mixture of Russia's great power revival agenda and its battlefield needs in Ukraine.

19

COUNTERING THE RUSSIAN INVASION STRATEGY IN UKRAINE: CONCEPTIONS AND CAPABILITIES

Andrii Ivashchenko, Valerii Hordiichuk and Nina Andriianova

The presentation by Andrii Ivashchenko, Valerii Hordiichuk and Nina Andriianova in the Russia Seminar 2023 can be found on the FNDU YouTube-channel: https://www.youtube.com/watch?v=muXRFJjq80U starting from 1:26:30.

Abstract

Since the beginning of russia's large-scale invasion of Ukraine in February 2022, the Armed Forces of Ukraine have successfully defended and pushed back Russian forces in many regions, despite a number of obvious challenges. To date, the Armed Forces of Ukraine have demonstrated considerable flexibility during the conflict, the ability to integrate Western security assistance and training into their military operations. The Defence Forces of Ukraine continue to restrain the pressure of the Russian troops, the resistance is accompanied by significant losses of Ukraine in personnel and equipment. Both sides faced the risks of the winter period.

Russia's large-scale aggression against Ukraine does not fit into the concept of a medium intensity local conflict in terms of duration, spatial indicators, the number of military forces involved, the list of weapons and other high-tech equipment involved in the conflict. Therefore, by all indications, this conflict can be identified as an undeclared war. Therefore, for today:

- the Defence Forces of Ukraine operate on a 2,500 km front from Kherson to Kovel
- tens of thousands of pieces of military equipment are involved in the conflict, more than a million people who directly or indirectly participate in this war with weapons in their hands
- on the part of Russia, up to 1,500 launches of high-precision cruise missiles (high-precision missiles) of the type Iskander, Kalibr, Kh-101/555, etc. are executed[1], on average, it is up to 200 rockets every month
- the Armed forces of Russia spend up to 50-60 thousand artillery rockets and shells every day and
- Russia is aiming for a protracted, attritional campaign, so there is every reason to believe that the active phase of high intensity will continue throughout 2023.

[1] Reznikov O., Ministry of Defence of Ukraine. Demilitarization of Russia. Twitter, 14 November, 2022.

The following principles are the basis of the aggressive strategy of the Russian federation:

- directed at the destruction of the state, which, given the level of equipment of its armed forces, was unable to adequately countering the russian troops
- impunity, which in the political plane is determined by weak political will and insufficient consolidation of the countries participating in the military-political blocs, and in the military plane by the territorial dislocation of decision-making centers and important strategic objects outside the zone of action of Ukrainian weapons
- a long active phase of hostilities based on significant resources
- widely tested use of proxy forces and
- creeping militarization of russian consciousness.

The goal of the Russian strategy remains to maintain control over the temporarily occupied territory of the Autonomous Republic of Crimea and to get access to the administrative border of the Donetsk region. Plans to advance deeply into the territory of Ukraine in the direction of Kryvyi Rih and Zaporizhzhia are being considered. Not excluded from the agenda is the return to plans to capture Kyiv and re-deploy forces from the territory of the republic of belarus.

The aggressor country uses such methods of hybrid warfare as:

- hiding the goals of aggression
- destruction of energy infrastructure facilities of Ukraine
- denial of strikes on civilian objects, destruction of hospitals, residential buildings, terror against the civilian population and
- transferring responsibility for the global food crisis to Ukraine.

It is predicted that hybrid warfare will continue beyond 2023. It is possible to talk only about a new stage of confrontation. Of course, with different initial data and perspectives, but it will be an ongoing conflict, heavy casualties, expenditure of resources and an uncertain end result**.**

Thus, despite the massive use of conventional weapons by the Russian armed forces, Russia's aggressive strategy against Ukraine contains all the signs of a hybrid war, which is characterized by an increase in the number of spaces and operational domains of combat operations. In addition to the traditional operational domains of physical space – land, sea, air, space, operational domains of virtual space - cybernetic and informational, countering Russian aggression continues in new dimensions. Thus, in the conditions of conducting hostilities on one's territory, for de-occupation operations, the cognitive domain, the so-called "war for minds", is of great importance.

The prospects of the military campaign to liberate the occupied territories of Ukraine and further ensure the military security of Ukraine are considered taking into account such a complex and ambiguous combination of factors of Russian aggression in many areas. Only their full and comprehensive consideration, the achievement of synergistic effects at the intersection of domains, will create the prerequisites for the victory of Ukraine and the end of the destructive war in Europe.

As the Ukrainian army is challenged to constantly evolve and transform the way we think, equip, educate, training, organize and prepare for cooperation, competition and to be ready to resist aggression. To achieve this, the Armed Forces of Ukraine are adapting doctrine, organization, and training to create a fighting force capable of countering Russia's great power aggression through operations in multiple areas.

The Ukrainian army is much smaller in size and capabilities than the Russian one. The Armed Forces of Ukraine are solving the problem of supporting joint forces that oppose an enemy with greater capabilities. This is an additional argument to adopt the approaches offered by the concept of multi-domain operations[2].

In the operational domains of physical space, the only way to counter Russian aggression is to launch several successive, optimally simultaneous counterattacks during the 2023 campaign[3]. At the same time, the issue of their planning and implementation requires an additional number of missiles, ammunition, artillery systems, missile systems, electronic warfare equipment, as well as the use of new approaches to countermeasures and deoccupation of the territory of Ukraine. New strategic approaches must take into account both innovations and modernizations developed by military specialists of the leading countries of the world, as well as features inherent in the current high-intensity conflict.

The main feature of countering Russia's aggressive strategy is non-significant difference in the number of forces of the parties in favor of the russians, and not significant spatial indicators of the strategic operation against Ukraine. The disparity in capabilities is decisive. Its most revealing embodiment is the difference in the ultimate reach of high-precision weapons. If for the Armed Forces of Russia it's up to 2,000 km, taking into account the flight range of air-based cruise missiles, then for the Armed Forces of Ukraine it's actually limited to 100 km by the flight range of missiles and the depth of the location of the starting positions of outdated operational-tactical missile systems. Thus, since the beginning of the large-scale aggression, the means of defeat of the Armed Forces of Ukraine have a range almost 20 times smaller than that of the enemy.

It is necessary to ensure the ability to act symmetrically and at a similar range. This requires the supply by Ukraine's partners to the Defence Forces of Ukraine of weapons systems and certain types of ammunition with the appropriate range. A comprehensive approach to the re-equipment of artillery, missile forces, tactical aviation, the Naval Forces of the Armed Forces of Ukraine and other components of the Defence Forces must be applied. The discussion should be conducted in the context of the creation or building of capabilities, and not exclusively about the number of weapons and military equipment. It is necessary to equip and re-equip the Armed Forces of Ukraine with weapons systems of the appropriate range, with a proper long-term vision. It is possible to talk about a turning point in the course of the war only if the balance of capabilities is equalized.

