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SECTION I

INTERNATIONAL RELATIONS, GEOPOLITICS
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Abstract: *A paper reflects new dimensions of New Cold War geostrategic balance implications at pan-regional (European) and regional (Black Sea) levels that already has been transformed into classical hybrid warfare between the Russian Federation and NATO due to the Russia's invasion into Ukraine. Currently adopted military doctrine of the Russian Federation envisages engagement into two military conflicts simultaneously and constructed its strategic operational framework founded on incorporation of three combat elements: military, non-military and information warfare measures and proper concepts. Hence, it means that Russia can begin war-game scenarios at the same time against two neighboring nations as it occurs at time being against Ukraine and Georgia. At that respect, the incumbent Russian military leadership in aegis of so-called "Gerasimov Doctrine" is promoting hybrid warfare as a key dominant grand strategy with relevant theater strategy and operational art elements (for instance, operational – strategic command HQ "South" and 5 Army Corp HQs). The military "muscle" could easily skew and twist European security environment that is much unprepared to the geostrategic challenge – Crimea occupation and annexation in 2014, war with Georgia in 2008, hybrid attack to Estonia in 2007 and very recently large-scale military intervention in Azov Sea and pending regional hegemony conditions in Caspian Basin. These military asymmetric challenges and risks deriving from the arms race derailed by the Russia's incumbent authority, and security dilemma embroiled with by the elements of WMD are sufficient indications why the European security is plausible fragile against such challenges. From academic standpoint, the thesis deals in analyzing with the most dangerous threat targeting the European security architecture – asymmetric military challenge and realization of which is pursued in waggling hybrid war against Georgia and Ukraine. The new type of warfare is a probe stone perfected against these two post-Soviet nations indicates and poses real menace, mainly geostrategic origin, easily targeted NATO member-states, including Poland. The article predisposes reflection and understanding true meaning of so-called "Gerasimov Doctrine" and the whole new version of Military Doctrine of Russia and how it is implemented at the stage. A shift transformation takes place in realms of contemporary century warfare doctrinal planning and the transformation has already implicated of identifying new type of warfare strategy – asymmetric war with representation of hybrid warfare that contributing in re-shaping a grand strategy that allows policymakers to steer through the uncertainties of a complex international security environment; Elaboration real content and new definition of "hybrid war" and its dualfold implications how to quell and deal with asymmetric military challenges and risks and how to cause the challenges on its matter. Moreover, it describes and review reformatting modality in planning and waggling war due to the military technology development that contributed to a far more complicated strategic environment for war than that of previous century. In that respect is to be identified new style of warfare – **Urbanistic warfare** presented in 2008 August Russia-Georgia war as well as in war in Ukraine (Mariupol battle) new definition of the warfare in general matter.*

Keywords: *military conflict; "Gerasimov Doctrine"; hybrid war; urbanistic warfare; Russia, Georgia; Ukraine; asymmetric military challenges.*

Introduction

The modern security environment and one of its components - the course of military conflicts - have changed dramatically in the modern era. The development of such conflicts has been greatly influenced by military-technical revolutions, which in the 21st century have radically changed the dynamics of their production, operational management and the scale of involvement of new technologies. Especially this factor increases significantly in conditions of war or war. Today, when the so-called the factor of the "fourth generation" strategy in the

conditions of the international security system, which includes its constituent elements, such as the so-called The doctrine of "asymmetric warfare" (hybrid warfare, cyber warfare, contactless warfare, high-maneuver warfare, low-intensity warfare, jihadist warfare, information-warfare war) when the phase of hostilities, even at the level of grand strategy, does not coincide with the conditions of conventional or "symmetrical" warfare, and as it did in the context of limited military conflict in August 2008 (and not war, which by military strategy standards did not match the classic war scenario), Even during the "Crimean scenario". At present, there are to indicate the following type of the military conflicts that are:

- 1) Low intensity military conflict;
- 2) Hybrid warfare;
- 3) Local war;
- 4) Full-pledge conventional war;
- 5) Coalition war;
- 6) Strategic Instability military confrontation (nuclear triad threat perception).

Hence, the modern military conflicts, one example of which is the military aggression of the Russian Federation in Ukraine, which began on February 24 of 2022, are a clear example of how they affect the vulnerability of world stability and the resilience of the international security system.

The aim of the paper is to identify what is military conflict at present and what kind classification is applicable for outlining dynamics and tendency of the military conflicts.

Research Questions – the thesis draft consists some research questions more qualified the subject and mission of the thesis. The questions imply the following:

- 1) What are main aspects of developing new Russia's military strategy in aegis of the contemporary international security and its geostrategic implications?
- 2) What is Hybrid warfare and why its emergence is so important for the contemporary international security, namely in developing the military conflicts?

Hypothesis (H1): *when bipolar system dissolved in transitional world order phase have emerged new types of actors became powerful enough to be dominant factor in contemporary international security system with new military strategy indoctrination folded in Fourth Warfare Generation (4GW) that is stipulated by the Russia's military-political leadership;*

Methodological and Theoretical background: In that regard, it is interesting to stress that the Fourth Generation Warfare includes elements of Asymmetric Warfare doctrine that is very plausible for waging wars in the 21st century. According to some academic sources, there are many different definitions of the doctrine, but one of them: **Asymmetric Warfare** – *is war between belligerents whose relative military power differs significantly from or whose strategy or tactics differ significantly* (Bator 2014). This is contrast to symmetric warfare, where two powers have similar military power and resources and rely on strategy that are similar overall, differing only in details and execution (I. Arrenguin-Toft 2001). A popularity of new war theory in strategic studies, labeled as "hybrid war" is being determined by the importance of globalization effect on global security and contemporary international relations system.

In a separate context, we can consider the phenomenon of hybrid warfare as a "case study" of a variety of modern military conflicts. Hybrid warfare is a new phenomenon, and its nature has become more widespread in the 21st century international security system. The military aspects of its dimension equate to the concept of fourth-generation wars, where priority is given to fighting to neutralize asymmetric military threats and defeat the will of the adversary rather than physically destroying the adversary himself. A concrete manifestation of

hybrid warfare in this era is the occupation by the Russian Federation of the Crimean Peninsula of Ukraine's sovereign territory carried out by units of the Rapid Reaction Command HQ and its subsequent annexation in 2014. In addition, hostilities under hybrid warfare have been observed in the Syrian regional war. The production of virtual warfare in cyberspace is also a type of hybrid warfare called "cybeware". In general, the general directions of the military strategic parameters of the hybrid war can be presented as follows: - Not physical, but moral and political defeat of the opponent - Use of combined military tactical elements - Production of information-propaganda struggle – Cybeware – Cultural expansion – Partisan warfare. Therefore, in waging this type of war, one must assume that its consequences will not be as devastating as they were in previous generations, but will be more serious consequences for the world community. That's why it's so important today to find out what a hybrid war is. In this respect there is no unified approach to the definition of expression and its real identification is not yet certain. The Georgian researchers have taken some steps in this direction, for example, Professor Besik Aladashvili from Georgia, gives one of the most interesting definitions of hybrid war: "Hybrid war is a war through managed chaos. One of the main components of which is the information war in order to completely demoralize the opponent". The existence of the information war component is the so-called Part of the concept of the "fourth generation war" (Besik, Aladashvili 2018). In turn, one of the forms of information warfare is the theory of psychological warfare, which is carried out to achieve military goals.

In the same context, one can consider the production of a propaganda campaign as an essential component of a hybrid war, because propaganda is information intended to mislead people. The propaganda is a component of military deception and is the most important tool of hybrid warfare.

Military-Technical Revolution Transformation and Russia's Military Doctrinal Shifts

The 21st century has been determined with development of revolution in military affairs that drastically changed the content of war concept by large. Initially is important define true content of the definition. By description stipulated by the author of the paper, Revolution in Military Affairs – occurs when new technologies combine with innovative organization concepts and doctrinal adaptation in a way that fundamentally alters the character and conduct of war. The trend and conceptual frame include the following geostrategic components:

- ***“The Computer Revolution”*** – *electronic sensing surveillance of VC and NVA in 1970s by the Pentagon;*
- ***“Weaponization of High Technology”;***
- ***Precision Delivery Munitions;***
- ***Reconnaissance and Precision Delivery*** – *satellite reconnaissance grouping and space shuttle survey;*
- ***New Airpower Technology*** – *Unmanned Aerial Vehicle (UAE) intensive usage in combat operations;*
- ***Non-Contact Combat Strategy*** – *massive air and naval strikes with modern missile and aircraft technologies and computer-modeling management of combat forces;*
- ***RMA and current military operations*** – *Iraq war in 1990-1991, Afghanistan and Iraq campaigns (2001 and 2003).*

The revolution certainly has great impact on military operational planning process and also made it different with classical military theory. The shifts absolutely prioritized the

notion that war is a continuation of politics by other means (Peter Hough, Shahin Malik, Andrew Moran and Bruce Pilbeam 2015).

The trend demonstrated the revolution shift contributes in promulgation of variety of combat interactions. Hence, the process of war waging is being determined in special dimensions and there are identified, at the stage, the following warfare types:

- **LAND WARFARE** – *Attrition, Revolutionary insurgency and Maneuver*;
- **MARITIME WARFARE STRATEGY** – “*Gunboat Diplomacy*”, Mahen’s formula: $SP=N+MM+NG$;
- **AIRPOWER WARFARE** – *Julio Douhet doctrine, massive reassured conception*;
- **SPACE WARFARE** – “*Star War*” program, “*Shield and Sword*” (*uuum u meч*) project or “*Diamond*” program, GPS and GLONASS;
- **CYBERSPACE WARFARE (INFORMATION WARFARE)** – *information technology, PR campaign, ideology war, cyber-terrorism*.

The tendency prone in forward formulation of transformation of war generation. This is very interesting passage considering realities how is possible to define generation provision in war theory and fit it with realpolitik. The generations of warfare described by some American authors (William S. Lind, Colonel Keith Nightengale (USA), Captain John F. Schmitt (USMC), Colonel Joseph W. Sutton (USA), and Lieutenant Colonel Gary I. Wilson (USMCR)) are:

- 1st Generation: tactics of line and column; which developed in the age of the smoothbore musket;
- 2nd Generation: tactics of linear fire and movement, with reliance on indirect fire;
- 3rd Generation: tactics of infiltration to bypass and collapse the enemy's combat forces rather than seeking to close with and destroy them; and defense in depth (William Lind, Keith Nightengale, John Schmidt, Joseph Sutton and Gray Wilson 1998).

Having concluded from the above-mentioned is more easy task mentioned about how is to configure the fourth generation war perspective. It is important due to the dynamics of contemporary combat operations and specifics of battle zones encompasses all physical and special dimensions. In this respect is interesting to formulate those characteristics are being codified in aegis of modern warfare. These characteristics are to be as follow:

- *Physical geography defines tactical identities of Armed Forces*;
- *Escalatory dynamics of modern war games*;
- *Intercombination and interdependence of all types of warfare*;
- *Conduct of a war in different physical environment*.

Theory of the Fourth War Generation (4GW) contains new approaches in gaining decisive battle victory with technological privileges. There are many transformation in developing and understanding of true content of Military Strategy and new realities have delivered fresh trends in analyzing, planning, performing and reviewing combat operations contemporary period of time. The transformation in Military Strategic Thoughts is affiliated with new conception of Fourth Generation Warfare, exactly adopted in on edge of 20 and 21st centuries. According to some academician formulations – Fourth Generation Warfare is defined as military conflicts which involve the following elements:

- High Technology;
- Terrorism;
- A non-national or transitional base;
- A direct attack on enemy’s culture;
- Highly sophisticated psychological warfare, especially through manipulation of the media;
- Deliver a high-intensity, short duration attack and create in the enemy a sense of vulnerability, debilitation and abasement (Lind William 2004).

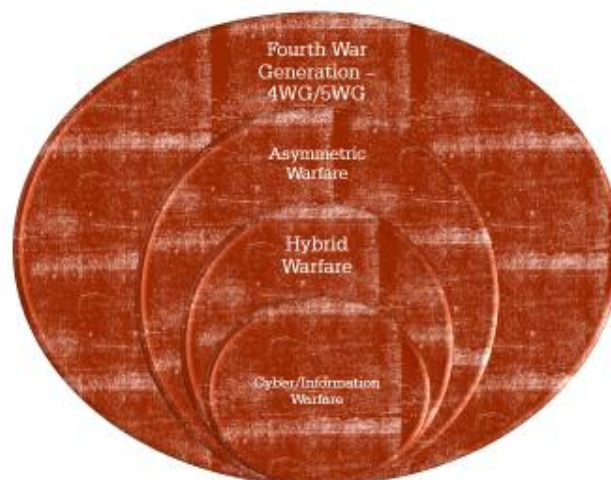
There is quite new approach what are to be formulating in waging a war and what kind of criteria for the Fourth Generation Warfare are to be considering. How far the Military Strategy has been shifting since classical period of its origination since 18th century till 21st century. In that regard, it is interesting to stress that inside of the Fourth Generation Warfare includes elements of Asymmetric Warfare doctrine that is very plausible for waging wars in 21st century. According to some academic sources, there are many different definitions of the doctrine, but one of them: *Asymmetric Warfare – is war between belligerents whose relative military power differs significantly from or whose strategy or tactics differ significantly* (Batorn 2014). This is contrast to symmetric warfare, where two powers have similar military power and resources and rely on tactics that are similar overall, differing only in details and execution (Arrenguín-Toft I. 2001). The concrete cases of waging Asymmetric wars are seen in Central Asia and in Caucasus Regions.

In midst April of 2016 in Afghanistan, “Taliban” movement reshuffled its local political and military structures and began coordinating its operations with the ISIS-sponsored “Khorasan” Vilayat and the “Haqqani” Jihadist grouping. With these new forces at its disposal, it began to launch a massive strategic operation, called “OMAR”, in various parts of the country. “Taliban” this strategic operation met with initial success in Kunduz and Badakhshan Provinces. On the back of this, the “Haqqani” element launched three large asymmetric warfare urban strikes in Kabul – against Spanish, Russian and American Embassies and the Ministry of Defense and National Intelligence Agency buildings in which over 64 people were killed and 350 injured (“The Georgian Times” 2016).

The below chart illustrates how the modern war concept has been transformed with military revolution development:



MODERN GROSS-STRATEGIC IMPLICATIONS OF WARFARE CONCEPT



In this respect, it is possible to more down step and specialized more wargame scenarios taken places in 21st century and troublemaking contemporary international security system. The process is prone toward so-called “asymmetric warfare” concept upon it could be classified three modalities of asymmetric strategies:

- Hybrid war;
- Cyberwar;
- Ideothincretism/ New Terrorism.

Certainly the revolution in military affairs had influence on contemporary Russia's military strategic approaches toward world politics. As soon as Army General Valery Gerasimov was appointed to the position of the Head of the General Staff of the AF of Russian Federation, he ordered in secret manner to set up a classified military analyst group led by Army General Mahmud Gareev in order to scrutiny war game scenario with Georgia, modernize the army and conduct reform in defense policy and adjust new type of military strategy. The group has conducted the "lessoned learned" research and based on the one, the modernization and reformation of Russian AF began. Due to accumulation of around 5400 billion up to 1.5 trillion \$ the process implemented in 4 year period.

In 2006, the American think-tank "Center for Strategic and International Studies" (CSIS) launched a bipartisan Commission on "Smart Power" to develop a vision to guide America's global engagement (CSIS Commission 2007). Backed on the criteria composed up and set up by the Commission later in 2010, then the U.S. Barak Obama endorsed "Smart Power" strategy in order to pursuit the national interests at any world place. However it is interesting to underpin on what criteria are founded the power implications and what additional one has been attached by the Russian Federation incumbent political leadership in pursuing its own interests how their jargon implies in "World Ocean":

- Alliances, partnerships and institutions;
- Technology and innovation;
- Global development;
- Public diplomacy;
- Economic integration (Военная доктрина Российской Федерации в «россической газете» 2014).

The Russia's leadership actively began adopting its version of the "Smart Power" and it became clear that the Russia's MoD General Staff launched practical realization of the strategy. There are concrete examples of the Russia's "Smart Power "Military and Hybrid Warfare Strategy Exercised Facts in aegis of the Military Doctrine of 2014. Here is examples of the "Smart Power" cases:

1) War in Syria

- *Russian militaries used in 2015 in Latakia province combat robots "Argo" and Platform M types against DAESH units*
- *Russian AF used first its drones as strike force in 2014*

2) 2014 Conflict in Ukraine (Russia's invasion in Donbas regions in Ukraine)

- *Russian military company began its activities to gain support to separatist forces*
- *Russian modest radio-electronic systems "KRASUKHA" begins operational missions*

3) Venezuela Turbulence

- *Russia's MoD secretly dispatched its hacker special destination cyber squadron in 2017*
- *Dispatched private para-military groups operated in aegis of the Russian merger "ROSNEFT"*

Having experienced with the realities with "Smart Power" strategy provision, the Russian political leadership starts to launch massive strike toward Ukraine. As it is known, in modern period of time, war is being waged quite different than that of previous period of time. The war preliminary, preparatory and exact stages are transformed through several important phases in aegis of the asymmetric warfare doctrine (or at least, hybrid warfare one) that includes the following phases:

Political escalation phase – Economic wargame phase – Psychological-propaganda war phase – Military-political declamation “flexes mussels” phase – Military confrontation phase (Guguli Magradze and Vakhtang Maisaia in Georgian 2020).

The below chart perfectly explained how Russia invaded into Ukraine and how the actor has been preparing for running the war scenario against sovereign and independent Ukraine:



This is one of the interesting explanation how in modern era any kind of combat conflict or war scenario is being developed and how it inflames step by step condition and why is important to review hybrid war theory in real life.

Hybrid War

In the context of the modern international security, the content of threats and challenges has acquired an entirely different purpose. Unlike the classic "Cold War", when threats and challenges were calculated and predicted perfectly and logically possible, apart from the concept of strategic nuclear policy and strategic intimidation, the geopolitical processes in the early 21st century took on a different dimension. Against this backdrop, the term asymmetric threat and also hybrid threat emerged as a major threat to the international community. Therefore, asymmetric threats, especially non-military ones, are more vulnerable than direct military asymmetric threats, because when using it, it makes easier to manipulate and misinform the enemy combat units. One such set of actions is, for example, psychological warfare.

The notion of security has undergone changed for years, not even the twenty-first century has been the exception. It is precisely that twenty-first century has coined the term asymmetry; its notion within the theory of security is linked to such a concept as "asymmetric threat. " The new term, asymmetric, contains signs of terrorism, natural cataclysms and hybrid warfare, as well as no military or political hassle (“Asymmetric Warfare: Definition, Tactics & Examples“. The form of asymmetric warfare is called warfare, when the military power of the warring parties differs sharply from one another. Basically, the term asymmetric warfare is often used to describe military actions such as guerrilla warfare, terrorism, and insurgency. In

the seventies of the last century, American researcher Andrew Mack published an article entitled "Why Great States Build Small Wars" in which he first spoke of the use of asymmetric force. He also explained that during the "asymmetric war" there was a significant disruption of the balance of power between the parties to the conflict ("Asymmetric Warfare: Definition, Tactics & Examples"). The situation in the Middle East is a clear example of the asymmetric war, the battles between Israel and Palestine.

Hybrid warfare is a new phenomenon, and its significance has become more widespread in the 21st century international security system. The military aspects of its dimension are equivalent to the concept of Fourth Generation wars, where priority is given to the fight to neutralize asymmetric military threats and defeat the will of the adversary, not the physical destruction of the adversary. Concrete hybrid warfare in this era is considered by the Russian Federation to occupy the Crimean peninsula of the Ukrainian sovereign territory of the Crimea, carried out by parts of the Rapid Response Command and then annexed in 2014. In addition, hostilities in the context of hybrid warfare are observed in the regional war in Syria.

Virtual warfare in cyberspace also represents a type of hybrid warfare called cyberwar. In general, the general directions of the military strategic parameters of the hybrid war can be presented as follows: –not physical, but moral and political defeat of the outcome – Combined military tactical elements – use of information and propaganda on the production – cyber-cultural expansion – a guerrilla-type warfare campaign that's why this type of warfare campaign to assume that the results will not be as shattering as it did in previous generations period, but will be more serious consequences to the world society. That is why it is becoming increasingly important today to find out what a hybrid war is. In this respect, there is no single definition of the expression and there is no definite identification. From the point of view of NATO analysts, there are several interesting options that can be used to determine what a hybrid war is. For example, NATO Parliamentary Reporter Lord Jobling (UK) gives the following definition of a hybrid war: "Hybrid warfare - this is an asymmetric tactic designed to test and identify enemy weakness through non-military means (in particular, political, information and economic intimidation and manipulation), which goes back to conventional through non-conventional military means" (Lord 2018). Exactly the component of the information war is the so-called "proxy war" which is its on turn is an integral part of the concept of the "fourth generation war". In turn, one of the features of information warfare is the theory of psychological warfare that is being used to achieve military goals. In the same context, we can consider propaganda campaigns as a necessary component of a hybrid war, as propaganda is information that is intended to mislead people (Gopin Marc 2000). Propaganda is an integral component of military deception and is an essential means of hybrid warfare. At the same time, from the point of view of military analysis, one of the constituent elements of the hybrid war is the so-called. "Kinetic operation" (Swedish Defense University 2018). This notion implies the use of professional military personnel without the so-called military rank. The effect of "green peoples". In almost the same context, the involvement of fighters hired by private military companies in various types of military conflicts is also discussed, for example Wagner groups work in Syria and Libya, which is personally overseen by the personal friend of Russian President Vladimir Putin, oligarch Eugene Prigozhin. In this situation, it is quite possible to provide already specific answers to the inevitable questions in the introduction of the monograph, which were revealed in the framework of this study:

- 1) The phenomenon of "hybrid warfare" has had a profound impact on contemporary international security systems, which has been characterized by two specific factors: theoretical-conceptual and realistic approaches. The theoretical-conceptual approach is that the existing international order actors have already recognized the importance of the "hybrid war" and the magnitude of its impact and have made relevant reservations in their strategic documents - In 2014, for example, Russian President Vladimir Putin

endorsed a military doctrine of the country outlining key parameters of a Russian hybrid war strategy - for example, under Article 32 of the new military doctrine adopted on December 28, 2014, one of the main tasks of the Russian Armed Forces in peace time is to protect economic security interests and strategic communication transport nodes (Военная Доктрина Российской Федерации 2014). As for NATO – already at the 2014 Wales Summit, the Alliance leadership has outlined four specific military challenges in the context of an asymmetric threat, presented as follows:

- Cybercrime or cyberthreat – The asymmetric threat of this kind has already been equated with the response to Article 5 of the Washington Treaty and will be answered appropriately;
- Energy security – stable supply of energy, security of critical infrastructure and security of energy reserve potential in the Euro-Atlantic area is a major concern for the member states of the Alliance and its proper use of its military potential in this regard;
- Terrorism – the asymmetric threat of terrorism in the Declaration document is quite broad and has a specific geographical area (Afghanistan and the Middle East) as well as organizations;
- Hybrid War – identification of the threat is new and first appeared in the NATO Dictionary. This asymmetric threat implies what is currently happening in Ukraine – that is, the fight against military separatism that may have a global scale (www.nato.int).

The realistic approach is that a new geopolitical era – the "New Cold War" – has already begun with the occupation and annexation of the Ukrainian Peninsula by the Russian Federation in 2014, and the international order changed from a unipolar to a "tripolar" model. Three global impact centers were identified – The People's Republic of China, the Russian Federation and the United States;

- 1) Certainly the “hybrid war” strategy implemented by certain types of actors (for instance, US, Turkey, Russian Federation, “Islamic Caliphate”, Taliban, etc.) affects the regional security system, and specific examples of this are the Maghreb region (for example, case of war in Libya), the Middle East (complicated geostrategic situation in Syria and Iraq) and the Caucasus region. The regions have been triggered with hybrid war and in this respect, Georgia is to be a vivid case of how hybrid war been conveyed in the form of a "creeping occupation" wagged by Russia against Georgia. The “creeping occupation” is a verification of the impact of a "hybrid war" on regional security;
- 2) The "information warfare" produced at the national level reflects the development of special media projects and manipulations and misinformation used to create public opinion. By introducing "reflexive control" that is exactly in line with the hybrid war strategy, bringing the desired government to the respective states. The "information war" is characterized by really specific components such as cyberattacks, bots, misinformation, the establishment of formal and informal surrogates, covert subversions, and so on.

On the basis of the above, properly perceived hybrid warfare at the academic level is a prerequisite for timely neutralizing and preventing asymmetric threats. Hybrid wars are, in fact, a kind of "incubator" for generating such threats and should therefore be given due attention and joint efforts, at international, regional and national levels, to prevent them.

Conclusion

The modality of contemporary hybrid war is affiliated with battles in the urban terrain. One of the method of the “fourth generation of war” could be considered “Neo-Urbanic warfare”. The implication of the warfare has been fixed during the battles for Mariupol in Ukraine between Russian and Ukrainian Armed Forces. By definition “*Neo-Urbanic warfare is special type military operation conducted in combination state-non-state actor with local defense territorial units’ involvement and with intentional to impose to enemy’s regular army asymmetric warfare tactical missions*” (the definition prescribed by the author himself). The NEO-URBAN warfare key characteristic are as follow:

- ❑ Asymmetric type of engagement;
- ❑ Maneuvering style of tactical missions;
- ❑ Form of battle: Regular Armed Forces vs. Irregular/Territorial Defense Forces;
- ❑ Massive casualties in peaceful and civilian population (Д., Apac 2000).

The confrontation caused fragmentation geostrategic equilibrium and balance of power between the NATO and the Russian Federation in the Black Sea Region over Ukraine and considering flexing muscles, including with strategic armament, the „New Cold War” scenario ramification could stagger regional geopolitics into the most dramatic wargame arena. Namely, the „New Cold War” geostrategic balance implications at pan-regional (European) and regional (Black Sea) levels. Currently adopted military doctrine of the Russian Federation envisages engagement into two military conflicts simultaneously and constructed its strategic operational framework founded on incorporation of three combat elements: military, non-military and information warfare measures and proper concepts. Moreover, in conjunction with traditional military threats, mentioned above, are coming out on the scene so-called „non-traditional” military threats – international terrorism, drug smuggling and drug cartels activation, aggressive separatism, violent non-state actors, etc. The asymmetric operations became dominant factors in modern warfare doctrine and it is due to the revolution trend in military affairs taken place lately.

In this context, main key phenomena of the research is to respond to those research questions stipulated in introduction and having considered the one the responses on those questions could be as follow based on the research done in aegis of the paper:

- 1) Contemporary Russia’s military strategy has been influenced with namely new revolutionary trend developed in the 21st century and concrete main aspects of the trend could be defined in the following: promoting and devoting attention to asymmetric warfare concept in 2014 adopted so-called “Gerasimov Military Doctrine” with concentration on so-called “Smart Power” instruments. The second aspect could be considered realization of hybrid warfare strategy even for pursuing concrete political missions, like meddling in USA 2016 elections. It seems so that all two aspects are quite enough to describe how Russia has been transformed its military strategic culture recently;
- 2) Hybrid war is part of asymmetric warfare doctrine and attains with less effort in exploiting military means pursue key geopolitical missions. Therefore hybrid war plays enormous great role in shaping up an architecture of contemporary international security system and mostly all wars wagged in the 21st century are having configuration of the hybrid war (main cases are in wars in Syria, in Yemen and even first part of Ukraine war on 24 February-23 March of 2022).

With regard the hypothesis is sought to be positive as namely due to generation war approach criteria, the Fourth War Generation modality is also applicable to modern warfare concepts and Russia’s “Gerasimov Military Doctrine” has been based on the principles.

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ROMANIA AS A BROTHER-IN-ARMS THROUGH FINNISH EYES IN WORLD WAR II

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Abstract: *Very little has been relatively studied about the interaction between Finland and Romania. Most existing studies deal with the interwar period and World War II, but there is still room for complementary interpretations. This study focuses on Finns' perceptions of Romania, especially from the perspective of brotherhood in arms between the two countries. The theme is worth exploring because during the Second World War, both Finland and Romania considered the development of mutual relations more important than ever before. This study is based on an extensive number of original sources. The analysis shows that there were different attitudes towards Romania as a brother-in-arms, but the attitude was positive in principle. The differences are explained by the type of goals set for the future development of the relationship between Finland and Romania. It is evident that Romania was valued as a brother-in-arms by a wide range of citizens. The Finnish media and the NGOs behind it conveyed a positive image of Romania, and emphasized the common interests of Finland and Romania in the ongoing war. However, the Finnish leadership was cautious about developing bilateral relations, as it considered it necessary to strike a balance between Germany and the Western powers. The brotherhood of arms was therefore not allowed to become too close.*

Keywords: *Romania; Finland; bilateral relations; military history; Second World War; mental images; diplomacy; media history.*

Introduction

This article examines how Finland reacted to Romania during the Second World War, and why the attitude was of a certain kind. The period under consideration extends from the summer of 1941 to the autumn of 1944, i.e., the period when both countries fought alongside Germany against the Soviet Union. Finland and Romania were brothers in arms and virtually allies for more than three years, albeit without a formal alliance agreement. It is analyzed, in particular, how the various actors in Finnish society saw Romania as a brother in arms, and why the views differed in part.

The analysis focuses on both the formal policy and informal interaction. In this context, official bodies refer to the Finnish state leadership (President, Government, and Ministry for Foreign Affairs). Informal actors refer to individuals, associations, parties, and the media, respectively. The original sources of the study consist of the archives about these actors, which are mainly kept in the National Archives of Finland. Some have also been printed, such as Parliament's minutes and annexes. The Finnish newspaper and magazine press has been digitized, and the materials can be found in the electronic collections of the National Library of Finland.

In terms of theories and methods, this study utilizes, above all, a historical source critique ("close reading"), which emphasizes contextuality and the analysis of actors' goals. In addition, the importance of historical imagery in the formation of attitudes towards other countries and peoples is taken into account. The rhetoric of diplomacy and the media's typical narrative approaches are also aspects that complement the analysis.

The topic has been researched to some extent in the past. Among Romanian researchers, Silviu Miloiu has published several articles on relations between Finland and Romania during the Second World War. His subjects have included diplomatic and cultural

relations between Finland and Romania (Miloiu 2005, a), wartime propaganda (Miloiu 2005, b), the reflection of the Transylvanian question on relations between the two countries (Miloiu 2006), and a comparison of the war aims between the two countries (Miloiu 2010). Among Finnish researchers, Mikko Uola has dealt with Finnish-Romanian relations as part of a broader study of the mutual relations of Germany's small allies and their relations with Germany (Uola 2015). In these works and articles, a considerable amount of attention has been placed on how Finns perceived Romania as a co-belligerent, but a special study on the subject has not yet been published. This article seeks to fill that gap.

1. Finnish official perceptions: Recognition of common interests, avoidance of alliance

1.1. The first glimpses of brotherhood in arms during the Winter War

Romania was a fairly unknown country to Finns before World War II. All Finns received some basic information about Romania's geography and economic life through school education, but the information was scarce, and Romania hardly stood out from other Eastern and South-Eastern European countries far from Finland. Immediately after the First World War, however, both countries were interested in establishing diplomatic relations, and recognized that they were in a similar geopolitical and security policy position to the East. Russia (Soviet Union) ruled by the Bolsheviks was a security threat, and the countries had common interests in countering that threat (Miloiu 2006-2007, 276-280).

When Russia's civil war ended, the Soviet Union seemed to abandon its active efforts to spread the world revolution, thereby diminishing the direct military threat. From the perspective of both countries, relations between Finland and Romania lost their importance. The legations, which had been established in the early 1920s, were abolished for austerity reasons and were not re-established until the 1930s (Miloiu 2006-2007, 280-284). Finland did not open a legation in Bucharest until the spring of 1939. Economic and cultural relations also remained relatively thin between the world wars, largely because the countries were far apart, and neither had specific reasons to actively develop bilateral relations (Miloiu 2007, 93-110). World War II brought a change to this.

In the eyes of Finns, the first glimpse of the brotherhood in arms was seen during the Winter War. The unprovoked Soviet invasion of Finland at the end of November 1939 aroused great interest and widespread sympathy for Finland almost everywhere in the world. The Romanian state leadership also expressed its political support for Finland. Romanian Prime Minister Gheorghe Tătărescu told the Finnish Envoy and Bucharest's Bruno Kivikoski that Finland's struggle against the Soviet Union had given Romania more time to prepare for a similar Soviet aggression against Romania (Kivikoski 1940). As it is well known, the Soviets had plans to recapture the Bessarabia that it had lost, and it was clear that it was only a matter of time before the Soviet Union would see a suitable opportunity for such an operation.

Romania and Finland were already equated with brothers in arms in one way in Tătărescu's comment: the countries had a common enemy, and Finland's struggle was directly relevant to Romania's defense. The Finnish Ministry for Foreign Affairs stated that the comment was correct for assessing the strategic situation. The sympathy expressed by Romania was welcomed, but during the Winter War, there was no time to develop relations on this basis, nor was there any military co-operation between Finland and Romania. Romania did not allow its own citizens to go to Finland as volunteers to fight the Soviet Union because Romania was in immediate danger from the East, and all able-bodied men were needed at home. A few foreigners living in Romania – mainly Polish soldiers who had retreated to Romanian soil in September 1939 – were, however, allowed to travel to Finland. Moreover, the Romanian Red Cross collected grains and other food, and sent it to Finland as a donation. Small-scale fundraising was also carried out for Finland (Uola 2015, 86-87).

As Finland received a lot of attention and help from many other countries, Romania's share did not exceed the news threshold in the Finnish media. The Finnish Ministry for Foreign Affairs and the state leadership were nevertheless aware of Romania's benevolent attitude and assistance. However, the Winter War lasted only three and a half months, which is a short time for the development of bilateral relations and concrete military cooperation. The political and military situation in Europe also changed significantly with the end of the Winter War in March 1940. Germany's expedition to the West changed the strategic settings. Romania was hit by internal and external crises in 1940, and Finland was preparing for the worst – a new and stronger attack by the Soviet Union, which was thought to be highly probable in the near future (Uola 2015, 113-120).

In the spring of 1941, both Finland and Romania decided to rely on Germany to eliminate the threat of the Soviet Union. When Germany launched Operation Barbarossa in June 1941, Finland and Romania joined the war alongside Germany to defeat the Soviet Union and restore the lost eastern territories (Karelia and Salla; Bessarabia and North Bukovina). For the next three years and three months, the countries had a real opportunity for a brotherhood of arms. The relationship was also seen as such in both countries. In Finland, the brotherhood of arms received different shades and concrete manifestations, depending on whose perspective this issue was viewed from.

1.2. The Finnish highest leadership maintains a "suitable distance" to the brother-in-arms

When Germany launched an attack on the Soviet Union on June 22, 1941, Finland wanted to avoid the impression that it was involved in starting a war. Yet, the Finnish army was already grouped for an attack, and there were many German troops in northern Finland who launched their own attack from Finnish soil. The starting situation was thus clear, and the Soviet Union began to take military action against Finland on the same day, which gave Finland a chance for a small propagandistic maneuver. Referring to the operations of the Soviet forces against Finland, the Finnish state leadership declared on June 25 that Finland had "become into a state of war" and started a "defensive battle" (Uola 2015, 200-212).

The next day, the Romanian government, through the Finnish Legation in Bucharest, greeted the Finnish leadership and expressed its satisfaction that Romania was on the front line with Finland, and wished Finland success in the forthcoming battle (Finnish Legation 26.6.1941). The Finnish government responded to the Romanian government's diplomatic courtesies with a nearly identical message on June 27. Finland also expressed its satisfaction that "Finland and Romania were on the common front to defeat Bolshevism and safeguard the rights of the peoples of Europe" (Foreign Ministry 27.6.1941).

Finland's word choices were carefully considered. Finland sought to maintain relations with the United States and the countries of Western Europe; and emphasized from the beginning of the war that it was waging a "separate war," and cooperated with Germany only because the countries had a common enemy threatening Finland's existence: the Soviet Union (Miloiu 2005, a, 68-69). No actual alliance with Germany, Romania, or other countries on the same side of the front came into question from the perspective of the Finnish state leadership. Officially, it was a matter of "co-belligerence" and brotherhood of arms, in principle.

Finland's highest leadership avoided emphasizing the ideological nature of the war, and particularly avoided associating itself with any manifestation of National Socialist racial ideology throughout the war. The latter position was real, as Finland also practically refused to extradite Jews to Germany, despite such proposals from Germany. Admittedly, Finland, like Romania and other "co-belligerents" of Germany, joined the Anti-Comintern Pact in the fall of 1941. Finland thus undertook to oppose the spread of communism; officially, Finland still tried not to present its primary struggle as a crusade against communism when Finland

informed the Western powers or neutral countries. Ideological comments against Bolshevism were made only in bilateral communication with “co-belligerents”. Officially, Finland was also silent about the goals it had in the ongoing war. Returning the areas lost in the Winter War to Finland was the only concrete declared aim, but other aims and alternatives were discussed in secret from the public (Uola 2015, 275-278).

The Finnish government reported to Parliament on its key policies and activities in various areas of life at the end of each year throughout the war. At the end of 1941, the government stated that the common struggle against the Soviet Union had brought Finland closer to Romania and other small countries on the same side (Finnish Government 1941). A report with the same content was issued at the end of 1942 (Finnish Government 1942). However, the strategic situation deteriorated in 1943, and the Finnish leadership began to seriously seek the opportunity to secede from the war and make peace on tolerable terms. Because the government’s annual reports were public documents, the government no longer mentioned closer relations with Romania or other “co-belligerents” at the end of 1943 (Finnish Government 1943). The emphasis on common war goals was no longer propagandistically advantageous, as Finland tended to distance itself from Germany and its official and unofficial allies – especially in the eyes of the Western powers.

Romania was more interested in closer relations with Finland than Finland with Romania. Initiatives to develop relations throughout the war came mostly from Romania, especially in political and military matters. As for the economic relations, both countries had roughly equal interests in increasing trade, and the same can be said for cultural relations. Admittedly, wartime conditions made it difficult for the economies and cultures to interact, although both sides were positive about increasing them (Palin 1943).

One concrete, official way of demonstrating the brotherhood of arms was to award decorations to representatives of a partner country. It is a common diplomatic way to show a desire to develop cooperation. In practice, decorations can be given in advance, and not only on the basis of long-term merit and considerable deeds. The purpose of awarding decorations is to encourage key executives in another country to do things and to show a positive attitude in general. In this case, Romania was the initiator.

Romania awarded the Commander-in-Chief of the Finnish Army, General (later Marshall) Carl Gustaf Emil Mannerheim with the highest class of Romania’s highest order (Ordinul Mihai Viteazul) in the fall of 1941 (Palin 1941). Between 1942 and 1943, a large number of other Finnish politicians and senior military leaders were awarded high Romanian decorations. Among them were President Risto Ryti, Prime Ministers Jukka Rangell and Edvin Linkomies, General Erik Heinrichs and the Finnish Envoy to Bucharest’s Eduard Palin (Palin 1943). As a rule, Finns were awarded very high decorations to show Romania’s appreciation for Finland, and Romania’s strong desire to bring the mutual relations closer.

Finland responded in the same way to the compliments and gestures of goodwill from Romania. Finland’s second highest decoration – Grand Cross of White Rose of Finland – was awarded to the actual state leader (Prime Minister and Conducător) and the Commander-in-Chief of the Romanian Army, Marshall Ion Antonescu, in January 1942. The highest decoration (the above-mentioned medal with Collar) was reserved for King Mihai and was awarded in April 1942. As in the case of Romanian awards to Finns, high Finnish decorations were given to dozens of high-ranking Romanian officers and prominent politicians in the following years (Uola 2015, 309-310). The awarding of decorations was an impressive diplomatic gesture, in which Finland was able to maintain relations with its brother-in-arm at a positive but general level. At the same time, however, Finland avoided developing the brotherhood of arms so close that it could have damaged Finland’s image of itself as a wager of a “separate war.”

When it came to a concrete security policy cooperation, the Finnish state leadership acted rather restrainedly, but was careful not to directly offend Romania. In November 1942, the Deputy Prime Minister of Romania, Mihai Antonescu, proposed to Finland that the countries exchange confidential information on foreign and security policies and military matters (Uola 2015, 308-309). The Finnish Ministry for Foreign Affairs welcomed the proposal, as it confirmed that the countries' interests were parallel, and sent a summary of the views of the Finnish state leadership to the Romanian state leadership (Foreign Ministry 30.11.1942).

The strategic situation had nevertheless become unfavorable by the end of 1942, and Finland was reluctant to tell Romania, Germany, or anyone else what the real assessment of the situation in the Finnish state leadership was. The information provided to Romania was therefore quite general and partly misleading. Finland, for instance, denied that it had become more active in seeking cooperation with Sweden, and the argument that Finland's attitude towards Germany had not changed in any way can also be considered somewhat purposeful (Foreign Ministry 30.11.1942). It is quite understandable that it was impossible to give important secret information even to the brother-in-arms, as it could have jeopardized Finland's goals in the near future. Nor could it be assured that the information would not end up in Germany or any other wrong recipient.

The clearest example that Finland officially wanted to avoid military engagement with Romania was that Finland did not have a military attaché at the Finnish Embassy in Bucharest. Finland differed from most other countries that had a mission in Bucharest in this respect. Finland appointed Colonel von Essen with a military attaché after a short delay in 1942, but as it can be seen from the Finnish embassy's annual reports, Colonel von Essen never arrived at Bucharest, so the appointment remained purely formal (Palin 1943). It is difficult to find any other reason for this than that Finland's highest leadership was reluctant to intensify practical military cooperation with Romania. Although Finland's highest leadership considered Romania a brother-in-law in principle and used the term from time to time, due to Finland's political caution, the relationship was more distant than it could have been - and what appears to have been the wish of the Romanian side.

1.3. Finland's envoy E. Palin as the most enthusiastic advocate of closer cooperation

In the state leadership, it is extremely rare for all actors to agree on things and support the same goals. This also applies to Finland's official relations with Romania during the Second World War. Diplomatic missions; and in their heads, i.e., envoys and ambassadors, have an important role to play in building bilateral relations. Although envoys and ambassadors represent the official foreign policy of their own country and must comply with regulations from a higher level of the State Department, envoys and ambassadors usually have the opportunity to express their own views as well. They can try to influence their own country's foreign policy, and the envoy's or ambassador's personality also matters in how well he or she can succeed in their duties. Finland had two envoys to Romania during the Second World War: Bruno Kivikoski in 1939-1941, and Eduard Palin in 1941-1945. Kivikoski was the Finnish envoy during the Winter War, and he reported on the sympathy shown by the Romanians for Finland. It was practically the only thing that aroused positive feelings towards Romania in Kivikoski. Otherwise, he seems to have been constantly very stressed and disappointed with the circumstances, in which he had to work. The criticism was directed partly at the Finnish Ministry for Foreign Affairs and partly at the Romanian society, whose customs and practices Kivikoski never adapted to. In Kivikoski's opinion, everything differed too much from what he was used to in Finland and Northern Europe (Kivikoski 1940). It seems that he did not experience the Romanians as interesting partners, let alone brothers-in-arms of the Finns during his entire career in Bucharest. Even in the spring of 1941,

he never considered whether Finland and Romania had any common interests, and it was an obvious relief for him when his term ended in June 1941.

Eduard Palin's first impressions of Romania were similar to those of Kivikoski, and from time to time, Palin was also irritated by some things that differed from the Finnish way of doing things. Palin eventually became a great friend of Romania, however, during the second half of 1941. In his strategic thinking, Romania was Finland's most important and useful partner in East Central Europe, and he openly said that Finland should have strongly developed bilateral relations with Romania in the spirit of brotherhood of arms (Palin, Annual report 1941).

He differed remarkably from Aarne Wuorimaa, Finland's envoy to Budapest, who emphasized the importance of Hungary for Finland. Wuorimaa represented a very common position in Finland, based on the view of the linguistic kinship of Finns and Hungarians. The crucial reason was that Palin spoke Swedish, so linguistic kinship did not matter to him (Miloiu 2006, 109-117). Second, Palin saw that Romania was the most resource-rich country in the region. Palin also found that the conditions for cooperation were excellent, as Finland's and Romania's security policy positions vis-à-vis Russia were practically identical and that Romania was very interested in increasing cooperation with Finland (Palin 1941).

Palin summed up his views in the spring of 1942, when he prepared the first annual report for the Finnish Ministry for Foreign Affairs. Palin's predecessor, Kivikoski, had made only a few brief and neutral comments on relations between Finland and Romania in his own report (Kivikoski 1940), but they were the central issue in the report for Palin. The report is worth quoting because it illustrates Palin's thinking very clearly:

"It is safe to say that political relations between Finland and Romania can be labeled as the best. Since our Winter War, Finland has enjoyed the greatest dignity, respect, and sympathy in Romania. And as last summer, Finland and Romania undertook to fight a common enemy on the same front, against Bolshevism and Russia, a most sincere spirit of brotherhood of arms has left its mark on Finnish-Romanian political relations. From the King, the state leadership and the Ministry of Foreign Affairs, nothing short of excellent courtesy and kindness have been shown to the Finnish representative, and in the Ministry of Foreign Affairs as in other general staffs and other agencies, I have invariably been shown the greatest sympathy, helpfulness and open-mindedness. My work in the political field has therefore been both easy and rewarding. My presentations and queries have been uniformly and openly welcomed, and on my initiative, I have been provided with valuable information and have been kept informed of development in the situation [---] In addition, in the ongoing war against the Soviet Union and perhaps even more so in the coming arrangements for peace, Finland and Romania's interests are so parallel that close contact and cooperation between Finland and Romania does not only feel desirable but necessary. Therefore, for this reason also, an eye must be kept on and action must be taken in the direction that Finnish-Romanian relations remain as good as the reasons why they – with pleasure, I can say – have developed during the year" (Palin 1941).

Palin reported on the brotherhood of arms and good relations between Finland and Romania in the same tone in his next annual reports and many other documents (Palin 1943). His views were thus very permanent, and very likely based on his real opinions. The brotherhood of arms was not left out until Palin's last report in the spring of 1945. The situation had already changed completely by then. Finland and Romania had withdrawn from Germany's side in September 1944, Romania had been occupied by Soviet forces, and Finland also had to succumb to a ceasefire agreement and Soviet control. In those circumstances, Palin's hopes for the development of the Finnish-Romanian brotherhood of arms and other kinds of cooperation had waned, and for political prudence, it was not worth

remembering the events of 1941-1944 in a positive light. There was, in fact, no mention of them in Palin's last report (Palin 1944).

2. Finland's unofficial perceptions: Strong sympathies for the southern comrade-in-fate

2.1. The view of the Finnish-Romanian Society: Finns and Romanians as "vanguards of Western civilization"

Envoy Palin was the most significant and influential figure in the Finnish Foreign Service, who sought to promote fraternal relations between Finland and Romania. He was the one who, for instance, worked hard to ensure that Finland awarded sufficient decorations to prominent Romanians, and reminded the Ministry of Foreign Affairs numerous times that Romania's cooperation initiatives should be responded to quickly and positively in all walks of life (Palin 1941). Palin was not alone, but had a number of active ideological partners who organized themselves at the beginning of 1943 as a Finnish-Romanian society.

The initiative again came from Romania. The Romanian-Finnish friendship society was established in Romania first, and the Romanian Ministry of Foreign Affairs then proposed a similar one to Finland through George Duca, the Romanian envoy to Helsinki. The Romanian legation also provided monthly financial support to the Finnish-Romanian society. The beginning of the society was thus slightly unusual, but the society developed into a prestigious and active player that promoted interaction between the countries on the Finnish side (Miloiu 2005, b, 415-417).

There were many well-known and significant people from various walks of life on the board of the Finnish-Romanian Society. Chairman Eero Rydman was the managing director of the Finnish Social Security Institution. Other members of the board included Eino Kalima, director of the Finnish National Theater, and Rolf Nevanlinna, rector of the University of Helsinki. There were, in fact, so many high-ranking representatives of the public administration and the academia on the board of the society that the society could even be called a semi-official institute. The unifying factors for the board members were not only their interest in Romania, but also their disinterest in kinship-based national ideologies (such as between Finland and Hungary). Besides, most of them were oriented internationally, especially to the United Kingdom and France, instead of the more popular German-oriented cooperation in Finland (Salo 2013, 7-18).

The main task of the society was to provide Finland with information about Romania and its society and culture. The society organized several visits and exhibitions of Romanian scientists and artists in Finland, and published articles on Romania in Finnish newspapers and magazines during the years of 1943 and 1944 (Salo 2013, 35-53). The most important single achievement was a 109-page Finnish-language book entitled "Romania: A Latin Enclave in South-eastern Europe" published in the spring of 1944. The book was by far the largest work published in Finnish, presenting various areas of life in Romania (Rydman 1944). The previous and only similar work was "Romania: Country and People," published in 1935, which was 31 pages long (Mansikka 1935).

"Romania: A Latin Enclave in South-eastern Europe" portrayed Romania in a very positive light. There is no definite information about the authors; possibly, it was born as a Finnish-Romanian co-operation. As such, it was one of the strong manifestations regarding the attitude of Finnish friends of Romania towards the southern partner country. Of particular significance to the topic of this article is the long foreword by Eero Rydman. Even in the spring of 1944, the chairman of the Finnish-Romanian Society considered it necessary to strongly emphasize the common destiny of Finland and Romania, and how both peoples had fought again and again throughout history "against the tidal wave of the Slavs." For Rydman, Romania was clearly a brother-in-arms and a comrade of fate. Finland and Romania – in

Rydman's words, "the vanguards of Western civilization" – once again "fought side by side against the barbarians of the East" (Rydman 1944, 5-7).

It may be inferred from the activities of the Finnish-Romanian society that at least a part of the Finnish educated elite and the wider public were able to look at things from a strategic perspective. The security policy interests of Finland and Romania were indeed convergent, and in that sense, many Finns certainly felt some kind of brotherhood of arms towards the Romanians. Both state and informal actors still had to balance it between Romania and Hungary. Namely, the Hungarian legation to Helsinki closely followed any Finnish statements, and protested very easily if it found shades that could be interpreted as unfavorable for Hungary. Finnish actors were often confused about the situation because they did not understand why praising one brother-in-arms would have been offensive to another brother-in-arms. It seems that very few Finns understood how hostile relations Hungary and Romania were with the Transylvanian issue (Miloiu 2006, 105-117). Both parties followed the statements of Finland's official representatives in particular, but the word choices of prominent individuals could also provoke protests and disapproval if they showed any approval to the other party in the dispute (Uola 2015, 310-317).

2.2. The consensus in the Finnish media about a respected brother-in-arms

The above-mentioned disputes between Romania and Hungary were also reflected in the writing of the Finnish press throughout the war. It was customary for the legation of one of the countries to protest to the Finnish Foreign Service if there was something in the papers that the Romanians or Hungarians felt was favorable to the other party. In most cases, it was the fact that Finnish newspapers showed understanding for Hungary, which offended Romania. Romania was not usually directly mentioned in such writings, but commenting on the Trianon Peace Treaty, for instance, was a topic, in which understanding the Hungarian perspective automatically meant paying less attention to the Romanian perspective (Uola 2015, 312-316).

There were fewer problems in the other direction. When Finnish newspapers wrote about Romania, the news and articles mostly focused on other topics, such as Romanian culture, the economy, or society. Considering the presentation of Romania as Finland's brother-in-arms, the spring of 1942 was the peak period for writing. Romanian National Day (May 10) in particular was widely mentioned in the Finnish printed word. Supporters of all parties then published at least a short article, as did major non-political newspapers.

It is understandable that newspapers that supported nationalist values portrayed Romania more positively. For example, the newspaper *Uusi Suomi* of the Conservative Party praised Romania as Finland's reliable brother-in-arms, with whom Finland fought on the same front against Bolshevism. The Romanian army also received praise for its military performance in the East (*Uusi Suomi* 1942). The newspaper *Ilkka* of the nationalist-minded Agrarian Union also described Romania very positively and called the country a "strong ally" (*Ilkka* 1942). The term "ally" could thus be used without any problems in the Finnish press, even though there was no official alliance agreement. However, in the broader perspective of World War II, the situation was clear to many Finns.

Helsingin Sanomat, which represented the liberal political center, was essentially in line with right-wing newspapers. For them, the war was a "joint crusade against Bolshevism" by Finland and Romania (*Helsingin Sanomat* 1942). The voice of national unanimity was complemented even by the newspaper *Suomen Sosialidemokraatti*, who, like others, praised Romania for fighting the "threat of the East". The word choices of the left-wing newspaper differed only in that they did not emphasize the ideological nature of the struggle, but only spoke of the enemy (*Suomen Sosialidemokraatti* 1942). Based on these writings, there were no dissenting opinions about the threat of Russia, which had to be resolutely opposed. In that

context, the Finn-Romanian brothers-in-arms were also recognized across the political spectrum.

A year later in May 1943, the tone of Finnish newspapers towards Romania was still friendly, but as the war turned in a worrying direction, it had clearly affected the content of the newspaper articles. If we compare these two situations through the same four newspapers, then only *Uusi Suomi* was still highlighting the brotherhood of arms and community of fate between Finland and Romania in the fight against the East (*Uusi Suomi* 1943). Instead, all other newspapers (for instance, the largest Finnish paper, *Helsingin Sanomat*) emphasized the general development of relations between Finland and Romania and the friendly relations between the two countries (*Helsingin Sanomat* 1943). Many Finns' belief in victory had begun to wane, and taking distance from other co-belligerents apparently seemed to be a safer option in the new circumstances.

In any case, the single most significant Finnish media incident involving Romania during World War II was a special issue of *Suomen Sotilas* (The Finnish Soldier) in April 1942. *Suomen Sotilas* was a widely circulated military magazine for anyone interested in the subject. The magazine was apparently well-edited and published a wealth of technically good quality images, so it attracted a large audience. The 36-page special issue, published on April 1, 1942, was devoted to Romania and a presentation of its state leadership and armed forces.

The entire section of the magazine's content (two-thirds of the issue) was extremely positive about Romania. Finland and Romania were described as brothers in arms, who were now forever connected through a common heroic struggle. King Mihai was introduced under the title "King Beloved by His People." Marshal Antonescu was a "Skillful Head of State" and a "Brilliant Warlord," who had led his army from victory to victory and was also highly respected by Germany. The operations of the Romanian army were presented in detail, and at the end, there was a shorter section describing Romanian society and religious life. The special issue of *Suomen Sotilas* (1942) was the purest example of how Romania was seen as a respected brother-in-arms in Finnish patriotic circles. For these patriots, an official alliance with Romania would hardly have been a problem – rather, it was a clear wish and in line with how they saw the future of Finland and Romania after the victorious war that still loomed on the horizon in the spring of 1942.

Conclusions

It is evident that the Finnish media was very positive about Romania throughout the war. Romania was a respected brother-in-arms, with whom the Finns gladly cooperated. Especially in the early part of the war, when the war went well, the media was very optimistic about the future and highlighted the common goals and common struggle of Finland and Romania with strong, emotional expressions. Finland and Romania were practically seen as allies. The media thus saw the strategic setup of the war precisely as Europe's struggle against Russia and Bolshevism, and through it, the alliance with Romania seemed logical.

A variety of non-governmental organizations can be identified in the background of newspapers and magazines, such as all major Finnish parties. It is obvious through military publications that a similar mood prevailed among the Finnish army and voluntary national defense organizations. The same group also included the Finnish-Romanian Friendship Society, which brought together a large number of highly educated and high-ranking Finns. On this basis, it can be estimated that there was considerable support among a wide range of citizens for the positive attitude towards Romania and the development of cooperation with Romania.

The only – but at the same time, decisive – slowdown in the convergence of Finland and Romania was the cautious attitude of the Finnish state leadership. The Finnish

government and highest decision-makers assessed the situation from a global perspective during World War II, concluding that it was not worthwhile for Finland to bind itself to Germany or to any other co-belligerents of Germany. The goal of the Finnish state leadership was to maintain the greatest possible freedom of action and a balance between Germany and the Western powers. Although the Finnish leadership also welcomed Romania in principle, there was no desire to become too close. That is why Romania never became an ally of Finland, even if there were natural preconditions for it on the basis of the generally recognized brotherhood of arms.

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PARIS PEACE CONFERENCE 1946

The loss of the Quadrilateral and the Romanian legal arguments

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Abstract: *Dobrogea Nouă, Dobrogea de Sud or Cadrilater, these are the names under which the southern part of the territory between the Danube and the Black Sea was known, an area that has been, for centuries, at the crossroads of trade routes and the interests of neighboring powers. The province was characterized as an "appendage of Asia, transplanted to Southeast Europe, which opened the steppe gate, as described by Alberto Basciani (Basciani 2001) As noted by historian Cătălin Negoită (Cătălin Negoită 2008) from my student days, precisely because of the extremely fragmented information I had. The moment of the incorporation of this territory into the Romanian state was almost overlooked, as if our historians were embarrassed to mention this episode. Even the Balkan wars were not treated extensively before 1989, so the history textbooks were content to record succinctly: the name of Quadrilater, became part of the Romanian state». Even more concise was the information about the loss of the province: "Following the signing, on September 7, 1940, of the Treaty of Craiova, Romania ceded to Bulgaria southern Dobrogea, known as the Quadrilater. "All the more so, as if the historians were in a hurry to conclude a subject that did not honor Romania".*

Keywords: *Dobrogea; Quadrilater; 1940; Treaty of Craiova; Bulgarian revisionism.*

On September 7, 1940, Greater Romania died. The largest administrative-political construction of the Romanian nation was shattered after only 20 years. Only two decades, if we take into account the legal regulations, more precisely the Treaty of Trianon of July 4, 1920 and not the Great National Assembly of Alba Iulia of December 1, 1918. Very little for a people. Or maybe I deserved it.

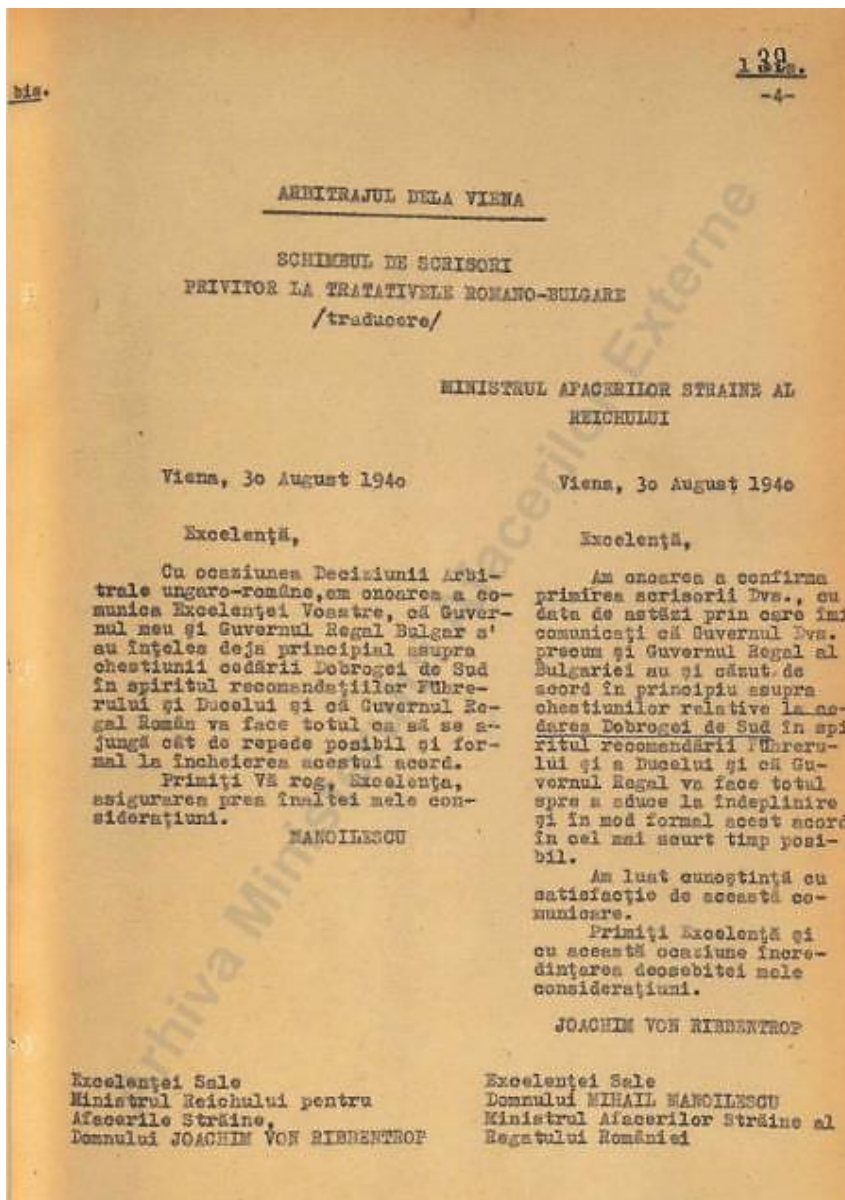
On September 7, 1940, on behalf of Romania, Alexandru Cretzianu and Henri-Georges Meitani signed the Treaty of Craiova with their Bulgarian counterparts, Svetoslav Pomenov and Teokhar Papazoff, in the palace of the Jean Mihail Palace (now the Art Museum). Romania ceded to Bulgaria South Dobrogea (Quadrilateral) a region of 7,412 square kilometers and 410,000 inhabitants. In addition, Romania accepted a humiliating treaty - and unique in our history - by which it accepted a population exchange. 80,000 Romanians, many of them colonized after 1913, were evacuated from the Quadrilater, while 65,000 Bulgarians were to leave Romanian territory.

George Ungureanu notes that the decision to cede the territory acquired in 1913 is reconfirmed almost unanimously by the Crown Council, meeting on August 23, 1940 (Ungureanu 2005). Nicolae Iorga and the Transylvanian representatives definitely decided to give up the Quadrilater (the latter believed, or wanted to believe, that such a decision would strengthen Romania's chances in the negotiations with Hungary). Alexandru Vaida-Voevod very suggestively expressed the feelings of the representatives of Transylvania: "The quadrilateral is only the little finger, beyond (in Transylvania - n.n.) Is the arm". Only Constantin Argetoianu and Victor Iamandi made an exception to the general opinion, who saw in the surrender without struggle of another territory a sign of weakness, totally inopportune (Manoilescu 1991).

The ratification decree was signed by General Ion Antonescu, the new Romanian "Head of State", on September 10, 1940, and was published in two days in the "Official Gazette", together with the full text of the Treaty.

The Vienna Dictate – for some it was annulled, for others not!

The end of World War II inevitably led to the Great Powers' attempt to establish a legal peace, to draw up treaties to end the war. Paris was re-elected as in 1919-1920. The Paris Peace Conference (July 29 - October 15, 1946) was naturally followed by the International Peace Treaty of Paris, signed on February 10, 1947, between the victorious Allies and the losing states of the United States. Axis, following World War II. Article 2 clearly stated that "The judgments of the Vienna Judgment of 30 August 1940 are declared null and void. The border between Romania and Hungary is re-established by this article as it existed on January 1, 1938. In other words, the Treaty of Paris annulled the provisions of the Vienna Dictate, by which Germany and Italy forced Romania to cede northern Transylvania to Hungary. But logically the Craiova Treaty also had to be annulled, which is nothing but a consequence of the Vienna Dictate. A clear example is found in the correspondence held by the Ministry of Foreign Affairs (in custody at the Diplomatic Archives).



Vienna, 30 August 1940
Excellency, On the occasion of the Hungarian-Romanian Arbitration Decision, I have the honor to inform Your Excellency that my Government and the Bulgarian Royal Government have already agreed in principle on the issue of the surrender of South Dobrogea in the spirit of the Regal Român will do its utmost to reach the conclusion of this agreement as soon as possible and formally. Please accept, Excellency, the assurance of my highest consideration.

MANOILESCU His Excellency the Minister of the Reich for Foreign Affairs, Mr. JOACHIM VON RIBBENTROP

Vienna, 30 August 1940
Excellency, I have the honor to acknowledge receipt of your letter of today's date informing me that your Government and the Royal Government of Bulgaria have agreed in

principle on matters relating to the surrender of South Dobrogea to in the spirit of the recommendation of the Führer and the Duke, and that the Royal Government will do its utmost to carry out this agreement formally and as soon as possible. I have read this communication with satisfaction. Receive Excellency and on this occasion entrust the entrustment of my special

consideration. JOACHIM VON RIBBENTROP His Excellency Mr. MIKAIL MANOILESCU Minister of Foreign Affairs of the Kingdom of Romania

A similar letter will be sent to Manoilescu and Ciano, who will be happy to respond:

Vienna, August 30, 1940 Excellency, I have the honor to acknowledge receipt of your letter. with today's date by which you communicate to me, on the occasion of the Arbitration Decision regarding the Hungarian-Romanian border, that your Government. and the Royal Government of Bulgaria agreed in principle on matters relating to the surrender of South Dobrogea in the spirit of the recommendation of the Duke and Führer and that the Royal Government will do its utmost to implement this agreement formally as soon as possible. . I have read this communication with satisfaction. Receive, Excellency, the entrustment of my highest consideration. CIANO

It is undeniable that the surrender of the Quadrilateral was made under German-Italian pressure, to which was added the Soviet pressure. However, the Great Allied Powers decided in Paris that only Transylvania should be returned to Romania, not the Quadrilateral! The great historian Gheorghe Zbucea wrote that "in the tragic summer of 1940, when a large part of Romania became a prey to the surrounding revisionist countries, under the combined pressure of Nazi Germany and Stalinist Russia, the surrender of the Quadrilateral was imposed, enshrined in the Romanian Treaty. Bulgarian from Craiova, signed on September 7, 1940. Our country lost 7,142 km² with 440,000 inhabitants. "Subsequently, contrary to the rules of international law invoked at the end of World War II, due to Moscow, the issue of the Quadrilateral was no longer, as would have been normal, even formal, the subject of discussion and possible new regulations" (Zbucea 1999) the assertion of the late teacher, perhaps less so; "It seems to us fully justified the absence of this land between the Danube and the Sea in future plans related to the possible reconstitution of the Romanian state within the borders of Greater Romania, as such only with Bessarabia and Northern Bukovina, so without Quadrilater." However, there were voices that challenged the exaggerated claims of the Bulgarians that Mihail Manoilescu (b. December 9, 1891, Tecuci - d. December 30, 1950, Sighet Prison), former Minister of Foreign Affairs of the Romania in the summer of 1940, during the Ion Gigurtu government. During our research in the Diplomatic Archives (M.A.F. Archive, fund 71, Bulgaria, 1920–1940) we discovered many unpublished documents. Documents that were not included in the now famous Manoilescu Memoirs, "The Vienna Dictate. Memoirs: July-August 1940, Valeriu Dinu edition, Encyclopedic Publishing House, Bucharest, 1991".

The reaction of Mihail Manoilescu, signatory of the Vienna Dictate

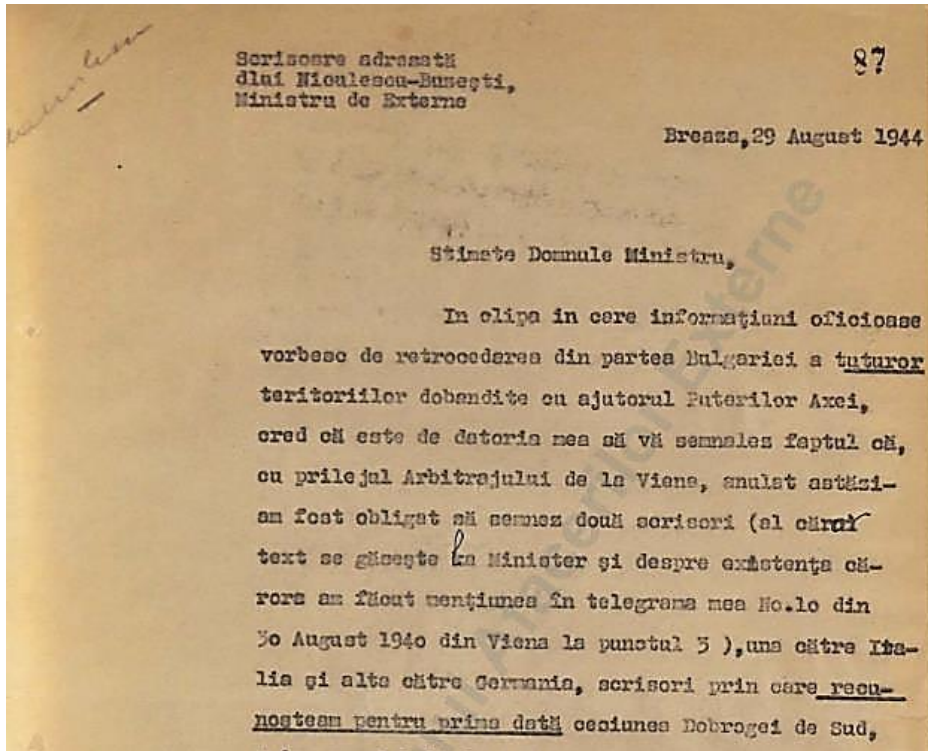
Letter addressed
Mr. Niculescu-Buzești,
Foreign Minister

Breaza, August 29, 1944

Dear Minister,

At the moment when unofficial information is talking about the return from Bulgaria of all territories acquired with the help of the Axis Powers, I think it is my duty to point out to you that on the occasion of the Vienna Arbitration, canceled today, I was obliged to sign two letters. (the text of which can also be found at the Ministry and about the assistance of which I mentioned in my telegram No. 10 of 30 August 1940 from Vienna in point 3), one to Italy and another to Germany, letters by which I recognized for the first time the transfer of Dobrogea from South, "in the sense of the decision of the Duke and the Führer."

This essential fact shows that the formal surrender of the Quadrilateral (which the Treaty of Craiova only enshrined in a solemn act) was actually and even legally consumed on August 30, 1940 in Viana, and we were imposed at the same time by the same people and under the same pressure as the Vienna arbitration, by an indivisible connected act, even included as a mere annexation of the same arbitration act.



In fact, all the diplomatic documents prior to or related to the Craiova negotiations confirm the forced character of the surrender of the Quadrilateral, in its entirety.

In this regard, my memoirs of 6 August to Berlin and Rome, my telegram of 13 August to the Minister to Sofia Filotti (in which I related the statements made by Prime Minister Gigurtu and myself

to the Minister of Bulgaria Tchomakov) and especially the memorandum "Aide mémoire du 16 Août" which Minister Filotti handed over to Foreign Minister Popov on the evening of 17 August.

In all these acts, it is pointed out that Bulgaria is pursuing a "unilateral and rigid" solution, and not a "bilateral and friendly" one like ours, which we demanded to keep Balchik with the coast and an absolutely minimal territory of 1000 km. p.

Moreover, in the statements of the Prime Minister and mine to Minister Tchormakov (reported in the August 13 telegram to Mr Filotti), we told him: a conjuncture can one day "change the situation."

In the same way, in the Aide mémnoire of August 16, I resumed the same theme of the conjuncture, stating categorically that Bulgaria "refuses the pledge of friendship demanded by the Romanian people" and that consists in Bulgaria's renunciation of claiming Balchik with the coast and with the afferent territory of 1000 Km.p.

The same attitude was maintained by the head of the Romanian delegation in Craiova, Minister Cretzianu, who declared in his own opening speech that the solution of the Bulgarians can only be seen "with the deepest dissatisfaction with our public opinion".

I considered it useful, dear Minister, to highlight these data and circumstances, which of course you will use in the interest of our country, just at the moment when a new conjuncture is occurring for Bulgaria, as I had predicted would happen. one day.

Receive, etc.

ss / Mihail Manoilescu

Legal arguments of the former foreign minister

Except from the personal notes of Mr. Mihail Manoilescu from July-August 1940

I. Hitler's "decision" of July 31.

After the U.R.S.S. ultimatum from June 26, 1940 and following the shaking of Romania's political position, the Romanian governments had been forced by the Axis Powers to accept in principle the obligation to deal with the Bulgarians and the Hungarians, on July 26 and 27, Prime Minister Gigurtu and I were forced to give result Hitler and Mussolini's guests to discuss this obligation directly with them.

As for the talks to be held with the two neighboring countries, it has been established then, in Berchtesgarden and Rome, that the Romanian government would deal directly without any intervention of any kind from the Axis Powers, Hitler declaring to us personally and solemnly that he did not intend to take any role in this regard to avoid arousing dissatisfaction with any of the contracting parties.

With all these categorical statements, on our return to the country, on the 31st of July at 12 o'clock, the Minister of Germany, Fabricius, presented himself to me and handed me a piece of paper with seven lines typed on it, lines that meant nothing but opinion. final statement of the Führer in the matter of the Quadrilateral, expressed in the form of a document.

I give it in Romanian translation:

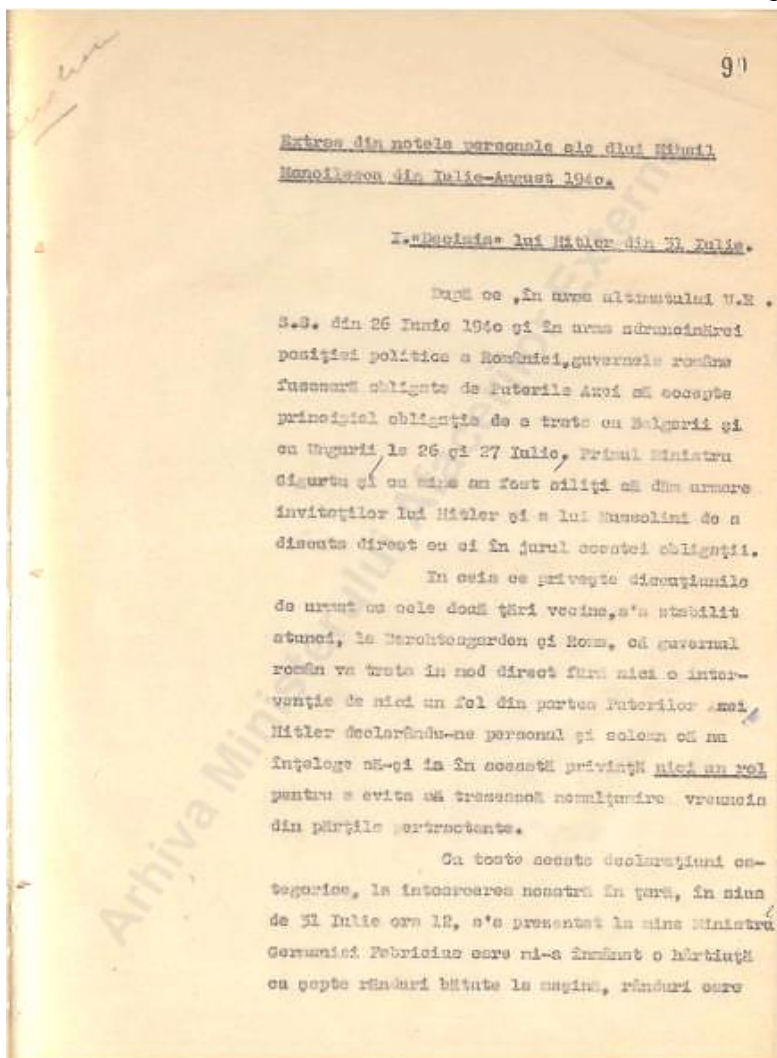
"The Führer considers the return of South Dobrogea to the 1913 border, including Silistra and Balchik, as an extraordinarily fair solution that must simply be accepted (ohne weiteres)."

Fabricius added that Hitler had advised the delegates of Bulgaria who had visited him after our departure not to demand more, (!) Not to enter into a bargaining system with Romania.

How I reacted to this communication can be seen from the conversation note from July 31 filed in the Ministry's Archives:

"It simply came to our notice then that we were in for a treat. I told him that I considered this the saddest news he could bring me, because it puts into question the whole system of thinking and the whole conception of the regulation of our relations with the Hungarians and Bulgarians, discussed in Salzburg and Rome. " days before!)

I first showed him what this "opinion" of Hitler means for the issue itself, and then I added that this unexpected approach is of great concern to me from the second point of view, as it shows us what may be the way to proceed. in the future regarding the second, much more important issue of Transylvania.



I reminded him that it was agreed with Hitler that we would be allowed to deal directly with the neighbors, without any intervention from the Axis Powers. Now, we have the "opinion" of Hitler, who, because of his great authority, has a real character of arbitral award. And this is how much - which Fabricius did not deny - it is almost certain that the Bulgarians also took note of this communication.

"I spoke to Minister Fabricius with an energy and indignation which were only very natural, and he told me that he would communicate in Berlin the great emotion which this communication had caused me."

This serious episode clearly proves the fact, which must be kept in mind for the future with all its consequences, that the surrender of the Quadrilateral in its integrity was not a voluntary act of ours but an imposed act, having in fact the same character of forced arbitration - only without name and forms of arbitration - as well as the Vienna Act of 30 August, with which it is otherwise connected and legal (see next chapter).

"I surrendered the entire Quadrilateral only forced, threatened and under terrible pressure"

II. Treaty with the Bulgarians before Craiova. 3–17 August

Like the claims of the Hungarians, the claims of the Bulgarians also took on an acute character, also the day after the loss of Basabia.

As early as July 11, the Foreign Minister of Bulgaria, Popov, receiving on leave leave our Legation Adviser Krupenski, personally told him, as a friend, that Bulgaria's relations with Romania could become very tight, only on the condition that Romania cede Bulgaria to South Dobrogea (see the telegram of Minister Filotti of July 11). At the same time, Bulgaria can offer Romania a population exchange between Bulgarians in northern Dobrogea and Romanians in the Quadrilateral.

This sudden exit, in an inadmissible form, led me to telegraph on July 15 to Minister Filotti, pointing out that we could not be allowed to speak in the manner spoken to Legacy Adviser Krupenski and giving instructions as members of our legation. to no longer tolerate such unusual manifestations.

It is no less true that Bulgarians have since been confident that they will get the Quadrilateral from us, according to Foreign Minister Yugoslavia's Foreign Minister Sofia, saying that "Bulgaria will get the surrender of South Dobrogea only under the pressure of the Axis" (see Minister Filotti's telegram of July 16).

The German minister in Sofia categorically supported "the return of the Quadrilateral, over which Romania has no right" and then insisted that the cutting of this abscess should not be postponed, because "the situation becomes critical and requires solutions as soon as possible."

On July 17, the day after Prime Minister Gigurtu and I visited Berchtesgarden, Hitler also received Prime Minister Filov and Bulgarian Foreign Minister Popov in Berchtesgarden. All Bulgarian statesmen demanded the restitution (see August 27 telegram from Minister Filotti) except for former Prime Minister Georgiev, who believed that it was wrong to seek a settlement of disputes in Germany, instead of a harmonious treatment without the German government.

The Bulgarian delegation, which returned to Sofia on July 30, was able to announce that the issue

The quadrilateral has been resolved (come the telegram from the Sofia Legation, signed by Căpităneanu, from July 30)

Indeed, as I reported above, on July 31, Minister Fabricius communicated to me the "opinion" of the Führer to cede the entire Quadrilateral, including Silistra and Balchik.

On August 1, we instructed our Ambassador to Belgrade, Fall (see telegram), to go on an unofficial mission to Sofia to enter into discreet negotiations with the Bulgarian Government.

Our thesis was to convince the bukğari that it is in their own interest to give a character of free understanding to the act that would be concluded between us, so that "its moral value, which results from this free consent, constitutes at the same time and its political sustainability. "

"The Bulgarian people must understand that only what is achieved in this way with the absolute voluntary feeling of the Romanian Government and people, is sustainable and is a guarantee for eternity. To use the transient circumstance to obtain a result greater than the right and legitimate one is the same as to obtain results thanks to a transient factor, which can be annulled by an exact inverse situation ”.

From this point of view, we remained firm until the end of the negotiations.

On August 3, Ambassador Cădere had an agreement with the Minister of Foreign Affairs Popov and with the Prime Minister Filov, in which he pleaded extensively in our thesis.

We demanded that we remain in Silistra's possession - without which there would be no communication on the highway between Bucharest and Constanța - and that we would remain in the Cadrilatee, which was 14,000 km long. square an area of only 2,000 km. squares comprising the Balchik and the seashore.

Minister Popov asked the Fall Ambassador not to open the conference I proposed for Craiovo, before it was finally established that we accept the full restitution of the Quadrilateral. On August 10, we communicated through our Legation in Sofia to Minister Popov that he would like to meet with him on the Danube, a proposal to which I received the insult of some refusal because (see the August 10 telegram of Minister Filotti) "he does not want to go to a meeting that would give the impression that he would be willing to discuss territorial issues, which he considers crucial "(through Hitler's" opinion ").

Bulgaria was so strong on Hitler's unconditional support that he could even afford this serious indecency!

I note in passing that (later) this Minister of Foreign Affairs, Minister Mihail Antonescu had a lack of Romanian dignity and pride, to accept him as the representative of Bulgaria in Bucharest.

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This fact, however, as well as all that followed deserves to be recorded because - on another historical occasion - to know exactly that we surrendered the whole Quadrilateral only forced, threatened and under terrible pressure and that the Bulgarians behaved unimaginably rudely with us (see also their methods during the negotiations). in Craiova and especially the acts of brutality to which they devoted themselves to the evacuation of the Quadrilateral).

On August 6, we made a supreme attempt to change Hitler's decision by sending Minister Ribbentrop and Count Ciano, through our Ministers in Berlin and Rome, a memorandum on the issue of the Quadrilateral. We show in these that the ethnic rights of the Bulgarians in the Quadrilateral, which they pay so much attention to, are equal to the Romanians, because, as Mincov's map shows, in 1878 there were almost no Bulgarians in the Quadrilateral, so all Bulgarian ethnic rights are those of a 35-year-old colonization, so they are by no means superior to the rights of the Romanians. ethnicities of the Romanians as they also result from a colonization of 27 years.

Moreover, I tried to create a doctrine of the annexation of the Quadrilateral, which unfortunately had never existed, namely I argued that the annexation of the Quadrilateral was

made to create a living space for Macedonian Romanians who in 1913 passed under the Turkish regime under the regime so that this annexation, far from being determined by strategic motives or the theory of compensation - which no one could dare to argue today - was justified by the idea of population exchange, which we I applied it long before Germany.

Unfortunately, the proceedings of the Bucharest conference (which I had to correct) did not contain any trace of such a conception.

I am convinced that if we, during the 27 years of possession of the Quadrilateral, had created such a doctrine and spread it in the European Chancelleries, justifying the possession of the Quadrilateral as a reserve of colonization for Macedonians, the situation would have been completely different. our moment when we gave the diplomatic fight for Quadrilater ...

I do not repeat the basis of our thesis in the matter of Silistra, whose annexation to Romania had nothing to do with the peace of Bucharest in 1913, and which was given to us at the conference of the Ambassadors in Petersburg in 1912. I do not repeat the arguments in favor. the maintenance of the Balchik with the seashore, which proved that it represented for Bulgaria the absolute minimum sacrifice of a 2,000 km patch of land. square, very poor and sparsely populated, with an insignificant population of 37,500, of whom 14,500 were Bulgarians.

In fact, in its address of August 22, the General Staff itself draws attention to the fact that, if we cede the coast to Balchik, Romania will have only 60 km. off the coast, while Bulgaria will have more than 200 km. of firm shore, with strategic and economic value.

My memorandum - written in German and Italian - and my maps were sent to Berlin and Rome.

In Berlin, however, the extremely embarrassing fact that must be recorded (see the exchange of telegrams with Minister Romalo) took place that the Undersecretary of State for Foreign Affairs and the Chief of Protocol did not even want to receive the memorandum, to pass it on to Minister Ribbentrop. It would be completely against Romania's interests if we tried to persevere in this matter, in which Hitler spoke his word (!) and that this would disadvantage us in the much more important negotiations we have with Hungary.

Thus, the official attitude of Germany confirmed the arbitral award of the Führer's communication of 31 July.

In the face of this situation, we sought, with more energy, to obtain directly from the Bulgarians their renunciation of the claim of Silistra and the seaside, as far as Balchik.

On August 12, the Prime Minister and I summoned the Bulgarian Minister Tchomakov (see my August 13 telegram to Minister Filotti) to show him ways "We consider the Quadrilateral at this time, following the quasi-arbitration recommendation of the Fürer, as it has already been returned to Bulgaria and we formulate the problem in reverse, namely, if the Bulgarians agree to give a pledge of friendship to us, leaving us a portion of the Quadrilater (Silistra and Coast including Balchik), pointing out that our preference goes unchecked to the Baltic coast. "

This fact, however, as well as all that followed deserves to be recorded because – on another historical occasion – to know exactly that we surrendered the whole Quadrilater only forced, threatened and under terrible pressure and that the Bulgarians behaved unimaginably rudely with us (see also their methods during the negotiations). in Craiova and especially the acts of brutality to which they devoted themselves to the evacuation of the Quadrilateral).

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III. Craiova negotiations. (August 19 – September 7)

The Craiova conference opened on August 19, with Romanian delegates: Minister Cretzeanu and former Undersecretary of State Horia Grigorescu, and Bulgarian delegates: Minister Pomenov and lawyer Papazov.

I will not recount here all the adventures of this embarrassing conference. (I call it embarrassing because the Bulgarians conducted the negotiations as in an oriental bazaar, without taking into account that they were the beneficiaries without a fight and without sacrifices, of the agreement that was to be concluded).

Minister Cretzeanu's speech was - according to my instructions - icy, and the first discussions followed on the friendship clause that the Bulgarians wanted to insert in the treaty (forever Cretzeanu's telegram of August 19).

Minister Cretzeanu replied to Minister Pomenov that a friendship clause could be conceived a month ago. "It simply came to our notice then. It is not our fault. the territorial issue. The Romanian public opinion would, of course, consider it almost a mockery to talk about friendship in such moments. "

At this, Minister Pomenov asked: "But then you reject the Bulgarian annihilation?"

Minister Cretzeanu replied: "You are the ones who reject the Romanian friendship, showing your intransigence and insisting on solutions that can only be seen as the deepest dissatisfaction with our public opinion."

These words deserve to be recorded in history, because they perfectly embody the conditions under which the "voluntary" surrender of the Quadrilateral was made.

The negotiations followed in a spirit of constant harassment, ill-will and harassment pettiness on the part of the Bulgarians.

On August 20, we telegraphed to Minister Cretzeanu "We are afraid that, after we have given up everything, they will end up offending us by behaving towards the Romanian population." Unfortunately, I was absolutely right. Not only did the Bulgarians not make the slightest gesture to us, not to mention that they did not agree to grant us extraterritoriality for the Royal Castle of Balchik (when in 1913 King Carol I refused to extend our border further south, for to leave to Tsar Ferdinand I the possession of his Castle at Euxinograd), not only did they not consent to grant us exteriority for the Romanian Cemetery at Pleven - which had no practical value, but only a symbolic one - but, above all, , provoked the worst savagery and brutality against the Romanians at the time of the evacuation of the Quadrilateral. Suffice it to say that, in their impatience, they stormed one night the Romanians from Turturcaia who had secular settlements there, forcing them to leave immediately and move to Oltenita with their families, frightened by this barbarism!

In the evacuation clauses, as well as in the economic and financial ones, the Bulgarians showed exactly the same spirit. Until the end, they refused any guarantees regarding the regime of Romanian minorities in Bulgaria, although (see my August 26 telegram to Minister Cretzeanu) we threatened to break off negotiations: "It seems to me that between the last limits when with the immense sacrifice made by us, I dare say that he would not receive even a hint in the treaty of such a regime. "

That is why I said in the same telegram: "We have no reason to make any concessions

to the Bulgarians, which are being ignored."

In the face of the assurances given to us that the Romanians from the Quadrilater will be able to evacuate undisturbed, even after the Quadrilater will take possession of Bulgaria, we communicate to Minister Cretzeanu: when, after not showing us the slightest condescension in the territorial question, they do not even keep their word to us, when they have previously accepted the four points "(these were the four points, formulated by us in advance, as a condition of the opening of the conference from Craiova and from which they derogated from the beginning).

That is why I could conclude: "In general, I am outraged by the spirit in which I understand the Bulgarians to lead the negotiations and to want to be told in the most energetic way that we do not understand why they do not realize that in this way they will not it gained a lasting friendship from Romania ".

Unfortunately, the situation was such that on August 27, in the run-up to the Vienna arbitration, I had to telegraph to Minister Cretzeanu: break. "

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IV. Formal assignment of the Quadrilateral imposed in the Vienna Arbitration

One fact, however, the importance of which could not be sufficiently emphasized, is the connection not only real but also formal between the surrender of the Quadrilateral and the "arbitration" of Vienna.

Indeed, when the arbitration of Vienna against the Hungarians was imposed on us, it was imposed on us in the same place, at the same time, by the same people, representing the same Axis Powers, and the formal surrender of the Quadrilateral by two signed letters. by me and by which I showed that in the sense of the judgment of the Führer and the Duke the agreement was reached regarding the cession of the South Dobrogea (the text of the letters can be found at the Ministry, and the mention of them is made in my telegram from Vienna).

Therefore, although the Treaty of Craiova bears the subsequent date of September 7, 1940, it remains well established that the territory of the Quadrilateral was formally ceded on August 30 in Vienna. with "arbitration" and under the same pressure. Its surrender thus remains indivisibly linked in origin and fate to the surrender of Northern Transylvania.

For not only from a political and moral point of view, but even from a legal point of view, the act of forced renunciation of the Quadrilater remains definitively connected with the arbitrary act of Vienna.

Moreover, after the "arbitration" in Vienna and in the face of the terrible situation in which Romania was then, the Bulgarian Government has the misfortune to return to the date agreed in the Craiova negotiations for the evacuation of the Quadrilateral and to demand that the deadline not pass, a case decided in Vienna for the evacuation of Transylvania (see the telegram of Minister Cretzeanu of August 30).

In view of this attitude, Minister Cretzeanu together with Mr. Horia Grigorescu and General Potopeanu, rightly, of the opinion that "in such conditions, we have no interest in giving the treaty that would an act of good understanding and free consent "and that it would be better to send to Craiova" another delegation with instructions to conclude a simple

agreement to transfer the Quadrilateral, reserving all other matters to joint commissions ".

Minister Cretzeanu, exhausted by these embarrassing negotiations, asked on August 31 to appoint another plenipotentiary in his place.

On September 1, the day after the Vienna arbitration, the Bulgarian press unanimously expressed its satisfaction with this just decision! All the newspapers took part in the joy of the Hungarian people, for now Hungary had become "the most important state in Central Europe" (see the telegram of Minister Filotti from 1 September). Foreign Minister Popov told a diplomat that the Vienna ruling was fair because it applied the ethnic principle (Filotti's telegram from September 3 came). An ignoble article in the newspaper "Utro" showed that Hungary is dissatisfied with the arbitration and will use the first opportunity to release the 600,000 Hungarians left in Romania! (See Minister Filotti's telegram of 4 September)

Finally, after the negotiations outlined above, so offensive to the Romanian pride, the agreement in Craiova is signed on September 7th.

On September 10, the treaty is ratified by General Antonescu, who has meanwhile become the Head of State. (Arhiva M.A.F., fond 71, Bulgaria, 1920–1940 n.d.)"

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INTERNATIONAL RELATIONS THEORY AND ITS LIMITS IN FORECASTING CHINESE BEHAVIOR TOWARDS THE US. THE CASE OF BALANCE OF POWER THEORY AND POWER TRANSITION THEORY

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Abstract: *The literature on international relations pays special attention to China's rise since the "opening of China" in 1978, trying to identify and make predictions about China's behavioral patterns in its relationship with the United States and the current international system. Not surprisingly, international relations theories have been considered – from Morgenthau to present –, useful tools for predicting the evolution of major events in the international relations system. Using different theoretical lenses we can infer different outcomes regarding the complicated US-China relationship especially now, when the Chinese economic and social transformation seems to be accompanied by a revival of its own traditional concepts aimed at formulating a „Chinese school”, of international relations, characterized by the rejection of the realist assumptions that point almost every time to an imminent confrontation and placing both countries on even more profoundly contrasting positions. Therefore, starting from the balance of power theory and the power transition theory, this article aims to identify the extent to which the two theories prove explanatory and predictive value and can be useful tools for inferring China's behavior in the context of the current aggressive discourse that characterizes the relationship between the two countries. Also, this paper is aiming to analyze the limits we can identify in the existing literature on both theories.*

Keywords: *Balance of power theory; Power transition theory; forecasting; peace; conflict; identity; international relations theory; ideal-types; threat; pax Americana.*

Introduction

How can we truly understand the implications of a complicated relationship between the US (as an exponent of the capitalist Western world) and China (a representative of the emerging states and agent of change) considering that China's behavior indicates a growing desire to represent an alternative model of responsibility, which is assigned distinct legal, moral and social meanings (Chan 2013). Moreover, the conflict between the two states is not only for material gains, but also out of the desire to gain on the ground of moral principles and ideology more than experts in the field admit, considering that theories belonging to the realist research program give a very little importance for these endogenous factors such as culture.

Relevant in this regard, at least in order to infer the meanings of the PRC's position towards the US, are the statements of the Chinese officials who speak more and more about a decline of the US but not from the perspective of relative power, but about a "Decline of Hegemony and Thought", from the perspective of principles or lack thereof, even talking about a new type of international relations: „for a big country, the decline of thought is much more dangerous than that of power. In the 21st century, a multi-polar and globalized era, no country should resort to Cold War mentality to contain other countries. These outdated thoughts do not work in the present world” (Yucheng, The So-called `US Decline` is a Decline of Hegemony and Thought 2021).

In fact, it took the Chinese Communist Party six years to formulate the notion of *peaceful rise* to conceptualize China's new image, and two more years for the notion of *harmonious world* – a creation of the totalitarian party. Both concepts focus on the China's

rise model, responding directly to the existing external fears about the "Chinese threat" (Meixing 2007).

China does not miss any opportunity to reject the "profiling of civilizations" (made by the US and its allies) and notions such as: `clashes of civilizations`, `attempts to distort or denigrate non-Western civilizations` (Yi, Wang Yi Attends and Addresses the Opening Ceremony of the 48th Session of the OIC Council of Foreign Ministers 2022), discriminatory rhetoric against certain religions and civilizations, the supremacy of the white race (Lijian 2022), the biased attitude of the West towards other civilizations (Yi, Promoting True Democracy for a Better Future of Humankind 2022), ideological confrontation (Yi, Wang Yi Attends and Addresses the Opening Ceremony of the 48th Session of the OIC 2022) and the monopolization of the definition of democracy by US standards, without taking into account the enormous cultural, historical and civilizational differences between states (Lijian, Foreign Ministry Spokesperson Zhao Lijian's Regular Press Conference 2021).

Instead, China is proposing an alternative centered on a new responsible leader whose mission is to build a community with a common future for humanity and the progress of human civilization. This model, as Xi Jinping pointed out at the Davos Forum, takes the form of a "community of common destiny", based on dialogue, nonconfrontation, the promotion of inclusion and the rejection of all forms of unilateralism, protectionism, hegemony and power. China is thus proving a behavior that resembles a theoretical adaptation (L. Yucheng 2022) designed to identify "benign" variants for almost every realistic assumption.

The alternative model promoted by China is based on the BRICS project, transformed from a contested project into a geostrategic threat, linking major players on three continents, a model of developing countries that the United States does not represent. Recently, in the context of US visits to Asian countries such as Japan and South Korea - perceived by China as an attempt to reorganize the alliance system by excluding China and the BRICS -, BRICS joint statement promoted talks between members of the organization to clarify the principles, standards and criteria needed for an extension process (BRICS Joint Statement on "Strengthen BRICS Solidarity and Cooperation, Respond to New Features and Challenges in International Situation" 2022).

Formulas such as *community with common destiny* (Jiechi 2022), *peaceful coexistence* (Jiabao 2004) and *harmonious world* (Embassy of the PRC in the Republic of Namibia 2005) summarize the model promoted by China, which portrays the PRC as a responsible state and a defender of the "global common goods". In fact, this unique model of international relations, distinct from that of Western powers, saw its first victory when the United Nations first adopted China's key foreign policy concept in UN resolutions – *Community of common destiny for mankind* (U.N. General Assembly 2019).

In general, China is committed to never becoming a hegemon. For Chinese leaders, this is a behavior responsible for achieving world peace.

In order to better understand China's behavior, we first start with the balance of power theory and the power transition theory assumptions and analyze their explanatory and predictive ability, taking them as ideal types and combining them to observe "the extent to which these ideal constructions resemble or deviates from reality" (Poede 2022, 14-15).

1. Predictions regarding the position of the PRC vis-à-vis the USA

International relations theories and history are powerful tools that, if applied correctly, are constructive for managing today's complicated bilateral relations between the world's fastest growing power and the world's only superpower during a global shift in power (Zhiqun 2006, 23).

Not surprisingly, the major theoretical approaches that have shaped the discipline of international relations from Morgenthau to present have all had in common, as one of their main objectives, the anticipation of the future (Fettweis 2004, 82). The role of theories has not always been exclusively to explain the past or the present, but also to scrutinize, or at least to provide clues to future developments in the international system.

To be able to formulate explanations or make predictions about future events, we first need some specific indicators. If in the twentieth century we appreciated the position of a state according to its location on the map – according to the famous aphorism of Napoleon Bonaparte "Each state makes the policy of its own geography" (Buse 2012) –, now the discipline of international relations puts at our disposal a multitude of tools by which we can explain the place and role of a state in the complex network of the world system.

Among these indicators that operationalize the concept of "power", central to the realistic research program, we also find a multitude of determinants of designing the power of states according to their material or immaterial character as: demographic profile, level of technological development, military capabilities, territorial vector, economic development, cultural factor, national will, configuration of perceptions/attitudes, cultural determinants, place and role in international institutions, resources or quality of government (Răceanu 2005, 28).

Thus, we consider the predictive capacity of a theory as a test of its maturity, the moment when this activity becomes one of its standard and routine practices, representing the main way of testing theories. In Kuhn's words, "The success of a paradigm is at first more of a promise. Normal science consists in the fulfillment of this promise, an achievement accomplished by extending the knowledge of those facts which the paradigm portrays as particularly significant" (Kuhn 1999, 86).

The interest in making predictions about how China will position itself in relation to the United States is not difficult to guess. Predictions of international relations theories point to an imminent confrontation. There are many arguments for maintaining peace in the developed world, including theories of peace, such as the theory of democratic peace or the theory of economic interdependence, which argues for the disappearance of the inevitability of war due to its high costs.

Considering the theory of economic interdependence – the main argument for maintaining a peaceful relationship between the US and China – we must keep in mind that when the relationship is driven by fear, interdependence not only can but also has a propensity for conflict. As one British observer put it after a visit to Germany, "Each of these new chimneys is a pistol directed to England." (Jervis 2006, 40)

This is even more complicated considering the recent events. In the context of the invasion of Ukraine by Russia, China finds itself in a position to choose to stay with Russia, as an exponent of the anti-Western alliance, or to detach itself from it in a choice that would be a demonstration and a promise to the International Community, displaying the image of a responsible state. For now, China prefers to put forward ambiguous concepts that absolve it of the imperative of an answer.

Thus, our task is to assess the predictive power of the balance of power theory and power transition theory, considering current events that characterize the Sino-US relationship, to infer clues about their possibilities and limitations.

1.1. Balance of power theory

Although most balance of power theories are realist theories, not all realist theories of international relations are balance of power theories. There are a variety of reformulations of the theory conceptualized by Kenneth Waltz. Each begins with the central assumptions to which specialists add additional hypotheses and empirical content (Levy 2004, 31) by

operationalizing power and other key concepts (Vasquez and Elman 2012, 153). As a result, various theories of power balance generate conflicting propositions about states actions and interactions.

Balance of power theory is one of the most fundamental concepts in the study of international relations. The concept is a product of the eighteenth and nineteenth centuries, although the balance of power becomes an instrument of international relations after the Peace of Westphalia of 1648.

A shortcoming of this theory is its ambiguity. There are a multitude of common meanings assigned to the balancing act that relate to: 1) power configuration - the distribution of military assets in the system at a given time; 2) a description of the policy of a state, characterized by the performance of actions designed to lead to a particular configuration of power (The role of the United Kingdom in the 20th century and that of the United States in the 21st century) and 3) the balance of power used as a symbol that expresses a realist approach to international relations. George W. Bush's inaugural address is suggestive, with the U.S. president using the balance of power as a symbol when he said, "America remains committed to the world (...) by shaping a balance of power that promotes freedom" (President George W. Bush's Inaugural Address 2001).

Moreover, due to the unprecedented distribution of power after the end of the Cold War, the definition of balancing was refined in the sense that the difficulty of challenging the existing hegemony led to new forms of balancing such as: soft balancing, opaque balancing, hard-balancing, between which we can hardly identify specific differences (Layne 2011, 200-203).

Another manifestation of the BPT's ambiguity is its application in the contemporary world characterized, in the post-Cold War era, by the multiplication of international actors, accelerating interdependence, spatial-temporal compression and globalization.

Despite the historically unprecedented power of the United States at the beginning of the 21st century, the other leading states in the international system have not balanced against the United States, either by forming defensive alliances or by massively consolidating their capabilities (Layne 2011, 30). One possible explanation might be Walt's balance of threat theory which tells us that the lack of balance is due to the "benevolent" hegemony of the United States.

Moreover, the existence of many cases in which the predictions of the balance of power theory did not occur, leads many authors to try to formulate explanations for such theoretical shortcomings, thus maintaining a process of reformulation and readjustment of central hypotheses to suit specific cases, which is perceived as a degenerative approach. William Wohlforth and Richard Little offer several examples of systemic results incompatible with the theory that challenges the universality of the concept: the ancient system of the Middle East (900–600 BC), the system of Greek city-states (500–330 BC), the ancient Indian system (500–200 BC), the ancient Chinese system (656–221 BC) or the East Asian system between 1000–1800 AD) (Wohlforth, Little and Kaufman 2007).

Another problem arises from the difficulty of identifying the balancing behavior. At first glance, such behaviors cannot be easily observed, given the many analytical problems we find in the literature such as: 1) the moment of balancing; 2) balancing intensity; 3) the extent of the balancing (the number of units engaged in balancing); 4) the existence of a preventive war and 5) endogeneity (Vasquez and Elman 2012, 156-161).

Another problem concerns the conditions of applicability of the theory. Balance of power theorists admit the existence of biases such as the *Eurocentric bias* and the *great power bias*.

The first refers to the fact that the "logic" of the balance of power has not been applied outside the European continent (Yaqing 2016). Moreover, the evidence for the balance of

power theory is based on the modern system of the great European powers of the last hundreds of years, starting with the Treaty of Westphalia, or even starting with the period of the Italian city system from 1494-1495. Thus, the application of the power balance theory to the Sino-US relationship could lead to erroneous attributions of China's behavior, especially since Chinese theorists argue that the existing international relations theories cannot provide an explanation for how the world works, arguing that these theories based on the belief of the European Enlightenment favors the rationality of individual actors over social and procedural relativity, which would underlie Chinese thinking (Yaqing 2016).

This Eurocentric bias has profoundly influenced the balance of power theory. The very concept of balancer, although a general principle, almost always refers to the United Kingdom. However, the Chinese multistate system from 722 BC and 481 BC contradicted these hypotheses, leading to the formation of a universal empire under the rule of the Qin dynasty that lasted until 221 BC (Vasquez and Elman 2012, 164).

Another shortcoming of the balance of power theory stems from the fact that the phenomenon of globalization – a central concept of the current international system – is not mentioned at all in the voluminous literature on the balance of power.

1.2. Power transition theory

The power transition theory was originally advanced by the A.F.K. Organski in 1958, as a competitor of the balance of power theory. The idea that power parity leads to war contrasts with the classical realist theory of Hans Morgenthau, Henry Kissinger, and Kenneth Waltz. The theory of power transition does not see the international system as anarchic, but as a hierarchical order in which actors accept their positions based on the relative distribution of power. The theory holds that a hegemonic system will be stable because it is in the hegemon's best interest to maintain the political and military order.

The goal of states is not to maximize power, but to maximize gains and maintain a dominant position in the system. The balance of power theory implies that the actions of states are dictated by an insatiable appetite for power, while the theory of power transition is that states fight for control over international rules and regulations, as well as over the values that govern relations between states (Zhiqun 2006, 23).

The main flaw of the neorealist balancing argument is that it cannot predict when or how states will act. The choice of tactics and timing depends on many factors, such as the level of perceived threat and the economic or military capacity of states. According to Kenneth Waltz, the balance of power theory allows us to say that a new balance of power will be formed, but not how long it will last. National and international conditions determine this. Waltz predicts either balancing strategies or a balanced system (result). It does not help us to predict a state of peace or war (Organski and Kugler 1989, 177).

This theory is again useful to world leaders at the beginning of the 21st century, as the international system is undergoing profound changes. The turning point is probably best established at the end of the Cold War in 1991. With the collapse of the Soviet Union, the United States remained the only superpower in the international system (Organski and Kugler 1989).

In contrast to the balance of power theory, power transition theorists believe that the system always has a dominant power at the top of the international hierarchy. The process of unequal development of state power, however, creates both the existing hegemon and the future challenger when a state undergoes a significant internal transformation. Based on a central premise of the theory, such a state will be unsatisfied with the existing international order that the hegemonic power has constructed. Therefore, the dissatisfied state will challenge the hegemon to change the system (Jianren 2019, 9).

Thus, from the perspective of PTT, the international system represents a hierarchy of states that are distinguished by how strong they are and by the degree of satisfaction they have with the international status quo – criteria based on which Organski developed the typology of states in the international system as follows: 1) *strong and satisfied*; 2) *strong and dissatisfied*, 3) *weak and dissatisfied*; 4) *weak and dissatisfied* (Organski and Kugler 1989, 172). According to this theory, wars are fought between the strongest states in the hierarchy of power, in order to change or preserve the status quo.

Dissatisfaction is, however, a subjective term. That's why Organski believed that a challenger, such as China, probably does not share the fundamental values of the system and usually acts against them (Lai 2011, 18). Organski postulated that the power transition follows five stages: preponderance, pre-parity, parity, post-parity, and the preponderance of the challenger as the new global power (Lai 2011, 173-175). Although the literature abounds in interpreting what characterizes satisfaction or dissatisfaction at the state level, few papers strictly analyze China's behavior in terms of these indicators, often attributing benign or revisionist behavior as a reaction to the perceived threat.

According to Organski, when the growing power reaches 80% of that of the hegemonic power, the process of power transition begins; and when the increasing power exceeds 120%, the process of power transition has been completed (Jianren 2019, 34).

If we look at the economic data, judging by the Gross National Product (GNP), the measure that combines the demographic and economic aspects of a state's productivity (Organski and Kugler 1989, 190), the stage at which the US-China relations are now is in the pre-parity stage (stage 1).

Applying Organski's formula, at this stage, the challenger (China) can withstand the demands of the dominant nation, the USA, which implies that at this level of power, sufficient conditions for conflict exist. Because the dominant state is committed to preserving the status quo, it has little incentive to challenge it. After all, the international order is designed to support the dominant power.

Therefore, satisfaction and power are important determinants of peace and conflict. A critique of the PTT could refer to the absence of an agreed way to measure the degree to which a state is satisfied or dissatisfied with the existing status quo. Moreover, the central variable of PTT, on which the desire of the rising power to start a war is based and which should, therefore, be adjusted in the direction of a peaceful transition, is dramatically underdeveloped in both theory and practice.

Many authors believe that in the Chinese view, rather than refraining from interfering in what is considered China's internal affairs, Western states should even give China a privileged status as a reward for the exploitation of the Chinese people in China's "Century of humiliation". This view can give us an indication of China's dissatisfaction with its current status in the international system. Some Western analysts have pointed out that Chinese leaders use this type of "victimization" to legitimize government action and gain internal support for promoted policies.

Other experts even suggest that there is a "culture of shame and humiliation" that would even be a "nationalist myth" in China (Organski and Kugler 1989). Not surprisingly, China ranks first in terms of public confidence in its own government. According to a global confidence survey, about 91% of Chinese respondents said the Chinese government is doing the right thing (Statista 2022).

Therefore, the conflict between China and the United States may not only be related to relative gains of power, but also to ideological and moral principles. Thus, to understand the foreign policy of a state, we cannot pay attention exclusively to national characteristics, as realists do, nor can we treat the beliefs of leaders as one-dimensional. Instead, we must opt for an integrated approach (Jianren 2019, 3).

Returning to the satisfaction variable, it works in two ways: while dissatisfaction increases the risk of war, satisfaction decreases it (Rauch and Wurm 2013, 58). To summarize the argument, the powers that are dissatisfied and strive to change the status quo must build the necessary military capabilities. The comparison of the alliance portfolios of the provocateur and the dominant power is necessary because a dissatisfied power is most likely looking for allies who share the same interest in challenging the status quo.

China's relations with "pariah" states such as Iran, Sudan, North Korea or, more recently, Russia are most often invoked. However, it would be a mistake to consider China such a state. China poses another type of threat to the United States: "*Russia is a well-armed 'rogues state' trying to undermine an international order that it can never hope to dominate. Instead, China is an equal competitor that wants to shape an international order that it can aspire to dominate*" (Dobbins, Shatz and Wyne 2018).

In the last years, however, China's foreign policy has undergone a fundamental transformation. Beijing has moderated its ideology to promote international engagement, joined multilateral arms control efforts and introduced socio-economic reforms that have extended the freedom and individual rights of its citizens.

I consider that a sensitive point of the PTT, which is also one of the main hypotheses, is precisely the attribution of satisfaction or dissatisfaction to China because it is not an ally of the USA and did not play any role in establishing the current international order and the "rules of the game". Thus, the presumption that hegemonic power is a satisfied state is unfounded. Because the PTT clearly considers the hegemonic power to be satisfied with the existing status quo, power transition theorists are only considering the possibility of a war initiated by China (the rising power); they do not believe that hegemonic power can provoke a war. Even if the hegemonic state is satisfied with the status quo, it could be dissatisfied with the power shift tendency, wherein case the hegemon may initiate a preventive war.

The aggressiveness of Chinese officials' speech is becoming increasingly visible as China is portrayed as a threat, indicating that it wants greater recognition and "voice opportunities", the lack of which seems to generate dissatisfaction. The Chinese are disturbed by the popularization of the "Chinese threat" and categorize the action as a racist act that has a long tradition in the Western imagination.

China has yet to prove its intentions. However, in many parts of the globe, China is ahead of the United States in terms of trust as an ally, and Africa is one of the best examples.

More and more African countries cite China as a trusted ally; in fact, just as many people in the Ivory Coast point to the PRC as their country's most trusted ally, being mentioned almost as often as the United States by the people of Ethiopia, Malaysia, and Tanzania (Pew Research Center 2007). In 36 African countries, the United States is the most popular model of national development (cited by 30% of respondents), followed by China (24%) (Lekorwe, Chingwete and Okurub 2016). The situation is different in Asia. In all ASEAN Member States, confidence in China has declined exponentially. The lowest level is recorded in the Philippines (82.1%), Vietnam (75.4%), Thailand (67.9%), Indonesia (60.5%) and Myanmar (59.6%).

Meanwhile, China's share of distrust in Cambodia – seen as China's closest ally in the region – has fallen from 53.8% in 2020 to 42.3% in 2021. Among respondents who do not trust China's actions at the regional level, 51.8% believe that China's economic and military power could be used to threaten the interests and sovereignty of their countries (Seah, Hoang and Thao 2021).

The United States has defined China as a strategic threat. The Obama administration used phrases such as "Sino-US competition," and the Trump administration clearly defined the PRC as the main competitor of the United States (Jianren 2019, 2). First of all, it is not clear why China and the United States did not experienced a clear paradigm shift in

diplomacy before 2010, but since then they have undergone dramatic changes, culminating in the new US strategy for the Indo-Pacific region aimed at preventing China from "*creating a sphere of influence in the region, combining its economic, diplomatic, military and technological power and becoming a world power*" (Indo-Pacific Strategy of The United States 2022, 5). Second, the US, as the dominant power, may seem more dissatisfied than China, being the first to change its diplomatic paradigm. After 2010, the US implemented the Asia Pivot Strategy, trying to change the existing international framework and rebuild order in the Asia-Pacific region by expanding its influence in three key areas: security, politics, and economics. For its part, China wants the US to withdraw from the region (its mere presence after the end of the Cold War being seen as an anomaly), as it considers itself to be a politically, economically, and culturally viable alternative (Lai 2011, 24).

However, the current dynamic, which still seems to remind us of the warning that Napoleon gave to the world about 200 years ago, tells us that this "negotiated change" is still far from occurring, the conventional wisdom according to which China will be the next global power still generating paranoia outside of China and promoting megalomania in China.

Another condition that contributes to the inclination towards peaceful transitions is affinity, which refers to the recognition of a common identity, be it ethnic, historical, or ideological, and therefore a common understanding and acceptance of a certain order that changes without being altered by the relative accumulation of power of one of the parties.

This could be why that negotiated change is so difficult to achieve, as any negotiation requires a minimum of intercultural readiness. Moreover, culture conditions the perceptions of states on reality, truth, time and even space (Cercel 2019, 154).

Can we predict a peaceful transition similar to that between the United States and the United Kingdom in the late 1800s and early 1900s, considering that the existence of an emotional affinity and collective identities, does not exist in the case of US-China relation?

As Huntington noted, culture and cultural identities influenced the pattern of cohesion, disintegration, and conflict in the post-Cold War world, with the most intense conflicts between Muslim and Asian societies on the one hand and the West on the other. Of the two main opponents, China was seen as a more dangerous opponent because the Muslim world did not have a central state to lead fragmented Muslim nations, but a unified, strong, and assertive China could.

Moreover, in Joseph Nye's opinion (Nye 2009, 110-113), China has broken the US monopoly on soft power. Beijing has become increasingly adept at developing its own brand of "soft power" based on its culture, diplomacy, and the attractiveness of its own system — "market authoritarianism" — as an alternative to the American model.

In addition to those mentioned above, China's threat to the US *pax americana* has multiple other sources: AIIB (Asian Infrastructure Investment Bank), Belt and Road Initiative (BRI) and, more recently, adaptations of this initiative to new global challenges such as 'Health Silk Road', 'Digital Silk Road', or 'Green Silk Road'. Indeed, it has been suggested that the BRI is part of a strategy to establish Beijing's dominance over the Eurasian "heart" (Layne, *The US–Chinese power shift and the end of the Pax Americana* 2018, 102) to use the term introduced by Halford Mackinder, which was very popular in the early 20th century.

2. The limits of anticipating the behavior of the United States and China in the current international relations system

The approach to predictions from the perspective of structural theories of international relations faces some inaccuracies in the expected outcome. Based on the theories described above, we can infer a few limitations regarding the possibility of anticipating the behavior of the United States of America and the People's Republic of China: 1) *the existence of the*

Eurocentric bias; 2) the lack of a sufficiently long time frame to allow theories to be tested; 3) the cultural dissimilarity, which leads to the positioning of the two states on theoretically contrasting positions and 4) the perception both states have of the power potential and the disponibility for conflict and cooperation.

The first limitation refers to one of the conditions of applicability of power balance theory. Power balance theorists admit the existence of biases such as the Eurocentric orientation and the **bias** of the great powers. The first refers to the fact that the "logic" of the balance of power has not been applied outside the European space (Yaqing 2016). I believe that the application of the balance of power theory to the relationship between the People's Republic of China could lead to misstatements of China's conduct.

Another important element is the existing **perception**, at a certain moment, on the decision-making process, as well as on one's own power potential. The characteristics of national power formulated by Hans Morgenthau have a post-hoc character, which does not allow us to outline a true view of the behavior of states in relation to the perception of their own capabilities. Therefore, rough estimates and misperceptions can lead to wrong decisions when it comes to initiating a policy (Răceanu 2005, 29).

Another limitation would be the time frame considered too short to evaluate the views of the theories: "What has happened so far seems to contradict the predictions of offensive realism (...) too little time has passed" (Fettweis 2004, 80). There is a feeling among some researchers that the international system is currently in a phase of transition and that it will take longer for the nature of the next phase to become apparent. However, Mearsheimer does not disclose the time frame for making a correct assessment, which leads us to believe that this is the one that flows to a possible (perhaps) confirmation of the predictions of his theory.

Moreover, the knowledge of theories by decision makers can make states act as a self-denial. Although we should not exaggerate the influence of the literature on world politics, actors can pay attention to academic theories and change their behavior accordingly (Jervis 2006, 40). How should we understand the PRC's policy now, considering it seems to act in accordance with realistic assumptions, denying them and condemning realistic rhetoric at the same time?

Starting from the close link between foreign policy and national identification, which leaders and actors resort to and which they seek to impose in accordance with their political projects and existing psychological needs, I consider that another relevant argument is the **cultural/identity dissimilarity and the impact of these factors on US-Chinese perceptions** of vital/ secondary interests and the disponibility for conflict or cooperation.

Starting from the premise that: "the higher the degree of affinity between two states in terms of strategic interests, economic ties or membership in common international organizations, the lower the likelihood of conflict" (Maoz, Kuperman and Terris 2006, 669), I think the implications are all the more relevant to the evolution of the Sino-US relationship.

Another limitation that we can identify and that derives from the existing cultural differences between the two states, is represented by the **contrasting positions** of both states from a **theoretical** point of view. The phenomenon of Chinese ascension has contributed to the development of non-Western theories and concepts. Proponents of Chinese theory of international relations often point out that the history, culture, norms, and worldview, specific to the Asian region, are different from those advanced or derived from the West. This idea also resonates with the dissatisfaction felt with the epistemic value of the main existing theories, all of which have a Western analytical or normative basis (Acharya and Buzan 2017).

Discipline in international relations faces a sense of dissatisfaction in China with the current state of international relations. The main reason for dissatisfaction would be the marginalization of the non-Western world, as well as the failure of these theories, deeply

rooted in a European spirit, to explain the dynamics that transgress the Western world and the absence (from the literature) of the non-Western states contribution to international events after the end of World War II (A. Acharya 2016):

As a result, China's rise has added impetus to attempts to build new theories. Yanqing Qin of Beijing University of Foreign Affairs says China's theory of international relations "is likely to come along with the great economic and social transformation that China has experienced" (Yaqing, Why is there no Chinese international relations theory 2007, 313). Although the consensus on the true significance of *Chinese characteristics* has not yet been fully determined, many researchers argue that the establishment of a Chinese theory of international relations or a "Chinese school" of international relations is desirable. From this perspective, Confucianism, Marxism, *Tianxia* („all under heaven") (Tingyang 2021, 7) are traditional concepts used by Xi Jinping today when he talks about his plan to create „*world-class socialist universities with Chinese characteristics and to cultivate the next generation of socialists*" (Xinhua 2022), arguing that China is a country with a special national history, culture and context that „*cannot blindly follow others or simply copy foreign standards and models. Instead, it must proceed from the country's realities and blaze a new path to building world-class universities with Chinese characteristics*" (Xinhua 2022).

Representative approaches to Chinese thinking on international relations, to name just a few, are: Qin Yaqing's relational theory; Yan Xuetong's moral realism, Zhao Tingyang's "Tianxia"; the globalism of H.M. Ling; Jiang Qing Confucianism; Wang Yiwei; Hih-yu Shih; Yan, Xu et al. whose contributions may be the starting point for a non-Western theory.

Although still evolving, the process of formulating a Chinese theory of international relations seeks to include traditional Chinese concepts and avoid taking Western concepts at all costs, which makes "China's socialization" an even more complicated process.

Conclusions

In conclusion, I consider that the only permanent and unchanging reality in international relations is change, and if for Kenneth Waltz "the ability of a theory to explain is more important than its ability to make predictions." (Waltz 2012, 76), for proponents of the power transition theory, the emphasis is on identifying how the final state of peace or conflict is reached.

If we look at the two theories "in the mirror", we notice that while the power balance theory seeks rather to explain the dynamics of interactions between states at the international level - making predictions by reformulating the assumptions of the basic theory to explain real developments, even at the risk of obtaining a degenerative theory –, the classical theory of the power transition (and its reformulations) seeks to formulate rather "*if...then...*" type of predictions.

I believe that in order to explain the evolution of the US-China relationship, the possibility or impossibility of a peaceful power transition between the two and even how it is reached, both theories provide us with useful tools for interpreting the behavior of the two states. To capitalize on the various theoretical positions, we must adopt a pluralistic approach in order to achieve a construction as comprehensive as possible that allows us to use all available indicators that can help us provide answers about the *process* and *effect* by presenting and operationalizing strategic competition for power.

Table no. 1. The main assumptions and limits of Balance of Power Theory and Power Transition Theory

	THE CAUSES OF CONFLICTS	ACTORS	STABILITY	SYSTEMIC ORDER	REASONS FOR STATE ACTION	LIMITS	CHARACTER
BALANCE OF POWER THEORY	Power asymmetry - power is not evenly distributed throughout the system.	Classical actors: states. They condition and are conditioned, in turn, by the system.	Uniformly distributed power across units; Avoiding hegemony (forming alliances, anti-hegemonic coalitions).	Anarchical - characterized by zero-sum game and competition for supremacy.	Accumulation of power / achievement of instrumental goals.	Exaggerated modification of central assumptions to preserve the ability to explain empirically observed facts; Contradictory assumptions (eg unbalanced US power immediately after the end of the Cold War); Inability to identify balancing behavior (timing, intensity, scope) and the difference between it and preventive warfare. The theory has biases based on Western historical experience.	Dynamic, procedural type: balancing strategies. Theory predicts the implementation of balancing strategies or a balanced system. It does not predict a state of peace or war.
POWER TRANSITION THEORY	Power is distributed evenly at the level of two state units (parity).	That seek to preserve the current system - status quo states. That seek to change the system: revisionist states.	Predominance: the existence of a hegemon to maintain political and military order.	Hierarchical international order. States are divided according to the degree of satisfaction or dissatisfaction felt with the current international order.	Maximize earnings; Obtaining a dominant position in the system; Control over international rules, norms and values; Maintaining / changing the status quo.	The central concept of the theory, dissatisfaction, is a subjective term and supports various interpretations. The possibility of a peaceful transition is poorly developed and attributed to cultural affinity, although it is considered a negligible criterion. Lack of clear criteria for awarding state satisfaction / dissatisfaction. Attributing, a priori, the dissatisfaction of the rising state (never to the hegemon).	Static (result): Peace or war.

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INDIA – A MAJOR INTERNATIONAL PLAYER LOCATED BETWEEN BRICS AND THE OCCIDENTAL POWERS

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***Abstract:** India is one of the two demographic superpowers of the world and one of the most important regional actors with a great deal of potential for playing an important part on the world stage. From a military point of view, India is the fourth most powerful country in the world, according to Global Power, economically speaking, being the fifth most powerful country on a global scale, with growing trends, while geographically speaking, it is the seventh largest country in terms of area, however, it occupies a very advantageous geopolitical position. India is seen as a strong voice within BRICS and the UN against proposals or actions that could harm the interests of any member. It rejected China's proposal to invite Pakistan, Sri Lanka and Mexico into BRICS because India believed that the focus should be on developing the current members rather than inviting other weaker nations and that bringing these nations would drag BRICS down as an alliance and ultimately meet the same fate as the European Union. At the same time, different issues of the regional security equation of Asia (South-East Asia – India) – Pacific and complications which have resulted from Russia's invasion of Ukraine in the hierarchy of the most influential international actors make India's standing and role more important in decision-making on both a regional and a global level.*

***Keywords:** BRICS; major international player; emerging nations; foreign policy; global power; international hierarchy.*

Introduction

India is one of the two demographic superpowers of the world (behind China, which has a population of 1,397,897,720) with a population of 1,339,330,514 with forecasts showing India will overtake China, according to <https://www.cia.gov> (in 2021). Also, it is one of the most important regional actors with a great deal of potential for playing an important part on the world stage. At the same time, different issues of the regional security equation of Asia (South-East Asia – India) – Pacific and complications which have resulted from Russia's invasion of Ukraine in the hierarchy of the most influential international actors make India's standing and role more important in decision-making on both a regional and a global level. From a military point of view, India is the fourth most powerful country in the world (behind the USA, Russia and China), according to Global Power (in 2021), with a defense budget of 73.65 billion dollars, 1,445,000 active personnel and 1,155,000 reserve personnel being equipped with 160 nuclear weapons, 2,119 total aircraft, 4,730 tanks, 10,000 armored fighting vehicles, 4,140 total artillery and other important military capabilities.

Economically speaking, it is the fifth most powerful country on a global scale (behind the USA, China, Japan and Germany), with growing trends, with a GDP of 2,835,927,000,000 \$, according to <https://www.cia.gov> (in 2019), while geographically speaking, it is the seventh largest country in terms of land surface with 3,287,263 square kilometers (behind Russia, Canada, the USA, China, Brazil and Australia), however, it occupies a very advantageous geopolitical position, dominating the Indian Ocean area.

1. The main goals of India's foreign policy

National interest drove the foreign policy of India ever since achieving independence under Nehru, who believed in peace, tolerance and self-respect between nations. In

operational terms, the idea of national interest takes the form of certain objectives of foreign policy. According to authors Appadorai and M. S. Rajan, there are three fundamental objectives of India's foreign policy (Chellaney 2006, 273):

1. Retaining India's territorial integrity and an independent foreign policy: Territorial integrity and the protection of national borders against foreign aggression is the main interest of any nation. India has hardly achieved independence from foreign rule after a long time. So, it was only natural for it to highlight an independent foreign policy. India's effort of consolidating African-Asian support behind non-interference principles, in domestic affairs of other nations and, eventually, adopting a non-aligned policy should be seen this way.

2. Promoting peace and international security: As a newly-independent and developing country, India has realized that peace and international developing are related. Its accent on disarming and policy on staying away from military alliances have the purpose of promoting global peace (Brigadier Şi Nair 1992, 305).

3. Economic development of India: The quick development of the country was the fundamental request of India during independence talks. Also, it was requested the consolidation of democracy and liberties in the country. In order to receive financial resources and technology from both blocks and to focus its energy on developing, India chose not to join either power block, which was the main feature of the Cold War.

India's foreign policy reveals its two other objectives:

1. Eliminating colonialism and racial discrimination.
2. Protecting the interests of Indian nationals.

An official statement from India's Ministry of Foreign Affairs notes that its foreign policy tries to protect its own interest.

Its main goal is promoting and maintaining a peaceful and stable external environment, where internal goals such as abolishing poverty could progress rapidly. Thus, India looks for balance between international actors and it portrays a peaceful policy in order to maintain good relations with its neighbors.

2. India, a member of BRICS

BRICS is an acronym for Brazil, Russia, India, China and South Africa - five emerging nations that have formed an alliance for economic and social development. The similarity between them is that they are all newly industrialised and aim for maximum trade and development (Mohan 2016). Together, BRICS account for about 40% of the world's population and about 30% of GDP (Gross Domestic Product), making it a critical economic engine. It is an emerging investment market and a global energy bloc. And as the world's third largest economy, it is important that India takes its role within BRICS seriously.

India plays a multifaceted role economically, politically and socially. The first BRICS summit took place in 2009, in the midst of the global recession. Since then, India has assumed the role of trade facilitator in South Asia and Africa, thanks to its economic strength at that time. In fact, forum analysts have called India South Asia's best-performing economy and an engine of growth in the region (Naidu 2013).

India has taken several steps to improve trade, including proposals for a new BRICS portal, so that the next time any BRICS country changes its import or export licenses, imposes anti-dumping duties or changes its product registration criteria, the other members will be able to find out about it immediately. It has also set up an independent BRICS rating agency so that members can compare rankings with members themselves instead of other developed countries.

India is also promoting intra-BRICS trade, which means it has asked member nations to import goods into member countries instead of Europe. The idea is that intra-trade offers

the flexibility of trading in currencies other than the dollar (Opall-Rome 1998, 366). For example, India and Brazil could trade in Rupee or Lira, as appropriate. By doing so, countries can strengthen their own currency while weakening the US Dollar (Opall-Rome 1998, 376).

And when it comes to improving trade and industrial infrastructure, India has contributed more than \$10 billion to the New Development Bank (BRICS bank) to redevelop industrial bases in South Africa and Brazil.

Of course, trade policies and structure are not the only facilitators. The Indian Ocean, as one of the world's busiest trade routes, is an important region for BRICS. India wants control over this region for two very specific reasons - firstly, developing bases in this region would mean faster trade between member countries. And second, the bases would prevent any resources mined here, such as the 100 tonnes of natural gas found in 2017, from being taken by other countries like the US or Japan.

For BRICS to flourish, each country needs to focus first on its own economic development. A strong nation will strengthen BRICS as a whole, and India is the growth engine of BRICS (O'Neil, Building Better Global Economic BRICs 2001).

From 2001 to 2013, the economic output of BRICS countries increased from \$3 billion to \$15 billion. Investors saw India, China and Brazil as a sure thing. But all that soon changed. In recent years, the BRICS have been facing a tough time. Growing sanctions on Russia, China's stock market crash in 2015 and Brazil's ongoing economic crisis have prompted investment to return to the US.

Of all these, only the Indian market has recovered fast enough to reverse the damage. By 2018, India's growth rate was the highest among BRICS nations and convinced investors to reinvest in BRICS. Member nations are now looking to India to help grow faster. For starters, India has invested nearly \$4 billion in South Africa and started the Global Executive Development Programme to train the workforce there.

This has helped Brazil and South Africa replicate its 'Digitising Education' initiative, providing technological help to schools there. It has also offered to host trade fairs so members can learn and share innovation. It wants each country to be independent so that the burden of BRICS consolidation doesn't fall on one or two nations.

India is seen as a strong voice within BRICS and the UN against proposals or actions that could harm the interests of any member. Rejected China's proposal to invite Pakistan, Sri Lanka and Mexico into BRICS (Huntsman & Bharath 2015). Because India believed that the focus should be on developing the current members rather than inviting other weaker nations and that bringing in these nations would drag BRICS down as an alliance and ultimately meet the same fate as the European Union.

As a BRICS member and to strengthen relations between countries, India also plans to set up funds with the New Development Bank for sports training, developing green energy facilities and hosting trade fairs and film festivals.

China is already the top economic influencer here, which only makes it easier for it to influence the World Bank. With such power, it can secure political leverage to pass projects that would otherwise have been rejected, such as the development of the new Silk Road. The World Bank's aim is to ensure weaker countries develop faster and reduce their dependence on foreign aid.

But the Silk Road rejects this goal in order to make China even more economically dominant. The road will lead to a faster spread of terrorism and hinder local business in the countries it passes through, thanks to the ease of international trade. These countries will also have to bear the costs of security on the road to prevent theft. This is an additional expense for already weaker economies such as Afghanistan and Egypt.

India realises this danger and has therefore been firmly against the OBOR (One Belt, One Road) project. In 2018, it skipped the China Silk Road forum as a gesture of dissent.

Then India and the US jointly announced a plan to build their own Silk Road, build a highway to Thailand and proposed another north-south corridor with Russia. All this to counter China's OBOR initiative.

Another such counter-balancing incident occurred at the start of the Development Bank. China demanded that each country's share of the bank should depend on their economic strength. Clearly, a higher share meant more control for China. India rejected this too, calling for an equal share for all five members so that each would have a say in BRICS meetings.

India has also repeatedly used BRICS to block several Chinese actions that would have culminated in war. In fact, a week before the 2017 BRICS summit, China withdrew its forces from Dokhlam due to fears of pressure from other member nations.

3. Collaboration and cooperation – crucial instruments of security and stability in relations with other regional actors

India, which has recently entered the great circuit of international relations, has tried in every way to maintain cordial relations that it can capitalize on with other international players, both regional and global, even with the states with which it has had wars. Therefore, India has very good relations with no major problems or tense moments with all the states in the world, whether they are from the BRICS or from the western states. However, it has the best relations with the following states:

RUSIA: Russia, in order to strike at the states that held the colonial empires, has always been close to India, and every time it was asked for help, it was pragmatic and supported India in various economic, political, diplomatic, or military matters. Thus, Russia is still India's oldest and most trusted ally, which has supported India's role as a permanent member of the United Nations Security Council. Russia is also India's largest supplier of military technology and equipment (T.V. Parsuram 1998, 112).

JAPONIA: Japan, competing with China for regional domination, was the only country in the world to offer maximum support to India during the Dokhlam Standoff with China in 2017, when not even Russia had the audacity (or maybe will) to have this position of full support for India. In addition, it should be noted that Azad Hind Fauj or the Indian National Army was formed in Japan and Netaji operated from Japan. Japan offered its full support to India during its struggle for freedom. Japan is thus India's most trusted ally not only in the military but also from an economic development point of view (Horimoto 2016).

ISRAEL: If we look at Prime Minister Modi's visits abroad and their results, we can see that the warmest and best reception for him was in Israel. The Indian army (under the British army at the time) helped liberate Haifa from the Ottomans and Turks. During the Kargil war with Pakistan, Israel provided information on Pakistani troops and their positions, and also provided military aid to India, despite pressure from the United States. After Russia, Israel is the largest supplier of military technology and equipment to India.

On the other hand, speaking of enemy states, India does not officially accept any nation as a direct adversary, but if it had to name one, it would certainly be Pakistan. India's relations with China are also complicated, so beyond normalization and trade, they are not always good. As such, India may still declare China its enemy considering its support for Pakistan.

4. The importance of India in international policy

After gaining independence, in the midst of the Cold War, India formed, along with Tito's Yugoslavia and Naser's Egypt, the non-alignment movement, that group of states of some importance in the international power equation that refused to openly side with a military military or other (NATO led by the US or the Warsaw Pact led by the USSR).

Thus for the United States, which after about a decade of total supremacy, was facing the emergence of a new rival in the international arena, China, with a booming economy, capable of becoming the greatest economic power of the world in half a century (and maybe not just economic), India seemed the ideal answer to a possible Chinese-Russian alliance (as it did with the Shanghai Cooperation Organization), it was kind of an antidote to this scenario.

With a population of over one billion, comparable to China alone, with an enviable geopolitical position, massive investment in education, research and innovation, and an emerging economy, India seemed a kind of China, possibly out of phase with around 20-30 years. In any case, in alliance with Western states, especially the United States, India ensured the perfect balance of the Asia-Pacific region in the event of an exaggerated development of China's economic, political, and military power. It's just that the speedy settlement of most of the political and border disputes with China, as well as the massive trade between the two, have created the ideal conditions for the Indian Elephant and the Chinese Dragon to make cohabitation possible and even more so to reach it in a very short time. In this sense, they formed a very interesting informal power structure - the BRIC, which became after the attraction of the largest economy of the African continent, South Africa - the BRICS.

Since then, things have gotten a little complicated for Western powers, but it seems that Russia's aggression and the current war in Ukraine, at the expense of public opinion and the international community, have created a new opportunity to attract India to Western states or at least to detach India a little from China and Russia. At least for now, both the US and NATO and the European Union are trying to create a community of the main economic powers in Asia-Pacific, of course with the exclusion of China, consisting of Japan, Australia, South Korea, Indonesia, Taiwan and of course India.

Conclusions

Although India is not yet a superpower, in terms of the sources of accumulated power, in the current international context it matters more and more, being practically the "great good colossus" who without doing anything gains continuous ground in the international hierarchy.

Because it has an emerging global economy, with investments in research and innovation, and its official position is that of a peaceful and totally nonaligned state, it makes it frequentable in all directions, with great international players wanting to ally it because India's entry or exit from the various power structures, formal or informal, automatically changes the balance of power.

These are just a few reasons why India, although part of the BRICS, is close enough to Western powers, not so much by tradition, but especially by trying to promote national interests and ensure its own security through peaceful coexistence with all major international actors.

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PANDEMIC INFLUENZA, A THREAT TO INTERNATIONAL SECURITY

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Abstract: *The Covid-19 pandemic has hit the international community, causing a terrible shock among people everywhere. An invisible enemy that has spread all over the globe and left behind death and suffering, lockdown, unemployment, weakened national economies, a whole new depressing and frightening reality. Were there any other pandemics? Could this pandemic have been better managed? Has this threat been identified in national security strategies? Did the states act separately or unitarily? After almost two years, were there lessons learned? I reviewed the US national security strategies from 1987 to 2021 in order to see if the pandemics were mentioned as threats to the security of the American people. Then I did the same with Romania's last two security strategies. I looked for documents that showed the interest of states for the consequences of a pandemic similar with the one in 1918, which would show that pandemics were perceived as security threats before the Covid-19 pandemic broke out. I also looked for concrete actions of the states for the management of a pandemic, pandemic preparedness plans. I also highlighted the challenges states were facing following the outbreak of the Covid-19 pandemic in the medical field and in the economy. Although the management of the pandemic was initially a race against the clock, each country trying to cope with the large number of people hospitalized and lacking medical equipment, it later became clear that cooperation between states and organizations and mutual aid is the solution to get out faster from this health crisis.*

Keywords: *pandemic influenza; national security strategy; security threat; United States-European Union collaboration.*

Introduction

In a world where globalization, democracy, human rights and freedoms have created opportunities for open societies, in a world where the internet and new technologies make it easier for anyone, in every corner of the world, to access information and get in touch quickly, in a world in which you can travel through various means of transport to any destination, the Covid-19 pandemic has made all these advantages disappear. Thus, the borders were closed, tests were needed, lockdowns were imposed, work at home isolated people even more. All the dynamics and bustle of the great cities calmed down, everything froze, an oppressive silence fell over the Earth under the frightening threat of an enemy that made no noise, that could not be seen, that lurked and attacked without warning. How was it possible that in the 21st century, despite epidemics and pandemics in human history, despite the training of national security experts, despite the advances in medicine, despite the existence of the World Health Organization, a virus could get out of control and affect all countries in the world?

The Spanish flu and other pandemics – warning signs for an imminent pandemic?

The Spanish flu was the most devastating pandemic influenza in recent history. It is not known where the virus came from, but it is certain that the pandemic was triggered by the H1N1 virus. The pandemic lasted a year, with the virus spreading around the world between 1918 and 1919. (Centers for Diseases Control and Prevention, 2018). By 1900, the world's population had reached 1,600,000,000 (Worldometer n.d.). Given that about 500 million people became infected with this virus, this means that one-third of the world's population has been affected by it. This pandemic has caused the loss of many lives on an unimaginable scale – at least 50 million worldwide. (Centers for Diseases Control and Prevention, 2018) And it

wasn't the only pandemic until the one caused by the new coronavirus. Thus, from 1918 until now, humanity has faced other pandemics. For example, in 1957 the H2N2 flu virus caused another pandemic that resulted in about 1.1 million deaths worldwide. Also in 1968, H3N2, another influenza virus, caused another pandemic, with 1 million deaths worldwide (Centers for Disease Control and Prevention, 2019). In addition, from April 2009 to August 2010, nearly 200 countries reported AH1N1 virus infections to the World Health Organization (WHO) (Rashford 2013). Estimates of the death toll are between 105,000 and 395,000. (World Health Organization, Predictably unpredictable)

Pandemic influenza – a threat taken into account by the states?

I found it interesting to review the National Security Strategies of the United States over time to see to what extent and since when the pandemic has been considered a threat. There is no reference to the pandemic in the two national security strategies carried out from 1987 during the Reagan administration to the one in 2002 during the George Bush administration. However, in 1994 “new diseases and epidemics” are mentioned being related only to developing countries (A National Security Strategy of Engagement and Enlargement, 1994, 18) Also, there are several National Security Strategies (1995, 1996, 1997, 1998, 2002) in which epidemics such as malaria and AIDS are mentioned, as well as their consequences at the national level: overcrowding of the health system in developing countries, causing tensions in society and economic disruption.