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[2] US Army Training and Doctrine Command [TRADOC]. 2018. 'The US Army in Multi-Domain Operations 2028'. TRADOC Pamphlet 525-3-1, 6th December. Fort Eustis VA, US Army. https://www.tradoc.army.mil/Portals/i4/Documents/MDO/TP525-3-i_30Nov20i8.pdf [Accessed: 1st November 2022.

[3] Залужний В.Ф, Забродський М.В. Скільки може тривати ця війна і як нам в ній перемогти. Укрінформ. 07.09.2022. https://www.ukrinform.ua/rubric-ato/3566162-ak-zabezpeciti-voennu-kampaniu-u-2023-roci-ukrainskij-poglad.html.

In order to support the joint forces, it is necessary to have constant interaction between the domains while preserving their full freedom of action, the ability to a flexible system of capacity building and constant maneuvers. A multi-domain operation is not only a simple coordination of the actions of the ground forces, aviation, navy and other components of the defense forces, but the creation of such capabilities that would allow, if necessary, the ground forces to fully use the capabilities of the Special Operations Forces, marines, aviation, cyber forces, etc.

The concept of multi-domain operations is based on autonomous interaction: unit-unit, bypassing the vertical unit-headquarters operation. But, bypassing the joint headquarters, we inevitably face the factor of blurring the operation into individual combat operations. To avoid this, a reliable automated control and defeat system is needed. Such a system provides for the unification of all means of control, communication, intelligence and information processing (C4ISR) in a single network for the purpose of conducting multi-domain operations (JADC).

Today, the elements of such a system can be confidently attributed to the combat-proven Automated Tactical Management System (ATMS), geoinformation system "Arta", and the Starlink satellite system.

Automated command and control system GIS "Arta" [4] has been used by the Armed Forces of Ukraine since 2014 and has shown high efficiency compared to traditional approaches to management and control.

It is mostly used in artillery units, because of the specifics of planning and conducting hostilities, the requirements for factual data and the urgency of obtaining information about the results of hostilities. At the same time, GIS Arta has proven itself as a good instrument for situational and control centers, and exceptional tool for planning, monitoring, processing, and disseminating the results of intelligence operations.

The system is being developed and modernized based on close work and constant consultations with the users at the forefront of combat operations.

Starlink allows to create a unique strategic advantage over the enemy and creates new opportunities for control and communication in a multi-domain operation. Starlink capabilities provide:

- conducting modern network-centric and multi-domain operations that are inaccessible to the Russian armed forces
- organizing duplex video streams in real time
- creation of combat chats and other management systems for data exchange between thousands of subscribers in real time
- ensuring the concealment of communication from the actions of the enemy's radio-electronic intelligence at the expense of a narrowly directed communication channel to the satellite
- ensuring a high level of data protection in transmission channels
- support to the main Wi-Fi networks of tactical communication at each access point

[4] Automated command and control system GIS "Arta". www.gisarta.org.

- ensuring operational efficiency and deploy a communication and data exchange system within minutes in any hidden location and
- regular use on unmanned platforms of various types.

In our opinion, Starlink technology is suitable as one of the information exchange systems in multi-domain operations, primarily at the operational and tactical levels.

The confrontation in the cognitive dimension is a form of unconventional war, battle for hearts and minds of people. The specific objectives of influence are subordinated to the general strategy of de-occupation. The cognitive sphere is related to the activities of various subjects, including national resistance, resilience, reflexive management, strategic communications, public relations, interagency coordination, civil-military interaction. This area is largely concerned with the societal impact of disinformation, cyber and electronic warfare. The technologies of confrontation in the cognitive dimension are developing in close connection with the technologies of digitalization, artificial intelligence, analysis and big data processing. The combination of these technologies allows to control influence on communities and individuals to change their cognitive frames and behavior, including influence on political and military decision-making procedures. At the same time, the growing importance of the cognitive dimension gives rise to a wide range of research questions.

De-occupation operations will be conducted both in open areas and in densely built-up urban areas. The demographic, cultural, economic, and political complexity of densely populated urban areas requires any operation to be inherently multi-domain. Such areas represent one of the most complex operational environments due to the fusion of different spaces, domains and scales. Combat actions can take place on subsurface, surface, supersurface, intrasurface and air layer. Urban operations are influenced by the economy, politics, and cultural identity of population that reside in a densely populated urban region.

It is in densely populated urban areas that the effectiveness of using multi-domain operations can be the highest. The struggle takes place in a relatively small space with a dense and complex population, and victory is variable and rapid in both spatial and temporal senses. Analysis of various features of different domains, convergence at their intersections can provide important information that will be necessary during the deoccupation of agglomerations.

Implementation of the concept of multi-domain operations is proposed in the following directions:

- organizing the deployment of additional joint forces, attracting the potential of allies[5], preventing the enemy from using the methods of hybrid warfare, inflicting a quick defeat on the armed forces of Russia
- introduction of methods of using inter-services groups of troops (forces), which include new type units capable of operating separately from the main forces for a long time

[5] Залужний В.Ф, Забродський М.В. Скільки може тривати ця війна і як нам в ній перемогти. Укрінформ. 07.09.2022. https://www.ukrinform.ua/rubric-ato/3566162-ak-zabezpeciti-voennu-kampaniu-u-2023-roci-ukrainskij-poglad.html.

- concentration of military and political efforts at crucial moments of time on the main directions, i.e. creation of "windows of opportunity" for the maneuver of groups of troops (forces) and
- identifying a set of favorable conditions, factors and vulnerabilities that allow to gain an advantage over the enemy in various operational environments in order to capture, hold and use the initiative for further defeating it.

According to the assessment of our strategic partners[6], the UAF continues to demonstrate high levels of operational flexibility, motivation, and capability. The UAF command structure appears to be more centralized, as opposed to the more localized command structure exhibited earlier in the war. Nevertheless, the UAF command has demonstrated flexibility and a willingness to adjust operations due to changing circumstances, particularly at the unit level. It also appears the UAF continues to adopt NATO-style principles of command, such as the delegation of authority to local command as well as to junior and lower-level officers.

The implementation of the concept of multi-domain operations is a complex problem that the Armed Forces of Ukraine still need to overcome, and have to take intoa account both their own combat experience and the best practices of other countries. It will be much easier for NATO member countries to prepare for these changes, as NATO is now trying to unify countries' positions on multi-domain operations.

[6] Ukrainian Military Performance and Outlook. US Congressional Research Service, In Focus 12150, November 3, 2022. https://crsreports.congress.gov.

20

PROLONGED WARS IN THE 21ST CENTURY: SUSTAINING AND ADAPTING OVER A LONG CONFLICT

Marc R. DeVore and Kristen Harkness

The presentation by Marc R. DeVore and Kristen Harkness in the Russia Seminar 2023 can be found on the FNDU YouTube-channel: https://www.youtube.com/watch?v=muXRFJjq80U starting from 1:52:00.

Abstract

Russia's invasion of Ukraine on 24 February 2022 inaugurated a high-intensity conventional war whose duration exceeds virtually all comparable conflicts since the Korean War, save the Iran-Iraq War. Many of the wars scrutinized by Western armed forces for applicable lessons—such as the 1973 Arab-Israeli War (19 days), 1982 Falklands War (72 days), 1991 Gulf War (42 days) or 1998 Kosovo War (78 days)—pale in their duration to the one currently unfolding, which already exceeds 265 days. The length of this war, in turn, has elevated two hitherto less critical factors—defense-industrial supply chains and battlefield adaptation—to positions of primary importance.

Our research focuses on these two variables and compares Ukrainian and Russian approaches. To this end, we draw upon unique data provided to us by the institutional partners with whom we are collaborating, including Ukraine's MoD, state-owned defense manufacturer (Ukoboronprom) and the British MoD's lessons learned team.

To preview our conclusions, Ukraine's military has far outpaced its Russian counterpart when it comes to battlefield adaptation largely because of field commanders' leeway to experiment, and superior mechanisms for capturing the experience of lower level units and then promulgating best practices throughout the army. Russia's paradoxical combination of a fragmented command structure and rigidly top-down command culture has, meanwhile, stifled adaptation.

On the defense-industrial side, meanwhile, the lessons are more ambiguous. Russia's large equipment stockpiles and sprawling defense-industrial base have enabled it to sustain military operations and equip newly-raised units. Nonetheless, the result has been the progressive de-modernization of the Russian Army. The principal reason being Russia's dearth of dual-use semi-conductor and electronics industries. Ukraine, for its part, largely depends on Western suppliers who have long become accustomed to manufacturing small batches of very high-quality munitions. While Ukraine's foreign allies have succeeded at meeting its sustainment needs, the effort of doing so has taxed the collective defense industries of NATO and its non-European allies to an exceptional level.

21

HOW RUSSIAN PATRIOTIC EDUCATION WAS CHANGED TO SUPPORT WAR: MILITARY MASCULINITY AS A HEGEMONIC DISCOURSE AND PRACTICES OF RESISTANCE

Jonna Alava

The presentation by Jonna Alava in the Russia Seminar 2023 can be found on the FNDU YouTube-channel: https://www.youtube.com/watch?v=2n_vVxCD8CM starting from 3:30.

Abstract

Russia's already massive system of patriotic education has increased its volume with various initiatives, the militaristic and nationalist content of which is used to seek support and justification for the continuation of the war. Attempts to control youth's behaviour must be understood as a reaction to a prolonged war, that revealed gaps in domestic patriotic education. The concept of patriotism is changing from abstract "love for the Motherland" to readiness to take up arms.

Military training lessons starting in schools next year and the inclusion of the youth military organization Yunarmy in the enormous new "Russian movement of children and youth" suggests that the previous division into patriotic and military-patriotic education is becoming blurred. The hegemonic discourses supporting the war are largely based on the concept of military masculinity, the far-reaching effects of which are a special focus of this feminist study. Belligerent propaganda in schools has aroused resistance, which, despite the difficult operating environment, has also achieved some of its goals. Teachers and parents, mainly women, use a gendered discourse as a tactic to fight the dominance of the elite. Finally, disorganized mobilization has caused many to be sceptical about the values of patriotic education. By analysing hegemonic discourse and ways of resistance, the study examines how people are making sense of state patriotism after 24 February.

In this presentation, I ask 1) How the patriotic education change after the beginning of the war and what does it mean? 2) What are its gendered consequences? and 3) What are the ways of resistance? The study examines the relationship between power and society in the context of Russian patriotic education by following Foucaultian ideas of power and resistance. I approach gender from the framework of nationalism and militarism using discourse analysis as a method.

The main research material for analysing hegemonic discourse consists of methodological manuals of propagandist lessons "Important Conversations". Besides these documents and to understand resistance, I have used other official documents of these patriotic initiatives, state media, oppositional media, Telegram channels and interviews of parents of Russian schoolchildren. By bringing together these approaches, I hope to bring new insights into how people are making sense of official patriotism in Russia.

22

MILITARY-POLITICAL TRAINING IN RUSSIAN ARMED FORCES

Aleksander Malinen

The presentation by Aleksander Malinen in the Russia Seminar 2023 can be found on the FNDU YouTube-channel: https://www.youtube.com/watch?v=2n_vVxCD8CM starting from 27:30.

Abstract

In this presentation we examine military-political training in the Russian armed forces and its development up to the present day. Military political training is based on the order given by the Minister of Defense Sergey Shoigu in 2019. The order defined, among other things, the goals, methods, topics and described the characteristics of the ideal soldier. The military-political training was meant to replace the societal training program, which dealt with many of the same topics. Societal training was introduced in the Russian Armed Forces in 1993 and was updated in 2005.

Shoigu's order mentions the term voin-gosudarstvennik, which translates to citizen-soldier. This can be considered as a description of the ideal soldier. The aims and backgrounds of the term citizen-soldier are examined through the educational materials and statements of military political directoriate. In presentation we analyse the writings and statements of Andrey Kartapolov, who was the first director of the military-political directoriate. Kartapolov was responsible for building a new system on the basis of the old societal training program. Kartapolov also advertised goals of military political education to the public before Shoigu's order. Many of the goals and conceps which Kartapolov mentioned such as citizen-soldier ended up in Shoigu's order.

Based on the analysis, the aim of military-political education is to blur the border between citizen and soldier. The alienation of the citizen and the soldier culminates in the citizen-soldier. The term means a soldier who supports strong state power, who is honest, has patriotic and traditional values, and is ready to sacrifice himself. Shaping the values of a citizen-soldier must start at a young age, before starting service in the armed forces. Military political training is therefore not limited to the armed forces only, but also targets the families of the armed forces personnel and the youth.

23

SUPPORT FOR WAR OF AGGRESSION IN RUSSIA – DIVE INTO PUBLIC OPINION SURVEYS

Eemil Mitikka

The presentation by Eemil Mitikka in the Russia Seminar 2023 can be found on the FNDU YouTube-channel: https://www.youtube.com/watch?v=2n_vVxCD8CM starting from 41:15.

Introduction

After Russia's full-scale attack on Ukraine in February 2022, numerous public opinion surveys indicate that a clear majority of Russian population supports the invasion. At the same time, researchers and experts have posed concerns about the reliability of these surveys. Surveys on war support in Russia (henceforth: war surveys) have been criticized to be highly skewed, for example, due to the poor question phrasing in these surveys, general authoritarian polling environment in Russia, socially desirable answering, high non-response rates, and self-selection bias in Russian surveys.[1] Some critics have even hinted that the war support numbers presented in these surveys might be simply fabricated.[2]

Indeed, possible limitations of war surveys should not be dismissed. For example, experimental research on the reliability of the Russian war surveys suggests that there is a significant social desirability bias in answering questions related to supporting Russia's invasion of Ukraine or "the special military operation", as the Kremlin calls Russia's war of aggression on Ukraine. Study from Spring 2022 found that when Russian respondents were given the opportunity not to support the war in survey, the overall war support drop by 15% (in this study, from 68% to 53%).[3] Moreover, later experimental research on war support in Russia holds that the level of socially desirable answering could be as high as 30% in some of the surveys on the topic.[4] Given these evidence of severe preference falsification in war surveys, one could ask if I is possible to draw any meaningful conclusions on war support in Russia.