In the National Security Strategy for a New Century elaborated in 1999 the term health threats appears for the first time, and an equally important aspect it is related to the American citizens: “health problems can undermine the welfare of the U.S. citizens, and compromise our national security, economic and humanitarian interests abroad for generations”. (A National Security Strategy for a New Century, 1999, 3)

However, in the National Security Strategy elaborated in 2006 are mentioned the measures taken at national and global level the to respond to “pandemic public health threats”.(National Security Strategy, 2006, section V) In response to a pandemic threat in the United States, projects have been launched to modernize American public health infrastructure and create the best possible conditions for the industry to accelerate the development of new vaccines.

In order to fight a pandemic the Bush Administration has created the International Partnership on Avian and Pandemic Influenza, a global initiative in which states cooperate in the event of a pandemic through both preparedness and surveillance actions. (National Security Strategy, 2006, section X)

Moreover, in the United States National Security Strategy, elaborated in May 2010, during the Obama administration pandemic diseases are threats for which there are no borders and have the ability to spread extremely quickly in a very short time. (The White House, National Security Strategy, 2010, 38) and a threat to the security of the American people (The White House, National Security Strategy, 2010, 8). The consequences of an epidemic that could cause rapidly a multinational health crisis are also mentioned: millions of people affected, serious problems in trade and travel. In the event of a future pandemic, the US is acting to strengthen international collaboration in order to improve global surveillance and early warning capabilities. The word pandemic (pandemic diseases, pandemic threat, next pandemic) appears ten times in the strategy, which means that the pandemic threat is perceived as an imminent threat to the American people.

Furthermore, pandemic diseases are considered vulnerabilities in the United States National Security Strategy, elaborated in February 2015, also during the Obama administration, which determined actions to enhance pandemic preparedness. In the Strategy

is stated that America is the only leader in fighting pandemics. (National Security Strategy, 2015, 14). In addition, as a justification for this leadership role in the fight against pandemics, the same strategy sets out the actions that the US will take in this regard: “the collaboration with partners through the Global Health Security Agenda fighting infectious diseases; the establishment and consolidation of a global system to prevent epidemics, to identify epidemic outbreaks. (National Security Strategy, 2015, 14).

For the Trump administration it is important to combat pandemics because the impact of these threats on national security is significant causing deaths, generating economic decline, and generating a decrease in citizens' trust in institutions (National Security Strategy of the United States of America, 2017, 9).

The Interim National Security Strategic Guidance carried out by the Joseph R. Biden Administration in 2021 affirms solidarity with the international community as well as the determination to fight both Covid-19 and other diseases that could trigger a pandemic. Also, the United States, as leading nation, will also continue to reform and improve the work of the World Health Organization. In addition, it will redefine the involvement of the United Nations in the management of the Covid-19 pandemic as well as the preparation of this organization for the next pandemic. Another direction of action is to promote pandemic preparedness. The fact that the term pandemic appears six times in the strategy text, as well as the fact that preparations are being made to deal with the next pandemic, clearly indicates that this health threat is an imminent one and it will become a reality again.

Not only a superpower like the US has specified pandemics in its security strategy as a security threat. Also in Romania in the National defense strategy for the period 2015-2019 it is mentioned. Moreover, according to the National defense strategy for the period 2020-2024, the Covid-19 pandemic is considered the biggest attempt since 1989 for Romania and the prospect of a new pandemic determines the Romanian state to find solutions to manage the pandemic from many perspectives: medical, economical, educational. (Strategia națională de apărare a țării pentru perioada 2020-2024, 2020, 8) Also, the fact that in the strategy the term pandemic occurs seventeen times in different contexts indicates that the Covid-19 pandemic is a real threat to national, Euro-Atlantic and international security.

These comparisons, on one hand between the US security forces and on the other hand between those of the US and Romania, highlighted the fact that the countries took into account the outbreak of a pandemic. Consequently, it was a threat that was expected to happen, but which appeared unexpectedly.

Managing Covid-19 pandemic – a challenge that has revealed many vulnerabilities

States have expressed interest in asking experts for views on the impact of a Spanish flu-like pandemic. In this regard, in a letter signed by Douglas Holtz-Eakin, Director of the Congressional Budget Office and attached to the report *A Potential Influenza Pandemic: Possible Macroeconomic Effects and Policy Issues* (December 8, 2005; revised July 27, 2006) in response to the request of the Congress of the United States, he states that the Congressional Budget Office developed an assessment of the possible macroeconomic effects of an avian flu pandemic. The conclusions of this report are worrying given that in the event of a pandemic similar with the one in 1918 the impact on the global economy would be really disastrous.

In addition, states have drawn up pandemic preparedness plans to be prepared in the event of a pandemic. Thus, most WHO Member States had publicly available pandemic preparedness plans at the start of the 2009 (H1N1) pandemic except Argentina, the Russian Federation, some Southeast Asian countries and some African countries (Rashford 2013).

However, with the outbreak of the Covid-19 pandemic, countries around the world have been facing a shortage of medical equipment for the severely ill, a lack of surgical masks and the inability to buy them due to the supply chain disruptions. There followed a period of chaos in which countries tried to cope with the situation by buying at very high prices products that had a very high market demand.

In October 2020, NATO Secretary General Jens Stoltenberg, speaking at the Global Security 2020 Bratislava Forum, highlighted the vulnerabilities that have surfaced due to the health crisis. Jens Stoltenberg says safe supply lines need to be provided for NATO member countries. He also recalled the difficulty faced by all countries, namely the dependence on other states for face masks and medical equipment. In order to solve this situation, which could be one of extremely serious consequences for those in a desperate situation on a hospital bed, investments, Jens Stoltenberg said that investments, supply chains and ownership, have another dimension in the current pandemic context. Now, the economic or financial decisions are related also to the security of NATO Member States. Solutions must be found in order to eliminate dependence on various countries, some even very far away, which leads to late receipt of contracted products. Thus, it is necessary to find solutions for secure supply chains for goods and services. At the same time, efforts are needed to strengthen NATO resilience, and the solution is, on one hand, to work with countries and organizations that share the same vision and, on the other hand, a more global approach. Action is needed within NATO countries but also in collaboration with the European Union.

Countries have faced and are facing challenges related to Covid-19 pandemic that have huge consequences on citizens and economies. Lockdowns have had devastating impacts on the national and global economy. People lost their jobs. Both large and small businesses have suffered heavy losses, some even going bankrupt. The transport of products from the producers to the consumers, the supply chains registered major disturbances. (European Investment Bank, 2020, 1) Along with travel restrictions, countries whose economies rely heavily on tourism have been severely affected by the lack of tourists. Also, in the countries that faced a very large number of infections in a short time, the health system could no longer cope with the avalanche of patients. Some of them have been sent, as in the case of EU Member States, to other countries in the Union for treatment. The other solution was to send teams of doctors from one EU country to another EU country that needed specialized human resources.

The initiative of collaboration between the United States and the European Union to fight against the global pandemic is the implementation of the U.S.-EU Agenda for Beating the Global Pandemic, Vaccinating the World, Saving Lives Now and Building Back Better Health Security of 22 September 2021.

States have understood that the Covid-19 pandemic, like other security threats which have no borders such as terrorism, organized crime, cannot be fought individually but through joint action.

United Nations action to fight influenza

As a result of the serious consequences of the Spanish flu, the United Nations has taken action in the event of another pandemic. Thus in 1947, the Interim Commission of the World Health Organization was established the Global Influenza Program and in 1948, the World Influenza Center was established to monitor, analyze and disseminate health data on any epidemics. (United Nations, The Yearbook of the United Nations) Numerous WHO collaborating centers have also been set up to better manage epidemics and pandemics and and they have proved their effectiveness from 2005 to the present.

According to doctors, pandemics cannot be predicted. Dr. Wenqing Zhang, Manager of WHO's Global Influenza Programme, stated that another pandemic similar to Covid-19 pandemic will break out, but it is impossible to say when. This inability to predict the outbreak of a pandemic makes this threat to international security much more difficult to fight. The most important thing is prevention. Prevention costs are always considerably lower than resolving an out-of-control situation. Thus, according to estimates, the cost of fighting a flu pandemic costs US \$ 60 billion every year; pandemic preparedness in contrast, cost only US \$ 4.5 billion a year. (World Health Organization, A unique disease)

Pandemic influenza is a threat to human security, a threat that has implicit repercussions on the national and global economy. That is why we need to find ways to better manage this type of threat. According the experts, the best way to prepare for the next pandemic is global collaboration.

In March 2020, Secretary-General António Guterres remarked about COVID-19, “This war needs a war-time plan to fight it.” The most recent plan, launched in September 2020, the UN Comprehensive Response to COVID-19, focuses on three components: a health response guided by the WHO and its Strategic Preparedness and Response Plan; a socio-economic and a Global Humanitarian Response Plan; and a transformative recovery process that leads to more just, equal and resilient societies and economies after COVID-19 (United Nations, The Yearbook of the United Nations).

Conclusions

Pandemics have existed for centuries but Spanish flu and the other pandemics that broke out in 1957, 1968, 2009 show that humanity is facing an invisible enemy that can strike at any time unexpectedly. In this way, humanity can face the next pandemic at any time.

Since 2006, every US national security strategy, except for the 2017 one, during the Trump administration, has highlighted pandemic diseases as a threat to the American people. This clearly shows that the possibility of a pandemic affecting all countries of the world was foreseen. Also, the measures provided for in national security strategies at both national and international level to combat pandemics demonstrate once again that they pose a severe and current threat to health and national security.

The studies and reports on the effects of a pandemic similar to the one in 1918 on the economic sector, the health sector shows the concern of states and the international community in terms of the consequences and ways of managing such a threat. The implementation of pandemic preparedness plans means that countries are aware of this threat and are taking the necessary measures to better manage the next pandemic.

In addition, both medical experts and states and international organizations have understood that collaboration on several levels is vital: global surveillance, pandemic preparedness, early warning capabilities, new vaccines and medicines.

The inability to predict when the next pandemic will break out, the emergence of new viruses for which there is no vaccine, the extremely rapid spread of viruses, all that make humanity very vulnerable to a next pandemic that could be much more severe than Covid-19 pandemic. The only solution to fight Covid-19 pandemic is the collaboration between states at the international level, and the collaboration between governmental and non-governmental organizations.

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PUTIN'S POLICY IN UKRAINE: A DESTRUCTIVE, UGLY, ATTRITION BASED WAR, FOUGHT AIMLESSLY, FOR THE SAKE OF WAR

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Abstract: *It is a challenge to try to draw conclusions and find the characteristics of an ongoing crisis. Even more so when it is a large-scale war, like the one fought by Russia in Ukraine, a war already defined as a war of aggression of Russia in Ukraine, unprovoked, illegal and unjustified, an invasion of Russia in Ukraine aimed at conquering new territories for Moscow to annex. But, after three months of war, some basic arguments are already in place and it is worth assessing the regularities of this war and its particularities in a way that allows us to predict the evolution of this war. And if no two wars are alike, comparisons give us hints about previous behaviors and perspectives of evolution. In this case, the 7 districts buffer zone in Nagorno Karabakh could give us a hint on the way the destruction of Eastern Ukraine will be used in the future by Russia to deny any the presence of weapons close to its borders.*

Keywords: *strange war; war of attrition; large scale war; long war; forever war.*

Characteristics of the war: Ukraine, Putin's obsession

The invasion of Russia aiming to punish Ukraine has entered a new zodiac sign. After the initial plans for victory in the short term, in a *blitzkrieg* (Harris 1995) failed, the new strategies are more destructive, more vengeful, and uglier. Putin has gone from a war of conquest to a long-term war of attrition, in which endurance and military numbers can cope with the constant fatigue and weakening of willpower, resources and prospects of a war for the sake of war, in which the sole purpose is to punish Ukraine's resilience and the physical leveling of any city, building, resistance, history. A vengeful precedent for everyone to understand that if you do not surrender and do what Putin tells you, there will be no stone left unturned by his war machine. Had he been alive, Freud would have fully validated Putin's obsession with grandeur, status, and especially his obsession with Ukraine, which is a thorn in his side, with its freedom and democracy, with everything; it is in front of him and impishly opposes him.

There have been many attempts to explain the war in Ukraine. An illogical and very costly one for Putin's Russia. But perhaps the most important explanation comes from the challenge Putin felt when the Ukrainians did not bow to his will. They chose the West. They overthrew the Yankovic regime because he did not want to follow the path that would lead to EU accession. They defied Putin, who warned them that they would pay. They did not give in to his warnings and hints coming from the Annexation of Crimea (Statement by the North Atlantic Council on Crimea 2019) and the military aggression in Eastern Ukraine (RUSSIAN AGGRESSION IN EASTERN EUROPE: WHERE DOES PUTIN GO NEXT AFTER 2015). Putin hinted others will follow, other popular republics to defend, other territories to conquer.

But most of all, they chose to be free, democratic, and also independent, escaping from any influence Russia had. And Putin can't stand this. With his training as an agent during the Soviet era, with the nationalist historicism acquired from Dughin, Arbatov, Karaganov, and Surkov, Putin could not imagine how not to dominate the territories of Ukraine and how not to rebuild the Soviet Union, the greatness of the Empire. His desire to rebuild the empire can cost Putin his country. He lost the Russian nation, unable to complete its modernization due to

imperial inclinations – the Soviet Union was, as he said, the greatest catastrophe of the 20th century. Now pan-Russian imperialism – Ruskie Mir – seems to be the latest obsession of a mind filled with contradictions, opposing ideologies, historical aberrations and the absence of logic, dominated by the will and desire to acquire global power.

Symbolism played an important role. The war began on February 24th, the day after the celebration of Soviet Army Day (Russia to celebrate Defender of the Fatherland Day on Feb 23 2022) (now, the day of the national armies in the post-Soviet space). It was originally scheduled for February 16th, the 8th anniversary of the launch of the “Little Green men” operation in Crimea and the creation of the People’s Republics, expected to be born all over Novorossia. Symbolism also directs his ambition to rebuild the former Soviet Union under the folds of Russia until December 30th, when the Centenary of the founding of the former Soviet Union (Whitmore 2022) will be celebrated, another one of Putin’s obsessions. How can you leave Ukraine independent, democratic, with European and Euro-Atlantic affinities that destroy the great dream of Greater and Imperial Russia?

Then Putin saw a new Fulda Gap (Britannica n.d.) situation in Ukraine (and Belarus). The West is advancing step by step, under the radar, towards Russia’s borders, conquering territories to be later included in NATO and the EU, and Russia is losing these territories one by one, Putin thought. Thus, the double dependence and East-West competition in the gray area between NATO/EU and Russia’s borders is no longer relevant, the West has broken the rules and is occupying everything, and Russia’s power of influence and attractiveness are too small. In other words, this gray area, transition zone, buffer zone, must be removed. He wanted to move into Europe, towards a new reinforced Berlin Wall border, this time as close as possible to the current EU/NATO borders. Hence the desire to push the frontline existing only in his mind toward the post-Cold War situation – a remake of Yalta, another Grand Bargain (Serhii 2009), but Putin respects the unification of Germany and its EU and NATO membership, so the message could not go further back in time than 1997, in his revisionist view.

Then Putin stepped into a genuine Thucydides trap (Allison 2019). He bluffed so much with the war, he resorted so much to the threat of the use of armed force, the threat of war on a large scale, that at a certain point he could no longer walk back on these threats. He fell into the trap of his own making, and the war had become unavoidable since November 2021. The conditions set out in the alleged agreements with the West were unacceptable from the start, even if there was a certain ballet with Russia and three proposed negotiating areas – bilateral with the US, at the strategic level, with NATO, and at the European defense level, with the OSCE, covering European security, guarantees and rules. But returning to the country empty-handed, after the ritualistic and angry ultimatums, was no longer possible for Putin. Not even with half measures. So Putin was forced to unleash the dogs of war.

Calculations, strategies and misperceptions: Putin’s poor choices in Ukraine

A lot has been written about how Putin approached the war. He made risky bets in many cases, he planned poorly or not at all, he improvised based on his perceptions and moods, on his expectations, ignoring the real information in the field that didn’t even reach him because he didn’t want to. That is why he divided his military force into two: the classic, the traditional, the trivial, with which he had to quickly defeat Ukraine, and the modern, high-tech, state-of-the-art, which remained in reserve for his next battle with NATO. But no plan survives first contact with the enemy.

Putin’s mistakes and poor choices in Ukraine include the assumption that Ukraine is ruled by a gang of neo-Nazis, extremists, nationalists, banderovists, who are hated by the people, or at least by Russians living in the East, who are oppressed, discriminated against, are

not allowed to learn their mother tongue; the assumption that the Russian troops/army will be welcomed with flowers as liberators of Ukraine; the assumption that the decadent West will begin to quarrel and divide, being dependent on Russian energy resources, and building interdependencies with Russia based on raw materials and privileged prices; the assumption that Ukraine and the Ukrainian army will quickly melt and surrender when facing Russia's war machine. Kharkiv will fall in a few hours, up to a day, Kyiv will be occupied in 2 days and, in 3 days, Putin will be able to salute the Triumphal March of Victory from the tribune overlooking the Maidan Square in Kyiv, when the victorious tanks will roll on the Khreshchiatik.

Well, it did not work out that way. Ukraine and the Ukrainians (even the Russian in Ukraine, in the East) put up fierce resistance against the Russian troops and even inflicted enormous damage. Western weapons and training made their presence felt, and it was painful for Moscow. The will and ambition of the Ukrainians to defend their country, to remain free, democratic, not subjugated to Putin's dictatorship, was visible in the determination with which they fought. They sent their wives and children to safe places and enlisted in the war as if their victory and resilience depended on their historical memory and legacy for eternity.

In addition, uniforms with medals were found in the luggage of the killed Russian soldiers along with the new medals that would have had to be given to them for the conquest of the major cities in Ukraine (Pavlushko 2022). However, the welcoming of the liberating heroes did not take place, as Putin expected. Instead, they were met only with deep hatred, amplified by the fierce resistance in Kharkiv, a city inhabited almost entirely by ethnic Russians, as well as the protests in the occupied cities of Kherson or Zaporizhzhia, Donetsk and Luhansk (also inhabited by mostly ethnic Russians). It showed that the accusations of genocide and discrimination against ethnic Russians could not be justified: ethnic Russians, citizens of Ukraine, came out with Ukrainian flags to ask the Russian occupation troops to go home.

Another unexpected element was the reception of refugees. In 2015, 1 million refugees from the Middle East shook Europe, threatening to tear it apart and annihilate the European project. In 2022, in 3 weeks, 2.5 million Ukrainian refugees were received and offered all the love, warmth, support and openness that the states they went through were capable of giving. More than 4 million in Poland, one million in Romania, and even Hungary was in the same situation. A major effort with the contribution of ordinary citizens, civil society, adapted and resilient institutions of these states, already stretched thin by the pandemic and the energy crisis, with its major economic effects.

Finally, we can only contemplate the "strange war" of the first 3 weeks (Booth 2022): a high-tech army, claiming to be the second strongest army in the world, with leading niche capabilities, uses on the ground chaotic destruction operations characteristic of World War II. Of course, Russia later resorted to changing its strategy, using precision hypersonic weapons (Jackson 2022) against fixed targets, and recalibrating the conflict to turn it into a destructive, attrition, city leveling, will and achievements crushing war, meant to punish Ukraine and not leave it enough resources for endurance and survival. To drive its citizens away from their homes, making them relocate internally or as refugees in other parts of the world.

What could victory mean for Putin? The strategy of destruction endgame

Any prospect of ending a war or a larger conflagration lies in determining what the enemy's goals are, in this case, what victory would mean to Putin. What would a save face solution (Gamkrelidze 2022) be for him, to be able to return home and present major achievements – unspecified, not announced at the moment, but which could be simple to present as achieved objectives. Of course, if achieving goals were easy, surely Putin would

never stop. He wants Ukraine, the whole of Ukraine. If that fails, he wants to make sure that even if Kyiv or the new legitimate capital kept relevant and large portions of the territory, it would still not be a sustainable state, but rather one that is dependent on Western funding.

If he fails to occupy Ukraine and make it part of Russian territory, adding forces and capabilities (to Moscow), Putin wants a Ukraine that will be punished, humiliated, or at least turned into piles of rubble, a no-man's-land, deconstructed and weakened, if possible, without access to the sea, without industrial capacities and with as few inhabitants as possible, unsustainable and only useful as buffer territory. Of course, that was not the initial goal but, at the very least, it satisfies Putin's ambitions and plans, as well as offers something he can present as a victory.

Of course, in the beginning, victory meant the occupation of Kyiv and installing a pro-Russian regime. With a victory parade that he would salute on the Khreshchatik. Otherwise, it's harder to claim victory with the Russian flag raised on the piles of rubble left over from Ukrainian cities. The conquest of Mariupol – which stubbornly resisted (Sands 2022) until May 20th – would be a formula for victory: the land junction between Russia and Crimean was made, the Sea of Azov was fully under Russian control, and a continuum of Russian-speaking Novorossia was built. It would be an advantageous formula for leaving the scene, with “denazification” included – the destruction of the Azov Regiment, of the nationalist resistance in Ukraine. In reality, things are not so simple: on the ground, an unavoidable and indestructible insurgency of a nation that does not want to be occupied endures.

And here is another long-term miscalculation of Putin. Since 2014, he has contributed to the formation of Ukraine as a European state, nation, identity and democratic consciousness. Indeed, while Ukraine regained its statehood in 1991, when Leonid Kravchuk signed the dissolution of the USSR and the Alma Ata Accords, democracy was truly won through the Orange Revolution and the *Tak! Yushchenko* phenomenon in 2004-2005 (Karatnycky 2005), along with the right and appetite to protest peacefully, but with major effects on the overthrow of the regime. Ukrainians have become accustomed to questioning their leaders and massively challenging their choices. And this is a deeply democratic habit.

This was followed by the Europeanization through the 2013-2014 Maidan, the only public demonstration defending the European path and in favor of the EU, with its symbolism and martyrdom of the 100 people killed by *titushki* (Katchanovski 2021), regime servants, coordinated by Russia, who shot at the crowd of protesters. The identity was created after 2014 when the annexation of Crimea was the last straw and highlighted the battle East versus West, democracy versus authoritarianism, won by the pro-European choice. In February 2014, only 17% of the population wanted to join NATO, in June this increased to 72%.

Then, the real war of independence started in 2022. Today, Ukraine is completing its development as a nation through the foundations of the myths and symbols of becoming a European, democratic and free nation. And Putin has played a key role in this process, because of his repressive actions. He also generated the coherence of the Ukrainian nation and the ethnic Russians who chose to live in the imperfect and, not infrequently, anarchic democracy of Ukraine rather than under Putin's authoritarian rule in Russia. The free Ukrainian nation was also built by Russia's forced enforcement of non-alignment during the Yanukovich era (Yanukovich signs law declaring Ukraine's non-aligned status 2010) which culminated in the loss of Crimea and Russian military aggression in Donbas.

Russia's war against the world: endurance, total destruction and the war of attrition

The way out of the war can be achieved in several ways, and they are dependent on the desire and will to fight, the available resources for each combatant, and the costs of continuing the conflict. In this sense, while the desire and the will to fight are present in both Putin and

the Ukrainians, the available resources are debatable, Depending on how soon Russia will feel the sanctions – likely in the next 3 to 6 months if it will be able to recruit new conscripts or mercenaries and replace the loss of people on the battlefield. As for Ukraine, it depends on its ability to receive weapons and Western support. Finally, the costs of the conflict are irrelevant today for the Ukrainians, they have passed the point of no return and they will fight to the end, while Putin does not seem to care about the costs and the lives of the people, his citizens, either under sanctions or on the frontlines. Apparently, at least.

There was the issue of Putin's health, mental health and long isolation (Browne 2022). All of them debated various hypotheses. After all, the frustration and ambition of the Kremlin leader cannot be denied, nor can Putin's miscalculations: neither liberation, nor rapid warfare, nor the refugee weapon and the division of the West seemed to work. On the contrary, extremely strong sanctions have been adopted and cohesion was evident. The excuse that he is defending Russians and Russian speakers against discrimination did not withstand scrutiny. Quite the opposite, there is growing talk that Putin has been tricked into believing his propaganda. It is clear from the famous scene at the Security Council that no one dares to tell him anything but what he expects to hear, in any case, not the truth. Due to this and initial setbacks, the topic of the possibility of the use of weapons of mass destruction was raised (Edmonds 2022).

In any case, Putin stepped back and reconsidered the situation. He moved the spotlight and expectations from a simple, quick victory, marked by the triumphant march in Ukraine to the option of completely destroying the state that defied him, which does not bow to his will. To set an example for everyone. Hence, the conflict became an attrition war (Khalid 1973), in which only the ability to renew one's resources remains essential. And for Russia – forced to resort to Chinese support, trade corridors and alternative consumer tastes, and also recruit fresh people, to rotate the troops on the ground – that means taking greater risks when you mass in a war with Ukraine troops from all regions, from the northern part – Finland, Sweden, Norway, the Great North – and the Baltic area, from the Southern District – Chechnya, Abkhazia, South Ossetia – and the Central Military District, going as far as Mongolia and China and the Far East. All brought to support the long war effort.

For Ukraine, this means the ability to resupply weapons. Is the window of opportunity closing? Putin's threat to any transport convoy was made openly. As well as the use of precision missiles hypersonic missiles, of cruise missiles, to hit warehouses, military units, training camps, and the soldiers' bedrooms. The attack on supply lines – weapons, ammunition, food, fuel, protective equipment, medicine, and humanitarian aid – could hint at the redrawing of Russian strategies in Ukraine, the new aim being Ukraine's capitulation or destruction.

Of course, the idea of avoiding an escalation and the engagement of NATO or its Member States in the conflict is welcomed. It's a good thing. In order to not take part in the battle of finger pointing regarding who is to blame for the prolongation of the conflict or the escalation to the level of the Third World War. However, we must be aware that this is not just about Ukraine, which has defied the Kremlin and the great visionary, Putin. It's about Russia's war with the West – with democracy, with individual freedoms, with the free choice of sovereign states, with the Western way of life. It's about his international standing and desire to obtain superpower status for Moscow (it is mentioned in Putin's latest speech at the Lujniki Stadium, referring to the two superpowers – an explicit allusion to the Cold War status). It is also about Russia's war with the world, its rules, what it considers acceptable behavior, the isolation of Putin's Russia and its indiscriminate designation of new enemies – all those who want the rules-based system in the contemporary world, not the survival of the strongest.

The Nagorno-Karabakh model of the extended strip. The perpetual war

Putin's Russia did not invent anything. It only uses what it has tried elsewhere in the world, and Nagorno Karabakh seems to be the site of perpetual war (Halderman 1975) and the never-ending threat of a resumption of the conflagration, with constant fire exchanges and the perpetuation of the conflict indefinitely. In the region of Azerbaijan cut off by Armenia – with significant Russian support in 1988, during the time of the Soviet Union, when nothing happened without the knowledge and approval of Moscow – a buffer zone was created by the destruction caused by the war.

The 7 Azerbaijani districts in the Nagorno Karabakh area have been systematically destroyed, the inhabitants have been virtually evicted, and among the large buildings completely destroyed and left like that for 34 years, only soldiers could be found, hiding in trenches, sporadically exchanging fire with the other side. A wide and uninhabited strip of border, unsuitable for any activity, without anything being rebuilt, a perpetual cemetery reminiscent of the past confrontations, where nothing happened until the Azerbaijanis regained the territory two years ago (The Nagorno-Karabakh Conflict: A Visual Explainer 2022).

Because this is the model that Russia is now implementing, that of perpetual war, of the constant threat of the resumption of the conflict, a 150-kilometer-wide strip at the Russian-Ukrainian border, where only Russia decides what and how much is built. A region under constant threat of conflict, where sporadic or more intense fire exchanges will take place at the line of contact in Donbas, similar to what happened between 2014 and 2022, involving the republics of Donetsk and Luhansk, supported by the Russian army, and the Ukrainian army. However, now the strip is much wider, it also covers the southern part of the de facto border with Crimea, occupied in 2014 and annexed by Russia. And the conflict can continue, slice by slice, until the ambitious takeover of the entire territory is completed and the country that did not want to submit is destroyed.

That is why Russia wants “disarmament” and “denazification”, meaning (Victory Parade on Red Square 2022) the toppling of the neighboring democratic regime and the abandonment of Ukraine, after being transformed into a dysfunctional, weak, defenseless, if possible, unviable, landlocked, Russian-controlled state; without even a bit of independence, on the contrary, the subject of the limited sovereignty that Russia has already imposed in Minsk, after the quasi-Anschluss of Belarus. A generalized, perpetual conflict zone that does not allow any long-term investment, as no investor would risk losing their money when the conflict reignites.

Ukraine would be transformed into a mere broad border strip of the Russian World, because it did not want to surrender and be part of this Russian world, “putinized”, with no future and no prospects. Sure, dependence on Russia, a country that is now the subject of a reputation deficit and the acute lack of any acceptable form of prestige in the international arena – where ethics play a growing role in the 21st century. A country under sanctions, globally ostracized, which does not explain how it will ever be able to propose a solution for the functioning and survival of its population, let alone Belarus and Ukraine, which it wants as subjects.

Scenarios for Ukraine: from capitulation to eternal war. The leveling of Ukraine

With two actors in a limitless confrontation and with the possibility to go all the way, the natural way out would be the victory of one or the other. But things are neither so linear nor so unlimited: Putin's resources are dwindling and troop morale is plummeting. Financial resources are not endless and sanctions are already having an impact. Public dissatisfaction is

boiling over. It is true that he has channeled the blame towards the West, but even this solution cannot survive in the long run. The costs will be felt.

As for Ukraine, beyond the will and ambition, the feeling that it is on the right side of history, that it teaches lessons in posterity and that it proves its strength, it's dependent on the resources coming from the West. It cannot have a no-fly zone, planes, or strong anti-aircraft defenses, but it has enough troops, volunteers, anti-tank and small anti-aircraft weapons to last a long time and inflict significant damage to Russian troops. However, another factor here is the resilience, image, and certain Western symbolic elements that mark its welcoming among the Western nations, the European and Euro-Atlantic perspectives (Marcos 2022). The manifest political will of the West to accept Ukraine in its midst. With relevant and encompassing gestures.

Accepting a European prospect for Ukraine, the Republic of Moldova and Georgia is the first step. Then the recognition as a democratic state, which fights for shared principles and values. The symbolic gestures of Zelenski's speeches hosted in Congress, the British Parliament, the German Parliament, etc. can all play a role. Likewise, the nomination and possibly the awarding of the Nobel Peace Prize to President Zelensky (Volodimir Zelensky Nominated for the Nobel Prize. The European Parliament has nominated the president and people of Ukraine 2022) (Parliament 2022) can also help. Other symbolic elements are added, elements that can underline Western support in various ways – Eurovision, positions within the UN, for example, that of non-permanent members of the UN SC – as well as other symbolic gestures, such as the investigations of the International Criminal Court or the International Court of Justice, not to mention the relevance of a Special Court for Ukraine and Russian war crimes.

The scenarios are not that simple. Russia can win, but only through the total destruction of Ukraine: it cannot rule over a people who sincerely hates it and to whom it has done so much harm. There will always be blood between Putin's Russia and Ukraine, lots of innocent blood, killed civilians, children, destroyed buildings, hospitals, homes, theaters, industry and ruined everyday life. And this cannot be forgotten and forgiven. And Ukraine can only win through selflessness and stubbornness, but it will be much harder to regain the territory already occupied by Russia. Going to the negotiation table too early can expose Ukraine even more, despite the situation on the ground, and it risks missing the peace agreement, namely the international public support that appreciates its efforts to defend its existence.

The intermediate, gray, undefined variants remain: cessation of the acute, explosive phase of the war, in a few weeks/1-2 months, with the achievement of some objectives by Russia, but without the desire to end the formal war, without any agreement, without any negotiation, with the expectation to resume hostilities at any time. It is a slow destruction and impoverishment of Ukraine as a state because no one will invest in what can become a war zone at any moment (Lawson 2022.) (Gallo 2022). An actual razing of the Ukrainian state and of its will to defend and survive, a mass expulsion of the people of Ukraine, left in ambiguity, without perspectives, a gray area between the West and the so-called Russian World. At least as long as Putin and his regime exist.

Of course, there can be a ceasefire agreement. One that is difficult to achieve, which, in fact, will formalize the theft of Ukrainian territories and the establishment of popular republics to administer the Russian-occupied territories in the East (Giles 2022). A Ukraine left with or without access to the sea – depending on the prospect of Russia occupying Odessa – with a more viable or less viable Ukrainian state. With the lingering fear of the possible resumption of hostilities at any time, but with an independent country, enjoying exceptional prestige and worth defending. A well-armed border state, enjoying international support, to stop Russia's advance towards the west. Possibly integrated into the West and its democratic

structures, regardless of the shape the state will take at that time, as long as it is under the control of the legitimate authorities. Ambiguity and its undefined status will block its development as a state. Dependence on Western supplies and a risky space for everyday life. This threatens to destroy Ukraine in the long run and turn it into a bankrupt state, with no prospects.

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THE SUBTLETY OF COMIC REGISTER IN PERSUASIVE COMMUNICATION

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Abstract: *Humour is a discursive strategy with huge persuasive potential, which values the interlocutor. The use of comic register is not only proof of the communicator's intelligence, but also a form of interlocutor consideration, who is credited from the beginning with a sense of humour. Using comicality in persuasive communication is an option as tempting as it is risky, because not everyone tastes the same kind of humour. In this article we shall try to reveal the specifics of the comic register in discursive strategies and propose a humour typology, based on five relevant criteria: thematic, attitudinal, intentional, axiological and narrative, starting from the attributes that accompany the noun "humour" in various communication situations.*

Keywords: *Persuasive Communication; Comic Register.*

The comic register

The **comic register** is a human-specific way of communication. Animals play, but do not amuse themselves. Humour means secondary decoding of meaning, beyond denotation, it means reasoning and understanding, beyond concrete meaning. Amusement is associated with optimism and increased receptivity. Let us start with a finding: when we are happy, we notice more of what is going on around us, we are more permissive and more tolerant, we are willing to accept new ideas, suggestions and proposals from others. When we are happy, we are more willing to shop around, change our mind and behaviour. Relaxed and cheerful people are kinder and more open to noticing their own needs and those of others. Studies have shown that there is a relationship between good mood and empathy. Therefore, anyone who wants to achieve their goal of communication, to influence their interlocutor to follow suggestions, will take advantage of the others' good mood or will try to induce the state of permissiveness generated by optimism.

We could claim that there are, in general, three major registers of discourse, depending on the relation to reality: *sober*, *idyllic* and *comic*. The **sober register** seeks to reproduce reality as it can be observed, so the discourse will focus on the informational aspect and will rely on the observance of current logic. The **idyllic register** seeks to express a desirable universe, derived from observable reality, a universe from which all areas of shadows and tensions are deliberately omitted. In this sense, the idyllic register applies a "pink" filter to reality, altering immutable characteristics of reality, such as: objectivity, dynamics, conflict, etc., which explains the seduction potential of this register. On the contrary, the **comic register** defies reality, criticizes it, and makes fun of its imperfections and malfunctions. With indulgence or malice, the comic register applies an X-ray filter to reality. Just as radiography goes beyond surface, the comic register captures, beyond appearances, the "crooked" ("sick") aspects of reality, which it socially sanctions by laughter (and not through criticism, vehemence, incrimination or negativity). Both the idyllic and the comic registers oppose the

objective way of rendering reality, but each uses its own means of altering observable reality, depending on the purpose of communication.

Humour is a form of communication (Räwel 2005) that produces laughter by presenting reality "against the grain", with associations of unique ideas and twists of the situation, appealing to lateral thinking (De Bono 2011), different from the current logic of daily routine. (Etymology is bizarre: The term comes from the Latin *humor* = *moisture*, *humidity* (Umor, (umor.ro) n.d.). Usually, humour refers to contexts in which the interlocutors are not involved situationally and emotionally, but there is also the situation when we make fun of trouble and we laugh at ourselves. The way humour is perceived depends on the social role of the recipient, the era and society to which it belongs, the traditions, culture and history of a people. "Humour is considered a spiritual solution to a reality without a practical solution." (Morar 2008)

Stylistic variations of humour

In what follows, we shall propose a typology, starting from the adjectives that collocate with "*humour*" in common communication situations. In compiling the model, we have formulated relevant criteria that generate series of mutually exclusive terms or represent gradations of the same aspect, showing that humour can be simultaneously described using all the stated aspects. Several distinctions have been made in the literature; there are types of comicality: *situational* comic, *language* and *character* comic, and there are intricacies of humour that we can grasp.

Humour can come in different forms. Its classification should start from terms encountered in everyday language that collocate with "*humor*", i.e. *black*, *dark*, *crazy*, *bitter*, *failed*, *sick*, *macabre*, *quirky*, *surreal*, *wacky*, *zany*, *bawdy*, *gentle*, *subtle*, *dry*, *ironic*, *sacastic*, *self-deprecating*, *unintentional*, *good*, *great*, *refined*, etc.

This inventory is not intended to be exhaustive, but we can see several oxymoronic combinations which tell us how humour is in most cases. We can also notice that the occurrence of positive qualifiers is obviously lower. It is logical, after all, to talk about what deviates from normalcy, because what falls within the established limits is commonplace. Considering this inventory we can notice that several criteria come into question when categorizing humour.

Therefore, a systematization of humour should draw on its nature, on thematic, cognitive, ethical, educational, aspects and, last but not least, on aesthetic.

1. The thematic criterion

The thematic criterion refers to funny topics – which obviously have social and cultural validity, determined by epoch, geographical area, language, region, religion, beliefs and current practices, but arouse attention, especially when the topic touches on the sphere of social taboos such as sexuality, racism, violence, morbidity, religion or ideology. Thus, in any society, there are favourite subjects, as publicly accepted humour, which opposes subversive humour. Without exception, in any community we will find a level of acceptance for humour that is considered *harmless* and a complicit repulsion for *offensive* humor. However, light humour and innocent amusement seem less tempting than violating social norms or trivializing others.

2. The attitude criterion

The attitudinal criterion derives from the thematic one and refers to the way we relate to reality, because it is one thing to have fun with others and it is quite another to laugh at them. It is one thing to have fun, for the sake of joy and good mood, and it is quite another to

make fun of someone's flaws: ugliness, clumsiness, stupidity, vices, just to feel superior to them. Let us not forget that irony hurts and bitter humour damages social relationships. Humour is often moralizing; a joke draws attention to shortcomings or inappropriate behaviour, in order to correct things in a playful, non-offensive way. Depending on attitude, there is gentle, forgiving, benevolent humour or, on the contrary, aggressive, acid or malicious. Besides the permissive and the aggressive attitudes, we can also have mockery in difficult situations, when we do not foresee a concrete solution (in real life). The playful attitude towards life is linked to the Freudian approach which explains humour as a way of releasing tensions (or impulses, in psychoanalytic terms).

3. *The criterion of intentionality*

The criterion of intentionality refers to humour in terms of communication sciences. Humour is achieved only if the receiver understands the playful intention and laughs. So, we have a process of coding and decoding information that is formulated in a playful manner, a process whose success is confirmed through convincing feedback. The discussion about humorous intent makes sense, especially when the mechanism of communication does not work.

Humour mechanisms involve unique associations of ideas, and amusement arises when the receiver is surprised. At first, he is amazed at the unusual combination, and then he enjoys himself when understanding the purpose of the association. Surprise gives the impression of spontaneity, although in the practice of humorous creation, the joke is not usually spontaneous, but on the contrary, carefully premeditated and sometimes elaborated. Inspiration of the moment is the happy exception (often accidental, casual and rationally inexplicable). Premeditated humour belongs to the realm of the show, whether it takes place in everyday situations or on stage and, in this situation, someone is consciously and deliberately generating reasons for others to laugh.

Involuntary humour occurs when the sender is serious in communication, but poor knowledge of language, an inappropriate situational context, or a mere unfortunate match makes the receiver misinterpret the message, differently from the speaker's purpose and thus information is trivialised.

Failed humour is, from a communicational perspective, the reverse of involuntary humour, because the sender has humorous intentions, but there is no effect for the receiver.

The comic impact is increased if the discourse is adequate in a certain situation (as argued by theorists of language pragmatics).

Contextual adequacy of humour involves formulating the message in accordance with the receiver's interests, vision, values, knowledge and competences, but also adjusting the message to circumstances. There are cultural and social specifics of humour. Obviously, not all of us find the same things amusing. We, Romanians, for example, do not find German or British humour particularly funny – and maybe the opposite is true. Additionally, the humorous intention can fail depending on the interlocutor's relation to the topic of the jokes. For instance, a teacher and a student may not laugh at the same insight joke, since they are in complementary positions. Actually, no interlocutor will find amusing the type of humour that puts him in an inferior position.

Humour also depends on what you need to know in order to decode the playful intent: an audience can enjoy a certain type of humour that is opaque to others, *i.e.* professional humour or "inside jokes". Thus, we may all laugh at jokes about engineers, but only the initiated ones laugh at jokes told among engineers. In organizations, employees have their own topics for laughter, which leads to group cohesion and differentiates them from other people. Furthermore, a joke in a foreign language is tasted only if we understand it linguistically and culturally. Lack of reaction or perplexity show that the humorous effect did

not occur. Impediments to perceiving comic intent include psychological, linguistic, cultural and social communication barriers.

Forced humour is a variation of failed humour. Some creators in the field want to be funny and, often rely on exaggeration, painting reality in thick strokes in the hope that the absurd will arouse laughter. This is what humour professionals also do: screenwriters, comedians, copywriters, etc. But many times, the public proves to be smarter than these supposed comedians imagine. Numerous jokes from public speeches and advertising can easily be considered childish, simplistic, silly or, in other words, "recycled clichés". A joke is funny when we first hear it. No matter how good a joke may be, the comic effect diminishes when we hear it again. And humorous little clichés in advertising often annoy us.

4. The value criterion

The value criterion refers to the degree of comicality. To assess the quality of humour we rely on axiological standards. Humour is considered great or derisory, depending on the intelligence of the actors involved (creators and consumers), on their cognitive and intellectual levels.

The quality of humour depends on several factors: the subtlety of the joke, as a humorous stimulus; -the intellectual effort of reception; the sphere of addressability and, last but not least, the performing (acting, narration).

Thus, we can have obvious humour, which we notice immediately and more subtle humour, which requires higher intellectual effort for decoding. We may instantaneously enjoy, for example, the hilarious resemblance between a dog and its owner, but it takes us longer to "catch" a covert allusion or clever pun. We know from experience that some people enjoy humour more than others, that some have a great sense of humour, while others definitely lack it. On a conceptual level, however, we can distinguish between two types of humour: the one that is revealed immediately, visually accessible, and the "encrypted" humour, hidden from the profane and unadvised recipient. This latter type of humour is predominantly narrative, relying on wordplay and double meaning.

Obviously, not everyone is able to grasp humour as quickly or enjoy it in all its shades and depths. Many people have only a superficial level of humorous understanding, without even being aware of their cognitive boundaries and without being bothered by this in any way. That is why the bulk of humour in any society is made up of irreverent, slapstick, gross jokes -unrefined as humour, but sometimes quite elaborate. These jokes are easily and quickly perceived and have nothing hidden beneath their observable surface. In this sense, we can talk about simple humour, accessible to anyone, which is opposed to deeper, more subtle humour, created with care and attention to details.

Quality humour usually involves simultaneous interpretation on several levels, from the observable (superficial) to the conceptual (deep) one. The level of humour refinement discriminates between categories of audience. Light humour is the main source of entertainment for the consumer of "mass culture" (to speak in the terms of Frankfurt School), while subtle humour delights intellectuals. It is interesting to observe how these two sides make fun of each other's tastes and consumption habits, calling one another either "rednecks" or "arrogant".

It seems that good humour depends on how much prior knowledge we need to activate in the reception process and on how many cognitive operations we need to make to understand the joke.

5. The criterion of humour integration in the narrative

This criterion refers to the extent to which the comic affects the creative narration of reality. In this sense, comicality – as an artistic process of altering the representation of reality, can have a functional role or a purely decorative one in the construction of the fictional text.

Functional humour is part of the narrative structure, an inherent part of the text, and its absence would not only change the course of action, but would cancel the story. Decorative humor, on the other hand, does not affect the sequence of events, but only gives "colour" to details and provides the receiver with a moment of amusement.

Conclusion

Humour stems from the tension among the elements exposed in a message. Thus, we are forced to temporarily associate two or more things that already exist in our mind, but which are normally incompatible or, which are not, in normal contexts, in a cause-and-effect relationship.

In the literature there is a theory that perception of humour is achieved through the same mechanism as problem solving (Weems 2014). Understanding a joke involves quickly (and often unconsciously) going through three stages. 1. First we "build" (that is, we turn to personal knowledge, experiences and expectations, gathering information that we consider relevant). Then (after filtering our information, eliminating the mistakes and dropping some erroneous expectations), 2. we anticipate a certain result and, finally, 3. we reach a conclusion, a decision (a satisfactory, but often unexpected solution to the problem).

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ENTERTAINMENT AS A STANCE OF PUBLIC COMMUNICATION

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Abstract: *Entertainment is a particular area of public communication, due to the aesthetic component of the messages. Artistic expression is primarily about emotionality, not rationality, and the originality of creation gives artistic value. Entertainment nowadays tends to contaminate the other functions of communication, namely information and persuasion. In contemporary society, the production of entertainment is industrialized. Contemporary culture is dominated by entertainment industry, especially in the fields of publishing, music, film and games. In this article, we shall summarize the content and specifics of entertainment as premises of the creative industries' social impact.*

Keywords: *functions of mass communication; entertainment; contemporary culture.*

Introduction

Entertainment is an activity that produces satisfaction and pleasure (Entertainment n.d.), a diverting behaviour, a pleasant way to spend free time, synonymous with: fun, amusement, enjoyment.

Etymologically, entertainment refers to the set of activities that human beings perform to distract themselves from the tasks they perform during daily routine (entretenimiento n.d.). The playful connotation (entertainment is a game without serious stakes in real life, which is practiced by non-professionals in their free time) and the hedonistic connotation (entertainment is fun and designed specifically to create a good mood) have been added later. Thus, nowadays entertainment is synonymous with fun, amusement, partying, relaxation.

Scientifically, physiologically and psychologically, entertainment is motivated by the body's natural need to recover from physical or intellectual exertion. Relaxation means re-creating one's energy resources, restoring strength and the ability to focus.

Ethologically (*i.e.* from the perspective of behavioral sciences), it is considered that variation of activity for relaxing purposes is "as old as time". Some ethologists believe that animals sometimes have fun when pampering themselves. From ancient times, organized entertainment has been a trick of the powerful to maintain public order. From the Romans we have the expression "bread and circuses" and it seems that things have not changed much since then.

In common language, entertainment refers to the activities we do willingly, because we enjoy and like: parties, games, hobbies, tourism, sports. The meaning excludes the professionalization component of the activity. Entertainment, as an activity with exclusively recreational purposes, also includes the practice of some art forms: literature, painting, music, dance, drama, etc. at amateur level.

In public discourse on contemporary culture, the meaning has become specialized. Thus, entertainment refers to the professional offer of products and services, targeting a wide audience for a pleasant pastime. In the context of mass society, the public is the passive consumer who benefits from the production of the entertainment industry.

Economic sciences distinguish between cultural and leisure industries (vgl. golitsyno.ru/ro/ n.d.) and restrict the field of entertainment to culture, based on the artistic element. The entertainment industry includes publishing and media production, music, film and shows, but does not include tourism, sporting events, gambling or online social networking platforms. Advertising and video games have an ambiguous position in this classification, because the artistic aspect is present, but their main purpose is not expression through art.

In what follows, we shall approach entertainment as cultural production, created for enjoyment, industrialized and pursuing economic profit, to the detriment of artistic value. However, we shall focus on the communicative role of entertainment.

Communication sciences view entertainment as a functional form of communication, which seeks neither to inform, nor to persuade the interlocutor, but only to delight him, and is usually achieved by subjective relation to reality, as a story or as a joke, using rhetorical mechanisms, like fiction or humour. Entertainment messages do not aim at telling the truth, but at playfully transfiguring reality for amusement. As a result, they differ from misinformation, which distorts reality in order to inoculate false beliefs. Messages intended to amuse are often subsumed to artistic communication, in its verbal and nonverbal hypostases. Cultural entertainment production is considered a form of public communication with aesthetic intentions.

Contemporary entertainment can include a wide variety of cultural live events – literature, film, music, games, shows, contests, or events accessible via technology: through traditional media – print, radio and television, or through digital media, mainly online. The main source of contemporary entertainment are the products of creative industries.

An insight into the philosophy of culture shows that the idea of considering entertainment an industry is not that recent. After World War II, scholars were concerned that the phenomenon of massification, typical of industrial society, contaminated entertainment and, especially, art. Representatives of the Frankfurt School have pointed out since the 1950s that the cultural offer has been industrialized, in an attempt to connect with other areas of modern social life.

Creative industries

Creative industries are those economic fields which deal with artistic products, manufactured and distributed en masse, and in which the essential positions are remunerated based on the copyright of the original artistic creations (Creative industries n.d.). Traditionally, the components of the cultural industrial sector are: 1. The book industry (which favours pulp fiction); 2. The film industry (in which the production of commercial films prevails, released in cinemas, and popular soap operas, broadcast by commercial channels or online cultural platforms); 3. The music industry (in which pop style prevails and where shocking fashions and ephemeral celebrities are promoted in mass shows, concerts or festivals with thousands of spectators); 4. Television, (especially the entertainment sector, with series and shows whose content derives mostly from the "fine arts", but would be impossible without sophisticated production and broadcasting technology) and, last but not least, 5. Video game industry (which turned a pleasant way of spending free time into a harmful addiction, especially for young people).

The areas of actual art are not considered creative industries, nor the creative fields, adjacent to industry and commerce, which involve an artistic component. 1. In a philosophical sense, art itself includes the cultural result of human creativity, with aesthetic value. Creative manifestations that cultivate the category of beauty are also called "fine arts" and belong to cultured, intellectual creation (or, in a discriminatory way, to high culture). In high arts,

unique creations and originality are valued, which further justifies the belief that authentic art cannot be industrialized. 2. Industrial fields with an artistic touch are industrial design, architecture, fashion industry and advertising. Technically speaking, advertising does not focus on art, but on promoting products; for advertising, art is only the main tool for achieving the primary function of selling and making profit. Therefore, creative industries have an intermediate position, between art and industry, and represent the commercial version of fine arts.

Fine arts include creations for purely aesthetic purposes, as opposed to decorative or applied art, which must also fulfill a certain practical function, such as pottery (Kernbach 1995)¹. Fine arts or the 7 arts are: painting, sculpture, architecture, music, literature, theatre and film. Of these, 6 categories of artistic manifestations have been known ever since antiquity, when they were considered "Fine Arts". Later on, cinematography was added, so we say that film is the "seventh art". *Visual arts* include all the practices that result in an artistic, aesthetic or poetic representation, two – or three-dimensional. Visual arts add two new means of artistic expression to plastic arts: photography and film. *Music* includes instrumental and vocal compositions, interpretations and performances of all kinds: symphonic, folk and light music with a lot of subcategories: pop, rock, rap, etc. *Dance* also includes a variety of manifestations: ballet, folk dance, modern dance, ballroom dancing. Usually, *literature* includes not only prose stories, but also poetry and drama. Today, specialists distinguish between visual and performing arts.

Performing arts (wiki/Performing_arts n.d.) include the artistic interpretation of scores, librettos, authorial compositions and differ from visual arts because they involve live performance; art occurs instantaneously, during interpretation and not from exhibiting previously made works of art. All manifestations that involve the presence of performers or actors and an ephemeral, unique, unrepeatable representation are included in performing arts. (Of course, we can record and later broadcast performances, as in issuing book copies.)

They involve "staging", "show" and less "creation of artwork". Performing arts include many forms of artistic expression, both "classical" and modern, contemporary arts. The main categories are 1. Acting performances, 2. Music performances, 3. Dance performances and 4. Media performances.

1. Acting performances include theater, opera, operetta, musical, puppet theater, cabaret, vaudeville, comedy, trick, revue, circus, reciting (public reading), storytelling, pantomime, etc. 2. Music performances include various instrumental and vocal genres: symphony orchestras, folk music ensembles, brass, pop, rock bands, vocal soloists, etc.) 3. Dance performances include ballet, modern dance, contemporary dance, ballroom dancing, eurythmics, etc. 4. Media shows are at the confluence of arts and include unconventional technologies: laser projections, light and water shows, etc.

Entertainment typology

The main forms of contemporary entertainment are stories, shows and games, classic entertainment, adapted to each civilization and era. We all like to listen to stories, to imagine fantasy scenarios, as alternatives to harsh reality. We all like to watch shows on the open stage or in front of the TV, and to admire the mastery of theater or music performers.

¹ Ancient Greeks acknowledged 9 arts, somewhat different from what we consider today to be art, because they also regarded *history*, *astronomy* and *rhetoric* to be arts. Nine sister muses impersonated arts in Greek mythology, entertaining the gods of Olympus with their songs, at festivities and parties: 1. *Calliope* - the muse of epic poetry and eloquence; 2. *Clio* – the muse of history; 3. *Erato* – the muse of elegy and erotic poetry; 4. *Euterpe* – the muse of music and lyric poetry; 5. *Melpomene* – the muse of tragedy; 6. *Polymnia* – the muse of rhetoric and religious hymns; 7. *Terpsihora* – the muse of dance; 8. *Thalia* – the muse of comedy and *Urania* – the muse of astronomy. We learn from Homer that the mother of the 9 sisters was *Mnemosyne*, the goddess of memory.

Sometimes we try to reproduce the artistic representations that we liked or were impressed by, humming a song, repeating a famous quote in different life situations or cheering up the atmosphere with a funny joke. Many young people want to work in showbiz, but few discover their artistic talents and become creators or show performers themselves. We all like to play and experience strong sensations without risk, whether we socialize during a card or football game, or escape reality by plunging into the captivating scenario of a video game. Most of the time, however, we prefer to watch games and support our favourites in sports or art competitions.

Fiction

The artistic concretization of fiction is found, especially, in literature and film, and less often in visual arts and music. As regards painting, we can recall the fantastic visions of Hieronimus Bosch or Salvador Dali, and in music, the electronic genre, represented, for example, by the compositions of Jean-Michel Jarre. We can find fiction in both high art and consumer culture. Great literature masterpieces and entertainment productions involve fiction, even if their artistic cannot be compared.

Man's need for fiction can be derived from Maslow's Pyramid and covers all levels, from the basal - survival and control of the environment, to the social-identitary and spiritual. Fiction can function as knowledge surrogate and provide a coherent and accessible way of explaining reality (as in religions where divinity is usually invoked to explain the incomprehensible) or a pleasant way of accepting reality (as in literature and art, especially when they have a therapeutic function). Fiction can satisfy the individual's need for identity when readers identify with positive characters. Fiction unquestionably satisfies the individual's need for entertainment, offering him ideal alternatives to the dull, harsh daily life. In game theory, fiction is a pleasant and risk-free way to escape from ordinary reality. Sociologists have theorized the escape function of artistic communication.

Fiction is the result of imagination and recreates a coherent alternative reality, in which different recognizable elements of the reality are inserted in various proportions. Fiction has an aesthetic, not practical purpose, therefore it is a particular type of communication.

Artistic communication differs from functional communication by its social role, especially by its hedonistic intention, opposed to the cognitive one. In other words, artistic communication aims to produce pleasure, not knowledge, to entertain, not to inform. Artistic communication appeals to emotion, not reason. Since ancient philosophy people have dealt with the opposition between *docere* and *delectare* .

The subjectivity of fictional universe results from the transfiguration of reality through the author's creative filter. Fiction is an invention which involves imagination, creativity, but also communication and storytelling skills, often accompanied by public speaking talent.

Performances

Performances are public acts of entertainment culture, taking place through asymmetric and unidirectional communication processes. These require the existence of two complementary roles: performer and audience. The protagonist has the active role of transmitting messages and emotions from the stage to an audience motivated by the desire to enjoy the artistic act. (Even though there are many protagonists on stage, the audience is much more numerous than the artists.)

Performances are the oldest form of mass communication, preceding mass-media for millennia, but continue to fascinate audiences with the same success and strong social impact.

In the context of creative industries, the industry of live shows, intended for a mass audience is usually called showbiz, to be differentiated from audio-visual media productions.

Showbiz is the abbreviation for the English "*show business*" and it refers internationally, to the field of entertainment shows.

The term includes performance halls, event organizers (who provide the logistics and equipment needed for the shows), artistic impresario companies and, especially artists, engaged in mass performances: music performers, dancers, but also comedians (sketch performers) and circus artists: magicians, jugglers, acrobats, clowns, ventriloquists, etc.

Tours and festivals are the high-light of showbiz and involve an impressive deployment of forces, managed rigorously. Showbiz has taken advantage of mass-media facilities and developed its own broadcast formats on radio and television, but live performances remain the main form of mass entertainment.

Media entertainment derives from showbiz. Public service broadcasting was originally designed to broadcast music before it became the main source of information for its time. Radio variety shows brought together orchestras, popular performers, famous couplets, beloved choirs and actors, providing the audience with a cheap source of entertainment during the interwar period. Over the airwaves, a series of celebrities were launched in showbiz, until the advent of television.

Television took advantage of image and broadcast shows from the big stages, later creating its own formats of entertainment shows with extensive staging. Huge studios hosted grandiose productions with spectacular sets and choreography in the "golden age of television", in the 1960s-70s. But the diversification of the TV offer, the advent of satellite and cable television allowing the consumer to choose from a wide range of programmes, and the changing taste of the public led to a decline in the popularity of variety shows and, finally, to the abandonment of such expensive productions in the 1980s.

Clifford Christians claimed that the percentage of entertainment shows was close to 90%, referring to the commercial television in the USA during the 1980s (Christians, Clifford G., Fackler, Mark, Rotzoll, Kim B., McKee, Kathy B. 2001). Media critics claim that entertainment has contaminated all audio-visual productions and often use the pejorative term "Infotainment", which refers to the commercial hybrid of information and entertainment in TV news. In Cambridge Dictionary, *infotainment* means reporting news in an attractive style, often trivial and humorous, to the detriment of authentic journalism, designed to provide objective information (dictionary.cambridge.org n.d.).

Games

Games are the interactive side of entertainment, when the actors have a participatory role – and it is considered a form of entertainment, when there is passive audience, not involved in the game. The playful attitude means experimenting the interaction with environment and peers, in a harmless, partially instinctive manner. Psychologists claim that play has regenerative and therapeutic roles in our lives (Sigmund Freud, 1903).

The typology of games includes 1. children's games (simulacrum artifacts: toys, dolls, cars, ball, rope, motric activities: hopscotch, leapfrog, hide-and-seek, etc.), 2. role-plays – which take place according to a predetermined scenario (simulations for children and adults, strategy games), 3. logic or puzzle games – aimed at solving problems (chess, go, puzzle, riddles, construction or orientation games), 4. sports games that promote competition (team games like football, individual games, like tennis, boxing, etc., competitions such as athletics or car racing), 5. games of chance that aim at converting chance into an advantage (dice, lottery, roulette, raffle, etc.).

The French sociologist Roger Caillois considers that all games are governed by at least one of the 4 fundamental principles: Agon (Competition), Alea (Hazard), Mimikry (Mask or role) and Ilinx (Ecstasy). In 1937, The Dutch medievalist Johan Huizinga devoted a study to games, entitled: "Homo ludens. A Study of the Play-Element in Culture" in which he launches the theory that all significant cultural achievements (philosophy, poetry, art, science) are linked with play.

Video games are the most popular form of entertainment for digital natives. The typology of video games includes: 1. Logic games (tetris, maze, puzzle, chess, go, mahjong); 2. Point and click games (selection of interactive areas on the screen, construction games); 3. Trivia games (general knowledge questions); 4. Gambling (slot machines, pinball, roulette; table games: pocker, blackjack, bingo); 5. RPGs (role playing games, as an avatar or from the player's perspective, with the alternative to change the character activated during the game). RPGs are often designed as shooting and fighting games (the goal is to defeat the opponent) or as survival games (gathering resources needed to continue the game); 6. Adventure games (obstacle races against time, like Super Mario Bros or the fulfillment of increasingly complicated missions on each level); 7. Simulation games (driving cars, flying planes, ski-ing, etc.); 8. Strategy games (real or imaginary battle scenarios, war games, entrepreneurship games, Tycoon style); 9. Interactive fiction games (immersion in realistic or fantasy game universes that simulate social interaction, popular online, like Sims). The video game industry is booming. Video games are not just a fun way to spend your free time. Excessive playing generates pathological symptoms: addiction or detachment from reality.

Conclusion

Entertainment consumption is inevitable and even necessary to restore focus and re-new the energy to face everyday challenges. Nonetheless, intense exposure to the offer of entertainment industry stimulates our natural tendency to do what we enjoy. Contemporary society seems to foster a hedonistic culture, a lifestyle that cultivates pleasure.

Like it or not, we have to admit that entertainment influence on us is constant and insinuating. Undoubtedly, more cultural models and fashions are propagated through literature or music than through journalism or advertising. Even if entertainment has constantly tried to adapt and keep up with the challenges of the social environment, the logic has remained the same: its purpose is to relax, not inform, convince, educate. Entertainment aims neither to promote social values, nor to form aesthetic taste, but to please and create good mood. Despite the critical discourse that has always accompanied the phenomenon, entertainment remains the most widespread and enjoyable form of public communication, the one we accept to pervade our daily lives without too much resistance, because we simply like it.

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FEMINISM IN INTERNATIONAL RELATIONS

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Abstract: *From a theoretical point of view, for many decades the discipline of International Relations was dominated by the triad of realism, which remained the overwhelmingly dominant theoretical approach. It was not until 1980 that other political approaches began to gain some momentum. International relations is one of the last areas to accept feminism. This has contributed greatly to its use in almost all areas of research. Compared to other disciplines, the feminist aspect in international relations appeared much later. Feminism is a series of movements aimed at defending equal opportunities for women in the different areas of politics, social rights and other aspects of society. Feminist approaches to international relations became widespread in the late 20th century, and these approaches called for women's experiences to be ignored from studies of international relations theory. Feminists who study international relations have argued that gender issues apply to international relations. Women succeed through their ambition, diplomacy and oratory to excel in the leadership area, which is the main premise for women to lead fully, dynamically but also in an original way. Throughout history, women have gone through several stages that have finally brought her to the position where the male elite give respect, love and attention to women throughout society. This paper fully demonstrates the vitality and continued viability of feminist projects in a variety of forms and contexts, assesses the challenges facing feminism and strongly advocates its continued relevance to contemporary global politics. The main objective of this paper is to present the importance of feminism today and its role as a paradigm in international relations.*

Keywords: *women; feminism; politics; leadership; equal; history; relations.*

Introduction

Feminism is a theoretical and action doctrine that claims the fight against gender equality, promoting the affirmation of women in society by improving and expanding their role and rights. Feminism is a defensive and offensive reaction to misogyny and sexism, both universally spread in time and space, aiming for female and female experiences to be treated valorly as male and male.

Feminism is a social movement aimed at improving the position of women in society. Feminist theory aims to understand the nature of gender inequality and focuses on gender policy and powerrelations. Feminism also relies on experiences related to gender roles and relationships. Feminist political activism typically runs on issues such as reproductive rights, domestic partnership violence, maternity leave, equal pay and discrimination. themes explored in feminism include patriarchy, stereotypes, objectification, and oppression.

Feminism research examines the constitution of identifiable elements of conflict and war: engagement in war, resistance, support operations involving the presence or life of women in any way. Feminism attempts to investigate not only the power relations between women and men, but also gender roles, in a broader context of international relations. Post-modern views emphasize the social importance of gender elements. The objective of this investigation is to question and analyze positivist positions that claim that an objective world exists.

Women are the key to sustainable development and quality of life in the family. Even more, it is women who have supported the growth of society and shaped the future of nations. In the emerging complex social scenario, women have a vital role to play in different sectors. They can no longer be considered mere harbingers of peace, but appear as the source of power and the symbol of progress.

Over time, women have expanded their areas of manifestation, being present in literature, politics, education and the philanthropic social part.

This paper highlights the concerns, perspectives and efforts of women to be recognized as integral members of societies.

Section 1. Feminism in International Relations

In the study of International Relations feminism, the role of gender in the theory and practice of international relations, especially in the field of theories and the study of international security, was almost always ignored. Today, however, feminist research is an increasingly important contribution in the context of studies in this field. A series of opinions, expressed several decades ago, analyzed the complexity of the international relations system, the role of women in conflicts and in the system of international peace and security. The opinions expressed in recent years show that feminism has become much more open-minded, that it has developed as a flexible theory and that it has connected to other theoretical views that try to substantiate these theories.

Over time, renowned feminist authors in the field of international relations have shown in their writings that women, as concrete existences, are not just mothers, symbols of home, peace and traditions, charitable heroines and wives. Feminism is a theoretical and action doctrine that claims the fight against gender inequality, which promotes the affirmation of women in society by improving and expanding their role and rights. The representatives of feminist theory propose a complement to realism and a redefinition of the concepts of power and security.

Feminist perspectives within international politics have become increasingly relevant as the visibility of issues, experiences and challenges was advancing and gaining voice.

In this sense, a feminist approach to the international incorporates new and diverse perspectives into its practice, as well as a redefinition of the view about the role that women acquire in the international arena.

Feminism is diverse and different. The basic concerns of all feminist movements are self-determination, freedom and equality for all people, which should be realized both in public and in personal life. Their diversity provides approaches and potential for shaping current profound social change. The term feminism only appeared in the late 19th century. In the international wave of new women's movements since 1968, it has become the guiding concept.

Even though several types of feminism have emerged over time, they share the basic concern of self-determination, freedom and equality for all people, which should be realized both in public and personal life.

1.1. International relations from theory to practice

International relations carry out the process of transization from the normative space of paradigms within the framework of world geopolitics, achieving the transition from theory to practice at the political, economic, diplomatic or military level. Therefore, it can be seen that the theories of paradigms in international relations, for example realism, are present in the current geopolitics in the Eastern Europe area, from the perspective of the war initiated by Vladimir Putin against Ukraine, invoking a historical right over Ukrainian territories. At the same time, it should be noted that the liberalist paradigm is beginning to pass into the practical space due to the development of multicultural diplomacy, but also of the good interstate offices that lead to the reduction of the possibility of a global war.

From the point of view of the theory, the international paradigms will not be able to fully encompass the theoretical and practical space because some paradigms such as

liberalism or constructivism have idealistic features (Emanuel Kant's concept of eternal peace) which will never be possible to apply in the global geopolitical area. The implementation of the theory of international relations leads to better multilateral communication that brings financial and social benefits to the current world order (D. Buş, International Relations 2019).

The academic space of international relations is another instrument of transition to the practical area due to outstanding personalities who have performed political, military, administrative functions that have put into practice the theory of international relations. At the same time, through their writings, the normative framework is in a continuous development, the normative sphere being in a continuous development. Therefore, authors such as Henry Kissinger, Zbigniew Brzezinski or John Mearsheimer transposed normative aspects of international relations through their functions, but also introduced new normative concepts within the normative spectrum of international relations that will be used by the new generations of researchers in the field of international politics. I believe that the key instrument that makes the transition from theory to practice possible is the political instrument, given that it is the main instrument in any state of the world. The decisions taken at the level of the political decision maker in the regional or international sphere with the aim of designing foreign policy vectors are based on a normative expertise of international relations (political and social history of a state) combined with the legal or economic instrument, which produces good offices at bilateral or multilateral level within international organizations, but also bilateral welfare reductions in the context of conflicts on organizational, historical, or political background.

1.2. Paradigms of international relations

Theories of international relations allow us to understand and try to give meaning to the world around us through various lenses, each of which represents a different theoretical perspective. They can help us understand how international systems work, as well as how nations interact with each other and look at the world. Ranging from liberal, equality-centered strategies to simple realistic concepts, international relations theories are often used by diplomats and international relations experts to dictate the direction a government can take regarding an international political issue or concern. By studying the following key international theories, professionals in the field can better discern the motivations and goals that drive global political decisions.

Realism is one of the central paradigms of the field of international relations, structuring the understanding of events, the conception and conduct of foreign policy, the configuration of international conflicts for much of the 20th century. It is fundamentally based on a series of philosophical considerations about human nature: Man is evil, selfish and subject to a natural inclination toward the search for power, domination; as such, he lives in constant insecurity, marked by deep distrust of people and suspicion of others. It follows, therefore, that the societies and institutions created by man will have the same peculiarities as this one. From these assumptions also comes the construction of classical realism. Like idealism, ultimately seeks to investigate those fundamental concepts that we commonly use to explain and express reality: power, reason, interest.

Liberalism emphasizes that broad ties between states that have made it difficult to define the national interest and have reduced the need of military power. It contains a variety of concepts and arguments about how institutions, behaviors, and economic connections contain and mitigate the violent power of countries. Compared to realism, it adds several factors to our field of vision, especially the consideration of citizens and international organizations. Most importantly, liberalism has been the traditional threshold of realism in relationship theory, as it provides a more optimistic view of the world, based on a different reading of history than found in realistic academic literature.

Liberalism is based on the moral argument that guaranteeing a person's right to life, liberty and property is the highest objective of government. Consequently, liberals emphasize the well-being of the individual as a fundamental component of a just political system. A political system characterized by an uncontrolled power, such as a monarchy or dictatorship, cannot protect the life and freedom of its citizens (M. Buş 2016). The main concern of liberalism is to build institutions that protect individual freedom by limiting and controlling political power. Although these are domestic policy issues, the realm of international relations is also important for liberals, as the activities of a state abroad can have a strong influence on freedom in the country. The liberals are particularly concerned with military foreign policies. The main concern is that war requires countries to accumulate military power. This power can be used to fight foreign states, but it can also be used to oppress its own citizens (Bouteiller n.d.).

Neorealism is a reformulation of classical realism and has been a form to help its decline with the establishment and creation of international organizations. It is subdivided into defensive neorealism and offensive neorealism (D. Buş 2012). Neorealism believes that the anarchy of the international system is the only determinate of the behavior of states. Also, neorealism believes that the analysis of international relations should favor relations between states at the expense of domestic political play which has only a slight impact on foreign policy. Neorealism rejects the central idea of classical realism that the anarchy of international society is explained by a deeply egoistic human nature. It states that the anarchy of the international game results from the structure of the international order provided for by any sovereign authority over States. Their analysis is not based on the motives of the actors, but on the structural constraints of the international order.

Used for several years in Europe, "neoliberalism" is a rather vague term, with a pejorative connotation, to suddenly designate an ideology, a worldwide vision, theories that mark a revival and radicalization of liberalism, the current form of capitalism. The term neoliberalism is mainly used by its detractors to denote policies: Margaret Thatcher (United Kingdom) and Ronald Reagan (United States of America) in the 1980, international bodies such as the International Monetary Fund, the World Trade Organization, the World Bank of the European Union.

Neoliberalism is characterized by a limitation of the role of the state in economic, social and legal matters, opening up new fields of activity to the law of the market, a vision of the individual as "entrepreneur of himself" or "human capital" that he will be able to develop and make fruitful if he knows how to adapt and innovate. Proponents of neoliberalism present it as the object of consensus and as having no alternative. Its consequences must be seen as inevitable phenomena to be accepted. Ideas opposed to neoliberalism are described as archaic (Manfred Steger 2010).

Constructivism is an epistemological theory which states that all knowledge is constructed, that ultimately knowledge is determined by perceptions, conventions, and intersubjective social experiences. Constructivism as a theory of international relations presents the application to the field of international relations of epistemological constructivism.

In the study of International relations, constructivism emerged in the late 1990s, against the background of the end of the Cold War, when the possibility of changing international relations was seen. The assertion of this theory was made in a process of critical evaluation of the two dominant theoretical approaches at the time – neorealism and neoliberalism. The two theoretical views have in common a realistic ontology (states exist in an international anarchic system in which actors are primarily interested in themselves) and an objective epistemology (the world must be observed rationally, objectivity being the key element for discovering how states behave). Beyond these two common points, neorealism and neoliberalism differ fundamentally in the way they conceive issues such as the motivation

of states, the hierarchy of a state's goals, the relative importance given to the intentions and capabilities of the state, or the impact of international institutions.

All states are distinct and have a set of defining economic, political, social, religious or cultural characteristics that influence their foreign policy. States have identities and those identities characterize their behavior in the international system. A complement to international relations in the late 20th century, constructivism brought scientists in international relations back to fundamental questions, including the nature of the state and the concepts of sovereignty, identity and citizenship. In addition, it opened up new substantive fields to investigate, such as the role of gender and ethnicity, which was largely absent from other theories (Teodor Frunzeti 2010).

Marxism is a collective term for various theoretical approaches and political content that go back to the teachings of Karl Marx (1818-1883) and Friedrich Engels (1820-1895). Marxism is the ideological basis for the thinking and actions of most left-wing extremists. The central element is the assumption that the entire political, intellectual and cultural life of a society is determined by economic structures and conditions.

Marxist teaching is seen both as a scientific theory and as a practical-political guide. It presupposes that human history and social development - like nature - follow clearly recognized laws. History is seen as a history of class struggle. The ultimate goal of history, according to Marx and Engels, is classless communist society. This ultimate goal, according to Marxism, can only be achieved through a revolution, which inevitably involves violence and struggle.

Marxism's view of man is fundamentally different from that of liberal democracies. The emphasis here is not on the individual in his inviolable dignity, but on the collective - the proletarian class. According to Marxism, man develops only his dignity as a member of this class. Fundamental and human rights, unchanging, before the state, therefore do not exist.

Neomarxism is a current that dates back several centuries. Its history is shorter than any other series of political views. The history of neomarxism dates back to the beginning of the 20th century. After Marx's death in 1883, several divisions emerged within the party. One of them was the social democrats, who believed in capitalism. On the other hand, it was the communists who demanded revolution. These divisions were fundamental to the unfolding of political events that were seen in the early 20th century.

The principles of neomarxism, although they start from marxism, present certain nuances that, being their end, renew a part of marxist ideology. Among the most characteristic features of neo-marxism are a number of principles, of which we must emphasize the following: humanist philosophy, anti-totalitarian philosophy, structural interaction with superstructural emphasis, skepticism about the communist formulation and the version that there are no social classes, reject the communist variant without state and without rights, are against economic determinism. Well, these parties were both inspired by marxism. Among the most important found are the Bolshevik revolution, which was led by Vladimir Lenin and Leon Trotsky.

1.3. Shaping the feminist paradigm of international relations and its evolution

The feminist theory of international relations is perhaps the most critical potential framework to reimagine the world, society, human progress, and to build possible and desirable utopias. It is a subversive theorization, in the literal sense of the term, which is very positive because it is transformative. Feminist movement and theory have penetrated various fields of human knowledge and development, and international relations are no exception. For this reason, it is extremely important to know what this theory is and what it is seeking in this particular discipline. As a first point, it is necessary to mention that international relations were officially born in 1648 with the signing of the Peace Treaty of Westphalia which ended

the 30 years war and made room to the creation of nation states. Since that time, international relations have been conceived as a discipline of understanding the relations between existing countries and/or international actors; however, since its inception, they have been characterized as an extremely homogeneous and androcentric discipline. In view of the above, feminism entered as a theory in international relations in the 1960s with the aim of adding new categories of analysis to traditional study objectives and subjects, because classical theories could not explain the changes internationally until that time. Some of these categories that feminism has added are the gender or gender that feminists in international relations understand as elements that influence the political and social sphere and, therefore, also at the international level.

This made room for academics to be free to conduct research that allowed these new categories of analysis to be added. There are a large number of academics who have focused their research on this area. Feminist theory in international relations is characterized by the fact that it is heterogeneous and by the understanding that there are multiple and different international realities depending on the people living in a given territory and that these views are different if they are disaggregated by sex or gender.

Feminist concepts promote peace and are based on a consistent integration of the gender perspective in all areas, as well as on the equal participation of women and men at all levels and in all processes, but especially in the context of security and peace policy. Since the early 1990s, women political activists in Western countries have found a wider public echo of these demands than before. The fact that the transnational women's movement has changed its strategy toward women's world conferences has made a significant contribution. The self-image of many feminist NGOs had evolved from an opposition body of criticism and control to a strategy of lobbying and exercising concrete influence at UN international conferences. Christa Wichterich, for example, sees the debate of NGOs and the UN as parallel in terms of content as a political novelty for the 1994 World population Conference in Cairo. Today, most feminist NGOs are no longer just trying to criticize UN policy, they are actively trying to help shape it. However, this was not without controversy within feminist NGOs.

The efforts of many women's NGOs led to the adoption of a platform for action at the UN Conference on women in Beijing in 1995, calling for institutional mechanisms to promote equal rights for women. States have been called upon to "commit to include a gender equality perspective in all policy areas and at all levels of government." Thus, the integration of gender perspective has prevailed in international politics, whose purpose is to shape the work of organizations in a gender-oriented manner.

In general, feminist theory in international relations aims at the following elements: achieve greater visibility of women in international relations in all fields, both in academia and in practice, identify sex and gender as study variables, because these elements reveal a more accurate reality of a particular studio object, they identify and make visible the different types of violence and hierarchical and power relations existing in international society to understand how they affect women differently.

As in all areas of knowledge, feminism came into international relations to carry out a much more complete analysis of international reality, as it adds much more elements to its study, to reinterpret concepts that have been defined from the masculine point of view and to make visible the experiences of women and other groups that are not taken into account in classical theories, from the theoretical part of the discipline to the practical part.

1.4. Feminist foreign policy

At the core of the idea of creating a feminist foreign policy is the notion that we cannot continue with business policy as usual. Traditional foreign policy cannot develop just

and effective solutions to the most urgent global crises of our time, such as the climate crisis, human rights attacks or (nuclear) weapons, because this would perpetuate existing injustices.

Only new approaches, perspectives and a newly balanced power dynamic – in other words, a feminist foreign policy – can create lasting peace and a world where no one is left behind. The basic principles are a comprehensive and inclusive understanding of gender, intersectionality, anti-racism and coherence of internal and external policy.

Feminist foreign policy is transparent, anti-militaristic and focuses on climate justice and cooperation rather than domination over others. Feminist foreign policy wants to separate patriarchal structures from foreign and security policy. Destructive forces such as patriarchy, colonization, heteronormatism, capitalism, racism are exposed imperialism and militarism, and fair alternatives are presented.

If we approach feminist foreign policy today, then all this is possible only because of a historical foundation that courageous women laid over a hundred years ago. Between April 28 and May 1, 1915, 1.200 women, feminists and pacifists, met in the Hague for the first International women's Congress. At that time there was war euphoria in Europe, the first World War broke out nine months earlier. Visionaries and women's rights activists Anita Augspurg, her partner Lida Gustava Heymann and Dutch doctor Aletta Jacobs were invited together to the congress. 47 women traveled from the US. This congress laid the foundations for feminist foreign policy.

The subsequent Congress of Zurich in 1919 led to the establishment of the International League of women for Peace and freedom – the International League of women for Peace and freedom. The feminists in the Hague, with their courage, resistance and intransigence, are the champions of today's feminist foreign policy, this struggle for justice at the crossroads of activism and diplomacy.

The paradigms and cornerstones of diplomacy and foreign policy are being questioned. A key theoretical element of men's foreign policy is the so-called realism, the most influential of the schools of thought in the political science of international relations. In realism - not to be confused with realpolitik as the maximum of political action - the state, the power and interests of the state, national security and the threat or use of violence are central. Realism sees the existence of States side by side as anarchy because there is no supranational government. And to be influential and powerful in this anarchic state, States try to dominate and oppress - preferably with the help of army and weapons.

Feminist politics wants to change this system. It can be practiced in very different ways. Although Sweden introduced realignment in 2014, it was not until 2018 that the government published its feminist foreign policy manual. The focus is on the three R's, namely rights, representation and resources: promoting human rights for all women and girls (rights), fair participation of women and girls in all decision-making positions (representation) and providing sufficient resources to enable equality (resources). It is completed by a fourth R, which represents reality. Because the whole procedure is based on empiricism and facts.

Feminist foreign policy, on the other hand, spends money on overcoming such structural inequalities and changing militarized power relations. It is concerned, therefore, with more than the mere absence of violent conflict; but with investing in peace. In concrete terms, this means promoting human rights, establishing economic and social justice, and preserving the environment and ecosystems. Development cooperation also needs a feminist approach. Economic indicators such as GDP, which are used to express poverty reduction, are of secondary importance from a feminist perspective.

Instead of defining security primarily as state security, feminist foreign policy views people themselves as the starting point for the analysis and decisions of security policy. This is the only way to achieve lasting peace. A feminist foreign policy recognizes that gender structural inequalities exist as an expression of patriarchal values and structures. It is designed

to eliminate them. Decisions are made with the awareness that they can have different consequences for different groups. These consequences depend on factors such as skin color, origin and gender. The interaction of these factors can lead to other forms of discrimination.

This policy strengthens the rights of these marginalized groups and is adapted to their needs. She works to ensure that women and other political minorities have the same opportunities and resources to shape social decision-making processes.

Empirical analyzes show impressively that the oppression of women is directly related to the well-being of nations. The more a society ignores and oppresses women, the more massive the negative consequences for society as a whole: weaker governance, more serious conflicts, less stability, lower economic output, less food security, worse health, worsening demographic problems, less environmental protection and social progress.

A feminist foreign policy seeks to eliminate structural inequalities and unsafe living conditions. This policy therefore promotes peace, security and internal and external well-being.

Conclusions

The study of international relations is based on the recognition of asymmetric power relations. From this approach, as in realism and neorealism, and through the theories that divided from there, it was allowed to develop perspectives of the study of gender and feminism, where the epistemological principle is the asymmetric relationship between men and women.

The feminist perspective on international relations introduced the concept of gender as an essential tool for the study of the interactions between States and the international scene. However, despite these efforts to build a better theory of international relations, feminist analysis has had little impact on international politics.

Despite its designation, feminism does more than focus on women or what they are considered in certain visions. In highlighting both inequality and power relations, feminism reveals gender power its role in global politics. In international relations, it is necessary to recognize the still undefined relations between the construction of power and the construction of gender.

A feminist vision conditions a more rational, humanitarian, and sometimes even more sensitive viewpoint, which helps to understand how the world works. Thus, a feminist point of view is an important piece in solving the complicated puzzle of international relations.

Through my research, I have illustrated the importance of feminism as a tool to improve the visibility of democratic societies. Through comparison and analysis, I described the essence and purpose of the feminist paradigm followed by its practical application to society and its main functions.

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HUMAN SECURITY AS A THEORETICAL FRAMEWORK INDISPENSABLE FOR ANALYSING THE RESPONSE TO COVID-19 PANDEMIC

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Abstract: *COVID-19 pandemic affected millions of people worldwide and challenged the ability of national and international institutions to help suffering people and prevent others from being infected. From a theoretical point of view, this pandemic was framed as a human security crisis by officials of the United Nations, politicians, and researchers because it had a severe impact on human lives as a result of posing a threat to their health. The centrality of human beings for the concept of human security allowed the COVID-19 pandemic to be connected to human security and thus to be subjected to the process of securitization. A further aspect that significantly contributed to establishing this correlation was the fact that pandemic had been included in the concept of human security since it gained prominence back in 1994, becoming one of its characteristic constituents. Understanding how COVID-19 pandemic had been associated with human security and what made possible for them to be related contributes to explaining the present relevancy of human security, helps clarifying the theoretical basis of its application to this pandemic, facilitates the framing of potential future pandemics as a threat to human security and improves the use of this theoretical outlook in relation with pandemics.*

Keywords: *human security; United Nations; pandemics; COVID-19; securitization; health security; pandemic security.*

Introduction

COVID-19 pandemic was described as a threat to human security and the broad international effort to counter it was regarded as being designed to provide worldwide human security. This paper documents the connection established between human security and COVID-19 pandemic at both political and scientific level and explains why it was possible to establish a link between them. Thus, the first section considers how the COVID-19 pandemic and human security have been related at the UN level and in the discourse of politicians, as well as in scientific works. The second section analyses the link between human security and pandemics as it appears in relevant UN documents and initiatives from the period preceding the outbreak of the COVID-19 pandemic and as it is reflected in scientific literature published before 2020.

1. The human security-COVID-19 pandemic nexus in United Nations, political and academic settings

COVID-19 pandemic was connected with human security as a threat to it and various solutions put forward at international level to counter that plague have been elaborated as a human security response so that it is possible to understand the pandemic as a problem essentially pertaining to human security. Thus, António Guterres, the current Secretary-General of the United Nations, attended at the height of the crisis, in June 2021, a meeting organized by the Group of Friends of Human Security, and he stated therein that the initiatives of international community aiming at ending the pandemic perfectly fit the human security concept, therefore representing a form of implementing it (Guterres 2021). Guterres grounded his assessment primarily on the fact that people were put at the forefront of the international endeavour to stop the crisis, a feature that characterises the human security approach.

A month before, the UN High Representative for Disarmament Affairs, Izumi Nakamitsu, in a speech delivered for the debate platform Friends of Europe Transatlantic Security Jam, pointed out that, for solving the COVID-19 crisis then confronting the world, it was necessary to adhere to a human security vision of world problems which enabled one to depart from increasing the military spending to allocating the financial resources required for investing in better health conditions for people (Nakamitsu 2020).

The same year, the United Nations Trust Fund for Human Security launched a regional programme designed to support in the Eastern Caribbean the use of human security as an approach to formulating responses to COVID-19 pandemic (The United Nations Trust Fund for Human Security 2021); such a framing of these responses was considered possible because it meant that humans were central for the whole regional undertaking, an aspect which defines the human security outlook.

The South Korean president Moon Jae-in, in an address from May 2020, emphasised that classical security concept, because it covers only military aspects, was inadequate for dealing with the COVID-19 pandemics within a security framework, a shortcoming that made necessary for the concept of human security to be employed (Moon 2020).

Soon after the outbreak of the COVID-19 pandemic, in April 2020, the former president of the Soviet Union, Mikhail Gorbachev, wrote for TIME an article where he argued that the nature of that phenomenon required a global cooperation conducted under the heading of human security, a concept which, unlike the traditional concept of security that covers only military aspects, is adequate for considering the pandemic as a security threat (Gorbachev 2020).

From all these statements follows that human security was a concept that had to be employed with respect to COVID-19 pandemic because its scope covered the threats to human beings to which this infectious disease belongs. Without making recourse to this concept, the COVID-19 pandemic could not be turned into a security problem, that is it could not be subjected to the securitization process because the traditional concept of security does not include such threats.

Moving now to the scientific field, it is to be mentioned that United Nations Development Programme released in 2022 a special report dedicated to human security in which argued that COVID-19 pandemic is illustrative for the peculiarities acquired by health threats in contemporary world where such crisis will become more frequent (United Nations Development Programme 2022, 3, 119). It is equally relevant that Toda Takao, in an article that appeared at the end of 2020, explicitly characterised the COVID-19 pandemic as a threat to human security (Takao n.d.) and that in a study, published just two months after the COVID-19 pandemic was declared, with financial support from the Italian Ministry of Foreign Affairs and International Cooperation and elaborated by experts from the Centre for International Studies based in Rome, that pandemic was described as a threat to human security that goes beyond the health component to affect all the other components of human security, namely economic security, food security, environmental security, personal security, community security and political security (Caparini 2021), a characterization which indicates that COVID-19 was conceived as a fundamental and all encompassing threat to that security.

In April 2020, Calin Trenkov-Wermuth, a scholar from United States Institute of Peace, published an analysis where he called the attention on the fact that overcoming COVID-19 requires an extensive reliance on the concept of human security, more exactly that adequate solutions for the pandemic must be devised from within that concept and therefore had to prioritize people (Trenkov-Wermuth 2020).

It is to be observed that a common denominator of these views from the scientific field is the idea that COVID-19 endangered human security precisely because such an

understanding of security was centred on humans and the fact that only the human security tools are suited for tackling the pandemic.

The interplay between COVID-19 pandemic and human security have also been a topic for scientific conferences, including in developing countries, an example being *Impacts, Consequences and Responses to Covid-19 in Bangladesh. A Human Security Approach*, an event that took place on June 2020 and was organized by three institutions from Bangladesh: North South University, South Asian Institute of Policy and Governance, and Center for Peace Studies. According to the brochure published in preparation for the mentioned conference, human security was the adequate theoretical background for discussing the pandemic because it dealt with wide ranging threats to human life (North South University 2020); it is to be remarked that one issue considered by participants was the preference of authorities from developing countries for traditional security at the expense of human security, a situation having a negative impact on the ability of these states to effectively handle the pandemic.

2. Pandemic as a threat traditionally associated with human security

The connections between human security and COVID-19 pandemic had been established not only because this plague affected people`s lives and because human security is concerned with the wellbeing of humans, but equally because infectious diseases and, particularly pandemics, had been always treated as a threat to human security. This means that, when COVID-19 pandemic erupted, the theoretical background for framing it as a threat to human security was already in place so that all that was needed was to apply it to that particular situation. To prove this idea, an examination of documents relevant for the United Nations and of selected scientific literature will be conducted beginning with the former ones.

The *Human Development Report 1994* elaborated by the United Nations Development Programme (UNDP) pointed out that human security included health security and that the latter refers to epidemics caused by infectious diseases, including respiratory infections, that in some cases spread across the whole world; it was mentioned that developing countries were more exposed than the developed ones to such health threats given that people living in developing countries suffered from malnutrition and had access to poor health care systems or lived in areas where they were altogether lacking (United Nations Development Programme 1994, 27-28).

It is to be remarked that, albeit pandemics fall within the scope of what the UNDP termed as global threats to human security, namely threats originating in one country that „spill beyond national frontiers”, and thus could be logically included in global human security, UNDP did not mention them within this category (United Nations Development Programme 1994, 34). Therefore, one could rightly argue that it is in line with the definition of global human security advanced by UNDP to consider that there is a global health security for which pandemics represent a threat and, consequently, that enlarging its concept of global human security to include pandemics is justified. This extension is permitted by the 1994 report of the UNDP because the enumeration of threats to this type of human security is not an exhaustive one.

A further document that played a key role in the trajectory of human security within the United Nations is the 2003 report by Commission on Human Security entitled *Human Security Now*. It is mentioned herein that health security was a central component of human security given that the protection of human life is considered as the essence of what human security is (Commission on Human Security 2003, 96). For the Commission on Human Security, infectious diseases constituted one of the three threats to health security and

acquired a global outreach which imposed a coordinated and constant response from international community (Commission on Human Security 2003, 97-98).

Another document which significantly influenced the understanding of human security at the UN level is *A more secure world – Our shared responsibility*, the report of the High-level Panel on Threats, Challenges and Change (HLP) that was released in 2004. According to this document, the infectious disease represents a threat to human security that continued to become more dangerous mainly as a result of people suffering from newly emerged infection diseases and of inadequate international responses to diseases which affect people across the globe under the form of pandemics (High-level Panel on Threats, Challenges and Change 2004, 24-25).

HLP's report made reference to what was then the recent SARS pandemics which had erupted a year before its release and it commended the swift response on the part of international community, including that of World Health Organization, for enabling the control of the pandemic and the prevention of its spread to more countries. It is significant for the topic of this article the fact that the 1919 influenza pandemic was equally indicated as an example of threat to human security and the estimation that a similar disease occurring today would generate much more victims worldwide (High-level Panel on Threats, Challenges and Change 2004, 14).

HLP used the efficiency of international actions for containing the SARS pandemics as an argument in favour of the need for international actors to work together in view of fighting against threats to human security. Unlike UNDP, HLP explicitly indicated that pandemics represented a global threat to human security (High-level Panel on Threats, Challenges and Change 2004, 14), an approach which enables one to maintain that UNDP's concept of global human security could be adequately used to describe the view of HLP; in this context it is to be remarked that pandemics are included by HLP in the sphere of biological security, a concept that could be considered as a species of health security described by UNDP (High-level Panel on Threats, Challenges and Change 2004, viii). The global dimension of pandemics as a threat to human security is equally emphasised by HLP through indicating that the UN Security Council classified HIV as a threat to international peace and security (High-level Panel on Threats, Challenges and Change 2004, 25), an approach implying that this UN organ had an important part to play in providing human security in case of pandemics.

Later on, in 2016, the United Nations Trust Fund for Human Security released the *Human Security Handbook. An integrated approach for the realization of the Sustainable Development Goals and the priority areas of the international community and the United Nations system* where pandemics are presented as a threat to human security and as an element which turns this concept into a people-centred one (United Nations Trust Fund for Human Security 2016 a, 5, 9). Also, the mentioned document connects this threat with health security as one component of human security, a view that mirrors that of UNDP (United Nations Trust Fund for Human Security 2016 a, 34).

Also in 2016, the United Nations Trust Fund for Human Security initiated the global project *Mainstreaming the human security approach in strengthening the global health architecture* which was designed to prepare the health systems to effectively handle pandemics (United Nations Trust Fund for Human Security 2016 b).

Within the scientific literature, the inventories of threats to human security have regularly included pandemics, a fact which proves that they are conceived as a defining factor for human insecurity (Takasu 2014, 240; Axworthy 2014, 157; Tadjbakhsh; Chenoy 2007, 108).

It is also significant that the term *pandemic security* is used in the research field to illustrate how the process of securitization is applied to new security objects with the result that the threats to human security are multiplied and broadened (Burgess 2010).

The attention given by scholars, such as Stefan Elbe, to this new type of threat determined them to consider it in a historical perspective and thus to point out that infectious diseases spreading across borders have been addressed at European level beginning with the second half of the XIX-th century when Europeans faced a serious cholera outbreak and decided to tackle it by means of the first International Sanitary Conference organized in Paris (Elbe 2010, 163). Within the context of this article, it is significant that Elbe warned about the possibility of human security being severely endangered by an outbreak of an influenza pandemic having a devastating impact on human security worldwide and that he reflected upon consequences of the SARS pandemic (Elbe 2010, 169). Also, from a historical point of view, human security and pandemics, including flu pandemics caused by trans-species viruses, have been associated in what was termed as civilizational security (Bowden 2010) (11, 15).

Pandemic, particularly influenza pandemic, was equally considered in the context of biosecurity where it was discussed as a biological weapon gravely disrupting human security (Kuhlau, Frida; Hart, John 2010.)(176). The association between human security and pandemic have been discussed in relation with the city life which allowed one to depict pandemics as an urban threat to human security (Murakami Wood 2010) (199).

Pandemics have been instrumental in analytical approaches to the meaning of human security, where they have been referred to as threats to livelihoods of people alongside food insecurity and unemployment (Tadjbakhsh, Shahrbanou; Chenoy, Anuradha M. 2007) (44), and played a part in retracing the evolution of its reception in international institutional context (Kuhlau, Frida; Hart, John 2010) (85). Global pandemics were considered as an explanation for the conceptualizing human security as a type of modern biopolitics justifying interventionist policies of Northern developed states directed at developing states from the South (Ryerson 2014) (99) and as a significant contributing factor to the move, initiated after the end of the Cold War, towards complementing state security with human security (Jolly 2014) (144).

Conclusions

Human security framed the response to COVID-19 pandemic because this plague was conceived as a threat to the lives of people and given that human security refers to the security needs of human beings and thus provides a theoretical grounding for the securitization of pandemics, a possibility which does not exist if the traditional concept of security, which operates exclusively with a military understanding of security, is employed. The establishment of a connection between COVID-19 pandemic and human security was facilitated by the fact that, since human security was introduced in 1994 by the United Nations Development Programme, pandemic was understood as a threat to human security in UN documents relevant for the development of human security as well as in the scientific literature on this concept. Consequently, the use of human security terms in the discourse on COVID-19 pandemic represents the application of the human security concept and it will further consolidate the importance of pandemics for human security.

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TURKISH INTERVENTION IN SYRIA AND GEOSTRATEGIC IMPLICATIONS ON THE EUROPEAN UNION

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***Abstract:** Operation "Peace Spring" is an event of major importance in understanding the relationship between Turkey and Syria, the future relations between the two states and the European and international community. Turkey's design of a security zone has created stability for the state in question and destabilized the entire region at the societal level. Thus, the instability generated is a vulnerability for European and international security, and can be exploited by countries that oppose the democratization process or countries that have political and financial interests in that area. In today's society, disinformation is a real risk, being a measure implemented by many state and non-state actors in order to achieve security objectives. The phenomenon is also present in the current case study, playing an important role in the evolution of regional instability. The implications for the European Union security stem from soft-power influences in the collective minds of imperialist states that threaten the continent, the continued disinformation of policymakers, and the influence of decision-making in democratic states. The Operation set a precedent for the current military conflicts in the vicinity of Romania, being visible the intention of the Russian Federation to create a "safety zone", following the recent expansion of democratic and societal values.*

***Keywords:** operation "Peace Spring"; Turkey; regional instability; security zone; democratization process; European Union.*

Introduction

More than two years have passed since Turkey began Operation "Peace Spring" in northern Syria to clear Kurdistan Workers' Party (PKK), People's Defense Units (YPG) and Daesh terrorists from its southern border. Ankara launched the Operation with the Syrian National Army to open up a corridor in Syria's north and form a 30-kilometers wide safety zone to resettle millions of Syrian refugees. The operation was in line with the right of self-defense under international law and targeted the terror groups which threatened Turkey's security, territorial integrity and the Syrian people. The governmental forces, besides clearing out 5000 square kilometers from neighboring zones, have also allocated funds for repairing schools, hospitals and distributing aid, to help local Syrians resume a normal life.

Since the operation ended, thousands of Syrians have returned home to the North of Syria. Most of the civilians, though, chose to return to Tell Abyad, a town in northern Syria, because they felt they could not abandon their country and families. These suburbs regions include the Augen village, which now serves as a temporary Daesh headquarters. Nevertheless, that did not stop Syrians from coming back, as the fear of losing their families to the Daesh terrorist organization is a shared feeling amongst them. In the last 3 years, the People's Defense Units (YPG), now financially supported by Daesh, have been carrying out car bomb terrorist attacks, to regain the lost Kurdish territory.

This scientific research used a qualitative approach (case study) to identify present and future consequences for the European security residing from the early on the evolution of anti-democratic actions led by non-state actors, such as the creation of insurgent groups, even though they are fighting for societal security goals regarding their representatives' well-being.

The objective of the paper is to maximize awareness on this issue, especially at the macro and European level, as in the civil society indicators regarding increasingly high levels

of panic have been in-sourced from unverified and propagandistic sources, mainly through the mass-media.

Structurally, the current article is organized in 3 chapters, *Historical analysis of the conflict*, *Current outlook*, and *Geostrategic implications on the European Union*, being concluded by presenting the vulnerabilities caused by the conflict in the region to European and international security. The strategy by which the European Union protects democratic values in Europe is also presented.

1. Historical analysis of the conflict

Both Turkey and Syria have national interests in the stability of the Middle East, the fight against terrorism and extremism, the provision of energy flows, and the maintenance of fruitful relations with Europe. However, relations between Turkey and Syria have been strained due to historic territorial disputes, including Turkey's annexation of Hatay province in 1939, the conflict over control of the Tigris and Euphrates watersheds, Turkey's close relations with the West in general, and with Israel in particular and Syria's support for the PKK in the 1980s and 1990s. Both countries were also on the opposite side in the Cold War. Turkey was a founding member of the North Atlantic Treaty Organization, and Syria was the hidden ally of the Union of Soviet Socialist Republics (USSR), as evidenced by Russia's intervention in favor of Syria in Operation "Peace Spring" (Peerzada 2015, 202-224).

In 1990, Turkish policy towards Syria was defined by the threat to the national security of Syrian support for the PKK. However, the 1998 expulsion of Abdullah Ocalan from Syria was a turning point in bilateral relations. Since then, the bilateral relationship has shown some improvement. Turkey has developed broad relations with Syria over the past decade. The new relationship was based on Turkey's self-declared "zero neighbor problems" policy (Stansfield and Shareef 2017, 325).

Prior to the development of the more recent "Peace Spring" Operation, alongside the Turkish-Syrian border another took place between August 2016 and March 2017, called "Euphrates Shield".

The start of it constituted the SDF movements, led by Kurdish groups, more specifically the liberation of the Manbij region from Daesh control. Left with two major advancing points to go, Al-Bab and Al-Rai, Daesh proceeded to take control Al-Bab. Moreover, the military council of Jarabulus began cooperating with SDF commanders, planning a liberation. The Turkish forces were not pleased with having the terrorist organization's influence extending towards the West of the Euphrates, so they began to move at the river line.

In response, Daesh, which had announced its intention to capture that same region, fired mortar shells into the Khamis city border, at the time that point being the resupply route of the Turkish artillery and armored support. The city was evacuated of civilians and a major FSD-Turkish military rally began, in preparation for the "Euphrates Shield" military operation. Its objective was to clear Jarabulus of Daesh forces and deter the *Partiya Yekîtiya Demokrat / Democratic Union Party (PYD)*¹, which operated via their military wing, the *People's Protection Units (YPG)*. In the assault, Ankara fired artillery near the El Rey province to help the partner groups. Among these main actors involved in the operation, Iran also offered their support towards Turkey by bombing the temporary headquarters of Daesh.

Ever since then, a solution arose – the realization of a buffer zone in northern Syria, which would satisfy all of Turkey's security needs. The arguments for these are as follows: a safe zone would keep at bay the most urgent defense risks regarding the Kurdish PYD group

¹ The PYD was established as a Syrian branch of the Kurdistan Workers Party in 2003 and was regarded as a terrorist organization at the time, maintaining its status in current times.

advancement; the country will regain border control and deny Daesh the access to oil resources, making the organization less likely to survive²; the buffer zone could ensure a forward operation base for the Free Syrian Army with a continued supply line from Turkey and ultimately it could also offer an alternative to refugees wanting to remain in Syria but away from the war zone.

In March 2017, the end of the “Euphrates Shield” Operation took place, when Daesh agreed to surrender the villages West of Manbij to the Syrian government.

Turkey is involved in this conflict for two reasons: first, there is a large influx of refugees into Turkey, and second, there is the Kurdish dimension of the crisis, represented by the PKK, a terrorist organization (Australian Government 2015). Some authors (International Crisis Group 2012, 27) say that the Kurdish people could use the civil war as an opportunity to demand an autonomous or even sovereign Kurdish region in Syria. The crisis has reopened the never-ending Kurdish issue.

Geostrategically, Turkey has several interests at stake in Syria (Peerzada 2015, 202-224).

One of them is Turkey's aspirations to become a great power - not just in the Middle East. Since 1989, Turkey has been involved in the Black Sea, the Balkans, the Caucasus and Central Asia. The United States-led invasion of Iraq has allowed Turkey to engage actively with its neighbors. During the 2001 uprising in Syria, Turkey tested the limits of its power and its ability to lead the demand for revolution - trying to become the central power in the region. However, contrary to Turkey's expectations, the state has met with strong resistance in Syria. Politics has failed to achieve its goal (Robins 2003, 131-154).

Another interest for the Turkish state is the preservation of territorial integrity. The Kurds, an ethnic group that is widespread in Iraq, Turkey, Iran and Syria, have long aspired to have their state, and the Turkish state's security mentality reflects a deep fear of dismemberment. Turkey is following the conflict closely, with the government concerned about the spread of cross-border effects, as the Syrian conflict has had a direct impact on the Kurdish issue in Turkey.

The conflict in Syria has drawn attention to the Kurdish minority in Syria - they are now more vocal than ever and the local population fears that in the near future they could pronounce autonomy or even independence (Cebeci and Kadir 2012, 133-176). Turkey's Kurdish problem is increasingly challenging the state internally and has serious regional implications that are destabilizing it.

The Syrian humanitarian crisis is also affecting the region's civilian population, especially women and children. As a result, several refugees cross the Syrian border into neighboring countries daily. The humanitarian problem continues to worsen as violence intensifies and fighting continues in the region. In the last five years of the conflict, up to 220,000 people have been killed, 7.6 million displaced, 12.8 million injured. The total number of Syrians registered in Turkey was 1,757,500, with another 255,562 Syrian refugees living in shelters in 10 provinces (Ifantis 2013, 56-72).

Since Turkey annexed Hatay province in 1939, Syria has had a major problem in the area – Turkey (Bilgin and Sarihan 2013, 130-189). From a Turkish perspective, state security depends on keeping Syria in check, especially after 1970, due to the existence of the PKK terrorist group. After the death of former PKK leader Abdullah Ocalan, Turkey has developed better regional relations, but the long line of deaths from the conflict between the two countries has left deep marks not only on Syrian bodies but also on history – Syria will not forget (Brannen 2008, 2-20).

² Daesh had been known throughout its history as involving itself in the oil trade, in order to finance their terrorist activities.

Although the political factor has a very big impact, the effects on the local population in the region are another decisive factor in ending this conflict, especially since the refugee problem would continue to grow. The generated humanitarian crisis, which has received more media attention recently, has existed and continues to exist, as a result of this conflict which, although it has taken a break, shows no signs of stopping.

2. Current outlook

On October 9, 2019, Turkey launched a military operation in northern Syria (Andreiana 2019), targeting Kurdish insurgent groups along the common border, after the United States withdrew its troops two days earlier. To provide a context for this conflict - on the border between Turkey and Syria, for a few weeks, the USA and Turkey have been trying to create a "security zone". Under this security mechanism, although the Syrian Democratic Forces (SDF) has agreed to withdraw its fortifications, Turkey has been accused of delays.

Turkish President Recep Tayyip Erdoğan, who considers members of the People's Defense Units (YPG) to be terrorists, has said he wants to eliminate threats against his country. His goal was to build a 32-kilometer security zone in northern Syria by removing Syrian Democratic Forces (SDF) members from the area, where he planned to take refugees to Turkish territory (Tănase 2019).

The FDS leader "froze" the operations against Daesh on the day of the Turkish intervention. "We have frozen all our activities against Daesh." Just 2 days later, a Daesh-linked attack on Qamichli killed 6 people (Gemici 2019).



Figure no. 4. Car bomb near church in Syria (Catholic News Agency 2019, 46-87)

Following these events, several countries decided to stop selling weapons to Turkey, including Germany, the Netherlands and France (Dorman and Kaufman 2010, 33-69).

Following a telephone conversation with the Turkish president on October 13, Donald Trump said the situation had been managed. He did not agree to the launch of the operation, according to his statement on October 16. He also added that he did not want US troops to be "in the wrong path" (Bursa 2019).

As the Operation continued, SDF released prisoners from Daesh to stop Turkey's attempts to secure the area or be unable to control those prisons simultaneously as the armed attack. A Syrian prison with 800 members of Daesh, formerly under SDF control, is now empty (Hamit 2019).

On October 15, with the intervention of Russian forces, the city of Minbej was occupied by the SDF (Ivaz 2019). Several days later, the Turkish army already controlled half of Ras al-Ain, according to a report issued by the United Nations Population Fund

(2019:32). According to the same report, the Turkish offensive has killed at least 72 people among Syrian civilians and 203 killed among SDF fighters since October 9, 2019.

On October 22, 2019, Recep Tayyip Erdoğan paid a visit to Russia to negotiate with Vladimir Putin to resolve the conflict (Gauthier-Villars 2019). After 6 hours and 20 minutes on the same day, Turkish military operations in Syria were suspended.

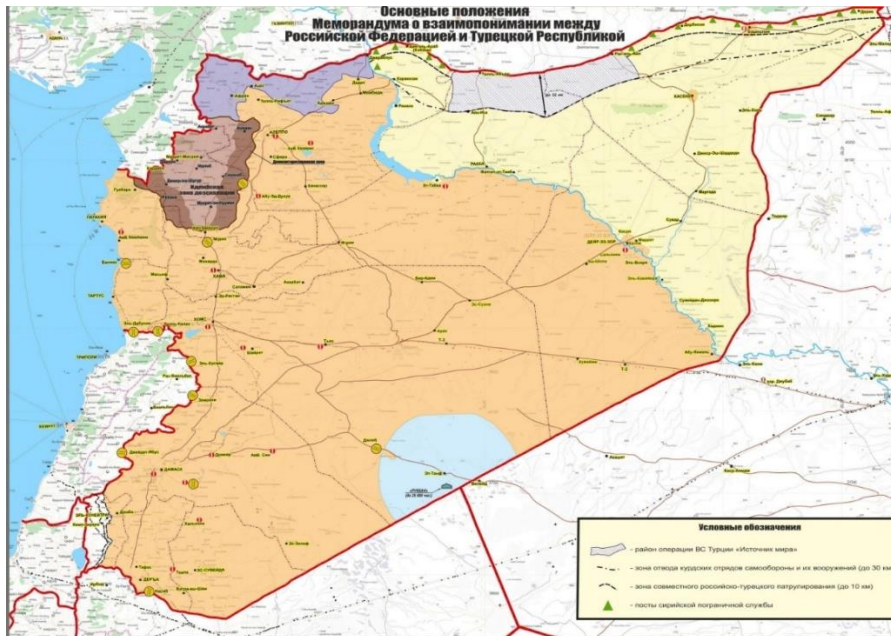


Figure no. 4. The intense fight-zones alongside the Turkish-Syrian border during the “Peace Spring” Operation (Hrolenko 2019)

The final memorandum signed between Turkey and the Russian Federation contains 10 points and sets out a mechanism for the Russian-Turkish operation in northern Syria. Until the armistice, Turkish troops took control of 160 localities and 2,200 square kilometers of Syrian territory (Digi 24 2019).

For achieving the stated research objectives, I will mention the events following the operation, carried out by the Turkish state. Recep Tayyip Erdoğan has decided to send troops to Libya due to internal instability in the African country (Blacknews 2019, 40-74).

Large-scale military clashes have been taking place on the outskirts of the Libyan capital for several months between the Libyan National Army paramilitary group, led by Marshal Khalifa Haftar, and the troops of the National Union government led by Fayeza aS-Sarraj, recognized by the international community (Middle East Eye 2017).

Turkish President Recep Tayyip Erdoğan has said that Ankara has begun transporting military units to Libya to support the internationally recognized Government of Libya (GNA). The statement came a few days after Turkey's parliament approved the deployment of troops in Libya (Crisis Group 2019), following a request for military support from the GNA, led by Fayeza aS-Sarraj.

Erdoğan has announced since the beginning of December 2019 that he intends to support the government in Tripoli, which has created tensions in the region. Marshal Khalifa Belqasim Haftar, the commander of the Tobruk-based Libyan National Army (LNA), fighting against the Tripoli government, is backed by countries such as Russia, Egypt and the United Arab Emirates (Dogan 2012, 210-224).

The Turkish President was forced to accept Putin's conditions for Russia to satisfy its national interests to exist as a power in Syria through a permanent military presence. This did not satisfy the President of Turkey, Recep Tayyip Erdoğan, which led him to intervene in the

Libyan conflict as a supporter of the Tripoli government, in the opposite position to the Russian Federation, which supports Marshal Haftar (Necula 2019).

3. Geostrategic implications on the European Union

After seven years of conflict, one of the worst humanitarian crises the world has ever experienced has been delayed in Syria (European Commission 2011, 24). The impact of the conflict is increasingly destabilizing in the region, by moving the population in the area, spreading economic problems and terrorism, but also straining the political situation in the region to the extreme.

The EU continues to work to end the Syrian conflict. The Union believes in a political solution, in line with the 2012 Geneva Communiqué and United Nations Security Council Resolution no. 2254. This will end the war and ensure the long-term stability of Syria and the region (The European External Action Service 2018).

EU STRATEGY FOR SYRIA
Through its strategy for Syria, the EU works towards achieving the following goals:

- ONE SYRIA** — a united country with territorial integrity for all Syrian citizens.
- A DEMOCRATIC SYRIA** — a legitimate government and a pluralistic political system with respect for the rule of law.
- A DIVERSE AND INCLUSIVE SYRIA** — a country where the identities of all ethnic and religious groups are protected and all have equal access to government.
- A STRONG AND SECURE SYRIA** — an effective state with functioning institutions and services, focusing on citizens' security, a single national army and accountable police and security forces.
- A STABLE SYRIA** — a stable political system and a strong economy, providing education and healthcare to its population, maintaining good relations with all its neighbours.

Achieving these goals will enable the voluntary, dignified and safe return of refugees and internally displaced persons.

Figure no. 4. European Union strategy for Syria (European Commission 2019)

The EU is involved in resolving the conflict by implementing the following measures (The European External Action Service 2018):

- Saving lives by assisting the humanitarian needs of Syrians in the region;
- Supporting the political opposition to promote a meaningful and inclusive transition;
- Helping the resilience of Syrian society and refugees in the region;
- Strengthen civilian organizations in Syria to promote human rights and democracy;
- Involvement in national justice processes regarding war crimes;
- Promoting UN Syrian negotiations to legitimize the authenticity of the political transition.

The European Union will fully support the reconstruction of Syria after the implementation of an inclusive and genuine political transition, negotiated by the Syrian parties³.

³ Based on the United Nations Security Council Resolution no. 2254 and the 2012 Geneva Communiqué.

Conclusions

The Turkish president, following talks in Sochi with the Russian president, ended his entry into Syrian territory. An important question is, "Why now?" Russia's involvement in the conflict complicates matters for Recep Erdoğan, who chose to end Operation "Peace Spring" once Turkey is victorious. However, the Russian forces intervened in favor of the Syrians and reclaimed all territories, bringing unwanted chaos in addition to the existing aftermath.

During negotiations, the Turkish President refused to end the "Peace Spring" operation, yet the Russian Federation managed to turn the situation around, suspending the crisis as much as possible in the region. Russia managed to negotiate the conditions that satisfy their national security interests, orienting their capabilities towards Libya, in a joint Russian-Turkish military operation. The exercise of military operations in Libya will not only affect Turkey's relationship with the North Africa region but may also lead to the exclusion of the Turkish state from NATO, mainly since this issue has been raised before.

History repeats itself, and often history speaks most clearly. That is why the history of this Turkish-Syrian conflict is of particular importance - to prevent future conflicts and the emergence of totalitarian, undesirable regimes at the European and international level, which would destabilize international relations and social security for the countries involved at a regional level.

Despite the conflict not being as actual as others, from a humanitarian crisis point of view, if no action is taken in the near future to calm the situation in the Turkish-Syrian region, there is a risk of new terrorist organizations or the strengthening of existing ones.

Also, the SDF fighters who fought until October, 2019 with Daesh ceased their anti-terrorist activity, and although this organization was taken out of play in Iraq on February 27, 2017, according to the statement of the Prime Minister of Iraq, Haider al-Abadi (France 24 2017, 2), two days after the start of Operation "Peace Spring", an attack was carried out by a terrorist cell belonging to Daesh in Syria - this could mean a regional regrouping for the terrorist organization. Daesh will take advantage of the lack of initiative from the SDF and regain its power, which will further destabilize the region.

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POLAND-LITHUANIA BINOMINAL AND THE EVOLUTION PROSPECTS OF THE LUBLIN TRIANGLE

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***Abstract:** In the context of the annexation of Crimea, the need to counterbalance the political influence of the Russian Federation in the extreme central-eastern region, severely affected by the manipulation of the euro-atlantic base by the Soviet reminiscences, Poland, Lithuania and Ukraine laid the foundations of a military brigade and the Lublin Triangle. The strategic importance of cooperation formats is gaining new value in the context of the current aggression by the Russian Federation on the territory of Ukraine. The Lublin Triangle is based on historical congruences, in the first part of the research being studied this dimension, namely the Polish-Lithuanian relations and the way in which the regional binomial evolved in order to form the current cooperation platform. Subsequently, taking into account the presentation of the foundations that led to the development of the trilateral, the study will focus on analyzing the cooperation format "Lublin Triangle" from 2020 to the present, respectively the evolutionary perspectives of the partnership in the current geopolitical context. Also, in order to achieve a comprehensive approach, the emphasis will be on the trajectory of the common military formation and its role in consolidating the eastern flank. An important role in the research will be played by the quantitative and qualitative methodology, intertwined, for a better understanding of the subject under study.*

***Keywords:** Poland; Lithuania; Ukraine; Lublin Triangle; Cooperation; East Flank; Litpolukrbrig.*

Introduction

With the central objective of countering the threat of the Russian Federation in Central and Eastern Europe, in 2014, marked by the invasion of the Crimean Peninsula, Poland, Lithuania and Ukraine formulated the initiative to develop a joint military brigade. Subsequently, in 2020, in order to deepen multidimensional cooperation, the three states laid the foundations for a broad-based cooperation platform, the Lublin Triangle. Through these regional cooperation arrangements, the partner states have a significant strategic position in strengthening the eastern flank.

1. Polish-Lithuanian relations – the foundation of the Lublin Triangle format

Rather than aligning with the current Euro-Atlantic goals, Poland and Lithuania have built a stable regional binomial over the centuries, a position generated by the relations based on the period in which they formed a single state.

However, it is important to note that the cooperative relationship between the two states experienced a significant decline in the interwar period and after the dissolution of the Soviet Union (Zajaczkowski n.d.). Even if after 1990 the two states sought to identify unitary initiatives to solve common problems affecting the political, economic and social dimensions of the state, the differences regarding the interpretation of the historical course did not take long to appear (Zajaczkowski n.d.). The destabilization of Polish-Lithuanian relations was based on the issue of the significant discrepancy of the share of the minority of each nation on the territory of the other.

Therefore, the problems were raised by the Polish minority population in Lithuania, which is about seven times larger than that of the neighboring state, and by the scenario that there was a hidden goal of Poland to expand culturally and then territorially (Zajaczkowski

n.d.). Mutual relations were deeply affected during the period when the Lithuanian state, in its desire for independence (1989-1991), faced the neutrality of the Polish minority on its territory, the Polish population not intending to support Lithuania (Zajaczkowski n.d.). However, the Polish authorities stated that Warsaw's foreign policy had among its objectives the achievement of the status of an independent state of Lithuania (Zajaczkowski n.d.). In the period that followed, relations were hampered by the continuation of minority issues, the differences being indisputable in the context of the postponement of the steps to sign an interstate agreement between the two neighboring countries.

With the only basis for cooperation, the “*Declaration of Friendship and Good Neighborhood Cooperation*” (1992), the two states have chosen to strengthen a partnership with Ukraine by 2020. Thus, on 28 July 2020, Poland, Lithuania and Ukraine, through the Foreign Ministers meeting in Poland in Lublin, decided to cooperate in the multilateral format, the Lublin Triangle (Obszarski 2021). Both the location of this first meeting and the name of the group have historical connotations, Lublin being the city where the union of the Kingdom of Poland with the Grand Duchy of Lithuania was established in 1569 (Jakub 2020). It should be noted that the Lublin Union (active federation until 1795) it was entirely in the territories of present-day Poland, Lithuania and Belarus, and fragmented into the territorial segments of Ukraine, Latvia and the Russian Federation (Snyder 2003).



Figure no 1. Lublin Triangle- Poland, Lithuania, Ukraine

Source: (University Maria Curie-Skłodowska 2021)

In essence, the current form of cooperation between the three states is aimed at both supporting Ukraine's European and Euro-Atlantic path and deepening multidimensional cooperation, including regional security, defense, economic and reform (Popescu 2020). According to the document signed by the officials of Warsaw, Vilnius and Kiev, the three actors involved undertake to meet regularly, most likely to address the various issues that have arisen in the dynamic regional and international security environment (Popescu 2020).

It is important to note that the recent initiative of Poland, Lithuania and Ukraine is a continuation of the military cooperation efforts formulated in 2014, thus extending the cooperation area “*through bilateral and trilateral activities and by exploiting all possibilities created by NATO*”.

In the incipient context of the aggression carried out by the Russian Federation in Ukraine, respectively in December 2021, the presidents of Poland, Lithuania and Ukraine participated in the first Summit of the Lublin Triangle format. The meeting of the three officials was a confirmation of support for Ukraine's integration into NATO, with the Ukrainian president saying it was a "*show of solidarity and support*", as well as guarantees for "*deepening the strategic partnership*" between the three states (DefenceRomania 2021).

The reactions of the representatives of the tripartite regional alliance did not take long to appear during the deepening of the illegal aggression orchestrated by the Russian state on the Ukrainian territory, so in March 2022, the prime ministers of the three countries asked the international community in a meeting of much harsher sanctions on Moscow (Teleradio-Moldova 2022).

We must also take into account the energy approach started by Lithuania in May 2022, with the Lithuanian state inaugurating the GIPL (Gas Interconnection Poland-Lithuania) gas pipeline, which will provide Poland with the necessary resources to achieve the goal of developing energy independence from the Russian Federation (European Commission 2022). This initiative reiterates the sustained support between the two states, which, beyond the support provided to Ukraine in the context of the current invasion, are managing to strengthen their strategic position.

From the point of view of the possibilities of extending the cooperation format, the quadruple version discussed by Polish officials could include Romania (Zhelikhovskiyi 2020). The scenario formulated in 2020 does not raise questions, taking into account Romania's status as a member of the EU and NATO strategically positioned on the Black Sea. However, so far, the three partner states of the Lublin Triangle have not initiated efforts to involve Bucharest or another regional actor, the format remaining trilateral.

2. Litpolukrbrig Brigade

Taking into account the need for regional cooperation to strengthen the eastern flank of the North Atlantic Organization, in September 2014, Poland, Lithuania and Ukraine signed the agreement to form the Litpolukrbrig Brigade. The initiative to create a unitary military formation was first proposed by representatives of the three states' defense ministries at a meeting under the auspices of the European Union in 2007 (Litpolukrbrig 2019).

According to the Technical Agreement signed on July 24, 2015, in Ukraine by the three Ministries of Defense, the mission of the brigade is to work together in international peacekeeping missions to strengthen military cooperation at the regional level, in line with the provisions and principles international law (Litpolukrbrig 2018).

Subsequently, in 2017, following the participation in the official inauguration ceremony in 2016, an amendment to the Cooperation Agreement was signed by the defense ministers of the partner states at that time. During the meeting, the representative of Poland said that through the initiative both the brigade and the people will act to counter any threat to regional security (Ukrainian Government 2017).

The military format located in the eastern city of Poland, Lublin, which includes military personnel from the three countries, is, according to the statement of the Polish Minister of Defense, the way in which the three states will be able to fight a possible enemy actor, creating also a binder of mutual assistance (Ukrainian Government 2017). In this regard, the representative of Poland stated at the time of signing the agreement: "*Today we want and we will help Ukraine, which has been attacked by Eastern imperialism, in order to ensure peace, cooperation and a good future for our people*" (Ukrainian Government 2017).

From a structural point of view, the brigade consists of three infantry battalions distributed by Poland, Lithuania and Ukraine and special units (The Baltic Times 2015). In

terms of hierarchy of leadership, the military unit is led by a Polish officer, seconded by a Lithuanian officer, and its members are led by a Ukrainian officer (The Baltic Times 2015).

In order to develop the operational capacity of the soldiers who are part of the brigade, they are subjected to a two-way process of individual and collective training. It is worth mentioning that in the context of training, the US military is present in the National Guard of California, Illinois and Pennsylvania (Litpolukrbrig 2019). The level of applicability and mastery of the training is further verified by participating in international exercises, Litpolukrbrig being part of the exercises Agile Spirit, Maple Arch and Rapid Trident (Litpolukrbrig 2019). The US, Ukraine, Georgia and the allied forces were involved in the organization of the exercises, actors who took an active part in strengthening the brigade's defensive character.

To align the Ukrainian armed forces with Euro-Atlantic military standards, the brigade is involved in the training of Ukrainian personnel who are part of the JMTG-U (US-led multinational task force) (Litpolukrbrig 2019). Thus, through the advice of Ukrainian military instructors, Litpolukrbrig is an important player in strengthening the eastern flank in terms of regional defense and security.

Conclusions

The formats of cooperation developed by the states of Central and Eastern Europe represent a major step, both for the national consolidation of the states and for the stabilization of the climate of peace and security at the regional level.

Aligning the goals of Poland, Lithuania and Ukraine, which are in line with those of the North Atlantic Alliance, is an awareness of the three states' important role in ensuring regional security. In this sense, given the current intervention in Ukraine, the Lublin Triangle partnership acquires new strategic values, its position on the world stage and the agenda of objectives can be improved through cooperation with other regional formats, the Three Seas Initiative and Bucharest 9.

Given the aggression of the Russian Federation and the pressure on Ukraine contrary to the provisions of public international law, a well-calibrated rhetoric of the Lublin Triangle format, in good coordination with the Litpolukrbrig Brigade, can fuel the growing importance of the trilateral regionally and internationally.

The Lublin Triangle can also contribute to the development of a sustained effort in collaboration with Western partners- the European regional powers, the USA, NATO and the EU. Cooperation through the involvement of stable and relevant partnerships on the international stage can transform the cooperation format from a recent and shy one into a coherent and stable regional platform, a regional shield to deal with threats to the West.

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PUBLIC COMMUNICATION DURING UKRAINE'S INVASION AND ITS EFFECT ON PUBLICS

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Abstract: *Our paper examines the manner in which public opinion is affected by public communication in a very specific situation. The conflict in Ukraine has been on everyone's mind for the last three months not only due to its unreasonableness but also due to the Ukrainians mastery of communicating to the public, be it national or international. As the conflict has grown stronger in its intensity so has the public communication on the Ukrainian side which took any given chance to address the international political scene through President Volodymyr Zelenski's speeches in front of numerous Parliaments. While scrutinising the Ukrainian manner of communicating information and asking for humanitarian, financial and military aid, we will also inspect the manner in which the Russian side communicates. We will look into the effect that these addresses have had on the public opinion. The theoretical background of the paper includes the views on public opinion of Gabriel Tarde, Pierre Zémor's definition of public communication as well as Jürgen Habermas' communicative theory. These theories will assist us in our research to demonstrate which side communicates the better and which has the ability to use cultural references that support their message. Our paper studies an ongoing military conflict, i.e. the data that we have included so far could be interpreted differently later.*

Keywords: *public communication; public opinion; effect; conflict; international.*

The process of public communication, during the conflict in Ukraine, is managed differently by the belligerents. On the one hand, the aggressed part is actively using all possible media means to transmit the Ukrainians' messages to the publics, Ukrainian and international. On the other hand, Russians, identified as the aggressor, convey their messages mostly via television channels through which Russian propaganda is usually spread. Usually, these messages are aimed in their majority at the Russian public and less at the foreign public.

Our research is built around the concepts of public opinion and public communication in order to examine the effect of the two parties' public communication onto the public. Public opinion as a concept was first introduced by Gabriel Tarde, a French sociologist, who wrote a book entitled *L'opinion et la foule / Opinion and the crowd* (1901). This book was meant to be a critique of Gustave Le Bon's book *La psychologie des foules/ Psychology of crowds* (1895). Shortly, Gustave Le Bon considered that society acted like a crowd. Tarde's view was contrary to Le Bon's as the former considered that society could be brought together to support an issue. It could all result in collectively forming one or more opinions on certain issues. This meant that society could act as a group called "public" after having informed on an issue. As a result, we can state that public opinion appeared as a response to the acquired information. In Tarde and Le Bon's time, i.e. at the end of the 19th century, individuals could only find information by reading the newspapers. It was the written media that transformed the crowd into a public as individuals would acquire a collective opinion according to the conventions of the 19th century.

A well-known example which polarised public opinion in France was the Dreyfus affair (1894-1906). It became a real debate issue within the French society partly due to Emile Zola's article "J'accuse." The writer defended French officer Alfred Dreyfus who had been accused and convicted for treason. The article sparked the debate in such a vivid manner that there was one camp of supporters and one of accusers.

Public opinion is linked to public communication as the latter is mainly performed by public institutions that communicate to the people on social issues. It is mainly performed by designated communicators such as spokespersons or officials.

Public communication as a concept is directly connected to the institutions that communicate to the public. Pierre Zémor defines the former as “the formal communication, which is engaged in the exchange and sharing of useful public information and in maintaining the social connection that public institutions are responsible for” (27). The social aspect of Ukraine’s public communication is always present in the public messages, whereas Russians’ public communication is mainly driven by the desire to transform the Ukrainian society as it best fits to their interests.

According to Ion I. Ionescu who reiterates Jürgen Habermas’ communicative theory “communicating in a certain context represents the effort to dominate the situation, to exit it, to face it” (Pierre Zémor 1995) (7, my translation). Irrespective of the context, willing interlocutors to understand, who are interested in finding the way in which they can communicate through a channel that works both ways, they may achieve the state called permanent feedback (Wiener 1989). This means that only the interlocutors who listen to each other’s opinions can create a channel of communication and thus the successful transmission of information. This channel of communication is linked to the cultural change that should take place when communicating to an individual (Pierre Zémor 1995) (15)

Public communication is achieved with certain goals to be attained: (1) to inform, (2) to persuade, to motivate or to take action, and (3) to entertain. Taking into account the situation we chose for our paper, we can safely omit the last type of public communication.

The context that this paper portrays is different from the customary norms. That is why we discuss the public communication accomplished by the two belligerents in a discriminatory manner. On the one hand, Ukraine’s communicators are to be regarded as officials; this category includes the spokesperson of the government, the president, ministers, and members of parliament. On the other hand, Russia’s public communication is achieved by the spokesperson of the government, the president and ministers. Referring to Jürgen Habermas’ contextualisation of the communication process, we consider that only the Ukrainian side has shown interest in communicating to the international public so far, whereas the Russian side has only downplayed the accusations brought by the former and has mostly dealt with promoting propaganda messages meant to enforce Russia’s authoritarian position onto the Russian public.

Given the current context, public communication is filled with propaganda irrespective of who communicates. That is why, we will also focus on the effect that public communication has on publics. We consider that the customary background of public communication cannot be firmly applied to the way in which public institutions communicate during a military conflict. In addition, we should take into account all information coming from an official as public communication as the exceptional context of a military conflict impedes officials from managing the process of communication as expected. This special situation applies to Ukraine’s current status of invaded country and engaged country in a war.

On the Ukrainian side, the most prominent communicator is President Volodymyr Zelenski as he has held speeches in front of various Parliaments, international reunions and has given interviews. There are as many as twenty pages of President Zelenski’s addresses beginning with the day of 24th of February 2022, the first day of the invasion (Wiener 1989). We will examine these addresses minutely in the lines to come.

President Zelenski’s addresses could be categorised both as informing and giving compelling arguments in order to make the decision-makers assist Ukraine with humanitarian, financial and military aid. His speeches were held in Ukrainian and translated live into that respective country’s language or into English when he addressed multi-national reunions. His

addresses can be discriminated on the basis of the prior connections Ukraine had with those countries. For instance, in case there had been little activity between Ukraine and a certain country, the address contained specific details concerning that respective country's history and culture. This was the case of the speeches he gave in the British Parliament, in the US Congress and in the French National Assembly. On the contrary, when addressing the Parliament of a neighbouring country, Zelenski's address contained specific details and / or issues that the two countries had previously experienced. For instance, in his address to the Romanian Parliament on the 4th of April, President Zelenski acknowledged the issues that have kept Romania and Ukraine at odds for some time now, but, at the same time, he expressed the willingness on the Ukrainian side to try to find common ground and solve the respective differences.

An important element of the process of giving speeches is the speaker's ability to speak in front of large audiences. In President Zelenski's case, one should recollect that he became popular in Ukraine for playing, in a well-known Ukrainian series, the role of a teacher who became the President of the country and fought against the corruption. His Russian counterpart, for a long time, has promoted himself as being strong and tough. Regarding his speeches, Vladimir Putin has portrayed the exact coldness in his interactions with the press as he did through his actions. The recurrent image of Putin sitting at the possibly longest table that only two officials have ever sat have become iconic of Putin's cold relations with Western foreign officials.

Apart from the Russian President, there have been only a few other persons to deliver the messages of the Russian side. The most prominent figures are Dmitry Peskov and Daniil Medvedev, who have reiterated Putin's messages on any given occasion. Putin's messages that were meant to frighten the Western nations regarding the use of nuclear bombs have also been repeated multiple times by TV anchors who, in their turn, threatened the Western countries.

We ought to beg the question what effect these speeches have had on the public opinion in each of the countries where such addresses were organised. The main consequence was that the public opinion supported the additional spending for the humanitarian and military aids as well as the assistance for Ukrainian refugees. Although these aids did not arrive as quickly as demanded by the Ukrainian government, they consisted in military support that helped, has helped and continues to help the Ukrainian army to fight against the Russian army, financial assistance that is meant to aid Ukraine's economy. In addition, President Zelenski's addresses and interviews have given him the opportunity to demand Russia be sanctioned and isolated by the international community. Thus, he has maintained pressure on the international community which has also been pressured by the public opinion as a result of the successful public communication managed by Ukrainians.

We believe that this demonstration shows the way in which the three elements of communication come together and create a circular process of communication: sender, receiver, and witness. It is this interconnected relationship that propagates information and thus, eventually, public opinion can become an important asset within society.

In the beginning of the invasion there were several officials of the Ukrainian government and parliament who did not leave Ukraine after its invasion by the Russian army. On some occasions they were interrupted during their interviews by the Russians' attacks (www.youtube.com/watch?v n.d.) One such Member of Parliament was Lesia Vasylenko who was interviewed on CNN. The message she delivered was identical to the one transmitted by President Zelenski, i.e. she demanded that Ukraine be assisted by its partners, Russia be sanctioned, Ukraine be delivered more weapons and its sky to be closed. As 'normal' as it appears that people's lives be disturbed during attacks, viewers are shocked. As a result, such

an interview affects public opinion into taking sides; even though individuals in general tend to favour the weaker or, in our situation, the invaded side.

Taking into account the modern means of communication, readers and viewers alike can easily find new information on this conflict. We consider it necessary to examine the effect of the news coming from the belligerent countries on the public in general and on the public opinion in particular. The public in its majority showed its disapproval of Russia's attack on social networks and on TV and radio. What is more, the public acted as quickly as possible to assist Ukrainian refugees who were fleeing the war-torn areas or who were afraid for their and their families' lives. This was the case of Romanian volunteers who swiftly went to the borders in Sighet, Isaccea and Siret to help the Ukrainian refugees who were entering Romania as early as the 25th of February, only one day after the Russians' attack had begun (romania.europalibera.org/ n.d.).

It is the quick action and organisation that underline the fact that the Romanian public acted as a close-knit group. As a consequence, Romanian public's opinion was to help the refugees in any way they could, be it by supplying the latter with the basic products for personal hygiene, blankets, clothes, food, water, and even finding accommodation for them. The public opinion in this case acted more promptly than the government which needed several days to organise the assistance meant for refugees.

The previous instance demonstrates the fact that it is the public who can act as one in order to make their beliefs known and taken notice of as Gabriel Tarde underlined the importance of common interests for the public (in the case of nowadays press) built on the information received from the media to come together.

We have examined the manner in which public communication has been achieved by the Ukrainian President and other officials, on the one hand, and the Russian government and the Russian President on the other. We have observed that the Ukrainian President made use of cultural references, historical and cultural connections to other countries in order to successfully achieve their public communication. As regards their Russian counterparts, their messages contained the same propaganda information that has been employed to reinforce the belief that Russia can become once again an important power in the world.

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THE ECONOMIC IMPACT OF TERRORISM

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Abstract: *Terrorism is one of the main dangers facing democratic states today. The effects of terrorist activities and their economic impact on society are very difficult to determine, but in the following we will try to understand and analyse the main dangers to which states are exposed and the countermeasures carried out by the main states facing this scourge. At the same time, we will try in the analysis carried out in this article to establish the future measures to be taken so that the objectives of terrorist organizations, those of implicitly affecting the targeted countries economically, do not lead to the desired results.*

Keywords: *terrorism; economic effects of terrorism; economic targets affected by terrorism; economic measures to counter the effects of a terrorist attack.*

Introduction

Terrorism is not a new phenomenon, with deep roots in both culture and human history. Thus, we believe that it is currently one of the main threats that may influence the future development of international relations, the migration of populations from severely affected areas and the economy of some countries directly or indirectly affected by these activities. The causes of the emergence of terrorism are diverse, ranging from religious, cultural and even revengeful actions against populations for different ideas or ideologies. As a form of manifestation, terrorism cannot be assigned to a single area, as acts of terrorism have been recorded in Europe, the USA and other regions of the world such as Asia and Africa, where the main terrorist groups can be found. The activities of terrorist organizations have drawn the attention of the main global security leaders, as well as the main international organizations with a role in guaranteeing security, to the need for concrete, multinational measures to curb this threat.

Chapter I: Forms of terrorism with an impact on the economy

Globalisation is a phenomenon that produces changes in the exercise of power within a state by transferring power from the state to different actors that can move dynamically in the international system. In this sense we can speak of state or non-state actors, and relevant examples are non-governmental organisations, large corporations and terrorist organisations.

We believe that, until the advent of globalisation, a dominant position in the hierarchy of international power depended to a very large extent on certain factors that could be measured by specialised agencies. In the past, the main factor for measuring this power was the long-term balance between the economic potential of the state and its military power¹. The

¹ Concept by Alvin Toffler, author of Future Shock and Third Wave. The American writer and futurologist

most telling example of this is the US, which has developed its military capabilities over time in parallel with the development of the country's economic system. However, its status as the world's leading military power now seems to be under threat from emerging states, due to the actions of the last few decades when, like the Russian Federation before the Iron Curtain was lifted, military investment and the endless wars it has waged in defence of democracy and against all forms of global terrorism have inevitably meant investment in military procurement and spending that has outpaced economic growth. There are, however, situations where a state's military strength does not decline in parallel and concomitant with its economic strength. Examples of this are Russia, which during the transition period after the fall of communism did not experience a significant decline in military power, although it was in major economic decline, and Germany and Japan, whose economies have grown significantly in recent decades, but without implicitly leading to military development.

Although internationally terrorist organisations have motivated terrorist attacks through a wide range of motives, the forms of execution of these activities have remained largely the same, ranging from hijackings, assassinations, kidnappings, threats, suicide attacks to the execution of bombings of targets deemed to be hostile (citeseerx.ist.psu.edu/ n.d.). Through these actions, terrorist organisations have tried to put pressure on state governments in order to gain political concessions. Although some attacks did not result in significant financial losses, the economic effects were felt with each action, with different areas of the economy being affected and suffering losses. The different policies of states that have been confronted with terrorist attacks on their territory or with the actual presence of such organisations in the area they govern have resulted in the development and implementation of counterterrorism strategies that correspond to the specific needs of each country. Within these strategies, each of them has marked the economic sector as one of the most vulnerable to terrorist attacks and developed countermeasures to counter the effects of a potential terrorist attack on their territory, taking into account the potential for terrorist organisations to intensify their campaigns in order to achieve their objectives. Among the numerous economic effects of a potential terrorist attack, we can include human casualties, destruction of public or private buildings and institutions, and increased anxiety among the population.

Another economic effect of terrorist actions against a state may be the diversion of foreign direct investment (FDI), the destruction of critical infrastructure, the diversion of public investment funds to the security sector or the restriction of trade. Referred to by many security analysts as the "New Pearl Harbour", the terrorist attack of 11 September 2001 was a turning point in the fight against terrorism, but it also revealed the economic vulnerabilities of states in the face of any terrorist action, prompting a rapid response to develop countermeasures (www.cia.gov/library/ n.d.).

The immediate costs were human casualties, with an estimated 2,977 people killed and 6,000 injured (www.911memorial.org/ n.d.), significant material damage and a reduction in global economic growth, all of which had a major impact on international economic developments as a whole. Experts in the field have estimated the value of the disaster at approximately 2 trillion dollars: loss of four civilian airplanes – \$385 million; destruction of major World Trade Center buildings – \$3 to \$4.5 billion; damage to part of the Pentagon – \$1 billion; clean-up costs – \$1.3 billion; property and infrastructure damage – \$10 to \$13 billion; Federal contingency funds (increased airport security, sky marshals, government takeover of airport security, aircraft retrofitting with anti-terrorism devices, cost of operations in Afghanistan) – \$40 billion; direct job losses totaled \$83.000-\$17 billion in lost wages; amount of damaged or unrecoverable property – \$21.8 billion; losses to New York City (lost jobs, lost taxes, damage to infrastructure, cleanup) – \$95 billion; losses to insurance industry – \$40 billion, loss of air traffic revenue – \$10 billion; fall in global markets - could not be quantified (nstitute for the Analysis of Global Security n.d.).