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[1] Aleksanteri Institute, 'How To Deal with Surveys from Russia? An Expert Panel Discussion', 2022 https://www.youtube.com/watch?v=n1Kp9nTyYyo [accessed 3 May 2022]; Maxim Alyukov, 'In Russia, Opinion Polls Are a Political Weapon', *OpenDemocracy*, 2022 https://www.opendemocracy.net/en/odr/russia-opinion-polls-war-ukraine/ [accessed 25 March 2022]; Сергей Мостовщиков, 'Атомизированная бомба Социальная разобщенность российского общества страшнее ядерной войны', *Новая газета*, 2022 https://novayagazeta.ru/articles/2022/03/14/atomizirovannaia-bomba [accessed 30 March 2022].

[2] Jeremy Morris, 'Don't Trust Opinion Polling about Support in Russia for the Ukraine Invasion', *Postsocialism*, 2022 https://postsocialism.org/2022/03/21/dont-trust-opinion-polling-about-support-in-russia-for-the-war-on-ukraine/ [accessed 29 April 2022].

[3] Philipp Chapkovski and Max Schaub, 'Do Russians Tell the Truth When They Say They Support the War in Ukraine? Evidence from a List Experiment', *EUROPP*, 2022 https://blogs.lse.ac.uk/europpblog/2022/04/06/do-russians-tell-the-truth-when-they-say-they-support-the-war-in-ukraine-evidence-from-a-list-experiment/ [accessed 29 April 2022].

[4] Кирилл Чмель, Никита Савин, and Израэл Маркес, 'Доверие опросам о «спецоперации»', 2022 https://www.levada.ru/2022/11/01/doverie-oprosam-o-spetsoperatsii/ [accessed 9 November 2022].

However, whereas the reliability of Russian war surveys and the "true" level of war support have been discussed widely, there has been significantly less attention on which factors contribute to war support and to anti-war attitudes. Yet, many Russian pollsters conducting war surveys have not only reported the general numbers for war support, but also the raw data of their war surveys. This, in turn, enables looking at which background factors are related to war support. Hence, instead of focusing on how much Russians "truly" support the war according to different surveys on the topic, this piece of research aims at examining how sociodemographic factors, media consumption and economic attitudes relate to war support in Russia. The examination presented here is partly based on research article published in Idäntutkimus journal in the early 2023.[5] However, the models presented here have been revised, and some new data have been included in the examination.

Research Question

The main research question of this research is:

> How sociodemographic factors, media consumption and use, and economic perceptions shape Russians' support for the war in Ukraine?

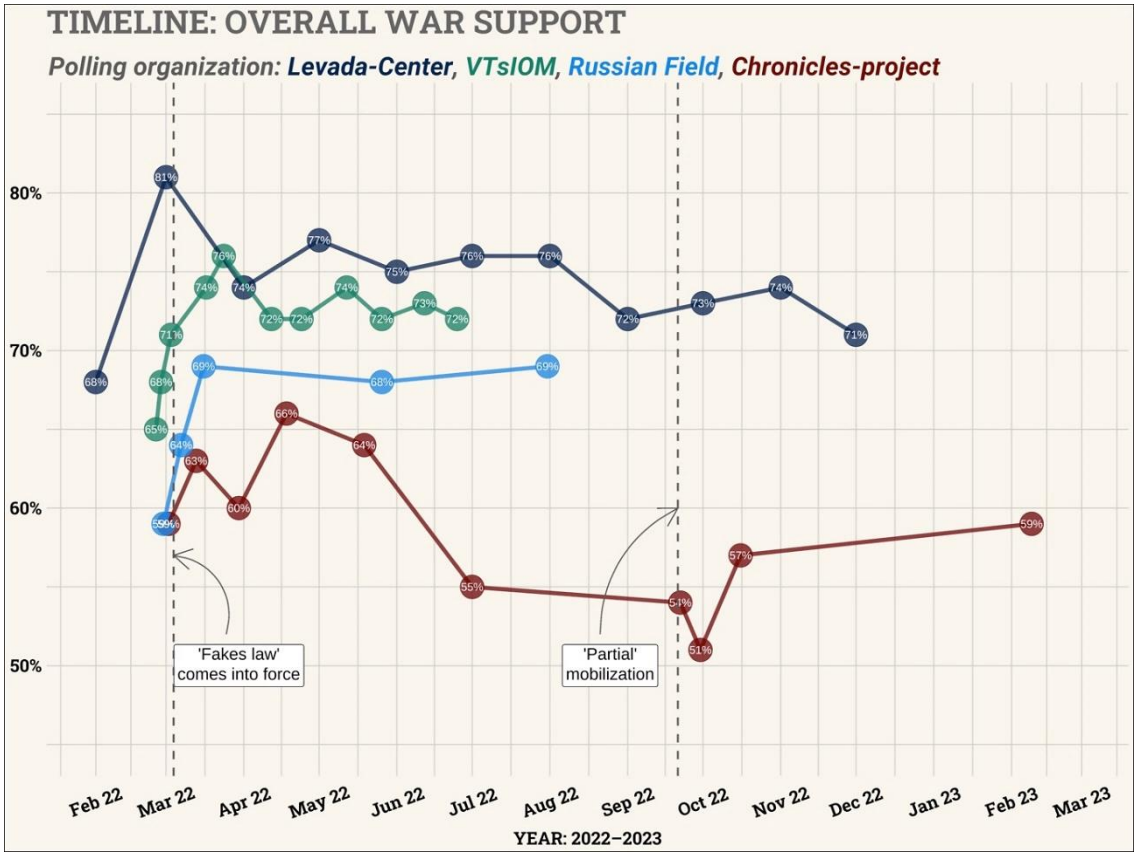
Since the focus of this research is not how *much* Russians support the war in Ukraine, the possible reliability limitations related to the war surveys are not covered here in much detail. Also, these limitations have been already discussed elsewhere.[6] However, before proceeding to present the data and methods of this research, it is worthwhile to explain briefly why it is relevant to analyze Russian war surveys notwithstanding the criticisms mentioned in the beginning of this chapter.

Firstly, the criticism about the poor question phrasing and allegedly fabricated numbers as explanators of high war support in Russian surveys does not seem very credible since multiple surveys independent from each other and with various affiliations paint a rather similar picture on war support in Russia. Figure 1 depicts the fluctuations in war support in 2022–2023 according to four different polling organizations with different affiliations and question formulations. Russian Field and Chronicles-project have oppositional affiliations, the Levada-Center is a state-independent actor, and VTsIOM is a state-aligned pollster. While the overall war support is lower in oppositional surveys, the general picture on war support is somewhat similar based on the numbers presented in Figure 1. Moreover, war support has fluctuated over time, which indicates that repressive measures such as the introduction of the so-called "fakes law" (закон о фейках) banning criticism of the Russian armed forces explain only partly the high levels of war support. Accordingly, there are also evidence that new repressive war-time legislation has not result in decline of criticism of the

[5] Eemil Mitikka, 'Hyökkäyssodan kannatus Venäjällä: War surveys as data source after the February 2022', *Idäntutkimus*, 29.4 (2022), 4–25 https://doi.org/10.33345/idantutkimus.121491 .