As a result of these events the U.S. launched the so-called war on terrorism whose

believes that in recent years the world is witnessing the emergence of a third wave of change and the development of a new civilisation based on radically different principles from those of industrial society.

estimated total costs amounted to approximately \$8 trillion, which included funding for Department of Defense contingency operations abroad, State Department war spending, and war on terrorism-related costs, including war-related increases in the Pentagon's base budget, veterans' care to date and into the future, Department of Homeland Security spending, and interest payments on loans for these wars (www.brown.edu/news/ n.d.). In addition, the war on terrorism has resulted in the deaths of an estimated 925,000 people, with estimates including U.S. military, allied fighters, opposition fighters, civilians, journalists, and humanitarian aid workers who have been killed as a direct result of the war (www.brown.edu/news/ n.d.). The global economic effects have been the allocation of much greater funds by states in the security field, financial resources that could have been used to develop other areas of activity, such as education or health.

At the other end of the spectrum are the "*weak states*" or "*failed states*" where terrorism is increasingly prevalent. These states lack the capacity to carry out their basic law enforcement and national security functions and are now seen as a major challenge to the international security order. Any terrorist activity carried out on the territory of these states can substantially affect their economic development. An example of this is foreign investment, which is an important resource for the economy in these countries, and the withdrawal of foreign investment following terrorist activity on their territory can mean economic decline and substantial budget cuts. The best example of this is Afghanistan, which, after the withdrawal of the US and its allies on 15 August 2021 and the cut-off of international funding amounting to around 45% of GDP, is in the midst of an economic crisis and even unable to secure a future for its citizens. The measures envisaged by experts in the field to cope with such an economic crisis could lead to a drop in public spending of around 60%, the impairment of basic societal services such as health and education, the loss of access to the overseas assets of the central bank (around USD 9.2 billion); Stopping international payments by correspondent banks due to anti-money laundering and counter-terrorist financing (AML/CFT) concerns, undermining the ability of firms to pay for imports or receive payments for exports, disrupting remittance flows and leaving international humanitarian and non-governmental organisations (NGOs) unable to pay salaries or contractors in Afghanistan, rapid declines in investment confidence, given widespread uncertainty and fear, and loss of human capital as tens of thousands of highly skilled Afghans have fled the country and new restrictions have been imposed on women's participation in private and public sector employment (www.worldbank.org/ n.d.).

The extreme economic crisis currently facing Afghanistan has led to a severe deterioration in the living standards of its citizens. At the time of the latest Afghanistan Welfare Monitoring Survey (AWMS) conducted by the World Bank between October and December 2021, 70% of Afghan households had insufficient income to meet basic food and non-food needs². Extreme hardship has led to widespread adoption of harmful coping mechanisms such as borrowing at high interest rates, selling or consuming assets, and low investment in human capital. This will have long-term consequences given Afghanistan's very young population.

Another effect of terrorist activities carried out on the territory of a state is that they have the capacity to indirectly affect the economies of neighbouring states. The occurrence of terrorist events or organisations on the territory of a neighbouring state can mean discouraging investment and the entry of capital flows into those that share borders with that state, with the potential for this situation, depending on its severity and time extension, to spread to the whole region. A big difference between the ideology of the past, according to which strong, well-armed and politically, socially and economically organised states that put imperialist pressure on them were a danger because they could cause imbalance and thus create terrorist-type organisations, today the problem seems to be posed by weak, poor states lacking the resources to fight terrorism. The phenomenon of globalisation has led to the emergence of terrorist organisations and the establishment of their organisational epicentre in

² *Idem*, 9.

underdeveloped or failed states that are not economic or military powers. This paradigm shift, the replacement of the classical international system and the increasing transfer of power to non-state bodies, has been exploited by terrorist organisations which have developed structures where they have identified vulnerable economic elements, replacing to some extent even state structures in the affected regions and creating a feeling among the population that they are the only ones who can provide much needed help. This subtle but massive transfer of power, consisting of human, military, financial and logistical resources, as well as command and control capabilities, was facilitated by the fragile sovereignty of weak states, where fraudulently obtained power was used for their own purposes by the organisations that acquired it (Cristian Maior 2009). As a result of the development of terrorist organisations, in order to prevent possible actions by them, states are now developing strong alliances aimed at making it more difficult for terrorists to penetrate and organise operations on their territory and to attack terrorist nuclei located on the territory of other states, especially failed states, in some cases even going beyond their sovereignty. All this involves significant additional expenditure in the fight against terrorism in terms of personnel, planning, procurement of material and technology. Another effect of terrorist actions on the economy is to increase the costs of private sectors such as insurance, higher costs in providing private security and other services that in one way or another interfere with them. The better sized and diversified a state's economy is, the more it will be able to withstand terrorist attacks without significant economic effects.

In conclusion, we believe that developed economies have better monetary and fiscal capacities to limit the macroeconomic impact of terrorist attacks than small developing countries.

Chapter 2: Areas of the economy most vulnerable to terrorist attack

In recent years, there has been a decrease in the number of terrorist attacks internationally, but taking advantage of technological development, online means of communication, combined with the pandemic situation, terrorist organisations have intensified their propaganda in the virtual environment in order to radicalise new members.

The predominant forms of terrorism in Europe in recent years have been mainly jihadist and extremist, with 57 terrorist acts (including successful, failed and foiled attempts) recorded in 2020, compared to 55 in 2019. Of these, 10 were jihadist terrorist attacks that took place in Austria, France and Germany (www.europarl.europa.eu/ n.d.) (see Figure 1).

Although jihadist terrorism ranks sixth in the EU in terms of the number of attacks, it has caused the most victims (12 victims and 47 injured) and is officially declared the most violent form of terrorism. In Europe, there have also been 14 terrorist attacks by entities motivated by ethno-separatist beliefs in France and Spain, 24 attacks by extreme left-wing and anarchist groups, the latter in Italy. In most cases the bombers targeted the destruction of public or private property, such as financial institutions and government buildings, in order to achieve their main objective of damaging the economic interests of the state and creating panic among the population (www.europarl.europa.eu/ n.d.).

Table 1. Number of completed, failed and foiled jihadist terrorist attacks in the EU (2017-2020)

	2017	2018	2019	2020
Attack completed	10	7	3	10
Failed attempt	12	1	4	0
Attack foiled	11	16	14	4
Total	33	24	21	14

Source: Europol 2021

On 22 June 2021, Claudio Galzerano, Head of Europol's Counter-Terrorism Centre, in the presence of members of the European Parliament's Civil Liberties Committee, stated that *"There is a need for a thorough analysis of the threats facing the European area and for coordinated efforts to identify vulnerabilities and reduce terrorist and extremist violence both online and offline"* (www.europol.europa.eu/ n.d.). This declaration is a further step towards finding and implementing innovative solutions to thwart terrorist organisations' efforts to recruit new members and find sources of funding.

Thus, we believe that terrorist attacks can directly affect the economy through destruction of property and loss of life, but also indirectly by creating market uncertainty, xenophobia, loss of tourism and increased insurance claims.

Immediate or direct destruction is the quantifiable effect, which can be measured by physical damage. Many terrorist attacks over the years have been aimed at destroying or rendering useless facilities, machinery, transport systems, critical infrastructure and other elements of existing economic resources. Small-scale terrorist attacks, which can affect low-level economic targets, can include the destruction of local cafes or bistros, churches or roads. However, attacks aimed at major targets are the main focus of terrorist organisations, because the greater the economic and social impact, the more powerful the propaganda will be in achieving their goals. The impact of terrorism on the economy, similar to that of war, is always negative on the economy. Any physical destruction is a good reason to divert resources, which might otherwise have generated goods and services, to other productive uses to strengthen national defence and security systems, which can have significant implications in the medium and long term.

On how **terrorist actions can indirectly affect** the economies of some countries by creating a sense of uncertainty in capital markets. This can be felt, taking advantage of the globalisation system, even if a possible terrorist attack takes place thousands of kilometres away. Generating uncertainty in the market is a major risk for potential investors, and analysis of periods of instability caused by terrorist attacks only confirms this (<https://ro.kamiltaylan.blog/> n.d.). However, it is difficult to estimate the real depth and impact of terrorist attacks on financial markets. Lately, even they seem to have found some sort of adaptability to terrorist threats, so that the impact generated is as low as possible. A relevant example of adaptability was seen in the aftermath of the 2015-2016 attacks in France, which killed around 130 people. During this period, following each terrorist attack, the stock market index did not fall in a relevant way. However, creating a sense of uncertainty among investors that France would be a target country for terrorist attacks may be a good reason not to invest or to withdraw from the market. This may lead to the conclusion that the real threat of global terrorism seen from an investor's perspective is closely linked to the broader picture, not to individual incidents (Hassapis, Christis; Katsikides, Savvas and Markoulis, Stelios, n.d.).

At the same time, indirect economic effects of terrorist actions have been recorded in areas such as insurance, trade, tourism and foreign direct investment (FDI).

In the insurance sector, there have been significant price increases in the event of attacks in certain affected areas. There were also reports of various companies refusing to pay claims following the identification of terrorist causes. Each of these companies assessed their own interests and agreed whether or not to be represented in areas affected by terrorist activities. Another approach taken by these companies is to significantly increase the price for persons operating in areas with a high terrorist potential. After the events of 11 September 2001, the US passed a law (Terrorism risk insurance act of 2002. n.d.) helping insurance companies to develop mechanisms to list terrorism (www.govinfo.gov/ n.d.).

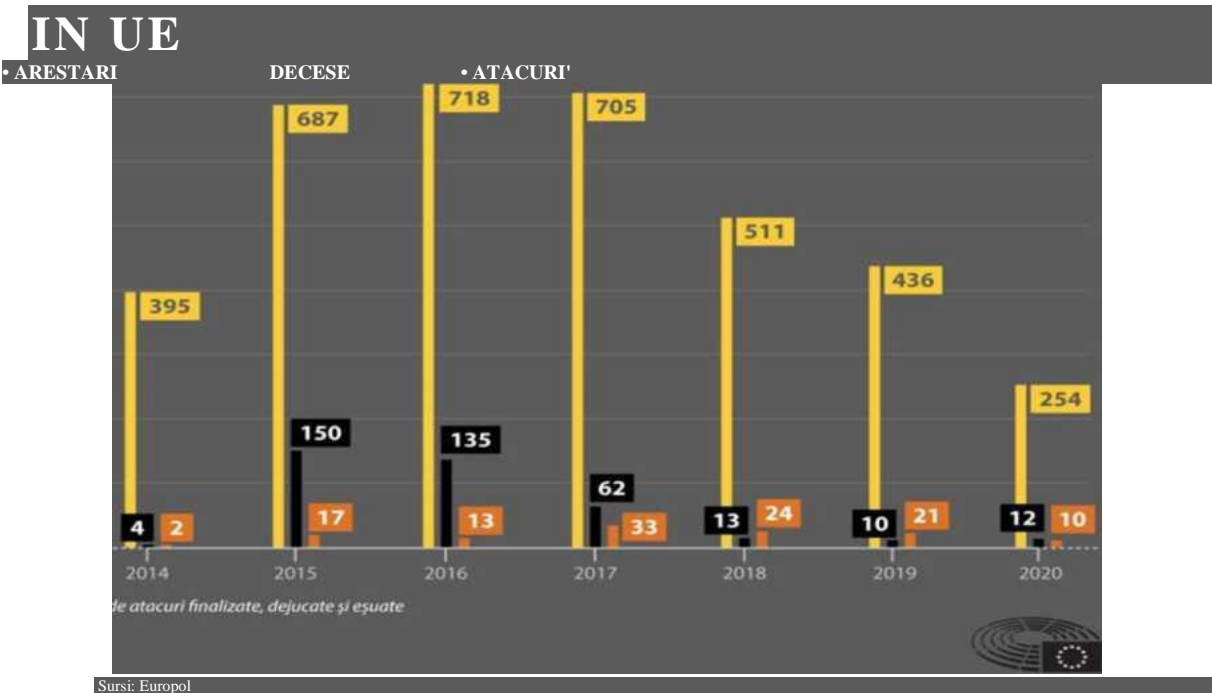
Tourism is one of the most affected areas in the event of terrorist activities on the territory of any country (Zeman, Tomas and Urban, Rudolf 2019), as it is very vulnerable to the deterioration of the security situation in the destination country. Such significant decreases

in tourist travel due to terrorist attacks have been recorded in many cases, including the attacks of 11 September 2001 in the USA, the attacks in Norway on 22 July 2011, attacks in Europe, particularly in France, where tourism accounts for around 8% of GDP, and attacks in countries such as Nigeria and Syria, which not long ago were among the top five tourist destinations in the world, accounting for around 14% of GDP (<https://syriaaccountability.org/n.d.>). Looking at the bigger picture, the negative economic effects of terrorist actions can also affect international trade. This may be due to imminent threats such as routes. Compromise of trade routes and distribution systems or generated by psychological and physical reactions to terrorism.

Conclusions

In conclusion, we believe that the effects of terrorist activities on the economy can be found in different areas, but each state, depending on its level of stability and development, has created its own response mechanisms. In the case of developed countries, with a stable system of government and strong institutions, the level of impact is limited by the fact that since the beginning of the last decade and up to now they have developed their own legislative packages, their own institutions to be present and active in the event of a terrorist phenomenon on their territory, and the level of indirect impact is low. On the other hand, however, in the case of weak states, we are of the opinion that any terrorist action can affect that state economically. That is why terrorist organisations have found a fertile ground for development in these states, based on widespread corruption and weak state representation on the ground, weak law enforcement institutions. At the same time, we believe that in the event of terrorist attacks, the response of states must avoid measures that lead to the repression of economic, political, speech or other freedoms, which would inevitably lead to higher taxes, government deficits and galloping inflation. Such state intervention would only encourage the emergence of extremist nationalist sentiments and an increase in anti-globalist and anti-commercial sentiments.

Annex 1: Table showing arrests, deaths, attacks by terrorist entities in the EU between 2014-2020 TERRORISM RELIGIOS/JIHADIST



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UNITED NATIONS FIGHT AGAINST THREATS REPRESENTED BY UNEXPLODED AMMUNITION

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Abstract: *The redefinition of the new world order is based on different political, social and economic visions that lead to conflict and ethnic or religious tensions in different parts of the world. The vision of the United Nations among others is to create a world without mines; a world in which ground-emplaced mines and explosive remnants of war do not threaten civilians. Therefore, UN aims to accomplish this specific vision materialized in the strategic plan of the United Nations Mine Action Service (UNMAS).*

Keywords: *UNMAS; strategic plan; UN; explosive ammunition security.*

Introduction

Since its inception on October 24, 1945, and to this day, the United Nations has the mission of ensuring world peace, respect for human rights and international law and cooperation.

Due to these needs, the United Nations Mine Action Service (UNMAS) was established in 1997 with the mission of a world without mines, in which civilians are not threatened by the explosive remnants of war.

A current example is unfortunately the war in Ukraine in which huge amounts of explosive ammunition are used, many of which remain unexploded and pose new dangers for the future of this country for the security of civil society. With the end of this war, a new UNMAS mission will be needed to form a state-level education to defend the civilian population against the harmful actions and explosive remnants of war. There are currently 19 UNMAS missions worldwide, including the Abyei, Afghanistan, Burkina Faso, Central African Republic, Colombia, Cyprus, Democratic Republic of the Congo, Iraq, Lebanon, Libya, Mali, Nigeria, Somalia, South Sudan, the State of Palestine, Sudan, Syria and Western Sahara missions that aim to build national civilian protection capabilities against explosive remnants of war.

The general objective of our article is to identify the ability and capacity of UNMAS to lead, coordinate, and implement projects and programs to mitigate the threats posed by the unexploded ammunition, namely landmines, improvised explosive devices (IEDs) and explosive remnants of war (ERWs) following armed conflicts.

This objective is based on a set of specific research questions. *First*, we wondered what actions were taken. *Second*, we wondered how these missions are funded and by whom. *Third*, we wondered what the effects of these missions are. *Fourth*, we focused on the synthesis of UNMAS reports between 2018 and 2020.

The research serving as the basis of this article was conducted through a non-experimental *research methodology*, using longitudinal and cross-sectional elements. We also used analytical research methods, both non-interactive and non-comparative. The qualitative-quantitative approach required the choice of analytical methods as well as prospective methods.

United Nations Mine Action Service (UNMAS)

UN Secretary-General showed that threat of unexploded ammunition is a multifaceted problem highlighted in the *2030 Agenda* which is the heart of continuing UN reforms.

The role of mine action services is unique in creating links between the humanitarian, development and peace fields and it is also used as motivation for promoting peacekeeping and achieving the Sustainable Development Goals settled in the 2030 Agenda.

The establishment of the United Nations Mine Action Service (UNMAS) was made by the United Nations General Assembly to provide a coordination of the organization’s vision – *a world without mines*, thus, a world in which ground-emplaced mines and explosive remnants of war do not threaten civilians.

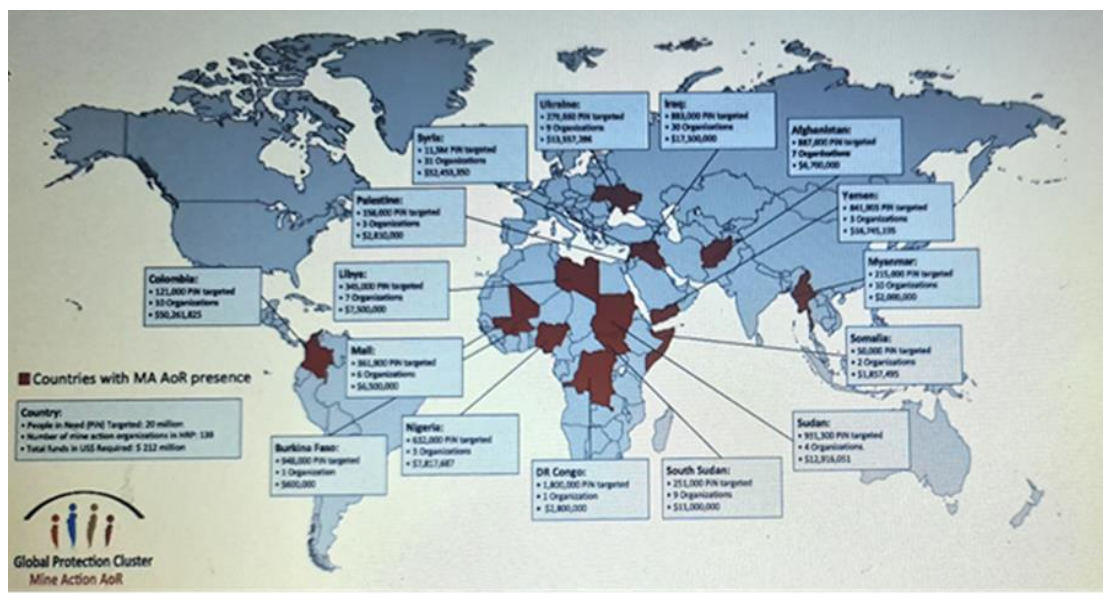
UNMAS runs under the congressional mandates of the UN, associated to the General Assembly and the Security Council, representing a specialized service of the organization situated in the Department of Peace Operations (DPO).

UNMAS was established as an integral component of the peace operations activities, including specific political missions and movements, and peacekeeping. It is also a responsibility of UNMAS to respond to distinct demands for support from the entitled representative of an afflicted country or the UN Secretary-General. The main responsibilities and capabilities of this service are represented by the evolution of standards, principles, and rules in the ammunitions’ field, as well as the management of demining operations. Also, topography, mapping, and marking are part of the action of demining, but it also includes the detection and explosive remnants of war (ERWs) and to alleviate the risks posed by improvised explosive devices (IEDs).

A global progress has been seen in the efforts to address the threats represented by exploding ammunition. (See Figure no. 1).

As a result of long-term wars, significant amounts of unexploded ordnance remain, affecting the territory where they took place and posing major dangers to the uninformed population and the need for UNMAS intervention.

Map of actions in the humanitarian response plan in 2020 (VLADU Figure no.1)



(UNMAS 2020)

https://unmas.org/sites/default/files/unmas_annual_report_2020.pdf, accessed on 15.05.2022.

Given the necessity situation, the UNMAS Strategic Plan lasting between 2019 and 2023 has been created as a responsible body and guidance report for the department. UNMAS provides the states that are members, the system of the United Nations and its captainship and also operations in general, with a candid competence and experience. These have been achieved through the humanitarian, development, peace and peacebuilding aid offered to the affected countries, and through participating and contributing to the diplomatic and treaty law cases.

As a result of the demining operations, the roads are open and the population and farmers can resume their activities safely. Children go to school without fear, and the displaced people return to their homes without explosive ammunition. As a result of these actions, water wells and local facilities are accessible again, peacekeeping forces can be deployed safely, and humanitarian aid is distributed where it is most needed.

UNMAS conducts arms and ammunition management activities that consist of technical assistance to help destroy stockpiles, establish well-managed conventional ammunition warehouses to avoid a risk to public safety, a risk to state security. In parallel, the organization is also in charge of educational campaigns which present the reduction of risks, support survivors of an accident involving explosive artillery and train governments on a local and national level on how to solve the issue by themselves. UNMAS is responsible of reducing human suffering which continues for a long period of time after the end of the fight.

UNMAS, occupying the role of the global coordinator in demining actions, expects an excellent use of resources, gives a great importance to and marks services, and provides policy advice and law in the system of the UN and it also assures a gender perspective around its activities and a speedy progress in the direction of the Sustainable Development Goals.

The UNMAS Strategic Plan 2019-2023 was implemented due to its need, as the threats being represented by the unexploded ammunitions is one of the multidimensional challenges highlighted in the UN 2030 Agenda.

UNMAS Strategic Plan lasting between 2019 and 2023

The accomplishment of the missions described in the 2030 Agenda for Sustainable Development need to be free of ground-emplaced mines and explosive remnants of war (ERW) and explosive gear that is improvised. It is the right of every person to live safely and to be confident that he can take the next step with no danger.

The strategic plan has an objective to augment the addition of UNMAS in the application of the UN Mine Action Strategy lasting between 2019 and 2023 and the UN vision of a world without land mines, explosive remains of war and explosive dispositive that is improvised, including cluster armament (UNMAS, 2019, p. 1).

UNMAS, like any specialized UN service, has a mandate, mission and vision of “a society without the threat of mines, explosive remains of war that includes cluster armament and explosive gear that is improvised, in which people and communities live in an environment that is safe and helpful, oriented towards the development of peace and sustainability, in which no man is left behind, in which the human rights and the needs of victims are being responded to and met and in which all individuals are fully integrated and considered as equal members of their civilizations”. (United Nation 2015)

It also aims to achieve strategic results. Between 2019 and 2023, the strategic results pursued are the following five: 1- the promotion of consistent ways to increase the impact of the demining domain; 2 to 4 – their implementation in the areas of insurance against dangers and repercussions of explosive artillery; assistance and empowerment of the people who have survived, the family members and the touched communities; interstate lead and management

of demining; 5 – implementation, monitoring and evaluation of the Strategic Plan. (United Nations 2018)

A Monitoring and Evaluation Framework (M&E) will be used to measure the implementation of the Strategic Plan. The focal point of the M&E structure framework is on the provisional results of the UNMAS Strategic Plan of UNMAS. It is also important to monitor the progress made towards important results. The most recent monitoring will be carried out along with the monitoring of the UN Mine Action Strategy lasting between 2019 and 2023. The importance of conducting reference socio-economic surveys of mine action has an impact on the accomplishment of the Sustainable Development Goals.

The development of the UNMAS activity is possible due to the funding of different contributors.

It would not be possible to carry out all these activities without financial support. That is why I believe it is important to mention the financing methods of UNMAS. Funding is provided by the General Assembly for peacekeeping missions and special political missions. The rest of the activities are carried out from extra-budgetary funds, multi-donor trust funds, the Central Emergency Aid Fund and the private sector. Now more than ever the world's powerful countries are against wars and funding these missions. The contributions of these countries are reflected in the charts below. (UNMAS 2020)

A comparison of the 2018-2020 reports of UNMAS led to the following summaries of the contributing countries (Figure no. 2).



Having understood the role and importance of these missions, which prevent the prolongation of war and during peacetime the civilian casualties, represented mostly by children and young people, generated by explosive munitions and explosive remnants of war, the countries in the table below have made the following donations in the period 2019-2020 worth USD 90.8 million:

The United Kingdom stands out with a contribution of 30.3 million USD; Denmark with \$ 15.5 million and Australia with \$ 12.5 million.

UNMAS contributing countries (VLADU Figure nr. 3)

Year	Country	2019	2020
	Australia	7,8	4,7
	Belgium	2,2	2,4
	Canada	2,5	3,6
	Korea	1,6	

Denmark	10,6	4,9
Germany	4,5	9,7
Italy	2,7	2,7
Holland	4,6	5,9
UK	17,3	13,0
USA		10,1

(UNMAS 2019)

Top three countries with UNMAS program beneficiaries in the analysis period (USD million) (VLADU Figure nr. 4).

Beneficiary countries	2018	2019	2020
Total costs	103,5	111,6	60,1
Afghanistan	21,7	15,7	7,8
Irak	58,4	63,5	20,8
Syria	7,4		9,2
Sudan		13,6	

(UNMAS 2020)

We note that the most important beneficiary is Iraq, which received \$ 142.7 million in 2018-2020 for the disposal of explosive remnants of war (ERW), improvised explosive devices (IED), improvised explosive devices operated by the victim (VOIED) managing to eliminate 2257 such remnants in a single month.

Another beneficiary, for which \$ 45.2 million has been allocated for 2018-2020, is Afghanistan. Official reports show the high number of dead and wounded, about 41,686, on average 108 civilians were affected monthly by unexploded minesweepers during wars and by explosive remnants of war

These funds were used to conduct a nationwide survey to reflect the level of contamination and the existence of other humanitarian needs. The result highlighted that 25% of the country's surface is contaminated with explosive hazards such as IM and ERW and led to the implementation of the Humanitarian Response Plan. The increase of the clean-up capacity of abandoned makeshift mines (AIM) at the national level has been achieved by training civilian personnel through NGOs to detect and clean makeshift mines and other types of explosive hazards. Support efforts to integrate equality and diversity into mine action. (UNMAS 2022).

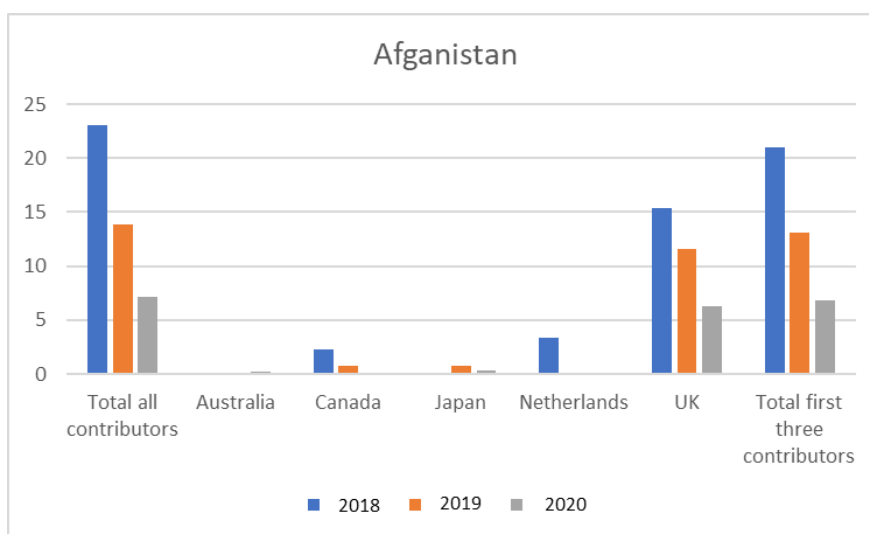
Of the funds amounting to \$ 16.6 million, Syria conducted training sessions for about 2 million people, facilitated education by raising awareness of the risk of explosive munitions, training team leaders, some of the dangerous areas were marked, deforestation and cleaning works were carried out restoring safe access areas to the civil society.

Details with the first three contributing countries to UNMAS in the period 2018 - 2020, for the first three beneficiaries (million USD) (VLADU Figure no. 5)

Countries	2018	2019	2020
Year			
Afghanistan			
Total all contributors	23,1	13,8	7,1
Australia			0,25
Canada	2,25	0,74	

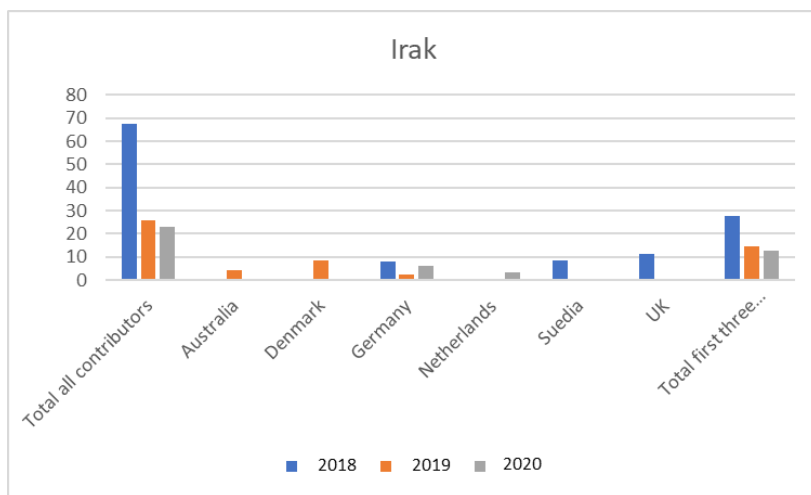
Japan		0,8	0,29
Holland	3,4		
UK	15,4	11,6	6,3
Total first three contributors	21,05	13,14	6,84
Irak			
Total all contributors	67,5	25,9	23,2
Australia		4,3	
Denmark		8,3	
Germany	8,0	2,2	6,2
Holland			3,2
Sweden	8,3		
UK	11,4		3,5
Total first three contributors	27,7	14,8	12,9
Syria			
Total all contributors	6,1	9,0	8,2
Australia	3,0	2,8	1,9
Germany	1,8	1,7	1,8
Japan	1,3	1,4	
USA			1,5
Total first three contributors	6,1	5,9	5,0

For this table we also made the graphs below for a better understanding.



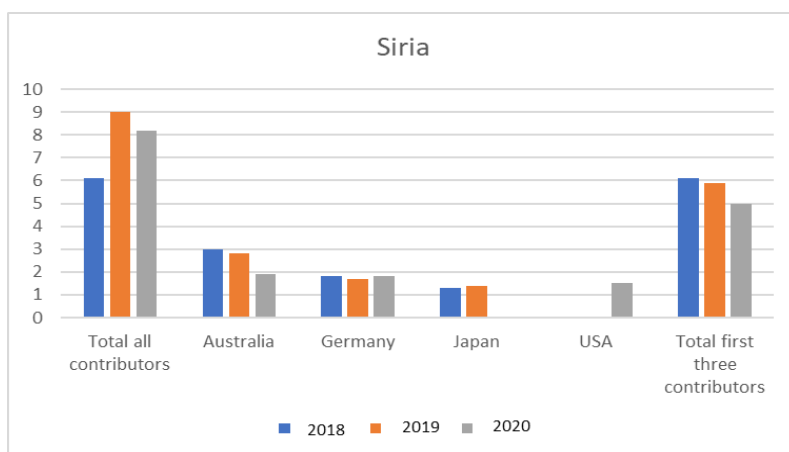
(VLADU Figure no. 6)

In the case of Afghanistan, the first contributor in the three years allotted was the United Kingdom. The amount represented two thirds of the total budget of contributors in 2018, and in 2019 and 2020, the contribution will be 85% of the budget of contributors. In 2018, the second and third contributor amounted to almost 25%. In 2019, the two contributors amounted to 11% and in 2020 the two contributors after the UK represent 7.6%.



(VLADU Figure no. 7)

For Iraq, the situation in 2018 shows that the UK is also the first contributor with a percentage of 17%, and the other two amount to 24%. In 2019 Denmark is the first contributor with 32%. The second and third contributors represent 25%. In 2020, Germany is the first contributor with 27% and the other two representing 29%.



(VLADU Figure no. 8)

In the case of Syria, the first contributor in 2018 was Australia with 49% and the other two with 51%. In 2019, the situation shows that Australia is the first contributor with 31% followed by the other two with 34%. In 2020, Australia is the main contributor with 23% followed by the other two with 40%.

We note that Australia is the main contributor for the whole period 2018-2020.

Programs and activities carried out by UNMAS in figures for the period 2018 – 2020 (VLADU Figure no. 9)

		2018	2019	2020
Number Programs		19	18	19
Destruction	Explosive debris	105036	77000	71000
	Landmines	2471	5000	9000
	IEDs	1846	2000	400
Cleanup	Surfaces	144 km ²	320 km ²	60 km ²
	Roads	3000 km	8000 km	1900 km
Built warehouses		25	113	111

Training affected people explosive risks	2090000	2800000	1700000
Training specialized staff	4100	3000	24000
Assisted victims	1900	2000	3000

Following the numerous UNMAS missions, during the two years, 2018-2020, 253,036 explosive debris, 16,471 landmines and 4,246 IEDs were collected, clearing an area of 526 m² and 12,900 km of road. 249 warehouses were built and 6,590,000 people impacted by the explosive risk were trained, as well as 31,100 specialized personnel.

Conclusions

The general objective of the article based on the set of specific research questions was achieved as shown in the summary tables made following the analysis of official data mentioned in UNMAS reports, prepared for the objective reality found in various missions.

Thus, we can say that UNMAS missions are a real success due to the projects of destruction, cleaning or storage of explosive debris, landmines, IEDs as well as training programs for civilians and specialized personnel in order to prevent potential tragic situations that may occur.

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COUNTERINTELLIGENCE IN THE BALKANS AND EASTERN MEDITERRANEAN. THE COUNTERINTELLIGENCE METHODS OF TRANSNATIONAL GROUPS

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Abstract: *In the post-Cold War era, new challenges emerged that have threatened regional and global security. Before the turn of the 21st century, the world was primarily dominated by states, but now, non-state actors are of critical importance in national and international security in today's globalizing and multipolar world. Of these non-state actors, transnational organized crime networks and groups have become a key security threat in the national, regional, and global environment. Transnational organized crime groups threaten to destabilize basic societal, economic, and political institutions and values. While all nations face the threat of transnational organized crime groups, those post-war and post-conflict nations in transition are especially fragile to the effects that transnational organized crime groups can have on a nation's government, economy, and society. The Balkan region has all been plagued by conflict and instability since the civil wars of the 1990s. Today, the Balkan and Eastern Mediterranean region has reemerged with strategic importance as the instability of nations in these regions are particularly susceptible to external malign influence by state and non-state actors. Concerns regarding the rise of transnational organized crime and its relationship with religious extremist groups have caused the international community to refocus on the Balkan and Eastern Mediterranean regions. Increasingly, transnational organized crime groups along with international terrorist groups are beginning to share organizational and operational features. Additionally, when it becomes advantageous, these groups will partner with each other. Transnational organized crime networks and groups have grown in both size and sophistication, and many major groups behave and assume the structure of secret organizations. Powerful transnational organized crime groups have developed in accordance with the structures of their host countries, which is why it is these groups flourish in those countries with more fragile political institutions. The ways in which transnational organized crime groups think and operate have made them successful. These groups take their illicit business ventures seriously, and understanding what these groups do, how they operate, and who they work with is critical in defeating them. By examining effective counterintelligence methods, this paper will focus on the strategic importance of transnational organized crime in the Balkan and Eastern Mediterranean region, with a particular focus on Albania.*

Keywords: *the Balkan and Eastern Mediterranean regions; transnational organized crime groups; counterintelligence methods.*

Transnational Security and Organized Crime

Transnational groups are international organizations that transcend the idea of a nation-state. Transitional groups are non-governmental groups, and the activities of these groups transcend borders. Transnational organized crime (TOC) is organized crime coordinated across national borders and involves participation in illicit markets in more than one country. (UNODC, 2010) To accomplish their goals, criminal organizations use systematic violence and corruption to maintain their operations. The Balkans and Eastern Mediterranean region are home to various criminal networks and organizations that run well-established trafficking and smuggling operations. TOC groups exploit weak governments, endemic corruption, weak borders, and poor security conditions. (Haziri, 2017)

The Balkans have become an ideal environment for the development and growth of TOC. Weak institutions in Albania, Kosovo, and Bosnia-Herzegovina have enabled TOC groups to seize control of key drug and human trafficking routes from the Middle East to Western European markets. Furthermore, the Balkans region has become a new entry point for Latin American cocaine and a transit region for heroin chemicals used in the Caucasus and Afghanistan (Persi, Giacomo Paoli and Bellasio, Jacopo, 2017). The trafficking of firearms and weapons in the region is also of particular concern, and ineffective border control in critical nations in the Balkans has enabled the transit of TOC actors and terrorist affiliates into Western Europe. Throughout 1990 the security and geopolitical foundation in the Balkan and Eastern Mediterranean region that has shaped the TOC networks and groups have been primarily shaped by the end of the Cold war, the conflicts in the territory of the former Yugoslavia, and the continued antagonism between Greece and Turkey (Persi, Giacomo Paoli and Bellasio, Jacopo, 2017). As a result, the illicit activities of TOC groups in the region have seen a significant overlap and intersection between trafficking routes, actors, and the implications of various trafficking activities. The illegal activities used by TOC groups to generate funds come together in an illicit economy underpinned by four interconnected markets, specifically the trafficking of weapons, humans, narcotics, and other illegal commodities. In combatting TOC, cooperation between the European Union and the United States as well as bilateral cooperation with countries in the region to foster solid legal institutions, good governance, and economic progress in the Balkans will be critical.

Crime-Terror Nexus

The concept of the crime-terror nexus is not new. It developed in the early 1990s after the dissolution of the Soviet Union and the start of the information age. The nexus between transnational organized crime and terrorism represents a growing threat worldwide (National Archives and Records Administration, 2016). The overlapping of criminal and terrorist actors, tactics, and resources enable them to gain substantial power to threaten security, peace, and economic development. Among the shifting geopolitics and effects of globalization, religiously motivated extremist individuals and groups began to adopt criminal methods to further their aims. Terrorists and insurgents increasingly turn to TOC to generate funding for illicit activities and gain logistical support to carry out their violent acts (Sanderson, 2004).

Albanian Organized Crime

Albania is a small country located north of Greece in the western part of the Balkan Peninsula (Bamiatzis, 2018). After about five centuries of Ottoman rule, most of Albania follows the Islamic religion. About seven-tenths of the Albanian population is predominantly Sunni Muslim, with the next largest group falling under the Bektashi sect of Islam (Bamiatzis, 2018). The resurgence of nationalism, the spread of conflict in the successor states of former Yugoslavia, the breakdown of government power in Albania, the weak justice system, and economic problems have all nurtured organized crime in the Balkans. The geography of the Balkan Route starts from Afghanistan, transverses through the Middle East, exits via Turkey through Greece, and travels up into Albania as well as other Balkan states. Albania is a major source and transit nation for organized crime and human trafficking throughout Europe. Albanian organized crime profits greatly from smuggling networks from the Middle East and North Africa via routes through Turkey into Greece and then into the rest of Europe as smugglers try and reach Western Europe. Albania's human smuggling operations are involved at the international and domestic levels and rely on the cooperation with human smugglers in surrounding countries as well to facilitate the journeys (The Organized Crime Index | ENACT,

2022). The endemic corruption in Albania has only exacerbated the issue of organized crime within the country. With the strong structure of the Albanian mafia and organized crime networks, as well as the continued cooperation with terrorist organizations like Al-Qaida, Albanian organized crime remains a serious threat to other Balkan states as well as Europe as a whole (Bamiatzis, 2018).

Organized crime can threaten the security of any nation, especially those with fragile democracies that lack experience in managing it, specifically in the Balkan and Eastern Mediterranean regions. According to the European Commission and the Group of States against Corruption (GRECO), political corruption is a serious and ongoing problem in Albania (Xhuvani, 2022). Political corruption among Albania's government has only exacerbated the issue of organized crime within the nation. Much of the corruption in Albania is due to the lack of political will due to the involvement of senior government officials in corrupt networks.

Transnational organized crime networks within Albania deal in the smuggling and trafficking of people, weapons, and drugs. The civil unrest in Albania since 1997 has created a foundation for a criminal market in small arms, light weapons, and dismantled weapon parts. Most of these small arms and light weapons (SALW) are trafficked to other European markets, but some have also appeared to be sold only on the domestic market within Albania (The Organized Crime Index | ENACT, 2022). Trafficking routes for SALW follow much of the same routes as those for the movement of migrants and other illicit commodities. Many of these routes inland, moving north from Albania through the Balkans, Greece from Turkey or other routes include seaborne routes to Western Europe. The market for SALW is controlled by Albanian organized crime networks in the country's northern region.

Albania remains a critical transit country for heroin, cocaine and cannabis. Albanian mafia-style groups have cemented links with cartels in South America, allowing them to import mass amounts of high-quality cocaine and access to complex global infrastructure. Albanian criminal networks not only take part in the trafficking of cocaine throughout Europe, but they also manage the storage and distribution and have consolidated their control over wholesalers and retail markets across Europe. Due to this, Albanian transnational organized criminals have consolidated control over a substantial share of Europe's cocaine trade. Albania is a massive transit nation for heroin trafficked to Europe through the Balkans from Turkey, Afghanistan, Pakistan, and Iran. More specifically, Turkey is a key nation in dealings with heroin and the Albanian mafia. Turkey was an important nation for the production and trafficking of drugs, with many Albanian living in Turkey since the early twentieth century. Due to war and political oppression within Albanian, many migrants moved from Albania to Turkey. As a result, heroin collectives on Turkey's Black Sea Coast have facilitated cooperation among Albanian and Turkish organized crime, a relationship that will continue to persist. Trafficking routes for heroin maneuver through Turkey, then into Greece and the rest of the Balkans on their way to Western Europe. The Albanian mafia's success in moving its products west has been effective partly due to the preexisting Albanian communities in Greece, Germany, Belgium, and Switzerland (The Organized Crime Index | ENACT, 2022).

In addition to the trafficking of weapons and drugs, Albanian transnational organized crime groups also participate in the trafficking of people and smuggling of migrants across Europe. The Albanian mafia is notorious for exploiting migrants and human trafficking on the maritime route from Turkey to Greece. The impact of this sort of trafficking was initially only applied to the Balkan region. Still, over time the group's influence has spread into Western Europe, specifically with the trafficking of women and children to areas of demand such as Brussels and Paris. The United Kingdom's National Crime Agency has reported that the Albanian Mafia's engagement in human trafficking and the smuggling of migrants will remain a major concern for the Balkan region and the rest of Europe (Persi, Giacomo Paoli and Bellasio, Jacopo, 2017). The Albanian mafia's participation in human trafficking involves victims from

Albania and neighboring countries, typically by luring victims in with the promise of more money and better work in other Western European nations. According to the "Coalition All for Fair Trials", about 73 percent of those convicted for offenses relating to human trafficking in 2005 were of Albanian nationality (Trimcev, 2003). The promise of a better life and financial opportunities has been a tactic of traffickers to persuade individuals to believe and follow them. While the Albanian government, along with other Balkan nations and the European Union, continue to try and address the issue of human trafficking and migrant smuggling by Albanian organized crime groups, rampant corruption, political apathy, and the continuous flow of migrants in the region have hindered any reforms these formal institutions have tried to roll out.

Criminal Actors

The Albanian transnational organized criminal ecosystem is dominated by overlapping criminal networks and family mafia-style actors. Mafia-style criminal groups from Albania control criminal markets for human trafficking, human smuggling, small arms trafficking, and the trafficking of drugs. Albanian transnational organized crime groups have positioned themselves to be some of the most powerful criminal organizations in Europe. Albanian mafia-style groups diverge from other major mafias, like the Italian mafia, in that the Albanian mafia-style groups seldom identify themselves with names or symbols (The Organized Crime Index | ENACT, 2022). Albanian transnational organized crime groups, however, do exhibit structure and loyalty to a single leader. Albanian transnational organized crime has worked for hand in hand with state corruption, with one helping the other. Albanian transnational organized crime groups conspire with state-embedded actors, and these groups have influenced elections by pushing votes in one direction or another. These organized crime groups are helped by the political corruption of the state's government, and the persistent corruption allows for these groups' illicit activities to continue. Mafia-style groups in Albania have also established smaller crime networks that operate more domestically and that gravitate around the transnational groups. These networks maintain a fluid organizational and operational structure and are typically comprised of 3-4 members and are driven by any opportunity to profit (The Organized Crime Index | ENACT, 2022). These networks have become very violent but cooperate efficiently with corrupt judiciary officials and police as well with foreign actors, specifically the Sicilian mafia and Turkish organized crime groups. Albanian mafia-style organized crime groups are also known to have links with Kosovar and Montenegrin crime networks and hold a strong presence in the Netherlands, Belgium, and the United Kingdom. In the continuation of Albanian transnational organized crime, there is a worrying increase in the number of youth involved with various day-to-day criminal operations within the larger transnational organized crime network coming from Albania. Albanian transnational organized crime groups typically pose as a legal business as a front for their illicit activities and operations (Bamiatzis, 2018).

Crime Terror Nexus in Albania

Albania is the only Balkan country with a Muslim majority population. Albanian transnational organized criminal groups have developed global networks involved in transnational crimes such as drug trafficking, weapons, human trafficking, money laundering, and other illicit activities. Albanian TOC groups often come into direct contact with violent extremist offenders. Data has shown that Western Balkans is the European region with the highest concentration of returning foreign fighters from Syria and Iraq (Knights, Michael and Mello, Alexandre, 2015). Evidence has shown that they have traveled back home using forged or stolen travel documents, in some cases provided by criminal groups, and were aided by groups of smugglers operating across the Middle East and Europe.

The nation of Albania continues to have an unconsolidated democracy with inadequate checks and balances on its power structures, resulting in weak institutional capacity. Corruption and political apathy have minimized the state's ability to resolve the issue of Albanian transnational organized crime groups and their networks. However, due to pressure from the European Union, the Albanian government has placed the issue of corruption and organized crime high on its political agenda (Knights, Michael and Mello, Alexandre, 2015). However, resolving internal governmental issues is slow, and the political environment of Albania remains characterized by polarization, crises, and corruption. At the international level, Albania is a member of INTERPOL and is partnered with the European Judicial Network. The country has also signed agreements with EUROPOL and has joined various regional law enforcement networks. The country has also passed relevant organized crime treaties and has several significant extradition agreements; however, enforcement of this legal framework has fallen short (The Organized Crime Index | ENACT, 2022).

Methods of Counterintelligence

Non-state actors such as transnational organized crime groups (TOC) groups practice the counterintelligence (CI) methods of basic denial, adaptive denial, and covert manipulation, each one building on the previous in sophistication (Mobley, B.W., 2012). The foundational CI practice is basic denial and consists of activities that prevent the movement of information, either intentionally or unintentionally, from adversaries of non-state actors. Adversaries of non-state actors differ based on who the non-state actor is. Suppose the non-state actor is a TOC group from Albania. Its adversaries may include other TOC groups, domestic organized crime groups, the Albanian government, other nations' governments, or international organizations like NATO, EUROPOL, or INTERPOL. Activities of basic denial are also known as defensive counterintelligence and often focus on prohibited behaviors. Those within a TOC group may be prohibited from discussing the group's information with non-group members, prohibited from using electronic or telephonic media to discuss the group's activities, or maybe prohibited from associating with adversaries and their allies (Magee, 2011). Basic denial activities focus on preventing adversaries from planting spies or penetrating a group or organization's supply of recruits. Basic denial activities also thwart the adversary's attempts to recruit long-term group members to spy. CI vetting of recruits involves background investigations to ensure that new members are not associated with the adversary's security apparatus or with anyone or any organization that an adversary's intelligence service can exploit in a recruitment operation (Britovšek, 2018). Within the Albanian TOC and Mafia structure, the basic vetting of individuals is completed by examining the potential recruit's ethnic background. Many of these organizations are divided along ethnic lines with strong familial connections within the group. For TOC groups from Albania, there are strong familial and blood connections with their criminal groups work as a means of basic denial in preventing any potential outsiders with no connections into the organization. Typically, background checks ensure that new members of the organization do not threaten the organization, while continuous check-ups allow the organization to ensure current members are not spying. These check-ups might include an informal system for group members to report any suspicious or alarming behavior of other members. The subsequent investigation may also involve questioning members of the organization who are in contact with individuals suspected of espionage or questioning members directly about their alarming behavior (Britovšek, 2018). Education of non-state entities regarding the risk and penalties involved in spying for the enemy and compartmentalizing the organization into cells that stem the flow of information about operations are often effective basic denial techniques (Mobley, B.W., 2012).

Adaptive denial activities involve identifying the adversary's intelligence-collection methods and the TOC group's own CI vulnerabilities to improve the group's CI vulnerabilities (Mobley, B.W., 2012). Adaptive denial established the group's basic denial techniques that are not customized to a specific adversary. Activities of adaptive denial encompass investigation and interrogation of suspected spies, classifying detailed biographical information about all the group members, tracking group members' access to sensitive information, and conducting damage assessments in the case of the leakage of sensitive group information. More sophisticated adaptive denial methods utilize double agents to learn about the adversary's intelligence collection systems, utilize penetration to gain information about the adversary's operations, and identify spies planted in the group (Ilardi, 2009). The recruitment of human penetrations into the enemy's security apparatus allows the TOC groups to gain insight into the adversary's intelligence activities, personnel, and plans. A group could recruit an individual to penetrate the adversary's organization to identify the spies within the non-state actor's own group's ranks (Ilardi, 2009). This type of penetration is rarer but is very rewarding. Information from this kind of penetration would allow the organization to cut off any traitor's access to sensitive information or remove them from the group altogether. The non-state actor's group would benefit from an analysis of why, how, and when spies within their organization are recruited to improve the vulnerabilities that led to the leak in information. Within Albanian TOC networks, adaptive denial is highly practiced. Due to the diaspora in the region in the subsequent years following the dissolution of the former Yugoslavia, there remain many Albanians, Kosovans, and Bosnians that live outside their nation's borders and have formed communities in neighboring nations and throughout Europe. As result TOC groups from these nations are able to recruit and persuade individuals in other nations to penetrate another organization. For example, there is a significant number of Albanians that reside in Italy, therefore, if a leader of an Albanian TOC group wanted to infiltrate an organization such as the Sicilian Mafia, they may approach an ethnic Albanian that lives in Italy to try and worm their way into the organization. Additionally, the high amount of corruption in the Albanian government has made it easy for TOC groups to recruit individuals within their respective governments and has provided these groups with an intelligence advantage.

Covert manipulation is another method of CI that non-state actors like TOC groups can practice against their adversaries (Mobley, B.W., 2012).

Covert manipulation is the most sophisticated subprocess of CI, and its activities involve deceiving the adversary by providing false information about the non-state actor's group's behavior, plans, and personnel. Manipulation builds on the organization's basic and adaptive denial endeavor. Planting false information about the operations of a non-state entity is designed to deceive the adversary into wasting resources and time on fake leads or interrupting operations directed against the non-state actors' group.

Covert manipulation is also a part of offensive counterintelligence and typically requires a greater understanding of the adversary's intelligence collection system (Riley, 2015). A competent adversary will have multiple avenues for collecting information about the group, including open sources, interception and monitoring of the group's communications, and human penetrations. To deceive and manipulate a competent opponent, the TOC group must plant information into multiple avenues to corroborate the false information planted in the main disinformation channel (Riley, William S. Jr., 2015). The group may have to divulge some secrets to convince its opponents that that manipulative information is believable. A long-term campaign of effective deception requires that the non-state actor's group recruit a penetration of the adversary to provide feedback if the under what conditions the adversary truly believes the false information planted in their intelligence collection system. When a group receives feedback from a penetration source, the group can then alter and manipulate the opponent's behavior.

The three CI practices of basic denial, adaptive denial, and covert manipulation can be used by a non-state actor individually or collaboratively. How these CI methods are used and if they are used collaboratively depends on the non-state actor. For most TOC groups and terrorist organizations, the method of basic denial is common. With more sophisticated terrorist organizations, both basic denial and adaptive denial methods are employed. However, many TOC and terrorist groups do not use covert manipulation since it requires a higher level of coordination (Mobley, B.W., 2012). In many cases, just basic and adaptive denial procedures are sufficient for the survival of some non-state entities. Basic denial, adaptive denial, and covert manipulation are often designed to manage five intelligence threats. The five intelligence threats include penetration by the adversary's human spies; The adversary's collection of electronic, telegraphic, and face-to-face communications; Close observation of the group's activities by outsiders or locals who have contact with the group in its areas of operations or controlled territory; Passive observation of the group's activities and personnel when they travel through hostile territory controlled by either the opponent or an ally of the opponent; And exposure of the group's personnel and activities in the media (Mobley, B.W., 2012). For these methods of CI to be effective, non-state actors must also focus on the factors that shape CI methods.

Factors that Shape Effective CI Methods

Non-state entities like transnational organized crime groups or international terrorist organizations aim to utilize and improve their counterintelligence capabilities. The three main factors that shape non-state actors' CI capabilities include organizational structure, popular support, and access to the territory. In addition, non-state actors face issues maintaining the secrecy and operating effectively (Mobley, B.W., 2012). How non-state actors effectively practice CI methods is dependent upon these factors.

Non-state actors' organizational structure, specifically their command-and-control structure, determines how well leaders of either TOC groups or terrorist groups exercise control over their personnel. Non-state entities that utilize a tight command and control structure instead of a loose and decentralized command structure have better CI training and compartmentation (Wijninga, Peter, Oosterveld, Willem Theo, Galdiga, Jan Hendrik, and Marten, Philipp, 2014). Centralization of command allows group leaders greater control over group members and will enable leaders to implement specific training for the whole organization. Many organizations train their employees in basic CI skills to strengthen the overall security posture of their organizations. Such CI skills taught to company employees may include using passwords to access sensitive information online, locking away documents when not in use, and preventing employees from bringing any work home (How to Detect and Prevent Industrial Espionage: Definition & Best Practices, 2021).

A tight command structure enables group leaders to coordinate in sharing CI lessons learned across geographical and organizational units and coordinate complex counterespionage investigations. Non-state actors must have tight control over their group's security during social movements such as revolutions or the plotting of coups. A tight command structure makes it easier to maintain a more collective dissent. The strategy of compartmentation permits centralized command structures to restrict the flow of information within an organization to deter the disclosure of sensitive intelligence to those who are not authorized. For non-state actors to achieve compartmentation while avoiding fragmentation requires a higher level of coordination from the upper levels of the organization to make up for the reduced communication and information flow (Prunckun, 2019). Albanian transnational organized crime groups are highly characterized by strong inner discipline, through which severe punishment is used to deter members from deviating from internal rules. Fear is key in ensuring unconditional loyalty to the group within the Albanian mafia structure. Additionally, the family structure of

several Albanian mafia-style groups is based on blood ties, which works to restrict the number of group members and strengthens the bonds within the group. This close relationship between members of these transnational organized crime groups makes the task of infiltrating these groups almost impossible. Furthermore, the Albanian mafia families are organized at three to four or more levels, which aids these groups in maintaining organizational action capability even when some members are captured. Public support for non-state actors can significantly impact the effectiveness of its CI methods. Groups with popular support often receive more CI support from local populations (Ilardi, G. J., 2009). Those with local support and affection are more likely to win support in intelligence tasks such as identifying those spies for the non-state actors' adversaries.

Passive popular support includes a population's refusal to inform the adversary about a non-state actor, which facilitates the actor's group or organization's basic denial activities (Ilardi, G. J., 2009). Active popular support involves the public support in identifying outsiders and CI threats within an organization. Those non-state actors who gain popular support must be careful not to expose sensitive details about their organization while generating and maintaining support. Often non-state actors devote a substantial amount of time to building a public image to gain public and financial support. The proliferation of media technology like video sharing and the Internet's mass use has increased non-state actors' publicity dilemma. Non-state entities who reach out to the public, specifically through the media, risk revealing details about their group that an adversary could piece together and exploit (Ilardi, G. J., 2009). For Al Qaeda, its leader Osama bin Laden had frequently leaked valuable information regarding his health, operational intentions, and location in video interviews released to media outlets. It is important to note that there is a natural tension between popularity and secrecy for clandestine organizations. Non-state actors with increasing secrecy within their organizations begin to breed mistrust with the public (Mobley, B.W., 2012). Thus, for a non-state actor to effectively deploy CI methods, they must balance public support and secrecy of information.

The controlled territory is a geographical area with boundaries over which the non-state entity can impose its will. The controlled territory is the space that a non-state actor such as a TOC group or terrorist group can actively patrol and manage through the support of either state sponsors or additional non-state actors, like hired security guards, insurgents, or criminal organizations (Mobley, B.W., 2012). This aspect is rare for TOC groups as their operations stretch beyond borders, however, where their leadership primarily resides could be considered a controlled territory.

These capabilities allow non-state actors like terrorist organizations and organized crime groups to better manage their CI environment. Controlling a territory enables non-state actors to monitor those moving in and out of its territory, which aids the organization in identifying interlopers or possible insider threats (D'Agoût, 2020). Controlling territory is necessary for a non-state actor to effectively employ CI methods. Organizational structure, popular support, and access to territory are critical in shaping and influencing effective CI methods.

Conclusion

Prior to the turn of the 21st century, the world was primarily dominated by states. Still, non-state actors are of critical importance in national and international security in today's globalizing and multipolar world. Of these non-state actors, transnational organized crime networks and groups have become a key security threat in the national, regional, and global environment. Transnational organized crime groups threaten to destabilize basic societal, economic, and political institutions and values. The Balkan region that encompasses Albania, Kosovo, and Bosnia-Herzegovina has been plagued by conflict and instability since its civil wars of the 1990s. Today, the Balkan and Eastern Mediterranean region has reemerged with strategic

importance as the instability of nations in these regions are particularly susceptible to external malign influence by state and non-state actors. Increasingly, TOC and international terrorism are beginning to share organizational and operational features. Additionally, when it becomes advantageous, these groups will partner with each other. Transnational organized crime networks and groups have grown, and sophistication, and many major groups behave and assume the structure of secret organizations. Powerful Transnational organized crime groups develop according to the structures of their host countries, which is why these groups flourish in countries with more fragile political institutions. How transnational organized crime groups think and operate has made them successful. These groups take their illicit business ventures seriously, and understanding what these groups do, how they operate, and who they work with is critical in defeating them. By examining effective counterintelligence methods, this paper highlighted the strategic importance of transnational organized crime in the Balkan and Eastern Mediterranean region, focusing on Albania.

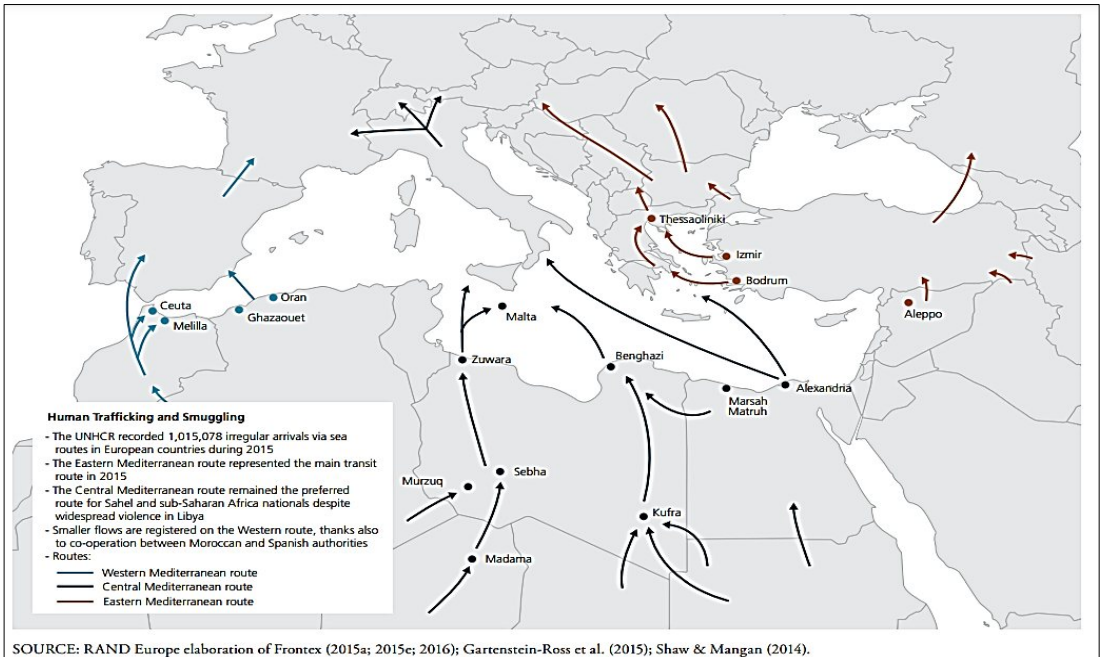


Figure no. 1. Overview of the mainland and sea routes used by human smugglers and traffickers to facilitate the movement of migrants, refugees, and trafficked individuals across the Mediterranean region

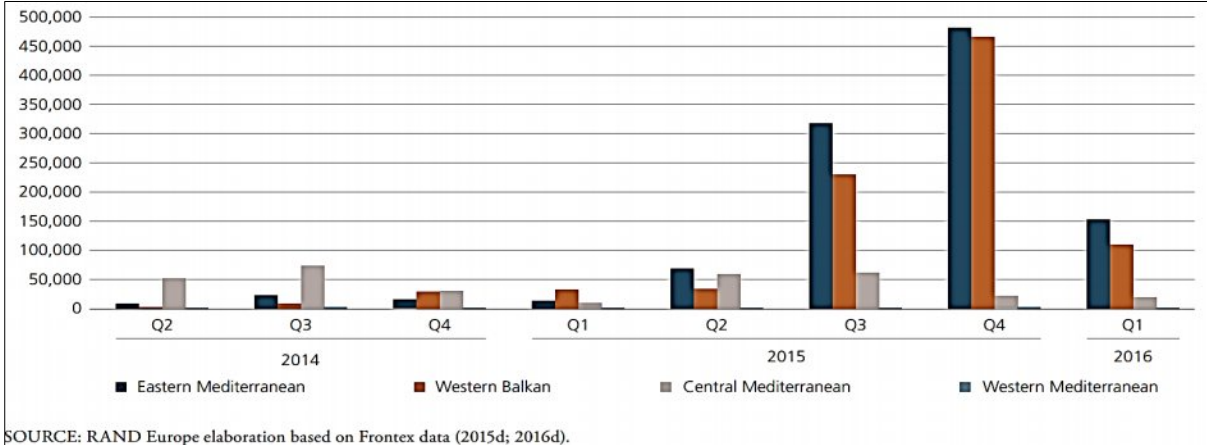


Figure no. 2. Frontex data on detections of illegal border-crossing between border-crossing points between 2014 and 2016

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SECTION II
MILITARY SCIENCE

THE ROLE OF INTUITION IN MILITARY DECISIONS

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Abstract: *Over the course of history, the decision-making process was at stake for many military commanders and their ability to act in critical situations. All historical events occurred as a result of powerful people making either a beneficial or detrimental decision. Therefore, the first part of the paper will be focused on the importance and the main elements of the decision-making process. Furthermore, the complexities of this process will be displayed along with the limitations that can influence the decision-maker. Also, the approach that a leader might choose affects the outcome of a specific situation. In the second part, attention will be directed at intuition as a favorable attribute for the leaders of the armed forces and how it can be taught in order to achieve the intuitive judgement necessary in the military. This paper's goal is to analyze the effectiveness of using intuition in the military decision-making process rather than the rational evaluation that has been used and taught for years. Because military circumstances are so fluid these days, the decision-making process is hampered by a dangerous tempo of action, disordered intelligence, and agitated activity rather than a basic, easy-to-implement approach. In such situations, decision-making is rarely clear and objectively rational but rather intuitive.*

Keywords: *decision-making; intuition; comparative evaluation; singular evaluation; intuitive judgement; gut-feeling.*

Introduction

Making decisions in the military is vital for the smooth running of events and also for achieving the desired results in a given situation. The decision-making process is a complex one and has been studied for a very long time, but there is no defining solution for each and every situation yet. Because the armed forces are involved in many activities, so are the ways of making a decision. This has been thoroughly studied by several entities and disciplines, including psychology, economics, sociology, political science, biology, and other areas of financial administration.

Through the years, the best approach to finding a solution to a military problem has been through the analytical method, by comparing two or more options and choosing the one that fits the most into the context. That specific choice was then optimized by adding or eliminating elements to make it more efficient. But all this process was taking too long, and by the time the final decision was made, the facts of the situation might have already changed, which led to starting over the whole process. In order to find a more efficient solution, people started to observe other ways of making decisions by using their intuitive judgement. The roots of the term intuition date back to the 17th century, when strategist Miyamoto Musashi¹ mentioned intuition as part of strategic thinking ("Develop intuitive judgement and understanding for everything.[...]only then you will come to [...] be able to win with your eye" (Musashi, 49). Intuition is an attribute that has caught the attention of military leaders in particular, who want to define and use it in the decision-making process both in peacetime and in wartime.

¹ **Miyamoto Musashi** was a Japanese swordsman, philosopher, strategist and writer, who became renowned through stories of his unique double-bladed swordsmanship. Musashi emphasized the "Way of Strategy," taking an overall view of a conflict and devising the best method for countering the enemy's attack, rather than just focusing on technical skills and execution (Contributors).

1. The process of decision-making using Recognition Primed Decision (RPD) Model

In the process of solving everyday problems, an individual has a set of alternatives, being conscious of the possible outcomes, either positive or negative, for each of them. On the theoretical side, a rational person will make a decision based on analyzing all the options that are available and choosing the optimal one (Simon 1987, 205). Many domains of expertise, like psychology, economic, social, and political sciences, or biology, have studied individual behavior in order to find the appropriate way of working through the decision process. An important role regarding decisions rests in the information that one has, but more importantly than that is the way he or she uses the information, how familiar with that information he or she is, or the amount of information that he has.

In this regard, Gary Klein proposed the recognition primed decision² (Klein 1999, 15-16) (RPD) model (Klein 1999, 46-51) which takes into account what all the disciplines mentioned above have studied for a long time. For a better understanding of the decision cycle, this model integrates two processes: how decision makers develop a mind map of the issue in order to recognize the proper path of action, and how they evaluate/reevaluate the chosen course of action by mentally picturing it.

The core steps to understanding the RPD model are (Klein 1999, 127-128):

- Recognizing a situation as typical of a familiar occurrence or condition evokes familiarity and allows decision makers to proceed accordingly. They can also recognize an appropriate course of action that can succeed by recognizing a circumstance as usual.

- To recognize which aims are appropriate. The goals are determined based on familiarity, the magnitude of the problem, and an individual's experience;

- To construct cues in order to reduce the amount of vital information to a bare minimum;

- To prepare for the unexpected. They must always be prepared to react quickly and effectively in the event of any surprises.

- To choose the best course of action. A plan of action can be taken and implemented by being informed of the prior phases.

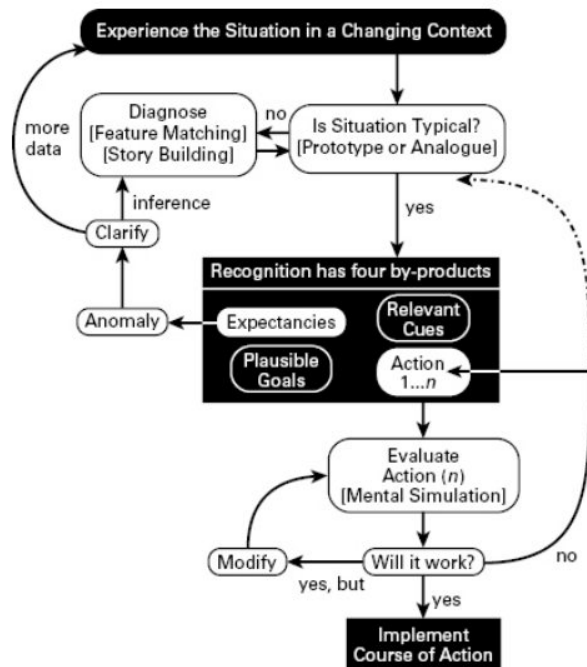


Figure no 1. Recognition Primed Decision Model (Klein 1999, 122)

² The Recognition-Primed Decision (RPD) model was created in 1985 by Gary and colleagues Roberta Calderwood and Anne Clinton-Cirocco to explain how experienced fireground commanders could use their expertise to identify and carry out a course of action without having to generate and analyze a set of options. The RPD model's most important claim is that people can use their prior experience to develop a reasonable alternative as the first one they consider. (Klein 1999, 15-16)

A disadvantage of this model is that, no matter the experience and familiarity with the situation, there might be more complex ones, where the decision makers have to put in more effort in order to diagnose the situation correctly, especially in the military, where during a combat operation there is no exact recipe. These are the cases where the gathered information may not perfectly match a previous situation or may be too complex, involving two or more different examples from the past. Therefore, there is a need for more information. Another complication might lie in the misinterpretation of the gathered information, a fact that will lead to the violation of some expectancies. To clarify, the one that makes the decision has to go back to the core steps and find all the flaws that he or she missed the first time.

Another complexity of this model is represented by the action applied. The decision maker has to mentally analyze the actions that can be taken. In a relatively short time, the decision makers have to mentally go through many ideas of how they can handle the situation before applying them. This means that they can compare two or more ideas at once, or go through each individual one. There might be a need to reevaluate and modify the plan until it makes sense, and then implement the course of action. In a tactical scenario, a commander may consider a variety of options based on battlefield information as it becomes available.

2. Approaching paths for decision making

A variety of factors influence the steps for arriving at a solution at the decision level, resulting in varied approaches to the problem. The most common approach is to take two or more viable options for solving a problem and compare all of their aspects, so in the end, only one will be applied. The disadvantage of this strategy is the significant amount of time required to study all of the possibilities, as well as the amount of data that, in some situations, may exceed the decision maker's processing speed. This is the most common strategy in training, since the outcome may be of higher value if each item is carefully examined.