[6] Alexey Bessudnov, 'Russia's Tricky Opinion Polling – Sociologist Alexey Bessudnov Shares Five Charts That Help Explain How to Read the Kremlin's Survey Data on Support for the War in Ukraine', *Meduza*, 2022 https://meduza.io/en/feature/2022/03/07/russia-s-tricky-opinion-polling [accessed 29 March 2022]; Ola Svenonius and Eemil Mitikka, 'Propaganda and Actual Support – How to Make Sense of Russian Polls After February 24th?', 2022 https://www.foi.se/en/foi/reports/report-summary.html?reportNo=FOI%20Memo%207935 [accessed 24 October 2022]; Aleksanteri Institute.

Kremlin on Russian YouTube channels.[7] The war support also dropped near 50% after the highly unpopular "partial" mobilization announcement in Fall 2022 according to the data of the Chronicles-project. Together, these observations indicate that the fear of giving "wrong answers", growing repression, and limited freedom of speech might explain partly but not fully the high support for war of aggression against Ukraine.



Picture 1. Fluctuations in war support in Russia according to different pollsters. Data sources: Levada-Center[8], VTsIOM[9], Russian Field[10], Chronicles-project[11].

Secondly, fabrication of numbers in the Russian war surveys seems unlikely since state-independent and oppositional pollsters present similar figures on war support compared to the state-aligned VTsIOM. One might also ask why such popular op-

[7] Yevgeniy Golovchenko and others, 'Information Control on YouTube During Russia's Invasion of Ukraine' (SocArXiv, 2022) https://doi.org/10.31235/osf.io/uw79m .
[8] Левада-центр, 'Конфликт с Украиной: оценки декабря 2022 года', 2022 https://www.levada.ru/2022/12/23/konflikt-s-ukrainoj-otsenki-dekabrya-2022-goda/ [accessed 28 February 2023].
[9] ВЦИОМ, 'Специальная военная операция: мониторинг | 30 мая 2022', *ВЦИОМ. Новости*, 2022 https://wciom.ru/analytical-reviews/analiticheskii-obzor/cpecialnaja-voennaja-operacija-monitoring [accessed 29 August 2022]; ВЦИОМ, 'Специальная военная операция: мониторинг | 30 июня 2022', *ВЦИОМ. Новости*, 2022 https://wciom.ru/analytical-reviews/analiticheskii-obzor/specialnaja-voennaja-operacija-monitoring-20223006 [accessed 29 August 2022].
[10] Russian Field, '«Военная Операция» На Украине: Отношение Россиян. Восьмая Волна (28-31 Июля)', 2022 https://russianfield.com/nuzhenmir [accessed 9 November 2022].
[11] Источник: проект 'Хроники', 'Dorussianswantwar/Research1', 2023 https://github.com/dorussianswantwar/research1/blob/97079ea6b387c10df153b09d12fe22203a13d4c1/%D0%9F%D0%BE%D0%BB%D0%BD%D1%8B%D0%B5%20%D0%A5%D1%80%D0%BE%D0%BD%D0%B8%D0%BA%D0%B8%205.0%20Datatile.sav [accessed 27 February 2023].

positional figures as Maxim Katz, who is affiliated to Russian Field's surveys, would engage in risky anti-war polling just to present fake numbers. Thirdly, the poor question phrasing, namely asking about support for "special military operation" instead of "war", is not likely to explain the high popular support for war in Russian surveys. For instance, both Google and Yandex keyword search data indicate that an overwhelming majority of Russians searches for "war in Ukraine" (война в/на Украине) instead of "special military operation in Ukraine" (военная операция в/на Украине or спецоперация на Украине).[12] The question wordings and scales also differ across war surveys, which further undermines the credibility of poor questions as significant explainer behind the high war support.

However, low response rates and self-selection, in turn, form more credible critique of Russian war surveys. For example, the oppositional pollster Russian Field reports also the response rates of their war surveys, and according to them, the response rate is below 10% in all of their war surveys.[13] While low response rates alone are insufficient indicator of fear for answering surveys related to war in Ukraine in Russia[14] – response rates can be this low in democratic countries too – it is possible that the war supporting Kremlin-loyalists are over-represented in war surveys compared to oppositional and anti-war voices.[15]

Yet, since wartime deflates and distorts various forms of information coming from Russia, the war survey data are used here notwithstanding their possible limitations. However, as mentioned earlier, the aim of this paper is not to examine how much Russians truly *support* the war in Ukraine, but which background factors *account* to war support among Russians. The main argument posed here is that aside of the limitations related to the Russian war surveys, there is still enough variance in the answers to draw relevant and interesting insights from these data if we focus on relationships between war support and other variables instead of the "actual level" of war support.

Data

The data used in here come from Chronicles-project, Russian Field, VTsIOM, and Cultura foundation. Chronicles-project and Russian Field are survey organizations with oppositional affiliations, VTsIOM is a state-aligned polling agency, and Cultura foundation is a Finnish non-governmental organization (NGO) promoting the integration of Russian speaking population into Finnish society. Since the surveys related to support for Russia's invasion of Ukraine used here are conducted in different timepoints and their questions vary, their results cannot be generalized explicitly. Yet,

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[12] Mitikka, 'Hyökkäyssodan kannatus Venäjällä'; Хроники — Chronicles, 'Глава 2: Военная цензура. Как измерить страх?', *Хроники - Chronicles*, 2022 https://www.chronicles.report/chapter2 [accessed 22 February 2023].

[13] Russian Field, '«Специальная Военная Операция» в Украине: Отношение Россиян. 10 Волна (29 Ноября — 5 Декабря)', 2022 https://russianfield.com/yubiley [accessed 27 February 2023].