Besides the comparative strategy, there is another one that has a greater impact in critical situations, and that is the singular evaluation approach. Instead of analyzing the options by comparing them, a decision maker will think of the options one at a time, evaluate them in each turn to establish their effectiveness, reject them if they do not meet the desired target, and turn to the next most typical solving technique. Even if the individual has to cycle through several possibilities, he or she has to evaluate each option's merits.

The first approach consists of analyzing the options and creating an optimized outcome, whilst the second approach looks for the best strategy in a smaller amount of time. In his research, Herbert Simon writes about "rationality and maximizing" identifying a strategy that he calls "satisficing": using the first approach that works. In these circumstances, the key to simplifying the decision-making process is to substitute the aim of rationalization with the goal of satisficing, i.e., finding a good enough solution in order to find the best move. (Simon 1987, 204-205)

There are a few factors that influence the decision maker's choice regarding the strategies above. Leaders will most likely choose the comparative evaluation strategy in these cases:

- When there is a need to justify the choice, needing more evidence;
- When there is a need to optimize the solution as much as possible. The decision maker has to take all the facts into account and come up with the best decision;
- When the situation is too complex. There might be too much information to process, which requires time and effort to analyze, so the best approach is the rational one.

On the other hand there is the singular evaluation approach, which uses mental simulation based on the RPD model and it can be applied in other situations such as:

- When time pressure is high, it is impossible to take into account all the details of the situation, therefore the best approach is to choose the closest acceptable option.

- When experience is high. The more experience an individual has, the more confident he or she can be in recognizing a viable approach to the problem.

Besides these two approaches to solving a problem, there are others that can be taken into account when necessary. A simple method called elimination by aspects (Tversky 1972, 284-286) consists of weighting the options against the most important criterion; those that fail to meet that criterion are eliminated; the remaining options are weighed against the next most important criterion; and those that fail to meet that criterion are eliminated, filtering and filtering until only one option remains.

3. Intuition

Understanding and applying intuition in decision making is a challenge for most studies where it is present. What is intuition? How can it be best used in decision making? How does intuition can be taught? How effective is intuition in the military? What are the factors that encourage using intuition to the detriment of rational thinking? These are one of the most common questions in intuition-focused studies that find different answers depending on the author's focus field. To illustrate it, in his paper, Hogarth examines from the psychological point of view how intuition influences our cognitive judgement and decision-making skills (R. M. Hogarth 2010), while Cunningham (Cunningham, et al. 2012) tries to examine how military leaders, as a part of high level organizations, use intuition in the decision-making process and in solving senior level problems. Another example regarding the study of intuition is the work of Gary Klein and his contributors on how certain experts (military leaders, first responders such as firefighters or doctors) use intuitive recognition primed decisions in their professional judgements (Klein 1999).

With a wide range of applications, including increasing confidence and empathy through self-suggestion, following the first thought without hesitation, letting go of prejudices, self-awareness, and overcoming fears, attention to intuition in the decision-making environment has led to a more practical definition of this "sixth sense" in recent decades. Several authors have given the following definitions of intuition:

- John Adair defines intuition as "the power or faculty of immediately apprehending that something is the case[...]without intervention of any reasoning process" (Adair 2002, 94). This is based on the fact that there is no step-by-step reasoning, or any conscious analysis of the situation, but a quick and ready insight as- 'I just know'.

- On the same page, Gerd Gigerenzer considers intuition as "a judgement that appears quickly in consciousness, whose underlying reasons we are not fully aware of, and is strong enough to act upon." Also, the author attributes intuition to a non-technical term, which everyone else is familiar with, *gut feeling* (Gigerenzer 2007, 16).

- Gary Klein, on the other hand, has a different version of defining intuition, such as "recognizing things without knowing how we do the recognizing. We size the situation up and immediately know how to proceed: which goals to pursue, what to expect, how to respond". In other words, he summarizes intuition as the ability to use experience to recognize situations and know how to handle them without much thinking (Klein 1999, 58).

- Hogarth comes forward with his approach, claiming that "the essence of intuition or intuitive responses is that they are reached with little apparent effort, and typically without conscious awareness", being correlated most of the times with *speed* and also with *a sense of confidence* (R. M. Hogarth 2001, 14).

Therefore, intuition represents our capacity to know something and act towards it without conscious judgement; that gut feeling of knowing what it is we have to do, being comfortable and confident that it is a good approach. However, intuition is a term that can be easily confused with instinct or insight, two other concepts that are often used interchangeably in everyday conversations. They have similar meanings, but applied in different concepts, they cannot be that interchangeable. Instinct is an innate inclination or natural skill that cannot be taught, but rather it is inherited. For example, if someone puts their hand on a hot plate, the first reaction (instinct) is to retrieve the hand as fast as possible. Instinct is a survival capability, as opposed to intuition, which is gained via experience and involves a judgment process. On the other hand, insight refers to the ability to get a complete and accurate understanding of someone or something, as well as the ability to "see into" the structure of a situation. (R. M. Hogarth 2010, 339). Both intuition and insight are learning based-processes, but the second one relies on deliberate processes, such as following the proper steps in solving a mathematical problem. They can be related, but not defined as the same attribute.

4. Learning and developing intuition

When a person discovers the meaning of intuition in his or her life, he or she must use it as much as possible, try it in a variety of situations, evaluate what works and what does not, and make adjustments along the way. A mature intuition later in life is more likely to be trusted more than earlier on, because of the massive experience, information gained and practiced in judgement. As a general agreement, even though some of the first actions of leaders in different situations are instinctive, intuition can be shaped only by learning. This process never stops, as there are cases where components of intuition might be upgraded on the way, making it a more trustful aspect in making a decision.

Nevertheless, in order to have a growing intuition, one of the first steps is to accept it as an important element in the making of decisions. Once intuition is treated as a valid tool available to the commanders in the armed forces, the response time for the decision cycle can be massively reduced. That way, the attitude towards intuition as an irrational component will be diminished, therefore leading to the next step, which is to trust the intuitive power.

During the process of becoming an expert, leaders in the armed forces depend on their institutional and personal training, operational and combat experience gained through assignments, and most importantly, the individual training of their abilities. They have to be aware of their personal capabilities and how they can improve in order to make them more efficient. The art of war is not well taught by reading and theoretical learning, but by experience in the combat and operational events. The reason for this is that the theoretical situations are very different from the real ones. In the latter case, the retention of the gained knowledge through experience is higher and of better quality (Saini 2008, 86).

The key aspect of growing intuition lies in experience. Every situation is different, thus our brain's job is to map out all the facts, including the environment, the variables, and influencing factors, in order to look out for the possible outcomes. A better understanding of the outcomes from a specific situation helps to speed up the process of decision-making. Often, intuition-based decisions seem to appear without too much effort and are more effective regardless of whether the person is familiar with the scenario or not (Young 2015). Experience is very important, but only if it is relevant to the subject. In this case, inexperienced decision makers, such as young leaders, apply mental maps from other domains. They have the ability to see connections and paths that someone more familiar with the situation cannot. It may not have the same impact on the decision as the original, but it can come close. Still, for consistently good results, the decision-making based on intuition depends on the expertise that an individual has in a specific domain.

On another level of growing intuition is to draw connections with other traits that are at hand. One attribute that must be taken into consideration is imagination. Whenever the next move is not obvious, the leader needs his imagination. Military operations, particularly in a conflict context, may not always have a clear path to success. In these circumstances, answers to specific difficulties cannot be found in literature or recalled from personal memory banks. The leader has to think about things and scenarios in a different manner and then test out many choices to get to wherever he needs and wants to be. That is the place where imagination steps in and the leader chooses originality and innovative thinking over tried-and-true methods. However, the leader must exercise caution while using imagination in the decision-making process as it cannot be employed as the primary thinking characteristic. In other words, imagination should be a part of the team, and not the leading entity of it.

Leaders who follow their dreams may be pathfinders, but they may also lead themselves and others into destruction. Only a few people who deviate from well-worn paths are considered explorers. 'Imaginative', 'inventive', and 'adventurous' are admirable qualities, yet unsuccessful imaginative thinkers are described as 'fanciful', 'reckless' and 'mad'. As a result, we must be wary of any tendency to elevate the concept of imagination as a goal in and of itself. People often overlook the fact that a vivid imagination may also be foolish. However, at the leader level, we cannot consider the latter (Adair 2002, 99).

5. Application of intuition in decision-making process

Most tactical leader activities revolve around making decisions to solve difficulties. Living in a dynamic, confusing, and changing world creates an unavoidable result of challenging obstacles: either the leader finds the problem, or the problem finds the leader, as seems to be the case more often. Tactical leadership occurs in a state of flux and ambiguity, and judgments must be taken in light of the environment's complexity, instability, and magnitude. These dynamic circumstances generate scenarios in which decision-making is characterized by a hazardous pace of action, fragmented content, and agitated reactive activity rather than a simple, easy-to-apply procedure. Decision-making in such settings is rarely clean and objectively rational; it is more typically chaotic.

The subjectivity dilemma of military operations can be solved through intuition. War, according to Sun Tzu, is an art governed by five factors, including moral law, heaven, Earth, the commander, method and discipline (Tzu 2009, 3). The most important factor is the commander, who manages to transform, through his decisions war into art. Instead of a single perfect solution, each military situation has a progressive spectrum of potentially workable alternatives. By considering numerous circumstances, a commander will be able to come up with a solution if he wisely uses his vision and innovation. An intuitive commander who understands and anticipates the battle's flow will be able to detect hidden chances and solutions at a higher level.

The process of appreciation of the situation can also be supported by intuition. The commander is expected to make a decision based on the advantages and disadvantages of each option. Because the benefits and drawbacks of a military strategy are not objective, they cannot be correctly defined into a mathematical matrix. Finally, a commander must deal with subjectivity and abstraction while making a choice, just as an examination of the strengths of opposing forces will not predict the outcome of a battle. A commander who can utilize intuition to distinguish how an action plan is developing, will be in a better position to determine a course of action that is favorable for the circumstances.

Also, in dealing with information overload, intuition plays a vital role. The unconscious mind, from which intuition arises, is unlimited in size and capable of processing information in tandem with the conscious mind. The intuitive and inventive commander will

benefit from the fact that his mind will continue to digest information even if his awareness is occupied with other tasks. The intelligence picture of military operations will never be comprehensive and accurate, despite technical advances in reconnaissance and surveillance devices. There will always be some new information and changes that will constantly influence the situation. The battlefield will always be unpredictable and non-linear, positioning war as far as possible from being a science. The dynamic nature of military actions may simply reduce the leaders' time required to process the amount of raw data available. They will be forced to interpret the insufficient information and make decisions accordingly. That is where intuition comes into place and helps the individual go through the decision process more easily.

Conclusion

While dealing with stressful conditions, commanders are overwhelmed with knowledge from every direction, so they have to use their intuitive decision making to rule out options to create a clear evaluation map of the situation. By eliminating elements, the individual can reduce the time required to come up with a course of action. In these kind of situations, neither the comparative evaluation, nor the intuitive one is good or bad. The main point is to create a balance between the two and apply them accordingly.

There is not a specific weight in the decision-making process of how much rationality, intuition or imagination to use. Every situation is different and therefore requires a different approach. Because of their characteristics, most tactical military operations fall on the intuitive side of the decision cycle. During these operations, the complexity of information, the time constraint, and the available tools cannot be efficiently analyzed and optimized in order to come up with the best rational solution, but rather with the most effective response. The difference between a decision made during a planning procedure is totally different than one made in a live military action. The comparative evaluation is more likely to be used during the initial plan with very little intuitive contribution. During the tactical operation, as most of the elements change, the intuitive approach has to take the lead progressively. Also, there are no specific boundaries between when one stops and where another begins. It is up to the decision maker's experience, familiarity with the situation, required time, and his or her state of mind.

As long as intuition is viewed as an useful tool rather than an irrational one, the decision-making process would be more efficient, with good outcomes for the decision maker.

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CENTRALIZED CONTROL OR DISTRIBUTED CONTROL – DO WE NEED A PARADIGM SHIFT?

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Abstract: *The centralized control and decentralized execution is one of the basic tenets of air power command and control, a tenet that has proven its importance and usefulness throughout history. The development of electronic and cyber warfare capabilities, space, surface-to-air missile systems and A2/AD (anti-access/area interdiction) strategies create contested operational environments that limit traditional concepts of command and control (C2) in the effective employment of air forces. The new US Air Force Doctrine, “Air Force Doctrine Publication 1 – The Air Force”, formally establishes mission command as the philosophy for command and control (C2) airpower and centralized command, distributed control, and decentralized execution the way to be implemented. Conducting air operations in a contested operational environment requires an approach to command-and-control principles that responds to threats to communications and attacks on air operations centres. Distributed control exploits the flexibility and versatility of air power to ensure that it remains responsive, survivable, and sustainable, especially in a contested environment. The benefits associated with distributed control (as well as decentralized execution) are maximized when the commander's intent is clearly communicated and guides subordinate actions, in order to allow continuity of operations. Commanders will continue to face the challenge of harmonising centralization, distribution and decentralization, a struggle that will be situation dependent and that requires an approach within the guidance of the higher echelon.*

Keywords: *command; control; centralized; distributed; air operations; contested.*

Introduction

The *centralized control and decentralized execution* is one of the basic tenets of air power command and control, a tenet that has proven its usefulness and importance during history. Air Force Operations Doctrine establishes this principle as being of particular importance and contributing to the effective and efficient use of air power alongside the other "basic principles of air operations employment." (Doctrina pentru Operații a Forțelor Aeriene 2016, 15)

World War II is the starting point for the first part of this basic tenet, *centralized control* which grew out of worries that dividing air power into multiple elements with distinct commands would reduce its effectiveness. As the operating environment changed the principles of air power evolved, *decentralized execution* appeared in order to allow flexibility and response to dynamic situations. (Mulgund 2021)

Pham (2019) argues that the lessons of history on the application of air power have been apparently misinterpreted, in that there has been a “dogmatic adherence to the simplistic phrase *centralized control and decentralized execution*”. The security challenges of the international environment and the emergence of contested operational environments due to new weapons systems and technological progress demonstrate the need to adapt concepts of air power application.

The development of electronic and cyber warfare capabilities, space, surface-to-air missile systems and A2/AD (*anti-access/area denial*) strategies create contested operational

environments that limit traditional concepts of *command and control* (C2) in the effective employment of air forces.

The new US Air Force Doctrine, “Air Force Doctrine Publication 1 – The Air Force (2021), formally establishes *mission command* as the philosophy for *command and control* (C2) airpower” and *centralized command, distributed control, and decentralized execution* the way to be implemented.

Given the coverage and strategic effects of air power, the employment of *mission command* necessitates addressing some key elements and reaching a balance between flexibility at the tactical level, risk management, precise timing of effects to obtain synergy and the challenges and logistical realities of operations. To be able to achieve all this, the Air Force needs to:

- “concentrate responsibility and authority” to decide, direct and approve “military operations through centralized command;”

- enable the “delegation of planning, coordination” and evaluation actions to “dispersed locations or subordinate echelons as possible through distributed control;”

- promote “disciplined initiative and effective tactical control” through decentralized execution. (Mulgund 2021)

Given the realities of the operational environment and the fact that the Air Force cannot risk becoming incapable of effectively executing its assigned missions, exploring the merits of the *distributed control* tenet becomes mandatory.

A contested and changing operational environment

In contrast to recent conflicts, where Air Force operations have taken place in a permissive environment without major threats to command-and-control systems, future operations will take place in a contested environment. (Priebe 2019, 47) The conditions imposed by an adversary, who intends to contest the operating environment, require consideration of how the Air Force will analyse, “plan, decide, and coordinate actions to achieve mission success.” (Mulgund 2021) Operations conducted in a contested environment are defined, "contested operations" and are described as "operations constrained by adversary capability and/or actions". (Tompkins 2018)

Currently, every operational domain is contested, air, land, maritime, space, information environment (including cyber) and electromagnetic spectrum (EMS), limiting the Air Force's ability to act. The term "contested environment attempts to encompass all adversary attempts to disrupt military operations across the depths of battlespace, including kinetic and non-kinetic attacks.” (Priebe 2019, 1) For example, the adversary could “use cyber-attacks, electronic warfare (EW), offensive space weapons and ballistic and cruise missiles in order to attack critical components of military force, involving command and control systems, air bases, and communications systems.” (Priebe 2019, 1) At the same time, we see that the presence of anti-access/area denial (A2/AD) environments is increasing and besides the challenge to survive in such an environment we can be positive that the communications and datalinks will be contested. This approaches to disrupting the operational environment understanding and intelligence sharing represents a "deadly Clausewitzian fog." (Pham 2019)

A study on NATO's future challenges finds that after more than a decade of Alliance operations in Afghanistan, we have become accustomed to operating without air threats against an inferior adversary. In the future, however, we must be prepared to encounter even a peer adversary. In this situation, a degraded environment can become evident through degraded or absent satellite navigation, execution of ISR missions with an adversary jamming sensors, and of course, degraded communications. It can also significantly hinder the efficient

and effective use of the electromagnetic spectrum through advanced electronic warfare (EW) operations (Ernst 2016) The development of A2/AD (*anti-access/area denial*) strategies diminishes freedom of manoeuvre and limits the Air Force's ability to operate.

The development of space and cyber capabilities can negate many of the Air Force's capabilities, including satellite communications and navigation systems and the use of Global Positioning System (GPS)-based precision weapons. Some countries have already demonstrated capabilities to attack space targets and anti-satellite weapons have been tested, validated and proven to be effective. These concepts extend into the electromagnetic spectrum domain, a key extension of the space and cyber domains which is also an intensely contested environment. Electromagnetic spectrum can be exploited by jamming systems to degrade or deny communications, the use of surveillance and radar research systems, the use of some weapons systems, network-centric operations and ISR collection. (Yalinalp 2016)

While kinetic threats such as fifth-generation fighter aircraft, advanced air-to-air missiles and long-range surface-to-air missiles are obvious threats, non-kinetic threats, commonly overlooked, are those that compromise access to information, networks, databases, and communications systems that enable command and control (C2). The development of advanced electronic warfare (EW), cyber, space and ISR capabilities, which are force multipliers, enable multi-domain operations and the creation of a contested environment. Estimating that command and control (C2) networks in future conflicts will be degraded is quickly becoming the “operational reality” for the operations planning process (Tompkins 2018).

A RAND study for the United States Air Force (USAF) identified two types of threats from a contested environment that could have a significant impact on the air operations. These threats are air attacks and long range ballistic and cruise missile strikes on air operations centres (AOC) and air bases, and disruptions of communications links between the operating points of the Air Force. The major vulnerability to the command-and-control system is from attacks on the air operations centres and substantial communications disruptions, which could render the Air Force unable to plan and coordinate the air operations. (Priebe 2019, 47-48)

To operate in a contested environment with degraded or destroyed command and control systems, Air Force processes and methods of operating must evolve. Modernizing command and control systems requires not only a hardware upgrade, but also a change in the conceptual component and *modus operandi*.

Centralized control

The Romanian Air Force's Doctrine for Operations establishes *centralised control and decentralised execution* as one of the "basic principles of air operations" that contributes to the effective and efficient use of air power. (Doctrina pentru Operații a Forțelor Aeriene 2016, 15) *Centralized control* establishes priorities for the use of air power if demands exceed the available air capabilities. Furthermore, in joint operations, the principles that contribute to the effective use of "air power are *centralized control, decentralized execution, and strategy to task.*" (Doctrina pentru Operații a Forțelor Aeriene 2016, 21) "It can be concluded that the planning of an air operation is carried out only at the level of a single structure, whose mission is to plan and direct it, in this case the *Air Operational Component*. According to this approach, the other participating structures, in particular the Air Force structures, have only the role of participating in the operation and preparing the specific missions." (Chiriac 2018, 6)

The principle of *centralized control and decentralized execution* was adopted within the Air Force because of the uniqueness of air power, including range, speed, concentration of effort, and simultaneity of multi-level war effects. (Theriault 2015, 100) Within the United States Air Force, beginning with Second World War, “doctrine promulgated a command and

control (C2) philosophy known as *centralized control and decentralized execution*.” (Priebe 2019, 48) In order to respond to a changing operational environment and with a limited number of aircraft it was considered that only under a single control authority the aircraft could be efficiently reallocated and massed. Through *decentralised execution* commanders have flexibility and can change the way a mission is executed according to the actual operational environment. (Priebe 2019, 48)

The experiences of the air operations in North Africa instilled the concept that appointing a single air commander to plan, coordinate and control air power actions in the theatre of operations leads to holistic planning. Specifically, the theatre-level commander's perspective allows him to exploit speed, flexibility and air power focus in exploiting unplanned opportunities and vulnerabilities within resource constraints. (Docauer 2014, 25)

Through centralized planning detailed guidance is communicated to lower echelons using an air mission order (ATO). Employing decentralized execution, the second element of the traditional tenet of air power, from the moment the mission has been communicated through the air mission order, the air operations centre (AOC) personnel should not typically interfere in the execution of the mission. Although the air operations centre (AOC) may have planned many of the empowering details and set operational constraints, the thorough mission planning and tactics selection necessary to successfully accomplish the mission is being accomplished at the unit executing the mission. Intermediate structures have a reduced responsibility regarding the functioning of the operational command structure. One developer of “US Air Force doctrine stated that operational experience in Central Command for approximately twenty years has conducted to a misconception that *centralized control and decentralized execution* of air power represents control at the combatant commander (CCDR) and *decentralized execution* at the mission commander level. The intermediate structures involved function mainly as force contributors and not as possible nodes of execution.” (Priebe 2019, 48)

According to Hallen (2012, 12), during the Second Lebanon War, the Israeli Air Force established Forward Air Operations Centres (AOCs) directly under the main Air Operations Centre, thus adopting a flexible approach to the principle of *centralized control and decentralized execution*. In this situation, the focus of the Lead Air Operations Centre (AOC) was to conduct strategic campaign planning, the local battle space control and coordination being transferred to the Forward Air Operations Centre (AOC). The command and control architecture used by the Israeli Air Force for the application of air power was considered a success, indicating that the principle of "*centralized control* may be the product of historical misinterpretation rather than a proven tenet in its own right.” (Pham 2019) Historical events highlight the fact that commanders face a wide range of operational challenges and it is unrealistic for them to follow to one or two " master principles.” (Creveld 1985, 261)

Traditional command and control (C2) architecture consists of single lines of communication to a decision node, the Air Operations Centre (AOC), which processes information and then directs capabilities to produce binding effects. (Grumman 2015, 8) In a contested environment the traditional approach, *centralized control and decentralized execution*, would have substantial vulnerabilities. Physical attacks on the Air Operations Centre (AOC) or communications disruption would have significant consequences regarding “the ability to plan, execute, and evaluate air operations”. (Priebe 2019, 49) To be able to execute successful operations in a contested environment it will be necessary to change the way command relationships are established, plans are prepared, “prioritizes and allocates resources, and orders are communicated.” (Priebe 2019, 49)

Air power requires a thorough understanding of the command principles and flexible employment to ensure that supports the higher intent, “not dogmatic adherence to a single doctrinal tenet.” (Pham 2019)

Distributed control

Conducting air operations in a contested operational environment requires an approach to command and control principles that responds to the new challenges, such as threats to communications and attacks on Air Operations Centres (AOC).

US Air Force (2021) formally established *mission command* as the new thinking for the employment of air power and “*centralized command, distributed control and decentralized execution* the principal tenet of command and control (C2)” application. (U. S. Air Force 2021) This represents a development of the air power principle, *centralized control and decentralized execution*, in order to deliver “a unifying framework for the development of new concepts of operation, organizational approaches, and material solutions to address the challenges” generated by the emerging operating environment. (Mulgund 2021)

Peck (2019, iv-v) conducted quantitative research to evaluate the effects “of decentralizing the command and control (C2) of airpower under varying operational conditions. In the research was used the experimental method pointed to test hypotheses concerning decentralization of control.” “The necessary data was provided using JAEX, a stochastic, attrition-based Blue-versus-Red wargaming model.” (Peck 2019, v) The dependent variable was the “mean difference between JAEX outcomes under *centralized control* and outcomes under *decentralized control*” and “independent variables were the operational conditions and the complexity of the scenario.” (Peck 2019, v) The results of the experiment outlined “the relationships between operational conditions of interest and the mean difference between outcomes under *centralized control and decentralized control*.” (Peck 2019, v)

According to Peck’s experiment, when the Blue centralized C2 node was increasingly degraded, thus decreasing its capability to employ in logical manner the centralized control, the initial benefit of the centralized command and control, varying from 40% to 80%, declined to -20% (demonstrating an advantage for Red). Therefore, the three decentralized command and control nodes created more effective air power than the centralized Blue’s nodes that were seriously degraded. (Peck 2019, v)

Distributed control exploits the flexibility and versatility of air power to guarantee that it stays “responsive, survivable, and sustainable, especially in a contested environment” (Mulgund 2021) where execution forces might lose touch with the Air Operations Centre (AOC). “*Decentralized execution* is the delegation of authority to achieve effective control, encourage disciplined initiative, and empower subordinates to exploit fleeting opportunities especially in physically or electronically contested environments.

The main effort of the *distributed control* is on:

- Disseminating and executing commander's vision, intent, and orders;
- Assuring apportionment and allocation in harmony with commander's intent;
- Local integration of kinetic and non-kinetic capabilities to synchronize effects;
- Achieving refinement of situation-based operational and tactical planning.”

(Mulgund 2021)

“*Distributed control* represents the process (how) of transitioning control authority from one entity to another” (Hostage and Broadwell 2014, 39) and does not imply, definitely, “that command authorities or command responsibilities are delegated from the Combined Forces Air Component Commander (CFACC) or a subordinated commander to another.” (Hostage and Broadwell 2014, 39) The benefits associated with *distributed control* are maximized when the commander's intent is clearly communicated and guides the actions of subordinates. Undesirable outcomes may arise when distributed control is employed in the absence of precise guidance and when the overall situation, mission and operational limitations are not clearly stated.

Under a different approach, “*distributed control* can be defined as the conditional, adaptive delegation or assumption of control activities through orders or protocols to synchronize operations, maintain initiative, and achieve commander’s intent.” (Hostage and Broadwell 2014, 39) According to Theriault (2015, 107), responsibility for execution of operational design, not command, is delegated to the forward commander in operations, who has a clearer picture of the immediate combat environment than the Air Operations Centre (AOC) commander. *Distributed control* drives the forward commander to some extent “to look beyond his sphere of influence and coordinate across other Air Force, joint and coalition nodes to achieve theatre-wide effects.” (Theriault 2015, 109)

In order to be resilient and effective in a contested environment the Air Force must adapt and move beyond the traditional philosophy of *centralized control*. If the lines of communication and datalinks were to be disrupted, “the concept of *distributed control* empowers subordinate commanders, organizations, operations centres and battle management command and control platforms to amalgamate otherwise disconnected units into teams of synchronized combat airpower” (Hostage and Broadwell 2014, 38-39) and to increase the air power’s resilience.

US Air Force Chief of Staff General David Goldfein said the Air Force is "shifting doctrinal reliance on large, vulnerable centralized command and control centres to more agile, networked solutions ...treating *distributed control and decentralized execution* of multi-domain operations." (DeCook 2018) To execute the full spectrum of operations across the “competition continuum” (U. S. Air Force 2021, 2), in a contested operational environment, the Air Force needs to shift the philosophy of *command and control*, from *centralized control* to a concept of *distributed control*.

The employment of *distributed control* represents adapting the command and control (C2) system from a single node to an array of C2 nodes, increasing the resilience of the system. For example, the Joint Force Commander can choose to assign separate geographic sectors assuming that local communications would probably be more resilient. The commander can reallocate capabilities between sectors and, in the event of serious disruptions, would continue to operate following the previously stated intent of the higher echelon.

Besides creating more command-and-control nodes and realizing a more resilient command and control system, *distributed control* requires a change in how orders are communicated to subordinate units. In a contested environment, characterized by dynamic changes and disrupted communications, orders should be transmitted through “mission type orders”. To achieve unity of effort, subordinates need to understand higher echelon orders and the commander’s intent rather than to receive detailed orders. (Priebe 2019, 54-55)

Mission type orders (MTOs) are an order writing “technique” that gives subordinates “maximum freedom of action within the commander's intent. By focusing on objectives and effects rather than targets, they emphasise the results to be achieved based on the priorities and intent of the higher echelon, not how to achieve them. By expressing intent and direction, the commander seeks to provide clear objectives and goals to enable subordinates to execute the mission. The commander's intent should specify the goals, priorities, acceptable risks, and limitations of the operation” in order to enable the subordinates to function autonomously for the stated period of time. (Mulgund 2021)

Mission type orders (MTOs) should contain clearly and concisely the “mission, organization, commander's intent and overall concept of the operation, tasks to subordinate units, and minimum essential coordination instructions.” (Mulgund 2021) Mission type orders (MTOs) follow the normal five paragraph order (situation, mission, execution, force sustainment and command, signal and communications) “can be adapted an applied to peer and lower echelons and are issued based on the direction given in the planning orders

(PLANORDs), operations orders (OPORDs), joint air operation plan (JAOP) and the air operations directive (AOD).” (U. S. Air Force 2021, 12-13)

Commanders will have a difficult task on the degree of authority to delegate to subordinates in a contested operational environment. The 7440th Fighter Wing, that was deployed in Turkey for the Operation Desert Storm, had the authority to plan the packages for the missions, allocate aircraft, and design the operation after receiving only the objectives and a list of targets from the Air Force commander. (Priebe 2019, 55-56)

For example, in an extreme situation, the commander might assign a subordinate unit a very important and demanding mission, (suppression of enemy air defences in a specific geographical area for a specific period of time) and allow the unit to determine resource allocation, establish mission packages and execute the necessary tasks to accomplish the assign objective. “In this model, the air tasking order (ATO) would be created in a distributed rather than central manner in the Air Operations centre (AOC), centralized control and detailed orders allowed the commander to allocate limited resources, reallocate as priorities changed, and retain the sensitivity of policy decisions at higher echelons. However, detailed control has made the Air Force dependent on a small number of vulnerable nodes. Latency and disruptions in communications between AOCs and the force can also make a centralized process too slow.” (Priebe 2019, 56)

According to Hostage and Broadwell (2014, 43) “the mantra of centralized command, distributed control and decentralized execution is not a change from our past, but a healthy adaptation to the realities of contemporary warfare.” The realities of the operational environment have changed dramatically, the Air Force needs to adapt and change the way he trains, plans, prepares and conducts operations to be resilient and successfully accomplish the missions.

Commanders will continue to face the challenge of harmonising centralization, distribution and decentralization, a struggle that will be situation dependent and that requires an approach within the guidance of the higher echelon.

Conclusions

The rapid changing operational environment has demonstrated the need to adapt the concepts of air power use. In a contested environment, threats to communications and the risk of attacks on air operations centres (AOC) will challenge the traditional approach to command and control (C2) of air power, *centralized control and decentralized execution*. The new philosophy of the US Air Force, *centralized command, distributed control and decentralized execution*, is the response to a contested and fluid operational environment.

Distributed control and the use of mission orders (MTOs) are the answer to changes in the operating environment and would allow the Air Force to continue to carry out its missions effectively. Distributed control leverages the flexibility and versatility of air power to ensure that it remains relevant, especially in challenged environments where the loss of connections between execution structures and the Air Operations Centre (AOC) will be a reality.

The doctrinal revision is not a singular approach, the adaptation to the new operating environment and the implementation of the new concepts of command and control will be a long and at the same time transformational process for the Air Force.

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THE IMPACT OF TECHNOLOGY ON WARFARE

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Abstract: *Over human history, war has been documented since people tend to conflict over territories and control of resources. Over centuries, war became an integral element in demonstrating strength and power among states and plays a significant role in the international system. The paper looks into the impact of technology on warfare by focusing on elements like autonomous vehicles, ethical conflicts posed by autonomous vehicles, the proliferation of war and human suffering, and stealth technology and aerial combat. Technology plays a significant role in modern warfare due to new approaches to making, moving, and concealing military equipment. In addition to improvements in weaponry, technology has played another important role, forcing the military leadership to develop new tactics, techniques, and procedures to be able to reduce or negate the advantages of intelligent weapons. There has also been the proliferation of war and displacement of people. Cyberwar and aerial combat have taken a new shape where the latter uses stealth technology to avoid detection and launch surprise attacks on enemies. The advent of stealth technology, as well as sophisticated guidance capabilities, has helped reducing collateral damage, nevertheless, it has also led to more human suffering, as shown by nuclear weapons, autonomous vehicles, and deadlier arsenal.*

Keywords: *warfare; technology; weapon; cyber; stealth; nuclear.*

Introduction

The Impact of Technology on Warfare

War has been documented throughout human history since people are bound to conflict over various interests like resources. The early people faced disputes in different ways despite being peaceful. (Mampilly 2005). The conflicts became more evident following civilization when people started changing their nature due to increased population and the proliferation of agriculture. Conflicts and war became one of the approaches of showing power and strength, and it was later replicated in states across the international system. The global system is described through an anarchy type of formation, and the advantaged countries use their power to pursue their interests while overlooking the well-being of others. Over the years, the manner through which states engage in war is changing due to the advancement of technology. The paper explores the impact of technology on warfare by looking into aspects like autonomous vehicles, cyber wars, and stealth technology and aerial combat.

Technology and Weapons

In most cases, there is no central authority which makes it complex for nations to work together, and thus every country pursues its self-interest. In such instances, conflicts and war are inevitable within the international scope. States need to ensure that they are well-equipped

in war by having the right arsenal and weapons. Despite the importance of these weapons, they pose a threat and danger to the infrastructure and lives of people across the world. Technology has played a significant role in developing weapons around the globe (March of the Robots 2012). Unlike in the medieval period, where cannons were used to break city wars, the modern world has seen the advancement of firearms like Unmanned Aerial Vehicles (UAV). Such weapons apply technology to lock down targets from thousands of miles with precise accuracy and prove that the paradigm of warfare is changing in a fast phase.

Throughout history, the world has seen an advancement of technology that has created asymmetries in the arena of warfare. In most cases, rapid changes in technology mostly favor the attacker since the victim is less likely to have a defensive counter-measure approach (March of the Robots 2012). However, the technological changes may be countered by upgrades in the defense systems, e.g., software upgrades. In such cases, the global or regional balance of power may significantly transform the balance of power (March of the Robots 2012). The technological changes and their impacts on warfare call for shared technical literacy and awareness on how these transformations rapidly and inevitably affect the military doctrine and security policies. Some of the significant focus areas are bio-weapons, cyber wars, and autonomous weapons.

Change from Humans to Machines and Autonomous Vehicles

In the past two centuries, the Industrial Revolution brought significant changes in the history of humans, and it is regarded as the period when production became efficient and faster. The changes were felt in different aspects of production. In his book "Understanding the Industrial Revolution," Charles More argues that rapid urbanization, production, and rise of the per capita between 1750 and 1850. There was also an increase in products like iron, cotton, and other agricultural products. The changes brought a proliferation of equipment and machines (More 2002). The revolution also affected the military since there was an advancement of weapons. The changes also enhanced the transportation of guns from one point to another, which brought significant changes to warfare.

One of the significant aspects that led to changes in warfare was the advancement of the railway network, which brought a lot of benefits concerning the delivery of weapons and supplies to the battlefield. These changes addressed the constraints of soldiers who had to walk long distances and shortages of weapons and supplies during armed conflicts. The guns saw a shift from smoothbore flintlock muskets that had power and ball and cannons that fired shots during the Napoleonic wars in the early 1800s. There was an advancement of weapons to single shotguns used in the Franco-Prussian wars between the 1870s and 1881. Between 1881 to 1890, there was an advancement of guns following bolt action guns and Maxim rifle, which became the first automatic gun and could fire 600 rounds per minute (Grant 2014).

The advancement in technology and new weapons meant war was more "interesting," and fire powder with a higher intensity could be made. There were also new interests that led to an intensification of research and production of new weapons. After World War II, the United States focused on massive technological research on firearms in its "Manhattan Project." The project led to the advancement of quasi-military and military systems, including radar, aircraft, and missiles (Steinberg 2018). The "Manhattan Project" saw the production of atomic bombs and radical changes in ways through which victory and fear were entrusted in the global order due to technological might. Over the cold war period, the United States advanced the Defense Advanced Research Projects Agency (DARPA). Some of the weapons created over this time included the M16 rifle, bombers, stealth fighters, Javelin portable, Tom Hawk missiles, Predator drones, and "fire and forget" missiles (Turse 2004).

Autonomous vehicles and weapons were a significant advancement that allowed soldiers to work safely in risk environments. Drones can be used to operate in places where the lives of fighter pilots are in great danger. Therefore, the use of autonomous vehicles has dramatically reduced the number of casualties in war events. Artificial intelligence has been applied in autonomous vehicles to make various decisions on the war front. However, it is not explicit that these tools can be programmed to understand regulations governing wars which need human capacity and moral judgment. (March of the Robots 2012). Some of the concerns that arise from using such instruments include the ethical and legal responsibility concerning their actions in the entire chain of command. The world also does not have a common ground to navigate these automated weapons, which raises concerns about their use in battlefronts.

Currently, UAVs and robots are novel ways of using technology and machines to carry out war. The origin of such technology dates back to the last century when Germans created V1 and V2 cruise missiles, which are now regarded as ballistic missiles. The first ones were used in the D-Day landings (Christopher Coker 2013). It is vital to note that most drones and robots have been successful in war, reconnaissance, intelligence, and surveillance, e.g., the Predator. Military robots have also been critical in disarming improvised devices (IEDs), as shown in the Afghanistan and Iraq wars. The technology proved to be crucial in addressing the dangers of IEDs, which posed a considerable risk to troops on the war front (Singer 2009).

Over the years, the military has been producing more automated vehicles, and in 2008, the US military had more than 5,3300 drones. The Future Combat Systems develops more vehicles and software (Singer 2009). These vehicles are crewed while others are unmanned and rely on artificial intelligence (AI). This equipment works through the integration of information input by humans. It has been critical in increasing the desire of researchers to substitute soldiers with Lethal Autonomous Weapons Systems (LAWS) or the "killer robots." Although autonomous vehicles do not fully work independently, there is massive research in countries like South and North Korea, the UK, United States, China, and Israel to increase autonomy on land, air, and sea (March of the Robots 2012).

Ethical Issues of Autonomous Vehicles

Autonomous systems can initiate and apply lethal force on their targets based on commands input. However, various issues stand out concerning their abilities to work ethically on the war front as stipulated under the International Humanitarian Law. Humans controlled worthy noting, the war in the 20th century, and to some extent, it was ethical. According to the United States Airforce, humans are obliged to oversee rather than regulate autonomous systems (March of the Robots 2012). These systems are expected to work effectively through improved artificial intelligence to enhance their ability to execute combat decisions. The reliance on such systems has led to various incidents. For instance, the Aegis Combat system faced a technical error that transmitted a negative signal indicating a military plan over the Iran airspace and led to an action by the USS Vincennes. The outcome of the erroneous shooting of civilian aircraft (Flight 655) (Sarah 2014).

The accuracy of autonomous vehicles and AI is thus questioned, and as a result, international think tanks are against its full adoption in warfare. They argue that these weapons are terrible and can pose a danger to civilians and other non-targets if they work independently. The use of firearms also means that the ability to hold people accountable for war crimes is compromised (Farmer 2014). The United Nations thus advises precaution on the use of autonomous vehicles and has that the ultimate decision to terminate anyone's life or execute a target should be based on humans rather than these automated systems. Therefore, despite the adoption of technology in warfare, the ethical concerns since they compromise human actions by executing targets independently.

The proliferation of War and High Civilian Casualties

Adopting technology in making both light and sophisticated ones has contributed to increased suffering among civilians. Over the years, conflicts and wars have led to a growing number of internally displaced people, and the number of fatalities from disputes has increased. Although war will always have casualties, technology is changing the paradigm of war, and modern weapons can inflict severe suffering. Some of the current arsenals which have proven to be deadly include nuclear weapons. The world has also seen chemical weapons which have advanced with technology. For instance, during the World War, the Nazi regime used gas chambers to execute people, proving to be a deadlier and quicker way of killing people (Gregory 2005).

The use of poisonous gas during the holocaust led to the deaths of an estimated 1.5 million people from the Jewish community in Nazi-occupied regions in Europe (Reddy 2000). The approach was criticized as inhuman and contributed to suffering among civilians. Comparably, the United States dropped an atomic bomb in Nagasaki and Hiroshima in Japan in 1945. The impact of the bombings was severe and led to a high number of deaths and injuries. The resulting radiation affected people from miles away, leading to burning, among other physical and psychological concerns. Such bombs demonstrate how the advancement of technology has led to the development of weapons that cannot just terminate lives but end civilization (Reddy 2000, 7,8).

The uptake of modern military technology has increased the involvement of non-state actors (civilians) in war. Currently, more groups are coming up to challenge countries' territorial sovereignty, leading to anarchy and control of territories that they acquire through armed conflicts. The 9/11 attacks in the United States on Pentagon and World Trade Center are examples of such groups where terror groups challenge the authority of another country. As a result, the U.S started an international war on terror in Iraq and Afghanistan. However, their efforts were met with strong resistance from the Al Qaeda and Taliban through their use of IEDs. These devices were planted in various buildings and roads and were proof that their use is changing with technology. They were responsible for losing more than 3,100 U.S troops and injured over 33,000 soldiers. As a result, the United States Department of Defense spent over 2 billion USD in 2007 to train its soldiers on IEDs (Gregg 2013).

Separatists' actions in the Luhansk and Donetsk areas of Ukraine demonstrate how technology have impacted war, leading to loss of lives and destruction of infrastructure. The separatists rely on sophisticated weapons, which have allowed them to control the region and challenge the authority of Ukraine over these areas. The groups work closely with their allies to acquire weapons and other supplies which allow them to work effectively. The suffering of civilians in the hands of this group was reported following the shooting of flight MH-17 over the Ukraine airspace. The incident used a surface-to-air missile. It was met with strong criticism with accusations being projected towards the Donetsk leader and Russia, accused of supporting the group with equipment and ammunition (Sky News. Weapon Moved to Russia After MH17 Shot 2014). The casualties of MH-17 can be seen via the lens of victims of circumstances since they were killed in a war that they did not take part in, which can be attributed to a wrong utilization of military technology or error.

Similarly, the Syrian government under the Assad regime has been accused of using chemical gas on civilians. Although the government denied such reports and accused rebels of the actions, the incident shows the changing nature of warfare and how civilians are suffering. The action also indicates the struggles between states and civilians who acquire military weapons. The crisis in Syria resulted in the loss of livelihoods, housing, shelter, water, and food, and most of the civilians became refugees in the neighboring states. Over the last ten years, the country has seen an estimated 3 million people flee from Syrian to Lebanon and

Turkey. Another 6.5 million people have been displaced internally in the country, and about 150,000 people seek asylum through the European Union (Syrian Refugees. A Snapshot of the Crisis- In the Middle East and Europe 2013).

Cyber War

Cyberwar refers to conflicts within cyberspace where information technology plays the major factor towards superiority. The advancement of technology has been critical for countries to use this medium to acquire confidential and classified data from their allies. Non-state actors also play a significant role in cyberspace. For example, a pro-Arab created a website called "UNITY" to support Palestine in its conflicts with Israelis. The site attacked most Israeli commercial websites and interfered with the internet service providers, which also grounded the country's stock exchange (Trendle 2002, 7). One of the interesting aspects of this war is that it has no time frame or boundaries and can be used by countries to advance their objectives.

Cyber-attacks have played a significant role in the United States and China relations, and it has been demonstrated through national telecommunication corporations in the two states. United States legislators have been closely monitoring Chinese companies like ZTE and Huawei, whose activities are seen as a significant threat to national security. The legislators ensured that the organizations did not merge with local entities because they would access classified data. The Chinese government has also been skeptical towards working with American organizations following Edward Snowden's leak. China rejected working with office 365 Suite and Microsoft Windows 8, raising concerns of possible hacking (Stevens 2014). The concerns came amid either side of attempted hacking, especially on security details and federal data.

The North Atlantic Treaty Organization (NATO) has also faced cyber-attacks on its websites. In 2014, various NATO sites were hacked by Cyber Berkut, and most of the classified information was leaked. The organization further reports an estimated 200 million malicious activities daily, which raise concerns about the safety of the entity's data. As a result, NATO enacted a policy that allows the use of article 5 if any member state is attacked via cyberspace (Stevens 2014). Cyber warfare thus demonstrates the use of technology, how it has transformed the physical war to cyber-attacks, and how they can be used successfully by states and other agencies to advance their goals.

Stealth Technology and Aerial Combat

The Stealth concept is among the technologies adopted by the military and defines the act of proceeding, acting, or moving covertly. The features or qualities of being covert or furtive entails processes that enhance extreme quietness and care to avoid being noticed or detected. When used within the military concept, the idea means avoiding being detected by both own and enemy forces. The use of this technology means that the military can be deployed in a way that is not detectable by the enemy (Kapur 2014). Stealth technology thus allows forces to operate or move in areas where they have a tactical or strategic advantage over their enemies within the battlefield.

A comprehensive and complete definition of stealth concept is described as Low Observable (LO) technology which entails several techniques that are applied in ships, personnel, aircraft, submarines, satellites, and missiles to make less detectable or invisible under sonar, radar, infrared, and other methods of detection. The technology is enhanced by camouflage to parts of the electromagnetic spectrum. In recent years, the technology has

become more linked to military aircrafts' abilities to avoid detection by the radar and other approaches employed to engage or detect aircraft.

Since the ancient era, combatants have realized the significance of hiding their forces from the eyes of their enemies. The hidden forces are vital for deployment during critical moments to enhance a surprise attack and offer a decisive advantage on the battlefield. The invisible army can be used to pursue weak enemy locations to attain a breakthrough or be utilized to exploit enemy weakness within defenses established by other forces. Before the adoption of airplanes on the battlefield, surprise or stealth entailed positioning troops in locations that were not easily visible by the enemies due to a limited line of sight (Kapur 2014). Such forces were critical in enhancing tactical and strategic surprise and enhanced victory. The acquisition of knowledge concerning the location and existence of these reserve forces by enemies is essential in warfare.

The two-dimensional type of battlefield has been a significant aspect of warfare and has led forces to control the strategic point or "the higher ground." Locating allied forces on higher grounds was critical in expanding the areas that could be kept under surveillance due to more prolonged and heightened lines of sight attained in elevated locations. Enjoying a longer line of sight in these areas allows for tracking and detecting hidden or stealthy deployment of forces by the enemies. A higher strategic and tactical point can be enjoyed through a modification of equipment or camouflage that minimizes enemy forces (Zohuri 2020). The higher tactical ground thus means that forces can delay their detection, plan, and execute surprise attacks on their enemies.

Surprise in the battlefield is attained if not observed earlier, unexpectedly entering the combat. During the earlier times, some of the methods used to hide forces included tying fresh vegetation like twigs and grass on the bodies of the soldiers. Others used equipment and uniforms that match the area's background, like brown and green in jungle areas, sand brown and khaki in deserts, and white in snow-capped mountains and arctic regions. Armies also broke down the equipment and personnel shapes via camouflage patterns that entailed two or more shades to create a distinctive outlay of equipment and soldiers. Paints applied on faces and skins also served similar purposes, and it was widely used on the battlefield in early times (Ghaida A. Al-Suhail 2018, 80-96).

During the earlier times, warfare was limited mainly to surface soldiers, and approaches to attaining stealth were rudimentary and simple. The methods did not apply technology, and as a result, they were less complex than the contemporary approaches (Ghaida A. Al-Suhail 2018, 80-96). As the technology advanced, complex equipment and weapons were used on the war front. One of the significant changes in warfare was the introduction of fighter jets and other aircraft. The initial aircraft had a distinct shape, and it was slow compared to the modern ones. Visual aspects were all available to spot the plan, and it was mainly attained via visual acquisition. The method was later replaced with equipment that could locate, detect, and amplify elevation and azimuth depending on distinctive acoustic features of aircraft engines.

Over time, technology has led to the introduction of special equipment that can identify and detect elevation and azimuth of aircraft using acoustic and visual sensors (Zohuri 2020). As the methods of detecting aircraft progressed due to the use of more capable radars, it became necessary to introduce approaches of countering these tactical innovations. Various studies have been carried out since the 1940s to establish approaches to delaying aircraft detection. These studies aimed to delay or deny aircraft detection by enemy armies and were later operationalized. It was observed that tactical means alone were not enough to attain this objective in flying aircraft.

Further research found that "stealth" was critical in delaying aircraft detection, and it became a significant area of focus in the 1980s and 1990s. The adoption of this technology

proved vital in aerial combat and led to the introduction of stealth fighter jets. Critical to note, the long history of using stealth in battlefront was essential to developing this new technology. The new aircraft incorporated its cutting-edge technology with traditional approaches of attaining stealth. The application of stealth in modern warfare entails advanced scientific design, and it has become synonymous with high-tech aircraft, which cannot be easily detected (Kapur 2014). Currently, there is a tendency to view stealth aircraft as invincible on the battlefield due to their technology to move and execute their targets.

The assumptions and how these stealth planes are seen are based on the incomplete understanding of the technology, limitations, techniques, and components of these machines. It is also based on their introduction on the battlefield, and as a result, it is a significant aspect of modern warfare. The use of aircraft on the battlefield is relatively a new development. The first aircraft to take part in military operations were developed and deployed in the first decades of the last century. As a result, the technology brought significant changes in air warfare (Zohuri 2020). Like in the case of war on the land, aerial combat's surprise is attained by the abilities of the military to acquire and dominate a central point for advantage over that of the enemy forces. One of the significant ways of achieving the surprise is through stealth technology which makes the aircrafts undetectable by the enemy forces.

During WWI and WWII, airpower was still in its infancy stage, but later research and development led to newer ways of attaining tactical positions. The R&D also led to better methods of achieving surprise and continued throughout the establishment of airpower, as seen in modern aircraft. Over time, the continued understanding of technology and science within the aviation sector established parallel efforts to develop approaches towards operational concerns that started to deliver results (Kapur 2014). The progression due to the adoption of new technology allowed for surprise in aerial combat. Some of the adopted approaches included the utilization of challenging to reach working envelopes, e.g., very high and high-speed regime. British forces in World War II applied such techniques. The approach is also used by the U.S "Blackbird" (U.S A0-12 and SR-71), the "Foxhound" MiG-31, the Soviet MiG-25, MiG-31, and MiG-25 (Kapur 2014).

Conclusion

Technology has played a significant role in modern warfare following discoveries of newer methods of making, transporting, and even concealing military equipment from the enemies. Technology also made the war deadlier, inhumane, faster, and unethical, especially due to autonomous vehicles and chemical weapons. These issues have created an increased fear and uncertainty, and militia groups and countries have taken advantage of this to advance their agenda, including the occupation of new territories. Technology has led to a proliferation of war which means increased human suffering as suggested by the use of chemical weapons leading to massive deaths and injuries of civilians. Over recent times, cyber wars and aerial combat have also taken center stage in warfare. Stealth technology has also taken a significant role in aerial combat, where armies use this approach to avoid detection and attain a surprise attack on their enemy forces.

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THE INFLUENCE OF DEMOGRAPHIC DECLINE ON MILITARY STRUCTURES

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Abstract: *The human factor is the main value-creating resource of an army. The presentation aims to highlight the overall influence of the demographic decline in recent years on the process of generating military structures. By analysing the approach to policies adopted to ensure national security and defence, the causal links between demographic indicators and the evolution of economic development, the trend in population size and the characteristics of age generations, the article highlights the creation of a new perspective on attracting human capital to the military profession. Focusing on the study of the evolution of demographic indicators, trends and forecasts, it also reveals the creation of premises in the development of the employer brand of the military institution on the labour market. With more than 12 years of experience in the field of human resources management in the Romanian Army up to their strategic level, both in the field of recruiting personnel for the military profession and in the field of personnel management, I have observed different behaviours of individuals depending on their origin, professional training, financial motivation, age generations, behaviours that I believe are directly influenced by the evolution of demographic indicators on society in general. The article concludes that it needs to be developed in detail in order to draw up guidelines for promoting the military profession, recruiting human resources and building a predictable and stable military personnel management system.*

Keywords: *demographic indicators; forecasting; recruitment; military profession; human resources management.*

In the context of progressive global developments, Romania's demography has been characterized by a negative population dynamics, representing a sharp and continuous decline, which is why specialized studies must address this problem as a direct challenge to the organizational structure of the security system. This challenge is all the more acute as negative demographic dynamics can play a tacit role in intensifying and determining the vulnerabilities of the security environment.

The National Defence Strategy (Presidential Administration 2020) (National Defence Strategy for the period 2020-2024 2022) for 2020-2024 treats the current demographic process as asymmetric, unpredictable, with a strong influence on the security environment, accentuated by the phenomenon of population ageing and migration (external and internal). Romanian society is going through a period of transition in the mechanical dynamics of the population which influences several social factors, such as: economic development, political-military choices, as well as professional development choices, etc. This demographic transition describes the relationship between social changes and the demographic structure of populations, a phenomenon encountered in Romania, thus establishing the causal relationship between demography and economic development.

There is an interdependent relationship between economic development and demography, which are two different processes of social development, since population is the primary component of a society, of an organisation, and thus the main element of an economy's existence. The change in the size of the population, in terms of number and structure, as a result of births and deaths, described as natural dynamics, has a decisive influence on the satisfaction of human (Aceleanu 2010) needs, constituting the „*general purpose of economic activities*”.

Among the reasons for Romania's political-military option of NATO membership, involving the professionalization of military personnel and abandoning the compulsory

military service, were demographic considerations. Romania's population in 2003 was about 2 million less than at the end of 1990, and even less than in 1977, when a massive increase in population size began. Data from studies carried out in 2002 show that even then Romania was still facing a process of population ageing, which was affecting social and economic life. The trend towards an increase in the older population and a decrease in the number of young people, and thus in the active and employed population, was to confirm the influence on the socio-economic structure.

Against the background of the demographic ageing process, elements such as the active population, able to work, directly influence the structure and size of the military institution but also the resources that society can offer it to carry out specific missions (Duțu, Moștoflei și Sarcinschi 2003) (Duțu, Petre; Moștoflei, Constantin; Sarcinschi, Alexandra 2003). Therefore, the most favourable solution for the military institution, given these demographic considerations, has been to professionalise personnel in order to move from a quantitative to a qualitative approach.

Romania's socio-economic profile is also influenced by the professional choices of the population, a phenomenon that has become more pronounced after the integration into the European Union, against the background of the globalisation trend. The majority of people who choose to establish a career and work outside the country, especially in Western European countries, will no longer find themselves in Romanian society as part of the working population. This social factor probably has the greatest influence on the demographic changes in Romanian society, affecting all the organisational structures of the state, including the military. According to the latest Eurostat data, an official figure of 5.7 million Romanians living abroad is estimated, and there are even approximately 7 million Romanians living mainly in countries such as England, France, Germany, Italy, Spain, Belgium, etc., where there are perhaps a million or more Romanians each.

The defence of the country, in the event of a conflict, is not only carried out by the participation of professional structures but also involves the effective participation of the reserve. Thus, in a summary analysis, with a population of just over 19 million people (15.8% under the age of 14 and 16.1% over the age of 63), on 1 July 2022, according to World Population Review data, with an active population estimated at 8.2-8, 5 million people down from the 2011 Census results of over 9.1 million (www.recensamantromania.ro/ n.d.) and with 5.7 million people outside the country (about 70%), there is only one realistic and tragic military conclusion: Romania's army can exercise its constitutional prerogatives of *ensuring national sovereignty, independence and unity of the state, territorial integrity of the country and constitutional democracy* (Romanian Constitution, art. 118 2003) relying on less than one million Romanians and at the same time the recruitment pool for the military institution is shrinking.

One aspect of the demographic distribution is the ethnic factor which, according to the official data of the National Institute of Statistics, the main ethnic group in Romania is the Romanians who represent 88.9% (www.worldometers.info 2022) of the total population. The next most important ethnic communities are the Hungarians, who represent 6.1%, and the Roma, 3.3% of the population. Other ethnic communities are the Germans, Ukrainians, Lipovenes, Turks, Tatars, Serbs, Slovaks, Bulgarians, Croats, Greeks, Ruthenians, Jews, Czechs, Poles, Italians and Armenians, who represent 0.6% of the total population.

This simple demographic analysis provides a clear perspective on the process of providing human capital to the military structures of the Romanian Army and therefore a broad vision of the security services offered to the state, which is why demographic policies must be carefully elaborated and provide a predictive value in identifying recruitment pools for the military institution. Current demographic trends are strongly accentuated by the processes of urbanisation and the provision of minimum living conditions.

Conventionally, in demography there are three study variables (Trebici 1982): population size, age structure and gender distribution. Given the political and especially military changes and the intensification of globalisation in recent decades, specialists in the field have been forced to take into account other behavioural characteristics such as place of residence, education level and labour force participation when conducting demographic studies. Thus, the multidimensionality of demographic analyses has also highlighted the fact that educational attainment is as important a variable as gender distribution and age structure in terms of population structure and determining its relationship to economic development. In this situation, it is necessary to develop the qualitative demographic perspective of the population as much as possible and to neglect the quantitative one, but there can be no quality without quantity.

Strategies to implement national population policies such as population growth, reducing morbidity conditions, encouraging family formation and childbearing, managing population distribution and internal migration, reducing international (external) migration and hence population structure are invariably underpinned by sustained economic growth, sustainable development, reproductive rights and health and sustainable development.

Although the progressive global context shows a real demographic explosion, with a continuing trend of world population growth of about 74 million (World Population Prospects Total Population - Both Sexes 2022) by 1 January 2022, countries from the former Soviet area of influence, such as Romania, Bulgaria, Poland and countries of the former communist bloc are facing a significant reduction in population, and according to studies it is likely that by 2050, the number of inhabitants will decrease by more than 38%.

Relevant to highlight the future demographic trends for Romania are the conclusions mentioned by the World Population Review experts: „Between 2007 and 2015, about 3.5 million Romanians went abroad to escape poverty and corruption in Romania. Many of those who leave Romania are highly educated and seek better opportunities elsewhere. This has a major impact on Romania's economy, which is already struggling”.

According to the studies, given the demographic trends in recent years, defined by high mortality, falling birth rates and increasing external migration, the following situation is expected for the evolution of Romania's population size:

- by 2040: 17.3 million (8.4 million male; 8.9 million female);
- by 2050: 16.3 million (7.8 million male; 8.5 million female);
- by 2060: 15.2 million (7.2 million male; 8 million female);
- by 2070: 14.1 million (6.7 million male; 7.4 million female);
- by 2080: 13.3 million (6.4 million male; 6.9 million female);
- by 2090: 12.5 million (6.1 million male; 6.4 million female);
- by 2100: 11.8 million (5.7 million male; 6.1 million female).

Changes in population structure and dynamics are the direct result of demographic developments. From this point of view, the level of migration (internal and external), the natural increase (the difference between the birth rate and the death rate in the reference period) and the increase in life expectancy are the basis for explaining the demographic structure.

Negative developments in demographic indicators can have an overwhelming influence on the attraction of human and therefore economic capital, on the labour market, on sustainable development and, not least, on the social security system.

From the analysis of the following demographic indicators: the resident population, defined as the total number of persons with Romanian citizenship, foreigners and non-citizens, who have their habitual residence on the territory of Romania, and the population by residence, defined as the number of persons with Romanian citizenship and residence on the territory of Romania, delimited by administrative-territorial criteria, it is possible to determine

the volume of the population that can be accessible to the military institution, segmented by age structure.

Given the specific conditions of accessibility of the military profession, it is likely to have a higher volume of population for one category of personnel and a lower volume for another category of personnel.

The natural surplus (Trebici, What is demography 1982) (of a population, referred to a given period, as absolute values, represents the difference between the number of live births and the number of deaths in the reference period, and the 0-14 age segment can give us a medium-term perspective of the volume of people who will express their intention to attend a national military college. As one of the determining factors in Romania's demographic decline, the volume of the population in this age segment is around 3.15 million children, or 15.8%. In the context of continued decline and negative natural increase, by 2040 the 0-14 age segment will be 1.8 million children. To this result we apply the demographic factors: territorial structure, level of education, level of health and we will result the accessible volume on this segment for the military institution. From this trend of demographic development of the population we can have a forecast on the development of interest in the military secondary, post-secondary and higher education institutions.

Any organization by the activity it carries out, which is initiated or exists within a state, generates the need for work. This need for work in the military institution is expressed by the most sensitive category of human capital: the corps of professional soldiers and ranks, since it is the largest body of personnel. This body of personnel is described by a standard portrait of the professional soldier characterised by courage, tenacity, discipline and ambition, moral and professional values characteristic of the military institution. At first glance, it is perhaps the most accessible of the military personnel corps, but in addition to this it is also the most difficult to manage in terms of personnel management.

The recruitment pool of this workforce is much wider, being concentrated in the 18-50 age segment, targeting both males and females, and is 44% of the total population. Due to the professional and financial stability, expressed by about 78% of those interested, the military profession through this corps is also attractive for those working abroad.

If the main motivation for those who choose this profession is financial stability, in the process of managing this corps of personnel, competition on the labour market comes into play, competition for the attraction of the workforce, which is why many of those who leave the military system from the position of soldier and professional ranks have been financially demotivated in relation to other professions on the labour market, a demotivation also accentuated by the weight or lack of socio-professional mobility.

The economically active population is defined as all persons who supply or are available to supply labour for production activities included in the production limits of the national accounts. It includes all persons who meet the requirements for employment or unemployment (European Union 2010).

According to the results of the 2011 Census (www.recensamantromania.ro n.d.) Romania's working population was estimated at 9.18 million, of which 5.10 million were male and 4.08 million female, and the inactive population was estimated at 10.94 million, of which 2.99 million were pupils, 4.26 million were pensioners, 1.18 million were homemakers, 1.66 million were in the care of others, 0.20 million were in the care of the state or other private organisations, 0.18 million were supported from other sources and 0.44 million were in other situations.

The employed population is made up of employees and other categories such as private entrepreneurs. The phenomenon is not entirely caused by cultural-value valences, but is related to the legislative regulations in the field of labour as well as to the fiscal policies existing in our country. The development of new professions and the evolution of the

occupational field have been driven by the progress of information technology and the use of the internet.

According to statistical data provided by the National Institute of Statistics, the distribution of the employed population by economic sectors is significant in the economic sectors of agriculture, forestry and fishing, manufacturing industry and wholesale and retail trade, where the largest part of the employed population, estimated at 3.85 million Romanians working in these economic sectors, is concentrated.

The literature on the analysis of the volume of the employed population and its occupational trends analyses the future occupational structure of the labour force in European countries and highlights the dynamics of demand for certain occupations and professions in Europe and suggests possible reasons for the change in demand.

The analysis describes the state of continuous mobility in the labour market, with changes in the occupational structure of the workforce, reflecting the main development trends in the field. In recent years, the main occupational trend has been the increasing interest in highly qualified professionals, an elite professional segment. Trends also show that there will be a significant increase in demand for specialists in health, engineering and technological innovation.

At the same time, due to the replacement of computers by modern technology and the automation of routine functions, demand for basic occupations is expected to increase. However, due to the globalisation phenomenon, the interest in basic occupations will be directly proportional to the negative evolution of the total number of semi-skilled jobs.

Linking the demographic structure of recent years with the demand on the labour market, the generally accepted model has identified four generations on the labour market: Baby-Boomers (born between 1946 and 1964), Generation X (born between 1965 and 1980), Generation Y (Millennials) (born between 1981 and 1996), and the youngest generation, Generation Z (born between 1997 and 2012), each with different values, ambitions and working styles (Dimock 2019).

In terms of generational career intentions, Baby Boomers aged 58 to 76 are ambitious individuals who believe in working hard both individually and as a team, with sacrifice, even workaholics, Generation X aged 42 to 57 are also called „twenty-somethings”. They were raised in the shadow of the Baby Boomers' influence and are the first generation to make their "to do list", appreciating a flexible work schedule, autonomy, interesting work and opportunities for professional growth, Generation Y (Millennials) aged 26 to 41 are a generation of intelligent and developed mindsets that often seem incomprehensible and Generation Z aged 10 to 25 are the first generation born into a digital world where instant access to information is constantly available everywhere. They are avid consumers of technology and fans of the digital world and they like independence without clinging to authority which they often challenge.

From this point of view of generational structure, Millennials and Generation Z are the generations that are accessible to the military establishment. As their social perception it is highlighted that individuals are realistic, flexible, socially engaged, more stable and independent than previous generations, but with a greater need for organizational balance. Millennials, in particular, value job stability, while Generation Z is willing to change jobs more often, a decision largely determined by organizational orientation.

Social inclusion, the positive impact that the organisation has on the community, specifically the military institution on society, flexibility of working hours, motivation and stimulation of the work environment, development through training and mentoring programmes, genuine commitment and involvement of organisations to the concerns of employees and concern for their wellbeing manifested practically, not just declaratively, are

factors that categorically influence the socio-occupational behaviour of people of these two generations.

Socially, the values they value are: achievement, work, professional mobility, responsibility, self-direction, individualism, multiculturalism, self-expression, creativity, civic work and activism, internal or external migration for study, work or a better life.

The demographic decline that our country is currently experiencing and that will continue to deepen in the coming years will also have an impact on the military structures in terms of ensuring the necessary conditions to continue the process of achieving the planned objectives, in accordance with the missions, responsibilities and specific commitments assumed. Thus, the implementation of the Programme for the transformation, development and equipping of the Romanian Army, called Army-2040, may require an adapted response to the asymmetric demographic evolution, since the military institution, as an employer, is mainly addressed to the young segment of the labour market (Directorate General Human Resources Management 2021).

The medium-term demographic forecast for the 14-26 age segment is unfavourable for the recruitment pool for the military institution, a worrying phenomenon due to factors such as school dropouts and external migration, factors determined by the standard of living.

Considering that the choice of a profession is determined by several factors - native inclinations, accessibility of education, labour market conjuncture, cultural environment of education, the promotion of the values of the military institution and the diversity of specializations could be an asset to be exploited, respecting the characteristics of the target generations.

The military institution needs to build and better understand its recruitment map by analysing local, regional and national demand and supply of manpower and to develop targeted medium and long-term recruitment strategies. The implementation of such recruitment strategies, based on the analysis of existing data, leads to a significant optimisation of the expenditure of scarce resources and return on investment.

Extensive studies in the field of promoting the military profession among students from different social backgrounds have revealed their preferences for this profession. Young people express their intention to pursue conventional, traditional professions, including military careers, which are perceived as a highly skilled profession. Young people's perception of the military institution is reflected in values such as discipline, respect, honour and financial stability.

At the opposite pole, the military profession also presents some vulnerabilities in social perception due to the low level of information about the institutional profile of the Romanian army, which is, by definition, an institution designed to defend the national territory and participating in actions in theatres of operations, seen by young people as active only in the sphere of war. In the same vein, the fields of study and activity, as well as the conditions of recruitment and admission to military educational institutions are accessible and known by young civilians to a limited extent.

If in the post-pandemic period, conclusions on the level of attractiveness of the military profession focused on the need to increase the employer brand of the military institution on the labour market, the regional conflict in Ukraine increases the risk of strong trends in terms of the basic demographic structure: population volume. Thus, in this context of the conflict which has the risk of increasing the phenomenon of external migration, demographic studies with a focus on the values of the military institution and the versatility of the military profession are needed.

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THE CREATION OF AN INTEGRATED STRUCTURE OF RAPID REACTION AT EUROPEAN LEVEL AGAINST TERRORISM

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Abstract: *Having as a starting point the end of the Cold War and the proliferation of terrorism at an unprecedented scale, the threats aimed at national security have become ambiguous, and the potential enemies are either classical structures, units and large units from within military structures, or structures of terrorist or paramilitary organizations which have capabilities that cover a large range of doctrines, forms of organization, equipment, instruction and ideological motivations. For these reasons, the structures must be capable of executing operations during times of peace, crisis, and war and in post-conflict periods, in a collaborative context, multinational, in between departments, on national and international grounds, depending of the situation. The international structured terrorism and also the proliferation of weapons of mass destruction are the most dangerous threats that could affect the security of the democratic nations of the world, and of human civilization on the whole. No country in the world could be considered safe taking into account these threats and no democratic state could ignore the responsibilities it has as a member of international community. The purpose of this paper is to emphasize the need for adaptability to the challenges posed by the security environment which is continuously changing, and to create operational structures which ought to be trained and equipped so as to face this mode of action called terrorism, and to benefit from the necessary legislative framework, adapted to given conditions.*

Keywords: *terrorism; unconventional and asymmetric warfare.*

Introduction

Terrorism is considered to be one of the most important threats to global security, and none of the world states is immune to the effects of this phenomenon. The terrorist phenomenon is not recent, but old, manifesting itself during time under all possible forms, being present all over the world according to the degree of civilization in which humankind found itself and depending of the available means. Terrorist threats are of great actuality and omnipresent, narrowing citizen freedoms, consuming and redirecting important resources from the national incomes of each country, or, paradoxically, developing a market for security, with corresponding products and services, managing substantial incomes and cash-flows. Even if starting with the unleashing of war against global terrorism and the liquidation of the Al Qaeda leader (in May 2011) the actions of this organization shrank, and the spectrum of this threat diminished somehow, on medium and long term this global challenge will not stop influencing the security policies. Regardless of the means used, the essence of terrorism has always stayed the same – its aim is to destroy, frighten and kill. And it is not by accident that the leader in the fight against this asymmetrical threat is the United States, sometimes alone, sometimes in coalitions with other states members of NATO, or states from outside the alliance.

It can be affirmed that terrorism holds a whole new nature than the previous one, known to be focused mainly on aspects of physical destruction. Terrorism can be characterized by coalition traits, by deterritorialization and asymmetry. From this perspective, the totality of actions classified as terrorist attacks, contained by the generic notion of "terrorist war", can be characterized as an extremely strong strike back with political motivations. However, no governmental structure is ready for such a strike back from terrorism, because no one ever thought that this phenomenon, which initially was only an extreme form of protest or political disobedience, will become, in such an fast rhythm, a true war, even a world war (Pentilescu 2014).

The force of a terrorist group is counter proportional to its dimensions – the more such a group is small in numbers, the more dangerous it is. Despite the growing attention to terrorism and the number of publications on the subject, the scientific research on the causes, motivations and the determining factors of the terrorist phenomenon remains poorly developed in order to counter it.

TERRORISM: The analysis of the terrorist phenomenon at an international level during the last years shows a tendency of intensification and the more frequent use of violence as a means of promoting and imposing political aims and interests. From a conceptual point of view the acts of terrorism represent different acts of violence, through which people and groups of people: they attempt on the lives and corporal integrity of a social category; they pursue such actions against political groups, social organizations, institutions, group of people meeting in an organized manner or being at random in public or private places (Stanciu 2015).

Depending on the proposed objectives and aims or on the environment in which they act, most of the theoreticians identify the following categories of terrorism: political, of state, informational, economical, technological and financial, cultural, pathological, of vengeance, of identity, religious, ethnical and criminal.

Rethinking the concepts of safety, defense and security becomes under these conditions not only a global or regional necessity but also a demand of the affirmation and the preservation of the interests of each state. The establishment of the most adequate forms and methods for counteracting terrorism preoccupies and will continue to preoccupy for a long time the actors responsible with the problems of security. The complexity and toughness of the fight against terrorism will bring about particularly sensible problems for whose solving the International Community must offer balanced and unanimously accepted solutions.

One problem which has serious implications on the international process of expansion and cooperation is represented by the way in which harmonization can be achieved between the responsibility for respecting democratic principles, the freedoms and rights of man, with the legality of measures imposed for countering terrorism. Through their rigidity and consequences, the actions taken for countering terrorism can put at risk some of the rights of man and can weaken democracy and the respect for the law. This imposes the accomplishment of a balance between safeguarding social and individual freedoms, and the necessity for strengthening internal and international security.

As a consequence, the accomplishment of an optimal balance between the need to combat terrorism and the destructive effects which this implies represents the essential condition of the entire undertaking of the international community.

The effort of the combat operations against terrorism must be concentrated against the critical weaknesses, which mostly affects the barycenter of the terrorists. In the process of selecting these weaknesses, it is important to analyze accessibility, redundancy, the impact on civilian population and the balancing of these factors because the freedom of action of forces which execute the operation can be significantly reduced, especially when not considering the impact on the population of the actions taken. Moreover, in counterterrorist operations, the capabilities, the requirements and the critical weaknesses modify permanently according to the execution of actions and according to the reaction of terrorists to these actions.

Anti-terrorist military actions

Terrorist attacks existed and will continue to exist, but by taking different forms they will lack morality and will not respects the elementary rules of peace and war, and the only measures truly efficient will be still found in a global, unitary pallet, but not necessarily just in the military domain, a fact which has been emphasized as well by the a change in the American strategy of fighting against this asymmetrical threat. The essential character is that this "enemy can move

without visibility, has precise, efficient and long lasting connections, an adequate logistics and proofs a special patience and care for choosing targets and executing strikes. Counterterrorist operations can be developed to support operations of counterinsurgency, stability and support, or other major operations or campaigns, especially in non-conventional wars in which military and civilian capabilities must be directed against some state or non-state actors who use terrorism (Contrainsurgency 2009).

Combating terrorism (CBT) includes actions deployed to oppose terrorism and include:

- Antiterrorism – defensive measures to reduce weaknesses in front of terrorist attacks.

This includes preparation and defense measures which offer the needed protection, the mission, the infrastructure, the human resources and the available resources;

- Counterterrorism – offensive measures taken to prevent, discourage and to respond to terrorism; this offers response measures which include prevention operations, punishment and the rescue/release of prisoners.

Antiterrorism as a set of activities represents one of the fundamental requirements of commanders in order to assure the protection of the staff, of resources, of processes, of information, of installations and of systems against possible terrorist attacks. Some programs concentrate on active defense measures which protect force structures, information, military bases, necessary infrastructure and communications against these attacks. Other programs imply passive measures (camouflage, OPSEC – the security of operations, the use of guarding systems) which make difficult the penetration of military objective.

It is important to underline the relation between the protection of forces and counterterrorism. Counterterrorism is not considered only a subcategory of combating terrorism but also an integrated part of the concept of protection of forces. The protection of forces represents a set of preventive measures which moderate the hostile actions against military staff (including family members), resources, facilities and critical information. Still, the protection of

forces does not include actions during disasters or pandemics.

Briefly, AT represents both the collective and proactive effort to detect and prevent terrorist attacks against staff, facilities, installations and vital infrastructure for accomplishing missions, as well as the preparation and the planning of the strike back during the terrorist incident. The AT programs should include at least the following elements: the management of risks, planning, instruction and exercises, the management of resources, public information and the constant revision of plans.



Figure 1. The strategic military approach in counterterrorism (Joint publication 2014).

The USA manuals define this phenomenon as having two main effort directions: a direct one (the counterterrorist intervention) and an indirect one (a partnership with the target states – Foreign Internal Defense, the destabilization of hostile governments or protective of terrorist groups – Unconventional Warfare, PSYOPS, Civil Affairs Operations and others).

As we can notice, the military objectives in counterterrorism have as an ending point the neutralization/annihilation of terrorist groups and the creation of a unhospitable global climate for this sort of actions.

The countering of the diversionist-terrorist phenomenon must be regarded as a permanent action in which are employed of the state institutions empowered by law.

The analysis of the terrorist phenomenon makes obvious the fact that the destined forces to combat it are surpassed by the actions of terrorist forces which are hard to identify and counteract. As a consequence, the planned prevention and protection measures against terrorism can reduce but not eliminate the danger of producing such actions.

Hence, the combat system must be flexible and have an adequate speed of reaction in order to reduce to a minimum the effects of surprise. In the framework of protection measures against terrorism, permanent formations have a gradual mode of action: the normal guarding activity; surveillance and protection; the attainment of reinforced protection; the action of defending objectives on a variety of interventions.

According to the stipulations in the National Strategy for Preventing and Combating Terrorism and of the General Protocol for the Organization and Functioning of the National System for Preventing and Combating Terrorism, the National Ministry of Defense carries specific activities, individually and in cooperation, for preventing and combating all categories of terrorist manifestations, as well as against the elements which can generate, sustain or favor terrorism.

Most of the military leaders have been more and more preoccupied to know the way in which the terrorist incidents which took place during the 20th century and at the beginning of the 21st century were solved. Each of these incidents had as an effect the changing of law or regulations, and the establishment of a series of measures of prevention and counteracting of this phenomenon. At the same time, each incident allowed the states to evaluate gain the necessity for financing, equipping and training some specialized structures for the intervention in these cases.

It is vital for each structure to understand its role within possible scenarios, in such a way that cooperation, coordination and leadership to be executed without human errors.

At a national level, there are structures strictly specialized to act in almost all possible borderline cases, starting with war and continuing with natural, ecological, industrial disasters, and also with terrorist actions. It is important for all of these structures – very well specialized – to act in an integrated, coherent, complementary and efficient manner,

More so, taking into account the terrorist attacks which took place in more European countries starting with the 21st century as a result of the changes taking place in the Middle East, and of the immigrant flow from this area, there has been a need for these European states to cooperate in this area in order to prevent other terrorist actions, to identify those cells which hold the intention to prepare attacks and to block their freedom of action.

We consider that it is necessary an integration of parts, without the taking apart of already existing entities, which function individually in an outstanding manner, have coherence, an integrated rapid intervention, flexibility and maximum efficiency. Hence, comes the necessity to have an integrating concept, for assuring inter-operability and the connection of control rooms, without creating superior hierarchical structures, except for those with strict duties in this area.

From our point of view, the creation of an integrated European structure would be useful and necessary in order to prevent the duplication of effort in many countries in

preventing and combating terrorism, for a good coordination of the exchange of information on the activity of terrorist cells/organizations present in Europe, and, even considering the integrated use of European capabilities in this area. Certainly, by creating such a structure, there can be achieved a filling of those gaps which exist in the coordination of actions of neighboring states, gaps which can be exploited by terrorist attackers.

We consider it useful that this integrated European structure to deploy a permanent and continuous activity, to have a freedom of action guaranteed by all European states and have the necessary and sufficient capabilities.

Conclusions

By acting alone or integrated within big range operations, the human factor from the structure of sensorial, decision and executive networks will try to find solutions in order to rapidly counter the enemy, will develop decisive actions against its gravity centers, will paralyze it and forbid/limit its actions.

The establishment of a response mechanism to the terrorist incident represents an essential element in the protection of military and civilian objectives. It must be mentioned that for each task in the mission of countering terrorism there exists the necessity of a strong planning and training, and the equipment must be aligned with the latest existing technological requirements, regardless of costs.

A cooperation of all responsible structures is necessary, at any given time, in order to update tactics, techniques and used procedures in such interventions. These exercises at national and international level are necessary because the involved structures must set out their place and role in the development of actions within military objectives during emergency or normality times.

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THE GROWTH OF ALERT CAPACITIES FOR TERRORIST RISKS

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Abstract: *The problem of terrorism has become during the last few years a hot topic for military and governmental institutions involved with managing the security of civil society and not only. The latest events have emphasized the necessity of knowing the modes of action of terrorist attacks. Each of these incidents had as an effect the change of laws and regulations and the implementation of new sets of measures for preventing and countering this phenomenon. At the same time, each incident has allowed states to evaluate again the necessity of establishing, equipping and training specialized structures for intervention in these cases. All of these events have determined the publication of studies which would lead to a better understanding of problems and to the establishment of efficient measures for combating and countering this reality we are facing nowadays. The purpose of this paper is to emphasize the importance of alert capabilities for terrorist risks. Hence, in the first paper of the paper we will analyze the notion of terrorism, we will call to attention structures with a role in countering terrorism and we will present one identified means of fighting against terrorist risks and the importance of mass media in accomplishing this fight. Also, we will underline the necessity of creating a specialized structure for fighting this phenomenon, as well as the necessity of the capabilities which are at our disposal and of the present legislation.*

Keywords: *terrorism; legislation; capabilities.*

It is not a false perception that the world is changing but on the contrary, a consequence of the speed at which technology develops, and truths which in other times we would have considered eternal or at least capable of explaining processes that cover long decades, we can see them disappearing rapidly from the set of values with which we operate on a daily basis. We are the witnesses of a world which dawns, and another one rises. The political regime is changing.

The war surprises by the change in physiognomy and has as background the essential changes determined by knowledge. Terrorism represents an asymmetrical threat, from the shadows. Its evolution, from a sum of terrorist acts to a high peak of fanaticism, cruelty and violence, leading to a terrorist war, generates in a natural way the corresponding reaction of mankind, setting of a counter-terrorist war.

1. What is terrorism?

During time many things have been written about terrorism, but with a general agreement on its meaning. Many of the authors writing on the subject have underlined the difficulties in forming a juridical definition of terrorism, separating it from other types of crimes. Still, there is a consensus on the fact that terrorism is not just a regular crime, but constitutes a special form of crime, characterized by its severity. [5] Accordingly, "the best way to think about terrorism is not as a crime, but as a special dimension of crime, a higher and more dangerous version of crime, a sort of super-crime which incorporates some of the characteristics of war." (Fletcher 2006)

Taking into consideration some of the main ideas developed about the legal definition of terrorism within the European continent, there is a general agreement in what regards the way in which this relates to the structure, the principle of harm and to the elements of terrorism. The continental European framework is relevant because of its extended activity based on the theoretical and dogmatic concept of terrorism.

The counter-terrorist politics and strategies must aim not only at the possible actions of some terrorists, groups, organizations and networks, but also at the political mechanisms and the strategies for generating the terrorist phenomenon, the connection of terrorism to the phenomenon of corruption, to cross-border organized crimes, to high criminality and especially to diversions and subversions which aim at the destruction of national values, the destruction and control of resources, the growth of the vulnerability of states to terrorism and to the widening of risks.

Gradually a movement has taken place from the classical definition of the concept of terrorism, which meant " *the totality of acts of violence done by a group or by an organization in order to create a medium of insecurity and to change the form of government of a state, (...) and the deliberate and systematic use of violent means or threats which are in their nature capable of provoking fear and lack of trust, panic and lack of safety, ignoring all humanitarian norms*" (Academia Română 1975), towards interpretations and changes generated by a deepening of the concept from a social and psychological perspective. Hence, the domain of sociology establishes clearly a difference between terrorism and other forms of violence, terrorism being the one to provoke " *fear, terror or even panic among the population and affecting innocent people, (...) aiming at winning concessions, gaining maximum publicity for a certain cause, provoking repression, destroying the social order and institutional instability, the strengthening of obedience towards certain interest groups.*" (The Report of the Operative Group for Agitations and Terrorism 1970).

These definitions are broadly similar to most of the definitions in the specialized literature which make reference, generally, to two elements: "the use of violence or the threat of violence against civilians or against people which do not take part actively to hostilities and the defining of the implicit or explicit scope of this act to intimidate or constrain a population, government or organization towards certain desired directions of action." (Purpura 2007)

The specialized studies underline that the main purpose of terrorist acts is represented by the blocking of social life in a certain area by: the assassination of key characters in the official state hierarchy from the political spectrum, the military and cultural one, or of important leaders of opinion; the destruction (the deterioration) of edifices/institutions of symbolical value for the state authority and for the population of the targeted state; the determination of political negotiations or the forcing of authorities to respond to terrorist claims; the enhancement of the reputation and credibility in executing terrorist attacks with high impact on the part of some terrorist groups. *Terrorist acts are aimed against institutional order, putting in danger constitutional relations, being a direct threat to peace, producing instability in a certain geographical area, with the possibility of enlarging the area.* (Stanciu, Siria, terorism vs. război hibrid 2015)

2. The Structure of Terrorism

As far as the structure of terrorism is concerned, it is always an organized crime, as opposed to individual crimes (for example the bodily harm caused by an individual) or the crimes committed ad hoc (for example a robbery committed by three persons: one for threatening and controlling the clients and the bank staff, one for taking the money or are valuable things and the third waiting with an escape car).

Although some authors consider that terrorism can be committed by only one person, others correctly hold that (in practice) there are no "individual terrorists" who act alone, outside of an organization. Hence, the specific "danger" implied by terrorism, which partially justifies its severe punishment by contrast to other crimes, resides in the existence of an organized group which systematically operates to commit a number of undefined crimes. Regardless of the problematic nature of the concept of "danger", because of its great lack of

determination and compatibility with the presumption of innocence, such a danger does not exist in the case of an individual or ad hoc action, even if it uses similar methods (for example the use of explosives) regularly used by terrorist groups. For the same reason, if a single person detonates a bomb on a public street, for certain a criminal conduct would exist, if not even a terrorist action based on motives preceding the crime.

Actions against terrorism can be taken at any given time and are characterized by:

- Specificity (they are special type operations, which often take place in secret, by surprise with attrition and discouragement effects);

- Variable amplitude;

- Great intensity or adequate intensity, usually adapted to conditions

- Operability in between categories of forces and means of the Security system and the national defense system, of the collective defense system and of common security;

- Complex character (counter terrorist, anti-terrorist but also of a different nature).

The following categories of forces and structures can participate at operations:

- Intelligence structures;

- Structures of political and strategic decision;

- Antiterrorist structures and counterterrorist specialized structures;

- The army;

- The gendarmerie;

- Police structures;

- Guarding and protection forces;

- Other structures of force;

- NGOs;

- Private structures of protection and security.

These structures receive different missions, as established by very well created cooperation plans. The strategies for countering terrorism must be flexible and easily adaptable to real situations. In this type of war that is without fronts and frontiers, the Intelligence structures always fulfill the most difficult missions. This is why they must always put to practice mechanisms and formations that continuously monitor this phenomenon. Based on this continuous surveillance these structures, regardless of their affiliation, must assure sufficient data and information, analysis, evaluations and expertise, absolutely necessary for an opportune and correct political decision to be taken in countering terrorism. Placing the responsibility of identification, knowledge, analysis, evaluation and resolution of the problem of terrorism only on specialized structures for this specific aim is, in our opinion, not enough.

Terrorism is a complex phenomenon. Neither the police, nor the military institution, nor the intelligence services will be capable on their own, and not even together, to manage this phenomenon, to keep it under control and to assure the protection of the population, of the heritage and of the infrastructure, against the effects of this real harm. Politics and strategies of great covering are necessary, which are flexible and coherent, and which can engage practically the entire society, with its numerous resources, the entire state – understood not only as an administrative bureaucracy, but as the organized totality of its citizens in a sovereign space – for the purpose of solving first of all the problems between states, and for escaping the devastating effects of long periods of war, domination and emergency, from the huge differences and gaps created by religions, mentalities, from some of the interests which are considered vital and as a consequence, from the fixed and frustrating policies.

Obviously, for combating terrorism specialized forces are necessary. Alongside those of the police and of the intelligence, such forces do not exist. Hence, the question: Does the

situation require the creation of special antiterrorist and counterterrorist forces or are the intelligence and army structures enough? Does the situation require the development of capabilities of warning for terrorist risks? At the moment, the NATO member states and the partner states are engaged outside the territory of the alliances in all the range of response operations to crisis and humanitarian assistance. These include peace keeping operations, managed by NATO and EU, under a UNO/OSCE mandate and fight operations against terrorism which have a wide range of forms, from preventive actions to specific fighting actions. The final desired state of the operation consists in eliminating the capabilities of the terrorist organizations to execute attacks or to facilitate the execution of attacks by another organization and can be achieved by the capturing, the killing or the neutralization by other means of leaders, the isolation of terrorists from the logistical and administrative infrastructure, and the neutralization of their capabilities and headquarters.

The means through which counter terrorist operations are being executed are the result of the joint use of all governmental and multinational capabilities, continuously applied on three levels of confrontation – strategic, operational and tactical – with the purpose to disorganize, isolate and neutralize terrorist organizations. Fighting units plan and execute counter terrorist operations according to the process of “identification, localization, neutralization, exploitation and analysis”(Joint publication 2014), continuously acting in order to analyze the capabilities, intentions and actions of the terrorist organizations and to develop the courses of action destined for the elimination of the capabilities of the organizations to commit terrorist acts.

More important than the fight against terrorist actions are the fights for preventing these actions. The tasks which are about to the identification of challenges, dangers and threats, with implications in the area of criminality, cross border criminality and organized criminality, represent the responsibility of all institutions which could be affected by this phenomenon, but also the responsibility of specialized structures. In order for these actions to be carried on with success, we consider that a specific legislation is necessary in this area, correlated with warning capabilities which must be permanently adapted to changing requests.

A possible option identified for the fight against terrorist risks is represented by the mobilization of public opinion in the fight against the terrorist phenomenon, through initiation of a large program, coherent and efficient for the information and education of the public in relation to the ways of identifying improvised explosive and fire starting devices, of atypical weapon systems, of knowing the procedures which must be adopted in situations of crisis, of types of information which represent an operative interest for the order and security forces, the methods for making communication more efficient with elements of response against terrorism. The main channels of information and education for the public opinion continue to remain the classical ones: television, radio, written press.

All of these institutions can become resonance boxes for the messages proposed by the specialized structures in combating terrorism. For this program to be credible it is necessary for the police, the secret services and the specialized structures of the army to offer the media a reasonable number of officers with experience which are able to support such a media program. The named institutions must offer both the force as well as the means necessary for projecting an information and education program for the population.

Because often terrorists are located in areas which are hard to access and they avoid the exposure of the organization to direct attacks, they mingle with the local population and hide until they are ready to attack, the destruction of terrorist organizations asks for the application of a permanent pressure and of a sustainable activity, aimed both at operational capabilities and their capacities to extract and use necessary resources, while the effective attack of the organization asks for special trained and equipped forces, and also for interinstitutional and international cooperation.

In order to have efficiency, the counterterrorist operations ask for the tenable support of all governmental institutions, especially those with attributions in the area of national security, including military structures, and also for the support of international partners, the capabilities and the perspective of each of these contributing to the attainment of success. Through interinstitutional and international effort, terrorist organizations are identified and destroyed, becoming unable to develop specific actions with the purpose of reaching objectives. Hence, alongside military capabilities, counterterrorist operations can involve a wide range of capabilities and authorities, varying from customs controls, airstrikes executed without pilots, arrests and convictions, to diplomatic ties and the involvement in international organizations.

In conclusion, the selection is a very important and necessary moment, but this thing is not sufficient for a professional success. If this process is not followed by a persistent work of knowing people, of educating and instructing them, of continuously consolidating their positive moral traits, of defending the staff against the actions of influence exercised by hostile forces, then we can witness in the human area what is already happening with the buildings which are left at the discretion of destructive factors. Although people are characterized by a certain stability in their personality, during time this goes through changes to some degree. Hence, the necessity of psychological examinations is required, especially when systematic drifts from optimal behavior appears, or when those under examination are to be promoted.

For the success of operations within the modern operational environment, under the conditions of the growth of the terrorist phenomenon, the military structures will have to be able to execute operations in a complex environment, characterized by numerous variables, against a great number of threats, depending on which it is necessary to adapt and develop processes and procedures for analysis, detection, decision, evaluation and action. Also, for obtaining success at a tactical level, as intermediary level in reaching strategic objectives, it is absolutely necessary to have interinstitutional cooperation, at all levels, and also the development of coordinated counterterrorist actions which reflect the authority, the capabilities and the resources available at the level of all institutions involved, in such a manner that depending on the nature of the threat the proper instruments can be applied, with the condition of respecting the corresponding legal requirements.

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COMPARATIVE ANALYSIS BETWEEN THE MILITARY ENGINEERING STRUCTURES IN THE ROMANIAN ARMY COMMANDS, WITH THOSE IN THE NATO COMMANDS OR WITHIN THE ARMIES OF SOME NATO MEMBER STATES

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***Abstract:** After joining the North Atlantic Alliance, the Romanian Army began a process of doctrinal alignment, followed by the reorganization of command-control and force structures. By default, the military engineering staff structures were transformed. As I consider that these staff structures have not been adequately reorganized, I set out to make a comparative analysis of them with the military engineering structures in the organization of the commands of armies belonging to NATO member states and with those within NATO commands, at strategic, operational and tactical levels. Subsequently, I will use the data of the analysis, corroborated with other conclusions resulting from previous research, to propose to the military leadership factors the reorganization of the military engineering command structures. We believe that after a new reorganization, these military engineering structures in the composition of our commands must be able to ensure, on the one hand, the correspondence of duties with those of similar structures within the Alliance's commands and, on the other hand, the possibility of exercising on behalf of the commander, command and control over all capabilities.*

***Keywords:** military engineering structures; command-control; commands; areas of expertise; staff capabilities.*

Introduction

Recently, the Romanian military has participated in a series of missions in various theaters of operations in Bosnia-Herzegovina, Kosovo, Iraq, and Afghanistan, along with soldiers belonging to NATO member states or partners. Among them were the Romanian engineers, of all categories. The experience gained in operations and teamwork with soldiers from other armies has had a great influence on both commanders and staff, in terms of how to plan and carry out operations. To all this can be added the participation in numerous multinational training exercises and activities, the participation in various training courses conducted abroad, and the assignment of positions within NATO headquarters, which combined with the implementation of NATO standards in the field of military engineering (MILENG) support have contributed to the interoperability of the MILENG forces of the Romanian Army with those within the armies of some NATO member states. Also, the implementation of NATO doctrinal provisions, on the line of MILENG, has generated significant changes in the role, functions, and missions of MILENG structures, both command and forces. (G-1, Doctrina sprijinului de geniu în operațiile întrunite 2016, 9)

The NATO Standardization Agreement (STANAG) has established that NATO forces, as well as partner forces, can work together more effectively if they share a common set of standards. Thus, STANGs are documents that specify the agreement of member countries to implement certain standards. (NATO Encyclopedia 2019 2019, 560-561)

Thus, in the field of MILENG, teams of specialists from NATO member states have developed standards on the command and control of MILENG structures and also on the tasks of MILENG support in times of peace, crisis, and war, as well as in post-conflict situations. In this regard, we mention the last two versions of the NATO standard AJP-3.12, *Allied Joint Doctrine for MILENG*, Edition B, Version 1 of 2014, and Edition C, Version 1 of 2021. The version of the NATO Doctrine published in 2014 has been implemented in the national

regulations by G-1, *The doctrine of MILENG support in joint operations* was published in 2016. The NATO version published in 2021, is being implemented in the Romanian Army through a new edition of the national doctrine of support which is being developed and which aims to establish guidelines for the command and control of MILENG structures, vertical and horizontal collaborative relationships, as well as several elements regarding the tasks of MILENG support in various situations.

In the following lines, I intend to make a brief presentation of the organization of the MILENG structures within the Romanian Army commands, within the NATO commands, or within the armies of some NATO member states, from different hierarchical levels. I also set out to refer to the horizontal or vertical co-operation relations and some clarifications regarding their general responsibilities, depending on the information available to me at the moment. In general, the information about the organizational structures of some entities within the commands/staff has a high level of secrecy, so the information available to them is not always complete. I mention that in this analysis I use only unclassified information. However, by correlating and analyzing what is available, I believe that I have been able to make appropriate inferences about the organization and role of structures within NATO or foreign military commands.

As the new NATO doctrinal provisions, in line with MILENG, are being implemented in the Romanian Army, the purpose of my efforts is to make an analysis and a presentation for the most appropriate popularization of these provisions, and will finally make proposals to the decision-makers, to modify the MILENG command structures in the Romanian Army.

1. General information on the organization of MILENG structures in accordance with the doctrinal provisions of NATO

MILENG support is an inherent aspect of all combined functions (manoeuvre, fire support, command and control, intelligence support, force protection and civilian-military cooperation), at any level of command, in any type of mission, campaign or operation and in all phases. The incorporates various areas such as combat and force engineering support, Explosive Ordnance Disposal (EOD), environmental protection, military search and infrastructure management which also includes contracts concluded with civilian companies on the line of MILENG. Also makes a significant contribution to countering improvised explosive (C-IED), force protection and providing life support. (MC 0560/2 Military Committee Policy for 2017, 3)

MILENG activity as a function is led and coordinated by staff/command structures. In accordance with the guidelines of the Military Committee, the provision of effective MILENG support requires appropriate command and staff structures of MILENG, as well as command-control (C2) arrangements at all levels. (MC 0560/2 Military Committee Policy for 2017, 3)

The most efficient use of resources will be achieved by a *chief of MILENG advisor*, existing at each command level, who is able to organize the multinational capabilities according to the general priorities of the commander, during an operation; responsibility for the execution of tasks must be delegated to the lowest appropriate level of command. The *chief of MILENG* has the technical and coordinating authority for all available resources. (AJP-3.12 (C), Allied Joint Doctrine for 2021, 2-1 - 2-2)

In accordance with NATO doctrinal regulations for MILENG (AJP-3.12 (C)), the MILENG command structures must be robust, well-organized, independent, have a range of staff capabilities, and be able to manage accordingly problems on the line of MILENG. Depending on the tactical situation and the type of operation, it may be necessary to augment the structure with additional specialized personnel.

Thus, these command structures must have in the organization the following: *Plans, Operations, Intelligence, Infrastructure, Logistics, EOD*.

2. The structures from the organization of the Romanian Army commands

In accordance with the specific national regulations (Romanian Constitution; Law no. 346/2006 on the organization and functioning of the MoD; White Paper on Defense 2021; Romania's Military Strategy 2021), regarding the command structure of the Romanian Army, it ensures the leadership in peacetime, at the establishment of the state of siege, the declaration of the state of mobilization and/or of the state of war or for the resolution of the missions in case of civil emergencies.

2.1. At the strategic level, in peacetime, the leadership of the force structure of the Romanian Army is exercised by the Chief of the Defense Staff. He exercises command and control through the Chiefs of Staff of the Land, Air, and Naval Forces and the commanders of the Joint Forces Command and other commands, in accordance with the Romanian Constitution, the laws, orders, and instructions of the Minister of National Defense.

When establishing the state of siege, declaring the state of mobilization, and/or the state of war the management of military actions are carried out, at *the strategic level* by the commander of the National Military Command Center, and at *the operational level* by the commander of the Joint Forces Command (JFC) and the heads of components/operational centers of the National Security System.

The National Military Command Center Commander ensures the coordination of the inter-institutional effort to carry out the country's defense actions and the leadership of the armed forces in cooperation with the central public administration authorities and the public institutions from the NHS.

Regarding *the MILENG command structures at the strategic level*, in the *peace organization* of Defense Staff, within the Operations Directorate, there is an *MILENG, EOD and C-IED Office*. The general tasks of the office, in peacetime, are the following: it provides advice and expertise for chiefs on the specialized line; develops MILENG, EOD and C-IED policies, concepts, conceptions, and doctrines; coordinates the development of standard operating instructions, manuals and procedures; contributes to the elaboration of different plans; cooperates with *NATO Centers of Excellence*; is part of the selection committees for the placement of specialized positions within NATO headquarters and within NATO Centers of Excellence; contributes to and participates in the planning of the various command exercises; organizes and conducts annual meetings with the heads of engineering and EOD structures; is a permanent point of contact with other national or NATO institutions and organizations, etc.

The staff of this office coordinates the activities on the specialized line (MILENG, EOD and C-IED) and elaborates specific tasks on the specialized line for the MILENG offices within the subordinate echelons.

2.2. At the operational level, as mentioned above, the Joint Forces Command exercises the functions of planning, leadership, and coordination that belong to the echelon of the operational level in the Romanian Army.

Within the J.3 - Operations of the JFC there is the *Combat Engineering Office*. The tasks of the Office are similar to those at the strategic level. Office personnel, in peacetime, prepare for battle, contribute to the development of defense plans, orders for structures carrying out various international missions, and the planning of various command and field exercises. He also contributes to the elaboration of doctrines, concepts, conceptions, manuals,

and instructions, participates in the convocations on the specialized line, leads EOD Combat Service, etc.

2.3. *At the tactical level*, within the force category staffs (Land, Air, Naval) and the commands of the components of the force categories (LANDCOM, AIRCOM, NAVCOM), there are at this time several section or office level structures, which are in the organization of operations and training services/offices or resources.

At the level of the two infantry divisions, starting with April 1, 2022, *G-Engineering type structures have been set up*, which are led by a *chief of MILENG (OF-5)* and are organized by an *Operations and EOD Office* and a *Plans and Infrastructure Office*. Below, at the brigade level, there is a position of *MILENG officer* in S.3-Operations.

3. The MILENG structures in the organization of NATO commands

Following the decisions taken at the NATO Summits, the military command structures underwent an extensive transformation process. At the same time, the MILENG command structures underwent major changes. Initially, they had a simpler organization, but with several important and complex areas to manage, these command structures needed to be reorganized as needed.

3.1. *At the strategic level*, according to the organization of this date, the structure within SHAPE is called the *Infrastructure and Engineering Division/Strategic Enablement Directorate* and is headed by a *chief of MILENG*. This department includes two services: The *Plans and Operations Branch* and *Infrastructure and Environmental Branch*. (SHAPE Command Structure without year)

The *Infrastructure and Engineering Division* ensures the coordination and control of capabilities for all aspects of the MILENG line in accordance with MC 560/2 to support SACEUR in fulfilling its command responsibilities. It is headed by a Colonel (OF-5) who is the *Assistant Chief of Staff Infrastructure and Engineering*. Provides specialist MILENG advice to the Command Group and ACO staff. The division incorporates various areas of expertise such as engineering, EOD, environmental protection, energy efficiency, assessment and management of infrastructure, including contracts with the civilian environment. It also manages contributions to C-IED, force protection, and providing life support.

Both services are run by officers with the rank of colonel (OF-5) who have subordinate specialists (Subject Matter Expert) in the fields of planning, operations, information, EOD, C-IED, infrastructure management, environmental protection, etc.

3.2. *At the operational level*, within the NATO command structure there is Joint Force Commands that can effectively execute the command and control over the assigned forces to obtain operational effects in the Joint Operating Area.

A Joint Forces Command is organized in directions that are divided into *Joint-type departments* led by colonels (OF-5). There is a *Joint Engineer Division* within the *Support Directorate*. The Support Directorate is responsible for planning, directing, monitoring, evaluating, and coordinating the functions of the support staff.

The *Joint Engineer Division* within the Support Directorate is led by the Joint Force Engineer – JFENGR and has the following organization: *Engineer Plans Branch* with *Plans Section* and *Infrastructure Section*; *Engineer Operations Branch* with *Operations and Syncro Section* and *Intell & EOD Section*. *Joint Engineer Division* is responsible for providing advice on issues related to the support of the force and the combat support for NATO activities and operations. (AJP-3.12 (C), Allied Joint Doctrine for 2021)

The structure is led by the *chief of MILENG of the joint force*. He is responsible for advising and coordinating all aspects of MILENG for NATO activities and operations within the JOA, in the theater, and for events outside these areas, in NATO Partnership Commitments.

3.3. At the tactical level

In the continuation of our analysis we will make brief references to *the MILENG structures within the tactical level commands*, respectively LANDCOM and the commands of the multinational corps and divisions (NRDC, MNC, MND).

Land Component Command – LANDCOM is responsible for the coordination and synchronization of NATO and partner land forces, in order to enable the preparation, interoperability, standardization, and management of land space (Allied Land Command without year; The LANDCOM Handbook 2019).

Within LANDCOM we identified *G Engineering Division – GENG Division* which is led by *Assistant Chief of Staff G Engineer – ACOS GENG*, is organized by the Operations Directorate and has the following services/offices: *Operations & Training Branch; Infrastructure & Plans Branch; Coordination/Environmental Protection Office*. (The LANDCOM Handbook 2019, 97-100)

GENG Division has 11 people in peacetime, and in the event of a displacement or crisis, it will increase to 39 people.

GENG Division has as current responsibilities the monitoring and evaluation of the necessary capabilities. He provides specialist advice and support for force protection, CIMIC, and other areas. Provides advice on environmental issues and coordinates this area. It also provides feedback to NATO engineers on all identified/learned lessons in the specialty line.

The *ACOS GENG* is the *Chief of MILENG* and *Senior Advisor* of the Commander in all MILENG issues of the GENG.

The commands of the NATO Multinational Corps have a high level of operationalization and can deploy quickly at the command of SACEUR, in an area of operations assigned to conduct joint or combined operations. (Rapid Deployable Corps without year; Vision and Mission without year)

These commands are led by a commander, who is assisted by a chief of staff. The deputy chief of staff is subordinated to the line of planning, operations, and support (one-star generals, chiefs of divisions) and other heads of divisions with special destinations. The divisions are divided into services led by officers with the rank of colonel. Depending on the command, the *G-ENG/Engineer Branch* is in the Combat Support Division (NRDC-T) or the Operations Division (NRDC-GR). (NATO Rapid Deployable Corps Greece without year; NATO Rapid Deployable Corps Turkey without year)

G-ENG/Engineer Branch within a corps is led by a *Chief of MILENG*, who is also the *Assistant Chief of Staff Engineer- ACOS ENG* and is composed of the following structures: *Engineer Operations Section; Engineer Plans and Infrastructure Section*.

Engineer Branch is to advise on all matters relating to the MILENG support of the force and the MILENG support for NATO operations and activities. It also assesses the need for MILENG capabilities and provides specialized advice and support for force protection, CIMIC, environmental protection, and coordination of this field. It also provides feedback for all identified/learned lessons, on a specialized line.

Engineer Branch plans, coordinates, and synchronizes all actions related to MILENG support to contribute to the implementation of operational plans, which include MILENG support for the development and maintenance of infrastructure in the AOR, as well as MILENG support to ensure freedom of maneuver/movement.

4. The MILENG structures in the commands of the armies of some NATO member states

In general, the national armies of NATO member states have a long history. From the earliest times, in their organization were MILENG troops who had complex tasks both in peacetime and during the conduct of combat actions. Due to the complexity of these tasks, which required thorough polytechnic training, there were specialist officers in the command/staff of the armies and units who advised the commanders on the line of MILENG and were able to lead and coordinate all tasks on the line of MILENG.

Subsequently, MILENG entities with a more complex organization appeared in the command structures, dimensioned according to the needs of the moment. These MILENG command structures had to distribute people and tasks in such a way as to ensure communication, cooperation, task performance, resource allocation, and decision-making in the most effective way possible.

In the following lines, we set out to analyze the MILENG command structures within the armies of some NATO member states, based on the information we currently have.

Some of the information about MILENG command structures in the armies of some NATO member states comes from open sources (official army websites or specialized publications), and others were provided to us by MILENG COE. Please note that this information is unclassified.

4.1. Canada

Canadian Military Engineers, both units and MILENG personnel are found in all Canadian Army force structures/categories. (Canadian Military Engineers without year; NATO 2017)

Regarding the MILENG command structures, at the politico-military level, within the Ministry of Defense, there is an *Assistant Deputy Minister of Infrastructure and Environment*. He leads a Level 1 structure within the Canadian Department of National Defense. The chief is a civilian (lieutenant general equivalent) who reports to the Deputy Minister of Defense and is responsible for all that Canada's defense infrastructure means.

The Chief of Staff of this organization (Chief of Staff) is an engineer with the rank of major general. He is also the *Chief of MILENG – CME* of the Canadian Armed Forces. In this role of chief of MILENG, he is the MILENG adviser to the Chief of the Defense Staff.

At the strategic level – there is a Joint General Staff. There is a *MILENG officer on this staff (MILENG OF-4)*.

At the operational level, there is the Canadian Joint Operations Command which is the level 1 organization that commands all Canadian troops involved in operations. There is a *J Engr (Joint Engineering) structure* run by a *MILENG colonel (OF-5)*. The structure is organized by a number of 20-30 people. The sections of the J Engr structure are *Operations, Plans, Infrastructure, and EOD*.

At the tactical level, there are MILENG command structures within the Canadian Army Headquarters and the Canadian Air Headquarters.

Within the Canadian Army Headquarters, there is a *MILENG colonel (OF-5)* who also holds the position of *Director of the MILENG* as a secondary function. In this capacity, he advises the land force commander on issues of engineering, such as training, force structure, and equipment procurement. Here, too, there is a *MILENG Major (OF-3) position* responsible for MILENG for operations support and staff training. There is also a *MILENG Department* in the procurement structure with land forces equipment, which is headed by a *MILENG lieutenant-colonel (OF-4)*.

Within Division HQ there is a *MILENG officer (Div Engr)*, with the rank of *major (OF-3)*. There is no additional specialist staff.

There is no MILENG staff in the HQ Brigade. When the brigade is deployed, the fighting MILENG regiment within the brigade deploys part of the regiment's staff to form an MILENG Support Coordination Center within the brigade command. It is usually led by the Chief of Operations/Regiment together with a staff team.

Within Canadian Air Headquarters there is a small MILENG structure that has a number of 4-6 people and is led by a MILENG *lieutenant-colonel (OF-4)*.

4.2. United Kingdom

English engineers are found in many theaters of operations, the support of MILENG being needed in any kind of operation, land, air landing, sea landing, or special forces. (The Corps of Royal Engineers without year; NATO 2017, 27-28)

Organization of MILENG command structures. At the strategic (politico-military) level, in the organization of the Ministry of Defense, there is no command structure specific to the MILENG branch. Within the Permanent Joint Headquarters or PJHQ, there is an *officer in the Operations Special Branch* who deals with the problems of these branches, including the MILENG branch.

The MILENG branch is represented at various levels in the military commands, but they focus especially on Capability Development and Procurement. There are MILENG *officers who are assigned to various structures*, such as the Operations Department, which provides expertise and advice specific to the field of MILENG.

Royal Engineers HQ operates under the command of the army, whose main mission is to solve all problems on the line of MILENG.

At the operational level, the 8th MILENG Brigade Command is the main structure dealing with the specific problems of the MILENG branch, and its commander is the *chief of the MILENG* of the Joint Forces Group. He provides MILENG advice to all commanders in the land, naval, and air forces. All MILENG specialist are under his direct command.

At the tactical level, there are a number of MILENG structures that provide specialized counseling and lead and coordinate MILENG forces. The division command has in its organization a *senior officer of command MILENG*, with the rank of colonel (OF-5). Such a MILENG officer also exists within the command of the Air Force. MILENG line counseling for Commando forces and Parachute Brigades (Para Bdes) is provided by *the Engineering Regiment* within its own structure. All units at brigade and battalion level when deployed are augmented with a MILENG *Cell*.

4.3. United States of America

At the strategic level, there is a *chief of MILENG* (senior officer of MILENG) for each category of army forces (land forces, naval forces, air forces, and the Marine Corps). (JP 3-34 Joint Engineer Operations 2016)

There is no *chief of MILENG* to subordinate the *chiefs of MILENG to the category of forces*. There is a *senior MILENG officer in J4* in the Joint Staff (JS) (he is a command in the Pentagon, personally composed of each of the six categories of forces). He advises the President and the Vice-President in the performance of his duties and is headed by a Director (DJS), but he advises the staff of the Command and does not subordinate the Chiefs of MILENG within the categories of forces.

At the operational level, there are MILENG *officers* at every command level. At the highest operational level is a Geographical Combatant Command – GCC. There is such a command for every continent/region, and the *senior MILENG officer* is located in J4 and is

known as *J44 MILENG*. Normally, the MILENG officer is a colonel who was a MILENG BDE commander.

It is subordinated to the Service Component Commands - SCC. Each GCC has an SCC responsible for each of the four components of the force structure below it (land, naval, air, and marines' forces). Within the SSC there is a *MILENG Service*. For example, the US Army Europe (USAREUR) is the European Army under command of Europe (SCC), which is the GCC. The USAREUR MILENG officer is *Deputy Chief of Staff for Engineering – DCSENG*. Normally, the MILENG officer is a colonel who was a MILENG battalion commander.

The smallest operational-level structure in the US military is the corps. There are four corps in the US military. Each corps has a MILENG Section known as the *Corps Engineer Section – CES*. Normally, the head of the MILENG structure has the rank of colonel.

At the tactical level, the greatest unit in the division. Within the division, the command is a *MILENG Section* known as *Division Engineer - DIVENG*. Normally, the head of DIVENG is a lieutenant colonel who is a former MILENG battalion commander.

There is a MILENG battalion in the brigade-type battle group, and the battalion commander is *the chief of the brigade MILENG*. Within the brigade staff, there is a MILENG officer, with the rank of major, who fulfills the specific attributions of the staff and is within S.3-Operations.

There is not normally a MILENG officer in the maneuvering battalion in the General Staff. The commander of the MILENG platoon (for light units) or the commander of the MILENG company (for heavy units) also performs the duties of the *chief of MILENG* during the conduct of combat actions.

At each command level, the Chief Engineer/Engineer Officer and his subordinate staff contribute to the development and implementation of plans for the execution of current/future operations and will synchronize the actions of the MILENG and support structures. The infrastructure part is also managed by these MILENG structures. In the US military, the EOD is not part of the MILENG.

4.4. Germany

Germany has implemented MILENG support functions in accordance with NATO Military Committee Policy no. MC 560/2 in the regulation "MILENG Branch in the Bundeswehr". (MILENG in German Bundeswehr without year; NATO 2017, 19-22)

Germany uses the term NATO – "MILENG" because there is no German equivalent military term that encompasses the broad field within the meaning of NATO. The German Army's MILENG branch as defined by NATO supports military operations at all stages, helping to ensure the mobility of its own forces or the counter-mobility of enemy forces, providing support for maintaining operational capability, contributing to force protection, developing and managing deployed forces infrastructure, incorporating environmental protection and contributing substantially to the control of improvised explosive devices. The MILENG branch contributes, regardless of component or service, to the shaping of the physical environment. MILENG capabilities are fragmented according to needs in different structures of the Ministry of Defense, and different military and civilian services.

Organization of command structures

Within the Ministry of Defense, the general coordinating authority for the MILENG branch is the *General Directorate for Strategies and Operations*. A *coordinating group for the MILENG branch* consisting of representatives of the Ministry of Defense and all civil and military services chaired by a *Bundeswehr Senior Joint Engineer*, who is a member of the land forces, and a vice-president who is in charge of the *Infrastructure Service, Protection Environment and Services*.

For the areas and specialized aspects of MILENG, the authority is at the level of the *Directorate General* of the Ministry of Defense, for example, the policy of forces for EOD and infrastructure, environmental protection, and services for infrastructure in operations.

C2 MILENG staff structures for coordinating and assigning tasks on the MILENG line exist at the level of the MILENG battalion, brigade, and division.

The *Chief of Engineering of the German Army (Senior Joint Engineer Bundeswehr - SJEBw)* is the senior MILENG officer in the land forces or the commander of the *German Army Engineering Training Center*.

Infrastructure, environmental protection and services. The *Federal Office for Infrastructure, Environmental Protection and Services (BAIUDBw)* is responsible for managing infrastructure in missions. This includes the planning, contracting, and management of construction tasks and the operation of bases and installations, with the specialized civilian and military personnel of this service. The BAIUDBw manages parts of the Central European pipeline system and is the planning and execution authority for construction, maintenance, and support. The service is provided by the *Deputy Chief of Engineering in the Army* through the Director of Infrastructure.

According to information provided by MILENG COE, there is a senior MILENG officer in the Department of Defense. At the operational level, there is no MILENG manager.

There is a *MILENG service* at the Army Concepts and Capabilities Development Center. The MILENG Branch is represented from the level of the brigade command upwards. At the division command level, several engineering and C-IED positions are part of the G.3-Operations structure. At the army corps level, the MILENG structures is established in the multinational environment (1GNC/EUROCORPS, etc.).

4.5. France

The MILENG branch of the French Army consists of three components (security, infrastructure, and combat), with about 28,000 men, which also includes the staff of the MILENG School. (French MILENG without year; NATO MILENG 2017, 19-20)

Regarding the organization of MILENG command structures, the brigadier general who commands the school is *the chief of the MILENG* in the army. Therefore, he has authority over all MILENG structures, acting at inter-ministerial (to the Security Component) and international (NATO, EU) levels.

There are no MILENG structures in the strategic and operational level commands. The commander of the MILENG School is the *chief of the MILENG* of the combined forces. The staff of the MILENG School is the main component that ensures the specialized expertise. In the French Army, the MILENG branch also includes EOD, as well as the military search.

There are *MILENG Services* or battalion-level *cells*. Each MILENG battalion has its own staff (there is 1 MILENG battalion/brigade and 1 MILENG battalion/division), at the brigade level there is a MILENG cell – Eng Cell named B3-2D (1 brigade), at the division posts of MILENG and C-IED are part of the structure G.3-Operations/G-ENG (1/division command each), at the level of the Corps the MILENG structures (MILENG service)/JENG is established as in the NATO multinational environment and are called of G-ENG (1/CRR FR, 1/EU HQ). At any command level, the *EOD- C-IED Cell* is part of the MILENG field.

5. Comparative analysis of the MILENG structures from the commands of the Romanian Army, with those from NATO or within the armies of some member states

After a detailed analysis of the MILENG command structures in the organization of the Romanian Army at the strategic, operational, and tactical level, we find that they exist only in certain commands and that in general, they are only *office level* with 2-3 positions or

staff officer within the commands of units. There are a few exceptions, within the Air Forces Staff there is an *Infrastructure and Engineering Section* structure within the resources module and an *Engineering and EOD Training Office* combined with *CBRN and infantry shooting* in module A.3-Operations, and in the organization of division commands, starting with April 1, 2022, *G-Engineering* type structures appeared, within the resources mode, which replaced the *MILENG Compartment* within the 4th Infantry Division HQ and the *MILENG Office* within the 2nd Infantry Division HQ.

These structures are uneven, undersized, and combined with other specialties or areas of responsibility unrelated to the MILENG branch. For example, in the Air Forces Staff the MILENG Training Office is combined with CBRN and Infantry Shooting. At the NAVCOM, the office is combined with emergencies and force protection. The MILENG structures contribute with different capabilities for emergencies, as well as for the force protection, but in the Romanian Army, these are not areas of responsibility of the MILENG branch. The structures are organized by a few officers and non-commissioned officers, some of whom are not even MILENG specialists (for example, the NAVCOM office is headed by a naval officer). Also, some structures are found only in the organization of the Staffs of the Force Categories (Land Forces Staff, Air Forces Staff), and others only in the organization of the Commands of the Components of the Force Categories (LANDCOM, NAVCOM).

From my point of view, within the Staffs of the Force Categories, there must be MILENG structures that can have attributions on the line of instruction, education, endowment with specific technique and equipment, interoperability, different regulations in branch, elaboration of normative acts specific (doctrines, concepts, manuals, and instructions), relationship with NATO Training/Excellence Centers for knowledge of novelty elements in the evolution of the branch/specialty, etc., but within the Operational Commands (National Military Command Center, JFC, LANDCOM, AIRCOM, NAVCOM, Division HQ) there must be well-organized MILENG structures, which have the full range of capabilities provided in the NATO Doctrine for MILENG and which can handle all issues on the line of MILENG.

5.1. Comparative analysis of the MILENG structures within the Romanian commands, with those within the NATO commands

Compared to the MILENG structures within the NATO headquarters, we highlight some similarities and differences, which we will specify in the lines below.

In terms of *similarities*, both within the Romanian Army commands and the NATO commands at the strategic, operational, and tactical levels, there are MILENG command structures. These MILENG command structures have areas of expertise in the fields of engineering and EOD. He also manages the actions of engineers for contributions to the fields of C-IED, force protection, and providing life support. The head of the structure, together with his subordinate staff, provides specialist advice for the command group and the staff of the strategic, operational, and tactical level command. The staff within the MILENG structures of the Romanian and NATO commands, from all hierarchical levels, support the planning process by providing MILENG data. Participates as experts in groups organized in the field of target management. At the strategic level, the Romanian and NATO engineers offer specialized expertise in politics, doctrine, defense planning, force generation, training, procedures, and standardization on the line of MILENG.

As for the differences, they are much more numerous. First of all, there are indeed MILENG command structures in the Romanian Army, at every hierarchical level (strategic, operational, and tactical) but they are not properly organized. In the sense that at almost all hierarchical levels there are office-type structures, with two or three functions, so they are insufficiently sized. There are two exceptions, one is at Land Forces Staff, where we have an

Infrastructure and Engineering Department, organized in two offices and two compartments, and also in the two divisions, where we have G-MILENG structures organized in two offices. Compared to these, the MILENG structures within NATO headquarters have a complex organization, and a large staff. Within SHAPE, JFCs, LANDCOM, NRDC commands, and multinational divisions commands, there are Infrastructure and Engineering Division/SHAPE, Joint Engineer Division/JFC) or GENG (LANDCOM, NRDC-GR, NRDC-T, MNC-SE, MND-SE). For example, within LANDCOM, the MILENG structure has several 11 people, which can be increased to a number of 39 people if necessary. Secondly, within NATO commands there is the function of the *chief of MILENG* who is the main advisor in the line of MILENG and who has the technical and coordinating authority over all the structures of MILENG (command and force), located at the subordinate echelons. The heads of the MILENG offices within the Romanian commands do not have the technical and coordination authority over all the MILENG structures.

As for the capabilities in organizing the MILENG structures of NATO headquarters, they are service/section/office/compartment level, depending on the level, and consist of MILENG plans, MILENG operations, MILENG intelligence, infrastructure management (provides expertise for NSIP), including MILENG contracts, MILENG resources/logistics, environmental protection, EOD. Also, these MILENG structures within NATO headquarters manage the MILENG contributions to force protection, C-IED, military search, etc. Compared to these, the Romanian Army MILENG offices have limited or no capabilities in terms of plans, MILENG operations management, MILENG intelligence, infrastructure management, civil contracts, environmental protection, EOD, and MILENG logistics. Within the Defense Staff, the MILENG Offices can contribute to the process of planning and conducting MILENG operations, by drawing up specific annexes to the elaborated plans. They do not have a database with MILENG data and information and cannot manage MILENG intelligence. They cannot manage infrastructure (including the management and development of NSIP-funded infrastructure), civil engineering contracts, or environmental protection. In the Romanian Army, the management of these fields belongs to other structures. Also, issues related to MILENG resources, Class IV materials, and MILENG assets are managed by the logistics structure and not by the MILENG structure. The fields of EOD and C-IED can be managed to a limited extent, as there are not enough specialized personnel employed in the Romanian MILENG structures. Within the Defense Staff and the Land Forces Staff, the field of C-IED is attached to the MILENG and EOD Office. Both offices are located within the operations structures. C-IED is together MILENG and EOD, but office staff can only partially manage this area (C-IED).

There are also two exceptions regarding the capabilities of the MILENG structures within the Romanian commands. At Air Forces Staff there is the *Infrastructure and Engineering Section*, which can manage the part of the infrastructure that belongs to the Air Force and also conclude engineering contracts with civilian contractors. Also, at the level of the two Romanian Infantry Divisions, there are *G-MILENG-type structures* that have capabilities of planning and operations of MILENG, infrastructure management, and EOD.

5.2. Comparative analysis of the MILENG structures within the Romanian commands, with those within the armies of some NATO member states

In order to make a comparative analysis of the MILENG structures within the Romanian commands with those within the commands belonging to some NATO member armies, we normally carried out a larger study that included a number of 12 states (USA, Canada, England, France, Germany, Italy, Türkiye, Spain, Poland, Hungary, Belgium, the Czech Republic), but due to lack of space for this study, I have detailed in the above lines the command structures for only the most representative of them, namely: USA, England,

Germany, France and Canada, but in my analysis I will briefly present some conclusions from the study of the 12 states.

As for the presence of MILENG command structures at the strategic, operational and tactical levels, they exist in the armies of those states. These can be at the level of MILENG Directorate at the strategic level, as in the case of Germany, at the level of the MILENG Department in the case of Türkiye or at the MILENG Command in the case of England, Spain and Italy. At the operational level, we identified a J-MILENG structure within the Canadian Joint Operations Command and a MILENG Directorate within the General Command of the Polish Armed Forces. At the tactical level we identify a Land Force MILENG Command in the Spanish Army, services, sections or engineering officers for the other armies.

Within large armies of some NATO member states, there are numerous structures of MILENG forces (for example in the armies of the USA, France, Italy) and then, implicitly, they are well represented in the commands, where there are ample command structures, with numerous staff. In the case of smaller armies with fewer MILENG forces, there are generally staff officers in command structures or they are completely absent. Their duties are taken over by officers in charge of operations or logistics structures. A special case is France, where the structure that leads everything that means MILENG in the French Army, is the MILENG School, and the school commander also fulfills the function of head of MILENG.

As for the chief of MILENG as the commander's adviser and technical authority for MILENG coordination at various levels, he is well represented in the US, Canadian, German, British, Türkiye and French armies. In the Romanian Army, this function appears only in the commands of the divisions, where the head of the MILENG leads a GENG type structure.

As capabilities present in MILENG command structures, capabilities similar to those specified in NATO doctrinal provisions (plans, operations, infrastructure, EOD, etc.) are found in the US military (in the US military, the EOD is not part of MILENG branch), Germany, France, Canada, Italy, Poland, Türkiye, Spain, etc.

The issue is quite complex and a broader analysis of these MILENG structures will be made in a further personal study.

As a conclusion, following the brief analysis, we find that compared to the MILENG command structures within the Romanian Army, in foreign armies with a large number of soldiers, the MILENG command structures are at the level of directorate, department or are led by a MILENG chief, are staffed with more staff, have staffing capabilities similar to those set out in the NATO Doctrine for MILENG, and are therefore able to properly manage all peace, crisis, war and post-conflict situations.

Conclusions

The principles of command and control of MILENG command structures stipulated in the national doctrinal provisions approved in 2016, which were developed in accordance with the policies issued by the NATO Military Committee and the NATO Doctrine for MILENG promulgated in 2014, have not been properly implemented in the Romanian Army. Although the documents in question provided for the existence of MILENG command structures with a complex organization, led by a *chief of MILENG* acting as principal advisor to the commander and coordinator of MILENG support at every hierarchical, strategic, operational and tactical level, they were not implemented to date only to a small extent. Both the development concepts of the MILENG branch approved by the military leaders and the Romanian doctrinal provisions that provided for the implementation of NATO standards generally remained at the level of theoretical clarifications. Contrary to these provisions, which were analyzed and approved by commissions composed of specialists in the field of branches or by commissions for the analysis and approval of all specific normative acts, the MILENG command structures

remained undersized, not being able to manage correspondingly the complex problems of the MILENG branch.

As the new NATO doctrine for MILENG is being implemented within the Romanian Army, after its approval, we will make concrete proposals regarding the MILENG command structures, in accordance with the new doctrinal provisions. Our proposals to the decision-makers will refer to the fact that these MILENG structures must be found in all the commands of the Romanian Army at the strategic, operational and tactical levels and must be led by a *chief of MILENG* with the role of advisor on the line of specialty, technical authority and coordination on the MILENG capabilities of subordinate structures. Also, these MILENG structures in the staff of our commands must be able to ensure, on the one hand, the correspondence of duties with those of similar structures within the Alliance's commands and, on the other hand, the possibility of exercising the command on behalf of the commander and control over all MILENG abilities.

New MILENG command structures must include in the organization chart at least the following components: *MILENG intelligence*; *MILENG plans*; *infrastructure*; *MILENG resources*; *current operations of MILENG*; EOD. These structures must manage the following areas of expertise, combat engineering support, force engineering support and EOD. He must also coordinate the work of engineers to contribute to C-IED; force protection; environment protection; military search; infrastructure management, including civil engineering contracts; ensuring life support.

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IMPLICATION OF IMPLEMENTATION OF "SUSTAINABLE DEVELOPMENT GOALS" ON ENVIRONMENTAL SECURITY IN ROMANIA

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Abstract: Climate change is affecting the environment and humanity globally by increasing the average surface temperature, extreme weather events, changing rainfall patterns, rising sea levels and acidification of the oceans. Climate change is now having an impact on all countries on every continent, disrupting national economies and people's livelihoods as resources, food and water become scarcer. To address these risks and threats to security and even the existence of life, in 2015, the United Nations General Assembly (UN) in New York adopted the 2030 Agenda for Sustainable Development. This document aims, through its 17 objectives, a better future for humanity, in response to the identified threats, being structured on three pillars of sustainable development – economic, social and environmental. The 2030 Agenda was adopted and subsequently implemented by the European Union, through the Communication "Next Steps for a Sustainable European Future" of November 22, 2016 and by Romania, through the "National Strategy for the Sustainable Development of Romania 2030" of November 9, 2018.

Keywords: sustainable development; 2030 Agenda; environment; strategy; climate change.

The concept of sustainable development emerged in the early 1970s when issues related to the state of the earth's biosphere began to be disputed globally, such as ozone depletion, global warming, biodiversity loss, acid rain, desertification, and so on.

At the *United Nations Conference on the Environment*, held in Stockholm, Sweden, on June 5-16, 1972, considerations were made about sustainable development.

The *Stockholm Conference* resulted in a final statement on the human environment, the *Stockholm Declaration* (Declaration of the United Nations Conference on the Human Environment n.d.)¹, and the establishment of an environmental management body, which was later renamed the *United Nations Environment Program* (UNEP)².

The next step was taken in 1983, when a resolution was adopted by the General Assembly to establish the *UN World Commission on Environment and Development*, headed by Gro Harlem Brundtland³. Sustainable development is defined in the Brundtland Report as follows: "Sustainable development is a development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Development 1987).

¹ The final statement was a statement of human rights as well as a recognition of the need for environmental protection and contains 26 principles. The first principle states that "Man has the fundamental right to liberty, equality and adequate living conditions, in an environment of a quality that allows a dignified life and well-being". The need for environmental conservation has not been opposed to economic development. In fact, their interdependence was explicitly mentioned in Principles 8 and 9, Declaration of the United Nations Conference on the Human Environment, available on: <https://www.un.org/en/conferences/environment/stockholm1972>.

² This body becomes the international authority that sets the global agenda for environmental issues with the task of coordinating the efforts of all nations to promote sustainability and environmental protection.

³ Gro Harlem Brundtland, (b. 20 April 1939, Oslo, Norway), Norwegian politician who was the first woman Prime Minister of Norway, who served for three terms (1981, 1986-89 and 1990-96), and later became Director-General of the World Health Organization (WHO; 1998-2003). Trained as a doctor, she identified with public and environmental health issues and women's rights. Available on: <https://www.britannica.com/biography/Gro-Harlem-Brundtland>.

In 1992, the Earth Summit was held in Rio, followed by „*New York in 1997, 2000, 2005, 2008, 2010, 2013, Johannesburg in 2002, and Rio 2012 (a conference also known as the Rio + 20).*” (Nations n.d.)

All these steps, debates and conferences were materialized in the United Nations document "*Transforming our world: 2030 Agenda for Sustainable Development*" adopted at the UN Summit on Sustainable Development on September 25, 2015 (Nations, Transforming Our World: The 2030 Agenda for Sustainable Development, UN Resolution A/RES/70/1 2015).

The Sustainable Development Goals (SDGs) contained in the 2030 Agenda aim to eradicate poverty, address climate change and reduce inequality. The 17 SDGs (see Figure 1) are interdependent and require action both in the EU and its Member States, as well as in developing countries.



Figure no 1. Sustainable Development Goals (SDGs) (Development 1987)

Within the EU, the European Council adopted in Gothenburg (2001) the first EU Sustainable Development Strategy. It was complemented by an external dimension in 2002 at the Barcelona European Council, taking into account the World Summit on Sustainable Development in Johannesburg (2002). analysis of the EU Sustainable Development Strategy, initiated by the Commission in 2004, and on the basis of the Commission Communication "*Review of the Sustainable Development Strategy – A Platform for Action*" of December 2005 and the contributions of the Council, the European Parliament, the European Social and Economic Committee and other bodies, the European Council adopted a revised Sustainable Development Strategy, ambitious and comprehensive for an enlarged Union, based on the one adopted in 2001 (UE 2006).

Since 2006, the concept of sustainable development has been integrated into the *Enlarged Europe Strategy, in a unified and coherent strategic vision*⁴ with the general objective of continuously improving the quality of life for present and future generations, to create sustainable, capable communities to manage and use resources efficiently and to exploit the economic and social innovation potential of the economy, in order to ensure prosperity, environmental protection and social cohesion.

In 2010, as a continuation of the EU's sustainable development, *The Europe 2020 Strategy for Promoting Smart Growth* (COM 2010) (based on: education, research,

⁴ *Ibidem.*

innovation), sustainable (based on reducing carbon emissions, energy efficiency, renewable resources) was adopted, and inclusive (creating new jobs, reducing poverty, etc.).

The adoption of the *2030 Agenda* was followed by a period of elaboration of strategies for its implementation at the level of the Member States and the European Union. Together with the Member States and respecting the principle of EU subsidiarity, it is committed to becoming a leader in the implementation of the 2030 Agenda and, implicitly, of the 17 Sustainable Development Goals.

The implementation strategy at EU level was presented by the European Commission in its Communication "Next steps towards a sustainable European future" of 22 November 2016 (European 2016). This Communication was published together with the *Renewed European Consensus on Development* (The new European consensus on development 'our World 2018).

The document sets out the European Union's response to the 2030 Agenda and confirms the integration of sustainable development goals into European policy and current European Commission priorities, assessing the situation and identifying the most relevant sustainability concerns. Through this communication, the European Union is committed to sustainable development by "*ensuring a dignified life for all while respecting the limits of the planet, bringing together prosperity and economic efficiency, peaceful societies, social inclusion and environmental responsibility*". The EU's response to the 2030 Agenda is to integrate the 17 SDGs into the Union's public policies, in order to support the global effort to build a sustainable future in collaboration with its partners. The 17 SDGs are already being pursued by many of the European Union's policies.

The development objectives at the level of the European Union were prioritized and structured on 6 main directions of action as it results from figure no. 2.



Figure no 2. Sustainable development, a global approach. The European Commission's priorities (Sustainable development n.d.)

As can be seen, 12 of the 17 SDGs belong to the European Green Deal, but only 7 of them are in a direct connection with the environment, respectively: 6. *Clean water and sanitation* – ensuring the availability and sustainable management of water and sanitation for

all; 7. *Clean and affordable energy* - ensuring that everyone has access to affordable energy in a safe, sustainable and modern way; 11. *Sustainable cities and communities* – the development of cities and human settlements so that they are open to all, safe, resilient and sustainable; 12. *Responsible consumption and production* - ensuring sustainable consumption and production patterns; 13. *Climate action* – taking urgent measures to combat climate change and its impact; 14. *Aquatic life* – conservation and sustainable use of oceans, seas and marine resources for sustainable development and 15. *Terrestrial life* – protection, restoration and promotion of sustainable use of terrestrial ecosystems, sustainable forest management, combating desertification, halting and repairing degradation soil and stop biodiversity loss.

On 11 December 2019, the European Commission presented a Communication on the *European Green Pact*, a new growth strategy aimed at transforming the Union into a just and prosperous society with a modern, competitive and resource-efficient economy. Where there will be no net greenhouse gas emissions by 2050 and where economic growth will be decoupled from resource use. *The European Green Pact* also aims to protect, conserve and strengthen the Union's natural capital and to protect the health and well-being of its citizens against environmental risks and related impacts. At the same time, this transition must be fair and inclusive, leaving no one behind.

Climate change and environmental degradation are an existential threat to Europe and the world. To counter it, the *European Green Pact* will transform the EU into a modern, competitive and resource-efficient economy with zero net greenhouse gas emissions by 2050, with economic growth dissociated from resource use, and no person or place shall be left behind.

The *European Green Pact* is at the same time a lifeline for a way out of the COVID-19 pandemic. Therefore, it will be financed with a third of the € 1.8 trillion investment from the NextGenerationEU Recovery Plan, as well as funds from the EU's seven-year budget (Pact n.d.).

Subsequently, the European Parliament, in its resolution of 15 January 2020 on the European Environment Pact, called for the necessary transition to a climate-neutral society to take place by 2050 at the latest and become a European success and declared climate and environmental urgency. He has repeatedly called on the Union to set a more ambitious 2030 climate target and to be part of a new regulation.

To this end, the *Regulation of the European Parliament and of the Council establishing a framework for the achievement of climate neutrality and amending Regulations (EC) no. 401/2009 and (EU) 2018/1999 ("European Climate Law")*, thus completing the adoption procedure and transposing into legislation the goal of a climate-neutral EU by 2050 (Law n.d.).

European Climate Law sets the following goals for the European Union: climate neutrality, negative emissions after 2050, net greenhouse gas emissions (emissions after deduction of emissions) to be reduced by at least 55% by 2030, compared to 1990. In order to ensure that sufficient efforts are made to reduce and prevent emissions by 2030, the European Climate Law introduces a limit of 225 million tonnes of CO₂ equivalent to the contribution of emissions to that target. The Union also intends to achieve a higher volume of net carbon absorbers by 2030.

It should also be noted that on 15 September 2021, the European Commission adopted a Communication setting out the concept of the *New European Bauhaus* (Bauhaus n.d.). This includes a number of policy actions and funding opportunities. The project aims to accelerate the transformation of various economic sectors, such as construction and the textile industry, in order to provide all citizens with access to circular and lower carbon goods.

The new European Bauhaus brings a cultural and creative dimension to the *European Green Pact*, with the aim of demonstrating how sustainable innovation provides concrete and positive experiences in everyday life.

In Romania, starting from the idea that the benefits of economic development must outweigh the costs, including those related to environmental conservation and improvement, Romania's first Sustainable Development Strategy in 1999 aimed at progressively improving and maintaining the well-being of the population in correlation with requirements for the rational use of natural resources and the conservation of ecosystems. Thus, in 1997, only a few years after the historic event represented by the United Nations Conference on Environment and Development in Rio de Janeiro, Romania began the process of developing a sustainable development strategy. The National Strategy for Sustainable Development of Romania (SNDD) was finalized in 1999 by a working group set up by Government Decision no. 305/1999. Although developed in a participatory system, SNDD did not provide adequate implementation monitoring mechanisms on the basis of which its periodic review could be carried out.

Following Romania's accession to the European Union in 2007, national priorities were adjusted through *The National Strategy for Sustainable Development. Horizons 2013-2020-2030* (SNDD) (National Strategy for Sustainable Development. Horizons 2013-2020-2030 n.d.) approved by the Romanian Government on November 12, 2008, aiming to reduce the socio-economic gap compared to that of the member states of the European Union. For sustainable development to succeed in Romania and, therefore, the 2030 Agenda, together with the commitments of the European Union, this strategy is built around the citizen and the needs of future generations. The strategy starts from the premise that sustainable development presents a framework of thinking that, once mastered by the citizen, will help create a more equitable society, defined by balance and solidarity and able to cope with the changes brought about by current global, regional problems and national, including population decline. The care of the state for the citizen and the respect of the citizen for the institutions, for his neighbor, for his moral values and for his cultural and ethnic diversity will lead to a sustainable society.

Romania, along with 192 other states, has undertaken to establish the national framework to support the 2030 Agenda for Sustainable Development, which includes a set of 17 Sustainable Development Goals and the Addis Ababa Agenda for Action. The global action plan, which Romania chooses to support in the coming years, is aimed at alleviating poverty, combating inequality, social injustice and protecting the planet by 2030. It is an action plan for people, planet and prosperity, through which aims to strengthen a climate of security and freedom, in which "no one will be left behind" (Transforming our world: the 2030. Agenda for Sustainable Development n.d.).

In order to contextualize the Romanian 2030 Agenda, the *National Strategy for Sustainable Development of Romania 2030* was elaborated (SNDDR 2030) under the direct coordination of the Department for Sustainable Development, a strategy that was adopted by the Romanian Government in the meeting of November 9, 2018 and approved by *Government Decision no. 877/2018* (Romania's National Strategy for Sustainable Development 2030 n.d.).

This new strategy analyzes the international, European context and Romania's perspective on sustainable development as well as the implementation at national level of each objective of the 2030 Agenda.