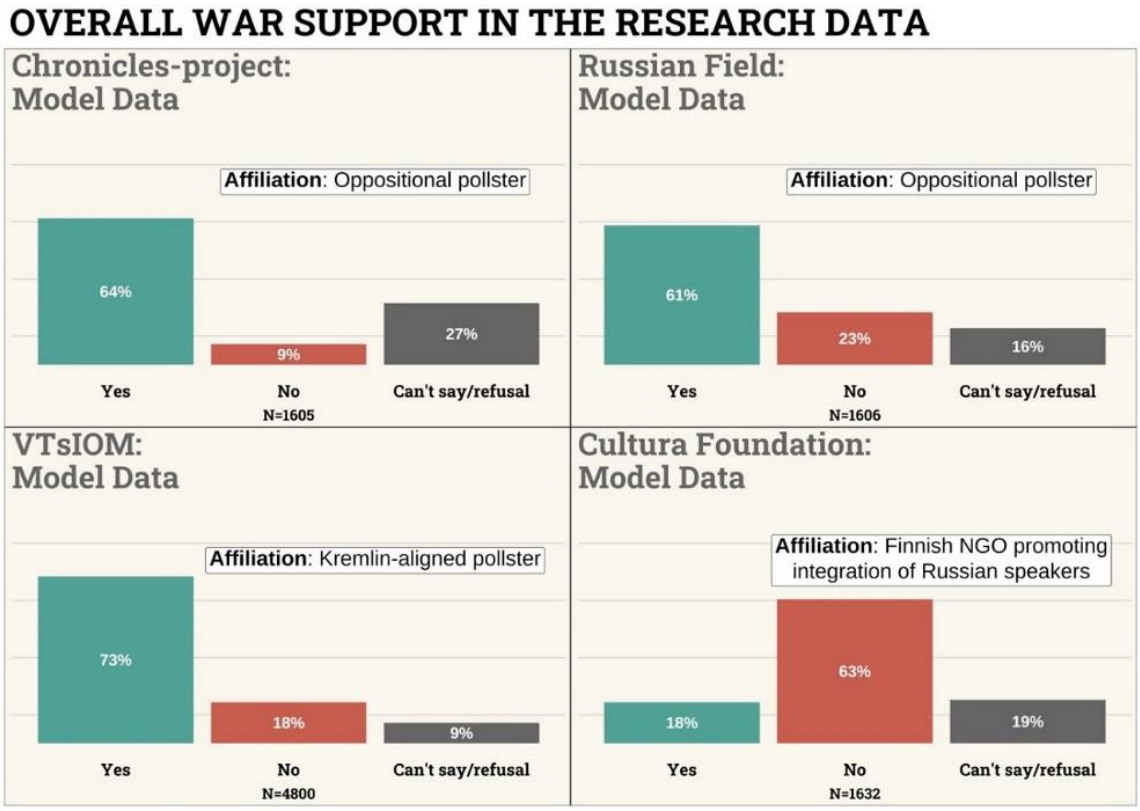
[14] Алексей Миняйло [@AlekseiMiniailo], "'Russian War Polls Are Unreliable Because 95% Respondents Refuse to Talk" I Hear It All to Often to Ignore It In This I'll Explore: - What Does % of Refusals Mean? - Is It True, That Only 5% Agree to Talk? - What Influences % of Refusals? - What's International Benchmark? 1/', *Twitter*, 2022 https://twitter.com/AlekseiMiniailo/status/1603682995151540224 [accessed 27 February 2023].Левада-центр, 'Возможны ли опросы в сегодняшней России?', 2023 https://www.levada.ru/2023/02/10/vozmozhny-li-oprosy-v-segodnyashnej-rossii/ [accessed 27 February 2023].

[15] Алексей Миняйло [@AlekseiMiniailo]; Alyukov.

comparison of these surveys may reveal us interesting trends and can be useful in getting an overall picture of the common background factors of war support.

Organization	Date	Sample size	Affiliation
Chronicles-project	14.–19.5.2022	1605	Oppositional
Russian Field	5.–7.3.2022	1606	Oppositional
VTsIOM	25.2.–17.3.2022	4800	State-aligned
Cultura Foundation	June–July 2022	1632	Finnish NGO

Table 1. Overview of the research data



Picture 2. Overall war support according to research data.

Note: reported N is the baseline sample size. Cultura Foundation's data includes only respondents with Russian citizenship (including respondents with dual citizenship).

Table 1 and Picture 2 offer an overview of the research data used in the later statistical models. As Picture 2 shows, according to Chronicles-project, Russian Field, and VTsIOM's data, 61–73% support the war, 9–23% are against it, and 9–27% do not want to express their position on the topic. Thus, the overall war support is somewhat similar according to Russian surveys regardless of their opposition-state-status, although war support is bit lower and share of the neutral stance is higher in oppositional surveys. Interestingly, the Cultura Foundation's data offers almost a reversed image of war support among Russians residing in Finland compared to Russian surveys, as

a clear majority of respondents is against the war, while sizeable minorities support the war or refuse to take a clear stance on the topic.

Methods

Since the data used here come from social surveys, this research employs quantitative methods to answer the research question on how sociodemographic factors, media consumption, and economic attitudes affect the war support among Russians. Because the dependent variable – war support – is dichotomous, binary logistic regression models were used such that support for war was encoded as 1, and non-support was encoded as 0. Independent variables consist of variables related to respondents' sociodemographic background, media consumption and/or attitudes towards the media, and perceptions of personal economic situation. The advantage of multivariate modeling is that it allows examination of how different variables are linked to war support, when their effects are controlled simultaneously. All analyses and visualizations presented here have been done with R programming language and RStudio. The main R packages used in the analyses were Tidyverse[16] and survey[17] packages. Full replication codes and links to replication materials are openly available on the author's GitHub repository.[18]

Results

Full models containing all variables are visualized in picture 3 and 4. Picture 3 shows the results of full models build on Chronicles-project's data and Russian Field's data, whereas picture 4 offers the results of models build on VTsIOM's data and Cultura Foundation's data. The horizontal axis captures the odds to support the war and the vertical axis indicates the name of the variable. The visualized results should be interpreted such that variables which have a value over one *and* are painted with red color are positively linked to war support, that is, the variable in question increases the odds to support the war.

On the other hand, variables which have a value under one *and* are painted with blue color are negatively linked to war support, or the given variable decreases the odds to support the war. Variables of the grey color, in turn, are not statistically significantly related to war support in the model in question. Finally, asterisks or the "star signs" after variable indicate the strength of statistical significance, where three asterisks denote the highest, two asterisks the second highest, and one asterisk the least high significance. Variables without asterisks after variable name fail to reach conventional statistical significance.

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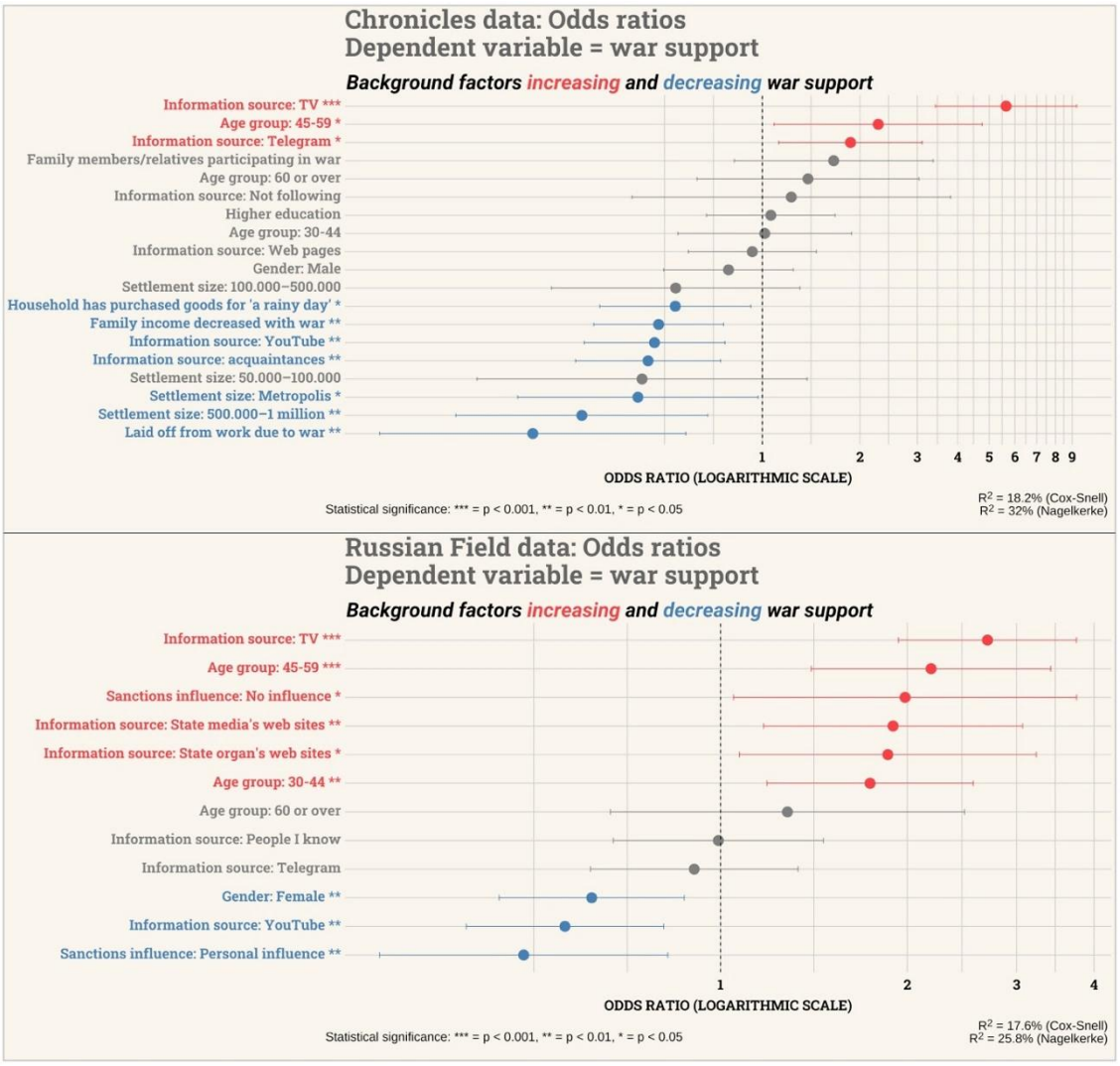
[16] Hadley Wickham and others, 'Welcome to the Tidyverse', *Journal of Open Source Software*, 4.43 (2019), 1686 https://doi.org/10.21105/joss.01686 .
[17] Thomas Lumley, 'Survey: Analysis of Complex Survey Samples. R Package Version 4.0.', 2020 http://www.rstudio.com/ .
[18] Eemil Mitikka, 'Eemilmitikka/Fndu-Seminar-2023', *GitHub*, 2023 https://github.com/eemilmitikka/fndu-seminar-2023 [accessed 27 February 2023].



Picture 3. Regression models build on Chronicles-project's data and Russian Field's data. Data sources: Chronicles-project[19], Russian Field.[20]

Note: Settlement size statistics in the model based on Chronicle's-project's data are combined from another dataset containing population size statistics for Russian cites.[21]

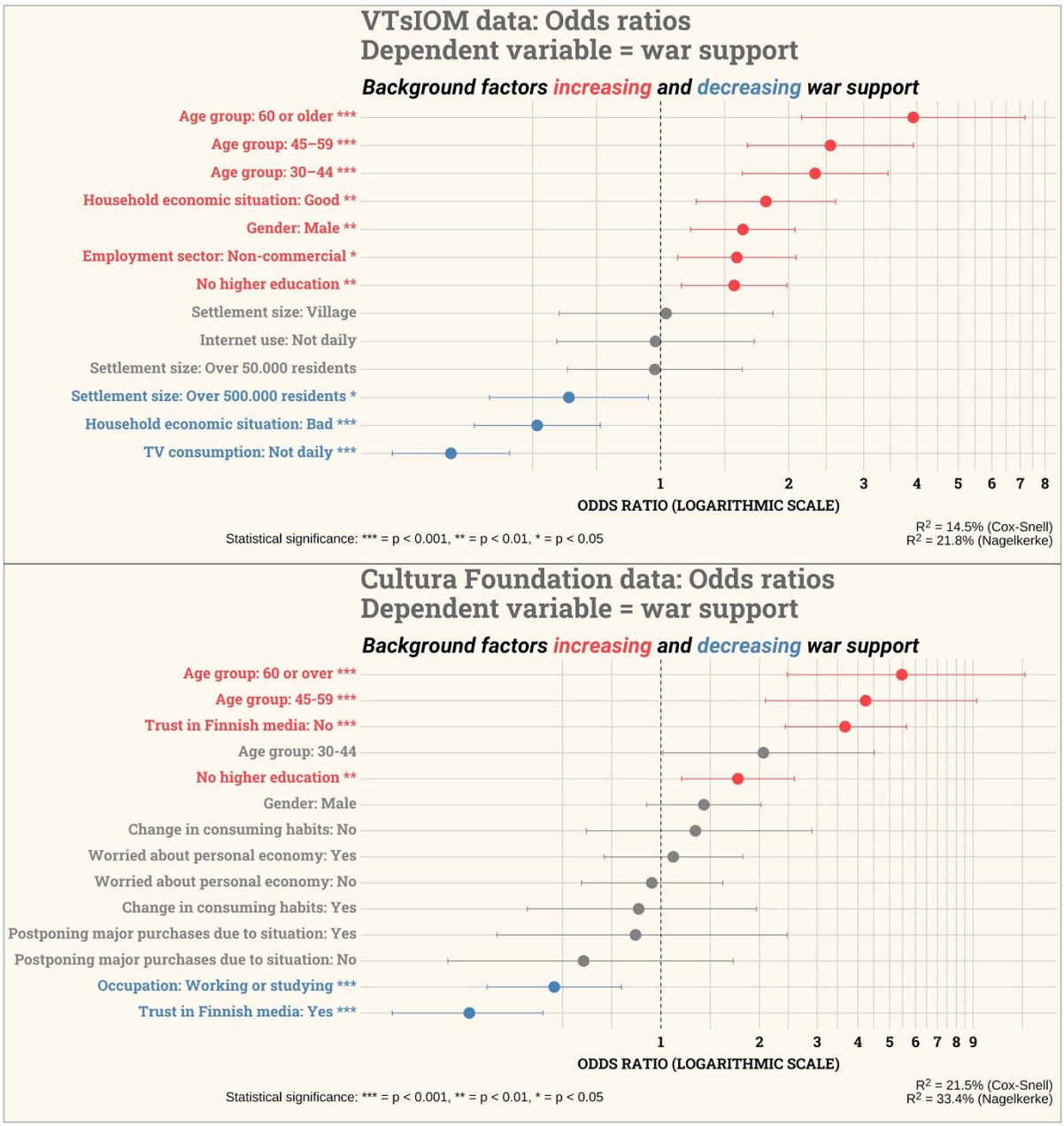
Picture 3 displays that information sources are highly relevant to war support in Chronicles-project and Russian Field's data. Those who receive information on war events from state-controlled TV have significantly higher odds to support the war, whereas alternative information sources, especially YouTube, is linked to anti-war attitudes. Telegram as an information source, in turn, is positively linked (Chronicles data) or insignificantly (Russian Field data) linked to war support. This result might be counterintuitive since many Russian oppositional forces operate on Telegram, but it could indicate that also war supporters and Kremlin-loyalists are active on this platform.[22] Receiving information from official websites also increases the odds to sup-

[19] Источник: проект 'Хроники'.
[20] Russian Field, '«Специальная Военная Операция» На Украине: Отношение Россиян. Вторая Волна (5-7 Марта)', 2022 https://russianfield.com/zamir [accessed 29 August 2022].
[21] Evgeny Pogrebnyak, 'Ru-Cities', 2022 https://github.com/epogrebnyak/ru-cities/blob/5694edda00adb647a3a477f156e8604ca2572687/assets/towns.csv [accessed 27 February 2023].
[22] Andrey Pertsev, 'Vladimir Putin's Telegram Hawks', *Riddle Russia*, 2022 <https://ridl.io/vladimir-putin-s-telegram-hawks/> [accessed 16 January 2023].

port the war, although not as strongly as TV. In the model based on Chronicles-project's data respondents receiving information from acquaintances have also lower odds to support Russian invasion of Ukraine. Economy seems to also play an important role in shaping war support among Russians, as those who have prepared for harsher times or been laid off from work due to war, households with drops in income (Chronicles data), and who have been hit personally by sanctions (Russian Field data) have higher odds to be against the war. From sociodemographic factors, younger age seems to be consistently linked to lesser war support (under 30-year-olds acts as a reference category in all models). In the model based on Chronicles-project's data, settlement size also affects war support, as respondents living in cities with the population of half a million or more have significantly lower odds to have supportive attitudes towards the war (comparison category here: cities with population less than 50.000). According to model based on Russian Field's data, gender seems to also play some role, as female respondents have higher odds to bare anti-war attitudes compared to male respondents.

Picture 4 presents the results of models based on VTsIOM's data and Cultura Foundation's data. Media plays an important role also in these models, as those who do not consume TV daily have significantly lower odds to support the war compared to daily consumers (VTsIOM data). Economic factors also matter according to the VTsIOM data, as bad personal economic situation is linked to lower and good economic situation to higher war support. Model based on VTsIOM's data also suggests that the dependency on state increases pro-war attitudes, as respondents working on non-commercial sector have significantly higher odds to support the war. From sociodemographic factors, higher age, male gender, lack of higher education, and living in smaller domicile predicts stronger war support in the model based on VTsIOM's data.

Interestingly, quite many background factors affecting war support are somewhat similar in the model build on Cultura Foundation's data compared to models build on Russian war surveys. For example, trust in Finnish media – which covers the war in Ukraine differently and (presumably) more objectively compared to Russian TV – lowers the odds to support the war in Ukraine, while distrust in Finnish media increases them. Age also plays an important role according to Cultura Foundation's data, as over 30-year-old respondents have higher odds to support the war. Education matters also in the model based on Cultura Foundation's data since lack of higher education increases odds for war support and being a student or in the workforce decreases them.



Picture 4. Regression models build on VTsIOM's data and Cultura Foundation's data. Data sources: VTsIOM[23], Cultura Foundation[24]

[23] ВЦИОМ, 'Специальная военная операция в Украине: отношение и цели', *ВЦИОМ. Новости*, 2022 https://wciom.ru/analytical-reviews/analiticheskii-obzor/specialnaja-voennaja-operacija-v-ukraine-otnoshenie-i-celi [accessed 25 March 2022]; ВЦИОМ, 'Специальная военная операция: мониторинг | 23 марта 2022', *ВЦИОМ. Новости*, 2022 https://wciom.ru/analytical-reviews/analiticheskii-obzor/specialnaja-voennaja-operacija-monitoring [accessed 29 August 2022]; ВЦИОМ, 'Специальная военная операция: мониторинг | 30 марта 2022', *ВЦИОМ. Новости*, 2022 https://wciom.ru/analytical-reviews/analiticheskii-obzor/cpecialnaja-voennaja-operacija-monitoring-20220330 [accessed 29 August 2022].

[24] Raw data for this survey is not publicly available at the moment, but the preliminary report including descriptive statistics (in Finnish) is available at: https://culturas.fi/hankkeemme/suomen-venajankieliset-2022/

Conclusion

Russian surveys asking about the support for invasion of Ukraine may appear as completely unreliable metrics or even propagandist materials at first glance. However, by examining these data carefully and putting them into comparative perspective we may gain interesting and relevant insights from the data. Moreover, some of the observations presented here are also politically relevant: for instance, there are already evidence that the economic sanctions are crippling the Russian economy.[25] In this light it is encouraging that surveys on war support in Russia suggest that economic questions and sanctions affect not only the economy, but also public opinion on the war.

It is also noteworthy that while there are severe and real reliability concerns related to the surveys on the topic, surveys also offer us the kind of data that are hard to replace explicitly with other data. For example, monitoring Russians' keyword searches on search engines such as Google or Yandex may gave us interesting insights on what Russians "secretly" or "privately" think about the war, but they tell little if nothing about how sociodemographic factors or attitudes are linked to these searches. Hence, war surveys can complement our understanding on factors that are relevant to war support among Russians.

Perhaps to most reasonable way to relate to Russian war surveys is to think them as one source of open-source data that can be a part of the overall war monitoring toolbox. Concerns related to Russian war surveys are real and should not be overlooked, but it is also important to note that all the data coming from wartime Russia is likely to be distorted in some way. For example, Russian TV is known to spread lies and propaganda, but this does not mean that it should not be analyzed at all or that it is impossible to draw any interesting and relevant observations from these broadcasts. Rather, it is important to consider the possible uncertainties related to different data forms, and whether it is possible to mitigate or overcome them in some way. Yet, war surveys need to be analyzed with care, and attention should be paid to limitations of these data to avoid superficial interpretations on them.

[25] Jeffrey Sonnenfeld and others, 'Business Retreats and Sanctions Are Crippling the Russian Economy' (Rochester, NY, 2022) https://doi.org/10.2139/ssrn.4167193; Agathe Demarais [@AgatheDemarais], 'RU - Sanctions on Russia Are Working [Updated with December Data] • Retail Trade and Industrial Production Posted Worst Contractions since Covid-19 Hit in Early 2020 • Dec. GDP Contraction Likely Huge, but We Can Only Guess as Release of Data Was Inexplicably Cancelled Https://T.Co/UTQKhowmvV', *Twitter*, 2023 https://twitter.com/AgatheDemarais/status/1624000225667866624 [accessed 27 February 2023].

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