Referring now to the third pillar of the 2030 Agenda, environment, respectively to the objectives directly related to this field, the *National Strategy for the sustainable development of Romania 2030* sets the following targets for 2030:

➤ *SDG 6. Clean water and sanitation*: Substantially increase the efficiency of water use; expanding the rational reuse of treated and recycled water • Substantially increasing the

efficiency of water use in all sectors • Connecting households in towns, communes and compact villages to the drinking water and sewerage network by at least 90% • Increasing access to water drinking water for vulnerable and marginalized groups • Improving water quality by reducing pollution, eliminating waste storage and minimizing hazardous chemicals and materials • Achieving access to adequate and equitable sanitation and hygiene for all;

➤ *SDG 7. Clean and affordable energy:* • Expanding the transmission and distribution networks for electricity and natural gas • Ensuring the cyber security of the monitoring platforms for the production, transmission and distribution networks of electricity and natural gas • Decoupling the economic growth of resource depletion and environmental degradation • Increasing the share of renewable energy sources and low carbon fuels in the transport sector (electric vehicles), including alternative fuels • Ensuring a stable and transparent regulatory framework in the field of energy efficiency • Strategic support for the share of electricity in total domestic, industrial and transport consumption;

➤ *SDG 11. Sustainable cities and communities:* • Ensuring access to adequate housing conditions for all citizens • Significantly reducing economic losses caused by floods and landslides • Ensuring access to safe, fair, affordable and sustainable transport systems for all • Development and implementation of a general program of spatial planning and spatial planning • Educating and making the population responsible for seismic risk situations • Reducing the effects of air pollution on human health and the environment • Substantially reducing the number of deaths and diseases caused by hazardous chemicals and air, water and soil contamination • Strengthening efforts to protect and safeguard cultural and natural heritage, landscape elements in urban and rural areas • Implement legal provisions on production, transport, storage, application it and the elimination of chemicals, including pharmaceuticals;

➤ *SDG 12. Responsible consumption and production:* • Staged transition to a new development model based on rational and responsible use of resources • Halving per capita food waste at retail and consumption level and reducing food losses - along the production and supply chains • Recycling of 55% of municipal waste by 2025 and 60% by 2030 • Recycling of 65% of packaging waste by 2025 (50% plastics; wood 25 %; ferrous metals 70%, aluminum 50%, glass 70%, paper and cardboard 75%) and 70% by 2030 (plastics 55%; wood 30%; ferrous metals 80%, aluminum 60%, glass 75%, paper and board 85%) • Separate collection of hazardous household waste by 2022, bio-waste by 2023 and textiles by 2025 • Establishment of mandatory extended producer responsibility schemes for all packaging by 2024 • Implementation sustainable green public procurement practices;

➤ *SDG 13. Climate action:* • Strengthening Romania's resilience and resilience to climate and natural disaster risks • Improving the ability to respond quickly to high-intensity extreme weather events • Improving education, awareness and human and institutional capacity to mitigate change Climate change, adaptation, mitigation and early warning social and environmental issues, in line with EU policies;

➤ *SDG 14. Aquatic life:* • Prevention and significant reduction of marine pollution of all types • Minimization and management of the impact of acidification of the marine water environment • Responsible and sustainable development of fishing activities for wildlife and aquaculture • Attracting other Black Sea states in the act sustainable management of living aquatic resources;

➤ *SDG 15. Terrestrial life:* • Development of green infrastructure and use of services provided by natural ecosystems • Ensuring the conservation of mountain ecosystems, including their biodiversity • Supporting research and development research institutions and infrastructures of national and European interest • Sustainable forest management, elimination of illegal logging development of an integrated computer system for monitoring logging and transport of timber, including at border crossings, infrastructure • Transition to a circular

economy through complementary approaches involving traditional methods and state-of-the-art technologies for restoring/restoring natural capital and reducing dependence on fertilizers synthetic and pesticide, to combat soil degradation • Combat desertification, restore degraded land and soils, including land affected by desertification, drought and floods.

Successful implementation involves a strengthened legislative and institutional framework, with functional mechanisms and the establishment of clearly defined roles. As foreseen in the Strategy adopted in 2008, an Interdepartmental Committee for Sustainable Development was set up under the chairmanship of the Prime Minister. In 2022, the Department for Sustainable Development developed *The National Action Plan for the implementation of SNDDR 2030* (National Action Plan for the implementation of SNDDR 2030 n.d.), a key document guiding the implementation of SNDDR 2030, in line with the objectives of the 2030 Agenda for Sustainable Development and EU strategic documents in all policies sectoral, for sustainable development at national level in the period 2022-2030.

This document shows that *Romania's National Strategy for Sustainable Development 2030* contributes to the implementation of the *2030 Agenda*, by addressing the global objectives for sustainable development in the national context, being guided by Romania's values and interests in all policy areas identified in 2018. The National Action Plan provides the necessary elements to support possible recommendations for the revision of the SNDDR 2030 targets during implementation, as a result of the mid-term evaluations. The National Action Plan for the implementation of SNDDR 2030 aims to facilitate inter-agency cooperation to strengthen policy cohesion and the governance framework for sustainable development and to ensure the inclusive participation of all stakeholders, for a forward-looking, transparent, agile and innovative governance.

The National Statistics Institute is responsible for monitoring the implementation process, which will update, within 2 years from the approval by normative act of SNDDR 2030, the set of national indicators in order to measure the implementation of sustainable development objectives, based on the new established priority objectives. Through the Strategy and taking into account the set of indicators set at UN and EU level for the implementation of the 2030 Agenda for Sustainable Development.

Awareness of the importance of the environment has increased significantly in recent years, both in terms of the natural and anthropogenic environment. Protecting nature is everyone's responsibility due to the unequivocal human-environmental impact, but also an opportunity for citizens to unite in a noble cause, by being aware of this responsibility.

Climate change is affecting the environment and humanity globally by increasing the average surface temperature, extreme weather events, changing rainfall patterns, rising sea levels and acidification of the oceans. Climate change is impacting all countries, disrupting national economies and people's livelihoods as resources, food and water become scarcer. These effects have an impact on other goals and often make it difficult to achieve them. The costly effects of climate change on humanity, communities and countries in general will continue to escalate if they are not carefully monitored, verified and measured. Without drastic action today, adapting to these effects in the future will be more difficult and costly, and the poorest and most vulnerable populations will bear the brunt of climate change. The impact of climate change is a reality that is felt by rising temperatures, affecting ecosystems and communities around the world, producing negative effects on the things that depend on humanity - water, energy, transportation, wildlife, agriculture, ecosystems and human health.

At the same time, we consider it important to mention that at the level of the European Union the European Environment Agency (EEA) was established by *Regulation (EEC) no. Council Regulation (EC) No 1210/90*. The same regulation also established the European Environment Information and Observation Network (Eionet), a network of partnerships

between 33 Member States⁵ and six collaborating countries⁶. Through its mandate, the EEA is tasked with working with Eionet to provide knowledge so that relevant stakeholders in the EU institutions and Eionet countries can make informed decisions on improving the environment in Europe and the transition to sustainability. Within this mandate, one of the main tasks of the EEA is to publish a report every 5 years on the state of the environment, trends and environmental prospects. These reports, published since 1995, assess the state and prospects of the environment in Europe and underpin the development and implementation of EU policies. The assessment is based on past trends, progress towards future targets and the chances that EU policy will contribute to the achievement of long-term goals.

A report published by the European Environment Agency in December 2019, which analyzes the impact of global warming in Europe, explains that "*Europe faces unprecedented environmental challenges and urgency*", including the decline of biodiversity, how resources are used and the impact of climate change on health.

In early April 2020, the European Environment Agency published the report "*The European Environment – State and outlook 2020 (SOER 2020)*" (European Environment - Status and Outlook 2020 Report n.d.). stop the alarming rate of biodiversity decline, the growing impact of climate change and the excessive consumption of natural resources. It also provided some key solutions that would help get Europe back on track to achieve these goals (NMA report n.d.). This report is the 6th SOER report published by the European Environment Agency (EEA), the 2020 edition identifying serious gaps between the state of the environment and the short- and long-term targets set in existing EU policies.

In Romania, within the National Meteorological Agency (NMA) there is a climatology section. ANM is the national authority in the field of meteorology in Romania, carrying out a continuous activity since 1884 and provides operational meteorological services, as well as current administrative activities, studies and research in its sphere of competence. According to the data presented by ANM about the evolution in the last 60 years, the average annual temperature of Romania has increased by 2.4°C. The places where the temperature has risen the most in the last 60 years are Bistrita, where the temperature has risen by 3.47°C, and Slobozia, where the temperature has risen by 3.08°C. On the other hand, the slightest increase in temperature was made by the meteorological station in Bucharest – Baneasa, where the temperature has risen 1.53°C in the last 60 years. Instead, the Bucharest-Filaret station recorded a temperature increase close to the national average of 2.37°C.

NMA together with the Romanian Waters National Agency (RWNA) – responsible at national level for monitoring surface water, groundwater and water quality and the General Inspectorate for Emergency Situations (GIES) – with the role of coordinating, preventing and managing emergencies, monitoring the climatic parameters, respectively the imminence of emergencies.

Climate change is the biggest threat to sustainable development everywhere, and its unprecedented widespread impact is disproportionately burdening the poorest and most vulnerable. Urgent action to stop/combat climate change and cope with its impacts is essential for the successful achievement of all goals. Romania is committed to combating climate change and pursuing a low-carbon development model by creating the framework and resources needed to move towards a greener and more competitive, low-carbon economy. resources and be resilient to climate risks (Sustainable Romania. Sustainable development indicators. Horizon 2020 n.d.).

⁵ The 28 EU Member States together with Iceland, Liechtenstein, Norway, Switzerland and Turkey.

⁶ Albania, Bosnia and Herzegovina, Montenegro, Northern Macedonia, Serbia and Kosovo (in accordance with UN Security Council Resolution 1244/99 and in accordance with the Opinion of the Court of Justice on the Declaration of Independence of Kosovo).

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THE ROLE OF UKRAINIAN SPECIAL OPERATIONS FORCES WITHIN THE WAR IN UKRAINE

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Abstract: *The analysis of Ukrainian special operations forces' capabilities is an important endeavor in studying the development of the war from Ukraine – as a consequence of the Russian Army invasion, in February 24, 2022. The actions of the Ukrainian elite military forces contributed to the failure of the initial Russian military planners' strategic aims. National Ukrainian Army initiated the preparations to defend against an invasion force of the Russian Federation Armed Forces of 200,000 militaries, grouped in tactical units around the Ukrainian borders. Special operations Ukrainian forces had the significant role of stopping Moscow's objectives established at the beginning of the Russian invasion and of obtaining these remarkable results within the fights against the Russian army's units; they stood out especially within the planned action of defeating the capital of Ukraine, Kyiv. The role of Ukrainian special operations forces within the war in Ukraine consisted in bold actions behind the adversaries' lines, resulting in destroying certain command points and in eliminating several important commanders from the command chain of the Russian Federation invasion forces. Ukrainian special operations forces engaged efficiently the fight with the Russian elite forces that landed in the neighborhood of Kyiv and also blocked the military actions that intending to get the control over certain strategic objectives. Interrupting the logistic flow of the Russian Armed Forces, destroying the Russian logistic centers from Ukrainian and Russian territory, as well as organizing resistance cells for guerrilla fight within the Ukrainian territories occupied by the Russians are among the successful missions of the Ukrainian special operations forces. The endeavor of the current article is to analyze the Ukrainian special operations force' transformation process since 2014 – an evolution from a structure specific for the „Spetsnaz” and Soviet Union (U.R.S.S) to the current capabilities and modern endowment, driven upon a development & training program, commonly developed with special forces units from NATO armies.*

Keywords: *Ukrainian special operations forces; Battle of Kyiv; Ukrain resistance.*

Introduction

The annexation of Crimea peninsula, which was launched on February 23, 2013 (according to Vladimir Putin – the leader of the Russian Federation) (Kozlov, Petr; Volkova, Olesya; Karpyak, Oleg 2022) has taken the Ukrainian special operations forces (and the whole Ukrainian Army) totally by surprise with the Moscow's security challenges.

As a result of the Russia-led military aggression associated to the hybrid warfare, Ukraine has lost territories. Thus, Kyiv could not exert control either over Crimea Peninsula or the separatist regions from SE of Ukraine – Donetsk and Luhansk.

Until 2014 – the moment of Crimea peninsula annexation – Ukraine inherited the organization of the *Soviet Union special operations forces*. Under the common name „*Spetsnaz*”, it comprised elite forces belonging to different force ministries. The most popular special forces structure – *Special Destination Police Force - Berkut* - is part of the Domestic Affairs Ministry and is specialized on neutralizing the riots within the country, as well as law and order enforcement in case of large social insurrections.

In 2014, *Special Destination Police Force – Berkut* has been involved in repressing the popular unrest known as *Euromaidan*, but it did not obtained the success expected by the non-democratic Ukrainian authorities, leaded by president Viktor Ianukovici.

Later in 2014, the new democratically-elected government decided to disassemble *Special Destination Police Force – Berkut*, as a result of their brutal actions against the peaceful Ukrainian demonstrators.

After the annexation of Crimea, the Ukrainian democratic government succeeded to maintain, from the *Spetsnaz*, those elements that were loyal to the new Kyiv leadership. *Spetsnaz* units have been involved in the war in Donbas, successfully undertaking operations that defeat the pro-Russian separatist forces from SE of Ukraine, which intended to undermine the situation within the region.

In 2014, following the actions initiated by the Russian Federation in SE of Ukraine, certain successful actions of Ukrainian *Spetsnaz* concerning military operations intending to regain Kramatorsk airport from S of Ukraine, eliminating/detaining destabilizing pro-Russian elements active within Sloviansk (E of Ukraine), rejecting and chasing away pro-Russian insurgents who held under temporary control Donetsk airport, taking part in regaining Mariupol, and also isolating/arresting disturbing pro-Russian forces from Odessa (Butenko, Victoria; Walsh, Paton, Nick 2014).

Since 2014, Ukrainian democratic government has launched a reform program of all Ukrainian armed forces, including Ukrainian special operations forces. This decision was required by the disastrous condition of the military personnel, of the technical endowment and military training that made impossible a certain reaction of the Ukrainian Army to the security encounters initiated by the Russian Federation.

Within 2014-2016, a detailed analysis process of the military structures state has been undertaken, with the support of Western Europe military counsellors, to identify the main problems facing the Ukrainian army.

Simultaneously, studies have been initiated, concerning the specific of the disturbing actions undertaken by the Russian Armed Forces in Georgia and Ukraine. Based on these two analyses, the next security architecture of Ukraine has been projected, to answer as effective as possible to the new security challenges.

Based on the conclusions of the Ukrainian studies regarding Moscow's strategy and pattern of action and in order to undertake destabilizing actions within the proximity of Russian borders, Ukrainian government initiated, between 2016-2020, with the support of Western partners, some major reforms of the Ukrainian Defense Minister, focusing on five major interests directions: command and control, planning, military operations, medical and logistic support and armed forces professional development (Collins 2022).

Simultaneously with the initiation of the Ukrainian armed forces reform, until the end of 2021, USA Government has provided targeted assistance, counselling and equipment transfer (2.7 billion USD value) to transform and support Ukrainian armed forces. The process generated modern, flexible, maneuverable, flexible, with the proper technical endowment, adapted to the new combat field and to the new security challenges (Collins 2022).

In addition to the initial 3 billion USD offered by the USA Government to Ukraine for armed forces reform, another military support occurred, weaponry (more than 23.4 billion USD) (Marina, Georgiana; Badea, Marco 2022). A great share of this military support has been directed for *Ukrainian special operations forces' endowment and training*.

An important transformation within the Ukrainian army process of reform was the adjustment of the Ukrainian combat strategy: it became more permissive regarding the military leaders' initiative within combat actions, on the level of military microstructure, achieving autonomy of the command chain. It allows the young Ukrainian commanders the permission to plan and engage military actions within a de-centralized environment, still taking into account the achievement of the superior echelon's general objectives.

At the same time with the reform of the military system, Ukrainian military Planners included, within the Ukrainian defense strategy, a development program on national level focused on Ukrainian military volunteer culture. Ukrainian authorities settled centers that organize and train the civilians - being thus ready to participate within the national collective

defense towards eventual Russian Federation military attacks. This strategy contributed to the Ukrainian population's effective mobilization against the Russian invasion blockage (Collins 2022).

1. The development of the Ukrainian special operations forces

Ukrainian special operations forces (in Ukrainian language: *Сили спеціальних операцій Збройних Сил України* – *Special operations forces of the Ukrainian armed forces*) has been created in 2015; it was planned to comprise almost 2,000 militaries.

Since the Russian troops invasion in Ukraine, the Ukrainian Defense Ministry supplemented the special operations forces with 1,000 operators. At the moment, the estimated forces comprise approximately 3,000 militaries; all of them graduated a specialized training military program, specific for the the modern, military elite forces (Momi 2022).

In December, 2015, the Ukrainian Army adopted the NATO organization model of the Special operations forces and settled the *Special Operation Command from Ukraine (SOCOM)*. It subordinates seven special operations regiments and three of them are supporting the Naval Forces. In addition of these, there are two training and education centers for special operations.

The decision of settling the *Special Operations Command – SOCOM* and to reform the special operations forces came as a result of the partnership with NATO Armed Forces and especially with USA Armed Forces. Another factor representing a fundament for SOCOM settlement were certain failures registered by the Ukrainian special forces in contact with pro-Russian separatist forces in 2014, during the E of Ukraine fights – thus requiring the necessity of reforming the military structures.

The declared objective of the military authorities from Kyiv, Ukrainian special operations forces were intended to comprise 4,000 operators; there was a complex recruiting, selection and training process at the level of Ukrainian Defense Ministry' fighters, in order to be integrated within the specialized structures of the Special Operation Forces.

The whole transformation concept of the Ukrainian special operations forces focused on developing those fighting military structures, suitable for a complex military operational environment, endowed with performant, up-to-date equipment, able to act in conformity with advanced fight techniques and strategies, specific for NATO armed forces.

In 2015, as certain USA military analysts predicted, there were enough elements to indicate a Russian invasion within the Ukrainian territories. This situation determined military instructors from the USA special forces and CIA agents to initiate a secret training program of the Units of Ukrainian special operations forces to undergo an efficient insurgency war, against the Russian invader (Borsari 2022).

Simultaneously with the common partnership between Ukrainian special operations forces and special operations forces from NATO armies, *Ukrainian militaries had access to superior tactics of action, already tested by the NATO armies within the theatres of operations*. They also had access to performant combat equipment – which represented decisive advantages within the armed conflict initiated by Russian Federation.

Regarding the technical endowment, the militaries from Ukrainian special operations forces have been equipped with advanced night light vision, allowing the fighters to operate efficiently during night missions, in comparison with the weak performances of Russian Federation's militaries on this chapter. The militaries from the Ukrainian special operations forces use encrypted communication systems, assuring the security of their communications. They also have performant portable Surveillance and Reconnaissance devices (ISR).

From the weaponry point of view, Ukrainian special operations forces are endowed with Ukrainian-made Fort 14 and Fort 17 pistols, Glock 17 (Austria) pistols, AKS-74U, AK-

74M automatic guns (projected within Sovietic Union), the assault gun Fort 221 that uses $5,56 \times 45$ mm ammunition NATO type, Ukrainian assault gun Malyuk caliber $5,45 \times 39$ mm, $7,62 \times 39$ mm and $5,56 \times 45$ NATO mm, Sig Sauer MCX (USA) guns, „Fort-301” $7,62 \times 51$ mm caliber (Ukraine), Barrett M82A3 (standard code M107 - USA) sniper gun with caliber $12,7 \times 99$ mm ammunition, PKM light machine gun caliber $7,62 \times 54$ mm, patented in USSR, anti-tank weaponry system FGM-148 Javelin (USA), RPG-22 and RPG-26 (also projected in USSR), SAAB NLAW (Great Britain) and portable systems for anti-aerial fight (*man-portable air-defense system - MANPADS*) FIM-92 Stinger (USA) and STARstreak (Great Britain) (Momi 2022).

Ukrainian special operations forces are also endowed with SYCH M30 counter-sniper system (produced in Ukraine), which searches for targets, automatically detects masked optical devices and determines coordinates and distances to the targets.

Regarding the aspect of transportation technique, Ukrainian special operations forces use light combat vehicles *AM General High Mobility Multipurpose Wheeled Vehicles (HMMWV-es)* and inflatable assault boats provided by the USA government, as well as *4x4 Kamrat (Ukraine)* armored transporters, projected to support tactical insertion, carrying up to 10 operators.

For information collection and precise target hitting, Ukrainian special operations forces use Bayraktar TB2 UAV systems.

Ukrainian special operations forces also uses JAVELINS and NLAW anti-tank guided ammunition (supplied by USA and Great Britain) and intelligent ammunition - Switchblade 300 (antipersonal) and Switchblade 600 (anti-tank) drone systems.

The fact that Ukrainian special operations forces took part in training activities together with special operations forces from NATO countries before the conflict from Ukraine, the adoption of NATO action tactics and combat strategies and the access to effective combat equipment contributed to remarkable results within the fight with Russian invasion forces.

Ukrainian special operations forces has been endowed with performant night vision devices and participated in common exercises with NATO forces during night time; this fact provided superior capacities reported to the Russian invasion forces – that lacked this important aspect.

In addition to that, Ukrainian special operations forces benefited by advanced encrypted communication systems that contributed to the successful missions, in case the radio messages exchanged among the Ukrainian special operations forces' operators were intercepted by Russian invasion specialized SIGINT units.

The Ukrainian special operations forces' organization, both on microstructure level or on the level of a branch commandment (in conformity with NATO countries), special forces operators' training to act within different responsibility environments (land or naval), their participation to advance training programs and dedicated common training with air components allowed the elite Ukrainian forces to gain remarkable successes on the battlefield, at the moment the invasion within Ukraine was launched.

Starting with 2019, an air component endowed with AN-70 transport aircrafts and Mil Mi-8 helicopters has been transferred from the Ukrainian Air Forces, in order to support the Ukrainian special operations forces Command. This component trained with SOF operators for special operation types of missions: infiltration, extraction, low height flight, difficult meteo conditions, night flight missions.

Another particular feature of Ukrainian special operations forces organization is the settlement of four *Informational Warfare and PSYOPS Centers*, with the headquarters in Huiwa, Brovary, Lviv and Odesa. During the training process, the operators from Ukrainian special operations forces have been trained to establish intelligence networks within the zones

of interest, PSYOPS operations, espionage, to found resistance and sabotage cells within the territory under enemy occupation.

In 2019, the *Ukrainian special operations forces Center 140* has been evaluated based on the criteria of NATO Reaction Force (NRF). It was the first time when a non-NATO unit has been certified by a NATO commandment as a Special Operations Force (SOF).

Thus, starting 2014, the Ukrainian Ministry of Defence started a complex process of restructuring and modernizing the Ukrainian Special Operation Forces, in order to create a flexible and strong force able to adjust to different situations and having modern equipment, needed for the security challenges posed upon by Moscow for destabilizing Ukraine.

According to the principles that guide the development of the Special Operations Forces, at the level of the North Atlantic Alliance, the Ukrainian authorities understood that these elite forces could be created *neither at greater extent nor at the outburst of crisis situations* (SOF Truths, 2022). The process of developing and modernizing the Ukrainian Special Operations Forces was a complex one, extended over a significant period of time, requiring, according to specialists, almost 4-5 years for training elite fighters in the field.

Regarding the military logistics, the Ukrainian Special Operations Forces kept their highly performant equipment and technology, produced in Ukraine. Moreover, advanced equipment and technology were bought from the West, being needed for coping up with the new challenges of the modern warfare. I consider that the Ukrainian authorities adopted the strategy of providing (to the Ukrainian Special Operations Forces) both local weapons and ammunition (as a constant process) so much needed on the battlefield and modern equipment, which was bought from the NATO countries. The latter was better regarding its performance, but it had higher risks determined by transport delays which occurred throughout the entire period of the conflict.

2. The role of Ukrainian special operations forces within the war from Ukraine

Since the beginning of the so-called Moscow's *special military operation* against Ukraine the main strategic purpose of Kyiv of combatting the Russian invasion consisted in causing an as high as possible number of casualties within militaries and combat pieces and imposing high costs.

Ukrainian special operations forces have been the most prepared Ukrainian military units that would have been able to engage in wear and tear fight with Russian Federations' units, because they have been trained to use a combination of guerilla tactics and direct actions and engagement methods of unconventional fight, against an enemy in numerical superiority.

Having specific fight action training, the Ukrainian Special Operations Forces marked great success in the fight for defending Kyiv, cutting off the logistic supply convoys of the Advanced Russian Forces, organized resistance and sabotage groups in the territories occupied by the enemy and killed the Russian military high-officials that were carrying out operations on the Ukrainian territories.

2.1. The role of the Ukrainian Special Operations Forces for defending Kyiv

On February, 24 2022, during the Russian Army invasion in Ukraine, the main fight line of the Russian Forces was from the North, from Belarus and had as main objective capturing Kyiv.

In the fight for conquering Kyiv, the Ukrainian defense Forces blocked the enemy at the suburbs of the capital city. The Ukrainian Special Operations Forces played an important part in deterring The Russian Occupation Forces, by blocking and destroying the advanced

Russian ground forces in the fight from the Kyiv suburbs, especially Bucha, Irpin and Hostomel causing significant damage to the Russian units.

I used the case study, as a research method when determining the role of the Ukrainian Special Operations Forces in defending Kyiv. This enabled me to identify the two main ways in which the Russian Federation planned the attacks against the capital of Ukraine: the former from the North-West- on the Hostomel Airport axis- the city of Bucha- the city of Irpin and the latter from the North-East- on the Chernihiv Highway axis- the city of Velyka Dymarka - the city of Brovary.

Hostomel airport was attacked by the invasion forces during the first days, being a strategic target for the Russian Forces. Thus, the approximately 500 Russian paratroopers that were transported in order to take the control over the airport met significant resistance from the Ukrainian Special Operations Forces.

Russian military planners were interested in the city Irpin, located 21 km from Kyiv, due to the fact that they wanted to set up a base of the Russian special operations there. The Russian military elite of the 331st Guards Airborne Regiment fought in the area and suffered from great casualties during the fight with the Ukrainian Special Operations Forces. The Ukrainian victory from Irpin contributed to lowering the moral condition of the Russian Occupation Forces (Urban 2022).

The Ukrainian Forces contributed to organizing an efficient defense in the Kyiv suburbs. The Ukrainian Special Operations Forces participated as well, playing an important role in preventing the Russian forces from advancing in the capital of Ukraine, leading to the Russian forces retreat from the North of Kyiv at the end of March.

The Russian convoy, organized along 60 kilometers, was blocked at North-West of Kyiv by the Ukrainian Special Operations Forces. This is just one of the numerous successful actions carried out by the Special Operations Forces during the Ukrainian war. Thus, the enemy's fight actions were blocked by cutting off the logistic supply convoys.

I consider that the Ukrainian Special Operations Forces played a major role in defending Kyiv, carrying out direct actions upon the Russian Federation military troops or sites which were organized to capture Kyiv.

The Ukrainian Special Operations Forces carried out special operations to destroy, capture, exploit, recover and cause significant damage upon important targets of the Russian Federation Army. These kinds of missions were ordered by important Ukrainian political-military decision-makers.

2.2. The Role of the Special Operations Forces in fight actions for cutting off the logistic supply convoys of the Russian invasion forces

Having specific training, the Ukrainian Special Operations Forces took up actions specific to the irregular warfare. Thus, they started the operations behind the enemy lines in order to cut off the logistic connections, by attacking and destroying the Russian supply convoys.

As part of the research process, I used the observation method, as a means of gathering information, concluding that the strategy used by the Ukrainian Special Operations Forces when blocking the Russian logistic supplies from reaching the Russian advanced forces was both simple and efficient. The Ukrainian Special Operations Forces operators launched attacks against the first and the last military vehicles of the logistic convoys, blocking any chance of either retreat or maneuver. Furthermore, the operators started destroying or capturing the means of transport which were blocked.

The Ukrainian Special Operations Forces fight actions against Russian logistic transport included organizing ambushes efficiently on the route of the supply convoys. This

kind of operation was organized in a timely manner, with the involvement of a limited number of Ukrainian operators.

As tactical procedures, the Ukrainian Special Operations Forces attacks against the Russian Forces during the ambush were carried out by using: anti-tank fire systems upon the front part of the Russian convoys, precise air raids (using drones or placing mines on the invasion forces route, controlled and detonated remotely by the Ukrainian operators).

Having used the attacks successfully against the Russian supply convoys, resulted in lowering the Russian Occupation Forces fight capability near Kyiv. Moreover, the moral condition of the Russian military was greatly affected, especially of those from the front units, which were faced with the situation of having to advance, but lacking supplies (Ukraine's "Explosive" Ambush in Occupied Kherson Region (Videos) 2022).

The Ukrainian Special Operations Forces acted efficiently, infiltrating and carrying out operations on the territory of the Russian Federation, launching attacks against military bases, destroying logistics, fuel and ammunition warehouses, infrastructure (railroads that were ensuring the military equipment transport to the Russian units located East of Ukraine) (Kuzan 2021).

I consider that the Ukrainian Special Operations Forces proved their operational power, being able to carry out successful fight missions in any moment and in any action area (both on the Ukrainian territory and on the Russian Federation). Moreover, they could fight in all kinds of hostile territories, having low visibility, at night or under unfavorable weather conditions in order to block the enemy's supply convoys or to destroy ammunition and other supply warehouses of the Russian Federation.

2.3. The Role of the Ukrainian Special Operations Forces in organizing the resistance movement on the occupied Ukrainian territories

Since the Ukrainian Special Operations Forces were created, the Kyiv authorities planned that one of the important missions of the Ukrainian elite units to be resistance and sabotage actions against the occupation forces that were controlling parts of the Ukrainian territories temporarily.

Against such a predictable danger, the Ukrainian political-military authorities included, in the National Resistance Strategy, a provision according to which the whole society has to contribute to defend the state against the oppressors in order to free the territories that were being occupied temporarily (White 2022).

The Ukrainian Special Operations Forces contributed to informing and helping the citizens take part in resistance actions on the occupied territories as well as organizing clandestine groups for sabotaging the oppressors' actions, as part of the planning process for defending Ukraine.

Without minimizing the role of the conventional fight carried out by the Ukrainian Armed Forces against the Russian Occupants, the Kyiv authorities realized that, along with traditional military operations, organizing resistance movements in the occupied territories is also important for carrying out insurgency, as a means of the guerilla war, this being a well-known fight action against such an occupant.

The insurgency organized by the Ukrainian Special Operations Forces on the territories occupied by the Russian Army in the East part of the Ukraine led to instability in that area and impeded the occupation forces in their planned actions.

Moreover, sabotage actions and bombings led to the Russian military units retreat from the area. This way, they were prevented from reaching the Ukrainian units. Thus, control could be restored in the area. The insurgency war carried out by the Ukrainian groups in the occupied territories greatly affected the moral condition of the Russian troops, by causing instability.

The Ukrainian insurgent groups from the territories occupied by the Russian Army organized a series of car bombings with the help of the Ukrainian Special Operations Forces in order to annihilate Russian high-officials and also members of the administration imposed by the Moscow regime or to kill Ukrainians that cooperated with the Russian Occupants.

According to the Kyiv authorities, the Ukrainian Special Operations Forces contributed to killing 13 Russian generals in the Ukrainian war, as well as other Russian high-officials, from the Russian Federation Army that fought in Ukraine, having the required training in order to carry out missions of identification, capturing or killing military commanders.

I consider that the Ukrainian Special Operations Forces, whose basic training is guerilla fight, will play an important role in the military actions to deter the Russian occupants from the captured territories located in the East of Ukraine, by creating and arming Ukrainian resistance groups.

Another important mission of the Ukrainian Special Operations Forces includes identifying, capturing and killing Russian military leaders (important decision-makers of the Russian Federation Army), which operate in the Ukrainian theatre of operations. This will play an important role in destabilizing the command process at the level of the Russian units that operate in Ukraine and lead to lowering the moral condition of the Russian military.

Conclusions

I appreciate the research process regarding the role of the Ukrainian Special Operations Forces in the Ukrainian war to have been an arduous one caused by the limited number of available resources comprising relevant information regarding the Ukrainian elite force actions in the Russian-Ukrainian conflict. Taking into account that the content of such information can influence the progress of the Ukrainian war, I have noticed that information can change in such a manner so it can bring further guidelines regarding the special role of the Ukrainian Special Operations Forces, as given by the Ukrainian authorities, to deter the Russian actions in Ukraine.

Furthermore, the constant evolution of the actions and the sudden changes caused by the situation of the Ukrainian war make the subject of analyzing the role of the Ukrainian Special Operations Forces an open one. New information and conclusions regarding the Russian-Ukrainian conflict can always appear due to the changes from the battlefield.

The success of the Ukrainian Special Operations Forces in military actions from the Ukrainian war highlights the need of developing the Special Operations Force capabilities in the modern armies. The actions carried out by such well-trained forces can lead to significant strategic outcomes in conflicts or in important missions from the theaters of operations.

The success of the Ukrainian Special Operations Forces is determined by: the chosen strategy as compared to that of the other forces, the training and the process of carrying out fight missions according to NATO standards and ensuring (within SOCOM) all the necessary resources for accomplishing missions.

The action patterns and the future organization of the Special Operations Forces within NATO armies will be greatly influenced by the conclusions comprised in the analysis regarding the role of the Ukrainian Special Operations Forces in the Ukrainian war.

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US-ROMANIAN RELATIONS – STRATEGIC PARTNERSHIP

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Abstract: *In this paper, we aim to analyze the evolution of the Strategic Partnership between Romania and the United States of America. Launched on 11 July 1997, the partnership was a political and diplomatic platform for cooperation between the two countries. The novelty of this article is the SWOT analysis of the Strategic Partnership but also its deepening. We propose that the Strategic Partnership be institutionalized and instrumentalized in the form of a new format for cooperation and collaboration. One of the three pillars of our country's foreign policy is the privileged relationship with the United States of America, which must be deepened and developed. The Strategic Partnership concluded between Romania and the United States of America is the only certitude for our country to survive as a state, and to preserve its entire territory. This year we celebrate 25 years since this partnership emerged on the stage of History. Now, as we experience uncertain times marked by fierce geopolitical competition, it is high time we developed and formalized our Strategic Partnership. Not that we want to minimize NATO's role, but the Alliance without the United States does not have the strength to oppose multiple challenges at international level. The Strategic Partnership strengthens our country's profile, while being the certitude of our country's preserving its territorial integrity, and full sovereignty. The bilateral relationship has become a model of diplomatic cooperation and has manifested itself in various domains, political, military, economic, informational, environmental, social, and cultural.*

Keywords: *Romania; the United States of America; Strategic Partnership; perspectives; extended national security.*

Introduction

The concept of extended national security relies on observing constitutional democracy, and the democratic values. The 2015-2019, as well as the 2020-2024 National Strategy for State Defense are both implemented while observing the European security principles and while developing a direct proportionality link to the European Security Strategy, and with the Internal Security Strategy of the European Union. The convergence of those principles is a desideratum of both national defense strategies. (Gabor, Gabriel; Cristian, Alexandru 2021)(124). The New National Strategy for State Defense for 2020-2024 is also based on enhancing the concept of *extended national security*. The Strategy proposes a double-sided integrated risk, threat, and vulnerability management. There is a domestic/national side, and an international side, that is the external commitments undertaken by our country. (Gabor, Gabriel; Cristian, Alexandru 2021) (123).

The international security environment, characterized by volatility, uncertainty, complexity, and ambiguity, requires viable solutions for preserving security. Romania's foreign and security policy is stable and predictable as it relies on the *triad* consisting of the European Union, the North-Atlantic Alliance, and on the country's Strategic Partnership with the United States. What is not predictable is the evolutions in the Black Sea Extended Region – that is why these two converging concepts – the one of extended national security, and the one of resilience – make up a new clear and concise concept, applicable in the current context of our country's international profile. The challenge for our country is maintaining a high standard of resilience and interoperability at sectorial level to strengthen national security.

The international security environment shapes the reactions and behaviors of states. In the analysis of the Strategic Partnership, we must not forget the Band Wagoning concept developed first mentioned by Arnold Wolfers and then taken over by other thinkers. This concept means that a small or medium state allies with a greater power to survive on the

international political scene. The concept was popularized by Kenneth Waltz in his book *Theory of International Politics*.

1. A brief history of the evolution of US-Romanian relations

Relations between states have evolved throughout history. From first contacts to trade, diplomatic or even friendship relations is a long way to go. Romanian-American relations have been part of the classical paradigm of history, namely an evolution depending on the historical events that have followed. We divided the Romanian-American relations into four great periods, according to some authors there are even five periods. The early period, the period of formalizing bilateral relations, the period of the Cold War and the period after the fall of the Iron Curtain. We divided the periods in bilateral relations according to the historical evolution but also to the main events that took place in our countries. We must mention that the United States of America was in the period of its ascension and our country was in a period of state consolidation but also of modernization.

The *early* period is considered to have spanned from 1843 until 1880. 1843 is the year when the first American trading ship reached the Romanian harbors, namely the Brăila harbor. Back in those times, the United States were experiencing territorial and economic expansion at its fullest, while trade was a fundamental pillar to developing the American state. Statele Unite ale Americii erau în perioada construcției și dezvoltării statale (Vitcu 2000).

We can consider the second period of our bilateral relations' evolution between 1880 and 1940: it is the period during which the US-Romanian relations became *official* and *got developed*. The first official representative of the United States of America in Bucharest was Eugene Schuyler. It should be mentioned that after some dates and testimonies he was close to the great Roman poet Mihai Eminescu. From here we can say that Mihai Eminescu is among the first Romanian intellectuals attracted by the United States of America. There are two years worth mentioning during this lapse of time – 1880, when the bilateral relations turned official with the appointing of the first American diplomatic representative to Romania, and 1918, when the Romanian Legation to Washington D.C. was established. We must emphasize that Romania and the United States were allies during the First World War without being bonded by an official legal deed such as a treaty or a pact. Our countries have been *Allies without an Alliance*, according to historian Ion Stanciu (I. Stanciu 2010). The year 1940 meant disrupting bilateral relations because of the state of war. The relations were suspended until the communist regime reopened the Romanian legation, and the United States of America acknowledged communist Romania by appointing a diplomatic representative on 28 July 1947 – Rudolf E. Schoenfeld.

The third period of bilateral relations (1947-1989) was marked by serious challenges. The communist period was a period in which the Romanian-American relations went from frost to an extremely interesting cooperation in the political field. We can say that it was the most interesting period of Romanian-American relations. It was a period of geopolitical turmoil but also a period in which our country moved away from the Soviet Union. We can say that Romania was the only communist state that had close bilateral relations of cooperation with the United States of America. In 1964, both states upgraded their legations as embassies. The relations between communist Romania and the United States were considered a paradox. Romania was seen as a country monitored by Moscow having normal, good relations to the latter's great enemy. Certain researchers called the 1967-1975 period an adultery in the communist family. Those years were symbolized by ambassador Corneliu Bogdan's prodigious activity. Corneliu Bogdan's personality left many traces in Romanian-American relations. We must mention that during his mandate Romania obtained the Most Favored Nation Clause (Harrington 2002)(250-260).

After the fall of the communist regime, our country wanted to leave the past behind and to look towards the future, which seemed to bring hope to everyone. We had the historical chance to be included in the Euro-Atlantic area. The 1995 Snagov Declaration was a historical milestone, the entire political class associated around some national ideal, that is to have Romania join the Euro-Atlantic space. (Manea 2016, 125)

Our country's decision to move to the Euro-Atlantic area was an extremely wise policy decision. It was a great strategy for our country for the orientation after the fall of the Iron Curtain, a strategy of survival and affirmation in the international space.

The period after the 1989 revolution of the US-Romanian bilateral relations was characterized by winning trust and by laying the bases of an even more effective cooperation. 1997 is a key year for Romania's foreign politics after the 1989 revolution. The Strategic Partnership between Romania and the United States of America was launched on 11 July 1997. This event marked the entire history of the US-Romanian bilateral relations. Our countries have been allies with no formal alliance, they had complex relations during the communist period, but with the launch of this Strategic Partnership, they officially became partners to pursue their cooperation in various fields (Răceanu 2005) (180).

The Joint Statement on the Strategic Partnership for the 21st Century between Romania and the United States of America was signed on 13 September 2011. This legally binding document shall cement the bilateral relation as the two countries undertook several cooperation fields in the 21st century. Moreover, the Joint Statement on the implementation of the Strategic Partnership for the 21st Century between Romania and the United States of America was launched on 26 September 2016 in Washington D.C. (Toboşaru 2016) (255).

From the evolution of the Romanian-American relations, we can deduce that they went towards an ascending trend favored by the times but also the attitude of the two states. Both had a geopolitical and geostrategic interest in maintaining and developing the bilateral relationship.

2. The Strategic Partnership between Romania and the United States of America

The signing of the Strategic Partnership was a one-of-a-kind geopolitical turning point after the Cold War. The largest power, as a matter of fact the only world-level superpower started such an international relation to a middle-sized power just emerging after half a century of communism.

The first country to sign the Peace Partnership was Romania – on 26 January 1994. That was a statement of interest from a democracy willing to join democratic values. This sign preceded the birth of the Strategic Partnership between Romania and the United States of America. It was actually a foreign policy act performed by two states strengthening their relationship based on common values, norms, ideas, and principles (Cristian 2022)(90).

A signal was given on 11 July 1997 in Bucharest that our country would become an integral part of the Euro-Atlantic world. A Strategic Partnership which meant quite a surprising geopolitical move back in those times. The Strategic Partnership between 1997 and 2011 involved a developing and getting bilateral relations deeper. We divided this period into two parts because the *Joint Statement on the Strategic Partnership* was signed in 2011. 2004 is the year when our country joined the North Atlantic Treaty Organization. Also during the 1997-2011 period was established a Strategic Partnership Committee, a structure managed by the Ministry of Foreign Affairs and by the State Department (Cristian 2022)(120).

The year 2006 was an important milestone in the two countries' collaboration, when the parties signed an agreement allowing an American contingent on the territory of Romania. The United States chose the military base in Kogălniceanu, where the country invested over 35 million dollars. Another important moment is 2011, when Romania accepted to host the

American missile shield at Deveselu although Moscow criticized placing this target in Romania, while directly and repeatedly menacing Romania. (M.A.E. 2011)

The Deveselu shield became operational – it includes one of the highest performing radars in the world. This is able to detect in a matter of seconds ballistic missiles fired by a potential enemy located thousands of kilometers away. There is also a launching unit consisting of 44 defensive missiles. This project started in 2013 and it cost more than 800 million dollars. (Crengăniș n.d.)

The Strategic Partnership was marked by steady, strong political and military relations, the two countries' cooperation with respect to the defense and security system has been excellent for this entire quarter of a century.

The US-Romanian Strategic Partnership was a geopolitical time which deeply marked the evolution of both peoples, as well as that of Europe as a whole. Europe has always been related to the US, History is a witness in this respect. The shift occurring at that point meant so much for our nation, and it has an impact difficult to quantify at the present. The wish to be present in a universe only known from written documents helped the American people dearly accept this basically geopolitical idea.

We identified three pillars difficult to measure and to evaluate, yet which underlie every human relation in general, and good relations between states in particular. (Româno-Americană, Us-Romanian Strategic Partnership 2021)

We have identified three pillars for deepening the Romanian-American bilateral relationship, loyalty, trust, and cooperation. These pillars helped to develop Romanian-American relations. Confidence is fundamental to a relationship between two states. In the 25 years of Strategic Partnership, our country has proved a real attachment to the bilateral relationship with the American partner. We would like to emphasize here our contribution to the theaters of operations in Iraq, and Afghanistan, and our commitments to state-level reform. The modernization of the Romanian state had as its main components the modernization of education, the reform of justice, the accumulation of new scientific knowledge but also the development of defense capabilities.

Loyalty is a term that highlights a strong connection between people but also between states. Loyalty is evident in times of peace but also in times of conflict

Trust is gained over time, the development of Romanian-American relations after 1989 bears the stamp of this word Trust. A relationship based on trust has been able to develop so many political, social, and military ties that have made Romania recognized as a strong, stable, and reliable ally.

Cooperation or collaboration must be continuous and based on the other two pillars. Thus, the Romanian and American states have developed bilateral relations in almost all areas known to human relations. In addition to the excellent cooperation in the military and defense field, a solid collaboration relationship has been developed in the cultural, scientific but also societal fields as a whole.

These three pillars must be the starting point for strengthening the Strategic Partnership between Romania and the United States for it to get more in-depth, to be institutionalized.

4. SWOT and Blue Ocean analysis of the US-Romanian Strategic Partnership

The SWOT analysis reveals that we can develop and deepen the Romanian-American relationship if we take into account certain elements. A strong point in Romanian-American relations is represented by a long, stable, and lasting relationship. This reveals continuity in the Romanian-American relationship. The Romanian diaspora present in the United States of America was a vector for promoting the interests of our country. Our diplomacy has been

doubled by the reputation that certain Romanians have acquired in the United States of America. The problems they face are related to the hostility of certain powers in deepening relations, a non-institutionalization of the Strategic Partnership, the lack of a clear and concise objective, and possible hybrid actions to undermine the transatlantic relationship. The analysis also reveals the fact that we have many opportunities that we must take advantage of, but also many objectives to be fulfilled. Cultural and educational relations must be strengthened and initiated through bilateral partnerships. The visa process needs to be optimized to further strengthen the bilateral relationship. Opportunities to deepen everything will consist in positioning the decision-makers at the transatlantic level but also in finding a common goal, a precise goal in the transatlantic relationship.

In the future, the Strategic Partnership will be enhanced and new cooperation mechanisms will be developed. The Romanian-American relations will also get stronger due to the international environment which is highly unpredictable and full of uncertainty. We are sure the future perspectives of the US-Romanian relations will be influenced by various events aimed to strengthen such relations

SWOT analysis of the US-Romanian Strategic Partnership (A. Cristian 2022, 130)

Strengths	Weaknesses
<ul style="list-style-type: none"> • Long-lasting, stable relation • Excellent cooperation at military level • The Romanian people is close and familiar to the American culture • Fertile cultural and scientific relations • Civilization model 	<ul style="list-style-type: none"> • Lack of formalization of the Strategic Partnership • Underdeveloped economic relations • The visa awarding process for the Romanian citizens • Unexploited educational relations
Opportunities	Threats
<ul style="list-style-type: none"> • An institutionalization of the Strategic Partnership • Develop and enhance economic and commercial relations • Develop direct passenger or commercial airlines • Optimize the visa awarding process for Romanian citizens • The Romanian nation has the benefit of young, very intelligent human resources • American personalities attracted by Romania's values and culture 	<ul style="list-style-type: none"> • Preconceived ideas triggered by hostile propaganda, occurrence of potential mutual mistrust • Conflict turning hybrid, manipulation and post-truth in order to hijack the US-Romanian bilateral relations • Lack of capitalization of power resources and tools by both parties • Lack of a precise goal; no concrete purpose

BLUE OCEAN analysis is specific to the commercial and financial environment. Adapting this analysis to the Strategic Partnership seems to us to be an attempt to highlight the possibilities of deepening the Strategic Partnership. (Româno-Americană, Analiza Blue Ocean a Parteneriatului Strategic 2021)

In the international world we encounter a competitive environment full of strangers. It's like a blue ocean full of sharks and other marine creatures. The ocean can turn red / dangerous if sharks compete for power and resources. Thus, our country must preserve its national security by immersing itself in a stable international environment without it becoming full of uncertainty and ambiguity. Such an environment will allow our country to strengthen its international profile but also to increase its deterrent position in the North Atlantic Alliance.

For the development and deepening of the Strategic Partnership, certain factors must be eliminated for the ocean to turn from red - RED OCEAN to blue - BLUE OCEAN. These factors to eliminate are:

- Hostile propaganda – made by unfriendly states;
- Anti-American reflexes / obsessions – springing from certain social groups;
- Civilizational archetype / cultural model – cultural-civilizational differences;
- Country-specific imagery – lack of a correct image on both sides.

These extremely subtle and profound factors can change perceptions and turn the blue ocean full of peace and cooperation into a red one characterized by tension and conflict. Currently, the Romanian-American relationship is in a blue ocean with certain red iridescences generated by a strong propaganda that arouses anti-American reflexes and obsessions. They can be modified or altered depending on the events that take place in the international environment, conflicts, crises of all kinds but also other destabilizing situations.

These two analyzes can reveal the current state of Romanian-American relations. The relationship is very stable and efficient but needs to be developed and deepened. We must seize historic opportunities and opportunities. We need to focus on a common goal of the Strategic Partnership and bring it to a successful conclusion. Every state has a great strategy, every state has a series of small strategies to achieve its goals. We need to use all the power resources and power tools to be able to achieve a general goal, namely to increase the international profile of our country.

Conclusions

Potential evolutions of the US-Romanian relations will first and foremost pertain to the evolution of the international security environment, as well as to the political will of both countries. 25 years after the emergence of the Strategic Partnership between Romania and the United States of America, it is highly important it is formalized and institutionalized. We consider that identifying interinstitutional cooperation mechanisms is a fundamental pillar for enhancing the Strategic Partnership.

As a potential evolution, we forecast the development of the Strategic Partnership, as well as intensifying the US-Romanian bilateral relations are to be confirmed by events occurring on the international stage in a near or more remote future. The world at international level fell in the famous "Thucydides Trap", according to which the hegemon is being challenged, and needs to fight to preserve its geopolitical supremacy. Graham Allison analyzed this historical concept in his book, in which he compares the geopolitical conflict opposing the United States of America and the People's Republic of China with the one between Athens and Sparta in Ancient Greece (Allison, *Capcana lui Tucidide - Mai pot evita Statele Unite și China războiul?* 2022).

In this "Thucydides trap" the United States must find solutions to overcome it or to live with this trap. Every hegemon in its evolution has moments of decline. We must emphasize that the United States of America is a rapidly changing hegemon. All the great American analysts predict that in the coming years there will be a fight for supremacy globally. The competitor is the People's Republic of China, a state with significant potential and economic and financial power. The strategy that the hegemon must adopt also includes such links with the states. Alliances, Partnerships and Formats of Cooperation need to be adapted to the evolving international security environment.

The two years of pandemic, the current conflict in Ukraine and the possible crises that will follow will exacerbate this hegemonic competition and the result is unknown because no one can predict the future. The Strategic Partnership ensures our stability and security in this international environment characterized by complex and sudden transformations.

As a conclusion that we state is that the Strategic Partnership between the two countries must be consolidated, deepened and developed and new mechanisms of cooperation and collaboration must be found. Without these mechanisms, it will be very difficult for us to increase our Euro-Atlantic profile, but also to strengthen the deterrent position on the Eastern Flank of the North Atlantic Alliance.

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KEY PERFORMANCE INDICATORS SPECIFIC TO THE HUMAN RESOURCES DEPARTMENT

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Abstract: *In this paper I want to present the value that the human resources department brings to the organization of which it is part. It consists in its ability to fulfill its role of activating the development of human capital and its sustainability. Long-term performance and market leadership could not be achieved by organizations without motivated, hard-working employees and a strong sense of loyalty to the employer. Throughout the process that employees go through since joining the organization, the human resources module needs to be aware of the importance of actively implementing performance management tools in order to monitor key activities. In order for performance management to function optimally in a department, the objectives and functions to be performed by this team must be identified in accordance with the organization's strategy. Then, the most representative and relevant key performance indicators are chosen for the mutually agreed objectives. And in the second part of the paper, I will present a case study of the application of these key performance indicators on the units of the Romanian Army.*

Keywords: *KPI; human resources; performance; indicators; efficiency; recruits; retention.*

Introduction

The new operational requirements, generated by the changes brought about by Romania's accession to NATO and the transition from a mass army to a modern army, have brought with them new changes in terms of resource management, both human and material. The requirements of standardization and interoperability have generated new approaches to performance appraisal in order to meet the proposed objectives and missions.

In this paper I will exemplify through a case study the importance of the Key Performance Indicators (KPI) at the level of the Human Resources (HR) department of the Romanian Army.

A KPI is a measurement which evaluates how a company executes its strategic vision. The term strategic vision refers to how an interactive¹ strategy is integrated into a company's strategy as a whole. It is important that everyone involved in the company strategy agrees on what the strategy represents and how its variations are interpreted (Jacques 2011).

1. Theoretical Background

1.1. Essential activities of the HR Department

Given the variety of obligations that an HR department may have within an organization, a number of KPIs can be identified for each area of responsibility. The 8 areas of obligation presented below cover the most important functions of the HR department.

- Key Compensation and Benefit Performance Indicators capitalize on the value of reward systems
- Key Performance Indicators for Efficiency and Effectiveness can be used to measure productivity.
- Key Performance Indicators in the delivered services sector reflect the responsibilities of the HR division.
- The Key Performance Indicators set for the recruitment process reflect the overall effectiveness of this process.

- Key Performance Indicators related to employee retention emphasize employee satisfaction, including their involvement in the organization and the rate of employee loss.
- Key Performance Indicators for Talent Development (KPIs) focus on maximizing the potential of human capital in the development and growth of the organization.
- Key Performance Indicators related to the work environment focus on strengthening a productive work environment that takes advantage of the potential of the workforce.
- Key Performance Indicators for the workforce refer to the fact that this group is an integral part of the entire performance management system.

Based on the organizational and departmental strategy and depending on the objectives set, certain key performance indicators can be chosen in order to monitor the performance of all key or priority areas of activity.

2. Performance Indicators

The most used KPIs in the functional area of human resources belong to the following sub-categories (KPIInstitute 2015):

- Retention
- Recruitment
- Compensation and benefits
- Efficiency and effectiveness
- Talent development

1.2.1. Retention

Staff turnover – This performance indicator forms a very accurate picture of employee satisfaction, since dissatisfied employees are more inclined to leave the organization. At the same time, this indicator can have a very strong impact on the organization and its results.

Employee Emotional Involvement Index - Employee involvement is the employee's emotional commitment to the organization and its goals. This emotional commitment means that the employees involved actually care about their work and company.

The net emotional index is a single number between -100 and +100 that tells you how happy - or unhappy - your people really are.

Employee Retention Rate - The retention rate answers the question of how successful the company has been in keeping employees in the organization. Attracting, recruiting, training and developing talented staff is time consuming and costly. (KPIInstitute 2015)

Retention rate

$$= \frac{\text{Total number of employees who left the organization during the period}}{\text{Average total number of employees during the period}} \times 100.$$

Employee Satisfaction Rate - These are the three questions on which the Employee Satisfaction Index (ESI) is based (Myskova 2011):

- a. How satisfied are you with your current job?
- b. How well does your current job meet your expectations?
- c. How close is the current job to the ideal one?

Together they establish the ESI of a company. Employees answer questions on a scale of 1 to 10. Where 1 is the lowest and worst rating and while 10 is the highest and best value.

Then calculate the ESI value according to this formula:

$$ESI = [((\text{average value of question} \div 3) - 1) \div 9] \times 100$$

The company's ESI results can range from 0 to 100, where a higher number, or index, indicates more satisfied employees. In addition, you can use this index to compare with previous results or to compare with another company's ESI.

Average seniority of employees in the organization - It is necessary for companies to understand how long employees remain in their organization on average. The average long-term employee period usually indicates that employees are more loyal and dedicated to the company. In general, it will help reduce the cost of recruitment and training. The average long term of employees may also indicate that employees may be too comfortable in their occupation and that not enough new and innovative ideas may be brought into the company.

$$\text{Average duration of employees} = \frac{\text{Sum of all terms}}{\text{umber of employees}}$$

Cost of Leaving - These factors include:

- Recruitment costs: the cost of hiring a new employee, including advertising, interviewing, screening and hiring.
- Boarding costs: the cost of boarding a new person, including training and management time.
- Loss of productivity: a new employee can take one to two years to reach the productivity of an existing person.
- Lost employment: other employees with a high turnover tend to shut down and lose their productivity.
- Customer service and errors: new employees take longer to complete their work and are often less adept at solving problems.
- Training costs: in two to three years, a business is likely to invest 10% to 20% of an employee's salary in training.
- Cultural impact: every time someone leaves, others take time to ask why.

One of the reasons why the actual cost of employee turnover is such a mystery is that most organizations do not have exit cost tracking systems, including recruitment, interviewing, hiring, guidance and training, loss of productivity, potential customer dissatisfaction, downsizing, or business. lost, administrative costs and lost expertise.

Cost of staff turnover - The cost of employee turnover is calculated by taking the cost of filling the vacancy plus the cost of filling the vacancy plus the costs of integration and guidance plus the cost of increasing productivity multiplied by the number of employees lost in that position in a given year multiplied by 12 to give you the annual rate.

1.2.2. Recruitment

To identify the performance of the human resources module in terms of recruitment, we have identified a number of performance indicators that describe the overall effectiveness of the process.

a) *Applications received per vacancy* - represent the percentage of applications that the organization has reached, depending on the positions available at a given time. (KPIInstitute 2015)

$$= \frac{\text{applications received}}{\text{positions available}}$$

b) *Cost per hire* - is the total cost of employment and includes salary, taxes, bonuses, social security, overtime pay, recruitment costs, but also other costs generated by extra benefits (settlement of services, settlement of the shuttle, etc.). The rate of hiring costs may vary depending on the purpose of the organization, depending on its expenses. Thus, in an organization that emphasizes the endowment of expensive equipment, employees' salaries will be lower, but in an organization that does not invest in equipment, but in the services provided by human resources, then employees' salaries will be bigger. This index can be used in assessing the competitiveness at the salary level, in relation to the company's expenses in terms of equipment. (KPIInstitute 2015)

$$= \frac{\text{total costs of hire}}{\text{total costs of company}}$$

c) *External hire rate* - is the total percentage of jobs held by external candidates compared to the total number of new employees in a given term (KPIInstitute 2015)

$$= \frac{\text{external hires}}{\text{internal promotions/hires}}$$

d) *Applications received by recruiting source* - represents the percentage of applications received, depending on a particular recruitment channel (internal sources, external sources) in a certain time horizon or for a certain position. (KPIInstitute 2015).

$$= \frac{\text{applications}}{\text{channel}}$$

e) *Job offer acceptance rate* - represents the percentage of the launched offers and the offers accepted by the candidates (KPIInstitute 2015).

$$= \frac{\text{launched offers}}{\text{accepted offers}}$$

f) *Time to fill a vacant position* - is calculated by the number of days/months between the job being settled and the new candidate starting their job. The duration of a position is closely linked to the resignation or departure of employees from the organization because, if they believe that they do not have the chance to be promoted within the organization, then they will look for new opportunities outside it. (KPIInstitute 2015)

$$= \frac{\text{total number of days invested in "n" selected processes}}{\text{number of selection processes in questions}}$$

1.2.3. Efficiency and effectiveness

Efficiency and effectiveness as indicators of performance keys can be used to measure the productivity of the organization, illustrating the essential attributes and responsibilities of the Personal Module. There is a significant difference between the two concepts. Effectiveness consists in fulfilling certain objectives and tasks, in a time horizon and at a predefined standard, the effectiveness implies the appearance of some effects, appeared as a result of efforts exerted in order to obtain them.

To measure de efficiency and effectiveness we identified some indicators. (Strickera N. 2017)

a) *High performing employees* - are a way of measuring efficiency through the contribution they make to the organization. If the human resources structure brings in the organization competent people, suitable for the positions for which it applies, then the efficiency and effectiveness of the structure is validated by the contribution brought by the high performance of the employees.

b) *Profit per employee* - is represented by the profit brought by each employee through the activities they carry out.

c) *Human Capital Return on Investment (ROI)* - is a performance measure used to assess the effectiveness or cost-effectiveness of hiring a candidate.

d) *Time to process payroll* - it is the time horizon required to pay the payroll based on the profit made by employees through the efficiency and effectiveness of the task.

e) *Lost time accounting* - every day, in any organization, no matter how organized the program is, there is invisible lost time. This leads to a decrease in performance, due to the inefficiency with which certain tasks are solved. Their identification and accounting are methods of counteracting the invisible lost time.

f) *Performance appraisal participation rate* - is another objective of the human resources structure through which they can evaluate the performance that an employee brings at the level of the organization and if it fulfills its objectives efficiently and effectively.

In order to measure the performance of human resource structures from both battalion to army level, it is important to establish valid performance keys that are applicable at all levels. This chapter is aimed at establishing and defining the indicators of the performance keys applicable in the whole spectrum of military human resources. They cover the stages in which human resources departments work directly throughout their military careers: recruitment, efficiency and effectiveness, and retention, validated by a number of key points.

2. Key human resource performance indices applied to the military units in the Romanian Army

In order to verify the applicability of the KPI, I conducted a case study based on the topics covered in the first chapter and applied them at the level of human resources structures within the Romanian army.

At the level of the military units in the Romanian army, a series of personnel **retention** plans are being implemented. Resignations and transfers to the reserve are becoming more frequent, as staff are either aging and have reached retirement age, or staff are no longer in the organization. Another reason that generates a large flow of resignations is the very low remuneration of soldiers. To explain how these plans are being implemented at the military unit level, I have used a number of indicators, which I will address as follows.

Staff turnover. In the Romanian Army units, there is currently a large staff turnover, the first factor being the monthly salary, the second factor would be the high workload, and the third factor would be the difference between unrealistic self-imposed expectations and the reality within structure.

Employee Emotional Involvement Index. In military units, the emotional commitment to the institution is the loyalty to the groups it belongs to and the desire to improve the quality of training and achievement of objectives. In recent years, due to staff turnover, this emotional involvement tends to drop to zero, as young people no longer have role models.

Employee retention rate. Military units organized recruitment and training of new employees to provide all this at home, to be able to do the training 600 km from home. This gave the institution a large number of new employees. And the talented staff for a certain field was sent for specialization and used in those places where he is trained and where he likes to work.

Employee satisfaction rate. The above questions can be answered in general for the Romanian Army military as follows: To question number 1, 80% of the staff would answer with grades between 8 and 10, because even if the remuneration is low, these soldiers have that intrinsic motivation that keeps them in the system. To question number 2, the military will answer 70-80% with grades between 5 and 7 because, due to the more frequent departures from the system and the increased number of activities, it puts many in a position to perform more functions, only with the same remuneration. And to question number 3, at the moment each military unit has a fairly large number of personnel who want to move to other units, either for personal reasons or for professional reasons.

The average length of service of employees in the organization. The average length of service in the military organization is 15-20 years, because starting with 25 years of age and accumulated those working conditions can go into reserve benefiting from military service pension, and this average of 15 years, it is due to many exits from the system by resignation to a maximum of 2 years after employment.

The cost of leaving the post. To train a professional soldier in the army, the Army allocates a sum of money, then for its equipment it allocates another sum of money, and these sums reach an average of 10,000 lei, which is lost when the soldier resigns in reserve. And the

cultural impact that these resignations have is very high, because the remaining ones will have to fulfill its function as well.

Cost of staff turnover. In the event of staff turnover, the military does not lose money for productivity or vacancies, because when a military man retires to the reserve either by resignation or by reaching retirement age, that function must continue to be performed, and it will be carried out by cumulation, the only implication being the cultural impact.

At the level of the Ministry of National Defence, **recruitments** are made according to a series of well-established laws and regulations, according to a clearly defined process. To exemplify how recruitment is organized at the level of the Romanian army, we used a series of indicators, which I explained earlier.

Applications received per vacancy are influenced by a number of external factors, as candidates must follow a set of rules and follow a strict flow, but at the same time, even if there are vacancies at the unit level, they cannot be all the time published for occupation. For example, at the zonal centers, selections are made annually for the training of officers, military foremen, non-commissioned officers and soldiers, depending on the requests made by the military units, the projection of personnel movements for the coming years, but also the budget available.

The *cost per hire* in the Ministry of National Defence is determined by the category of personnel who want to be hired, the position they want to hold, but also the place of the military unit in the ministry. Moreover, compared to other companies, the cost of hiring from external sources is done by going through training programs, spread over a certain period of time, depending on the position and position in the hierarchy for which candidates are preparing. For example, in order to train an officer at the base of the military hierarchy, it is necessary to go through a selection program (eliminary tests and theoretical tests), admission to an academy and then follow some forms of training, in different lengths of time, depending specialization (combat weapons take 3 years, technical weapons 4 years, and military doctors 6 years). On the other hand, the costs of training a professional soldier are lower, as the training time is much shorter and its complexity is reduced.

At the level of the Ministry of National Defense, there is the possibility of hiring personnel from *external sources*, depending on the level and specialty of training they must have to fill a position. An example in this respect is the employment and subsequent promotion of officers or non-commissioned officers of psychologists, construction specialists or engineers, as no training programs are organized at the ministry level or those that are organized do not cover the deficit at ministry level. In this way, from external sources, psychologists, doctors, engineers of different specialties were hired.

Recruitments at the level of the Ministry of National Defence are done by different methods, depending on the positions to be filled (*applications received by recruiting source*). For civilian staff, recruitment is done by publishing the positions in the official monitor and organizing selection competitions. On the other hand, for military personnel, the source of recruitment can be either internal (within the unit or ministry) or external (by activating eligible civilian personnel, after completing certain stages). Also, assignments can be made either by publishing the positions in the Army Newsletter or by moving to the same position, from different units.

Job offer acceptance rate is influenced by a number of factors such as the location of the military unit (a position in a large city will be easier to occupy than a position in a unit located in an isolated area), the possibilities of advancement in career, the conditions imposed by the job. For example, at the level of units in the capital, the rate of acceptance of job offers is higher than in the case of small towns in the mountain area, as the opportunities offered by jobs in the capital are better than others.

Within military organizations, the **efficiency and effectiveness** with which a member of the organization fulfils its objectives dictates the performance of the structure and at the same time the success of the entrusted missions. The human resources structure has a defining role in terms of efficient management of employee performance, being the main responsible for this resource. People are the most important resource of the military organization, and the environment in which they carry out their activity influences their individual and group performance. In this respect, the human resources structure is directly responsible for managing situations that may adversely affect the success of the operation caused by a human error. The effectiveness of fulfilling the main responsibility of the human resources structure is measured by the quality of the people it recruits.

The military organization is not a for-profit organization, for this reason, we cannot evaluate employees according to the *profit* they bring to the organization, but they can bring material losses to the units in which they are employed, so as to harm the state patrimony.

Time to process payroll. The military organization is not a for-profit organization, for this reason, we cannot evaluate employees according to the profit they bring to the organization, but they can bring material losses to the units in which they are employed, so as to harm the state patrimony.

Lost time accounting. Although the program at the level of the military organization is a clearly established one, and most of the activities are carried out according to different synchronization models, battle rhythms, as in other organizations, there are invisible lost time, generated by different causes. The main causes are caused by external factors, which cannot be controlled. For example, a ceremony is organized at the battalion level, attended by various important personalities from both the military and civilian circles. Invisible lost times are materialized by the delay of a participant in the ceremony, detained in traffic or other activities. In this way, although the activity is ongoing, the members of the band are actually waiting until the assistance is completed. These activities must be well managed so as not to create syncope in the achievement of the proposed objectives or delays in carrying out other missions.

Performance appraisal participation rate. Staff evaluation is a very important process in the military organization. This activity is led by the human resources department and carried out by the direct heads of staff. It is organized centrally, annually, based on an evaluation form. The evaluation form is prepared by the evaluator, based on the requirements of the job description and the objectives proposed at the beginning of the year. Moreover, staff evaluations can be made when they change their job or whenever needed.

To sum up, this chapter aimed to validate the key performance indicators previously established, by exemplifying them and their applicability within the human resources departments of military units: recruitment, efficiency and effectiveness, and retention.

Conclusions

Continuous measurement of organizational performance, as shown by numerous studies, through key performance indicators is a newer concept used by many modern companies. KPIs are both financial and non-financial indicators that help organizations to illustrate the success of their business. A defining condition for formulating an efficient and effective performance measurement system is the organization of activities in a standardized way.

The implementation of KPI projects is basis of the measurements used to analyse the performance of the human resources department at the level of the Romanian Army. KPIs can be used to measure performance and identify solutions for syncope has been identified, in order to improve a sustained optimization effort.

In conclusion, at the level of military structures, unlike other organizations, staff retention is very difficult at the tactical level (battalion, brigade, division), as most of the causes for which staff migrate to other structures or leave the organization are salary factors, which do not they can be managed by the human resources departments at this level, but only by the decision-makers at the ministerial level. There are also soldiers in the system who have been working for more than 20 years, but their salary conditions were different, and leaving the organization does not benefit them at the moment, as they could no longer benefit from a military pension. It should be noted that the release of a function by resignation, replacement or relocation, the system does not have much to lose in the short term, as that function will be performed by cumulation by another person at a lower level of performance, but the goals will be met.

Recruitment is a performance indicator that can be easily verified at a tactical level as the human resources department has direct implications in this process by tracking the career path of the military, but also by identifying vacancies and sending them to employment. Although the recruitment process at the level of the Romanian army is an extensive one, the human resource structures at the lowest level have a decisive role in filling the vacancies.

In terms of efficiency and effectiveness as a performance indicator of the human resources department, this is easily validated by efficient time management, the correct assessment of the fulfilment of function-specific objectives, as well as the promotion of individuals with a high level of performance.

To sum up, this study aimed at applying the KPI within the human resources department at the level of the Romanian army, in a general framework and to illustrate the processes that take place in order to increase the performance of both the department and the organization.

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THE GENDER EQUALITY PERSPECTIVE AND ITS CONTRIBUTION TO THE SUSTAINABILITY OF HUMAN RESOURCE IN THE MILITARY ORGANIZATION, IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT

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Abstract: *This article focused on offering a preliminary view on the most important areas in which gender equality perspective, one of the sustainable development goals, can contribute to the sustainability of human resource in the military organization and the possible effects. First, the article investigated, through a literature review approach, the conceptual dimensions of defense human resource sustainability, proposing a conceptual model which could be applied by military decision-makers to enhance the efficiency of human resource management and to contribute to the sustainability of military organization, in the context of sustainable development. Second, the article explored relevant documents, to identify the military approach to gendered issues, revealing some commonalities with the subsequent targets of the sustainable development goals and highlighting the emergence of a new military capability, represented by women's empowerment. Finally, the proposed sustainability model and the military gender equality perspective represented a framework for identifying the contribution gender equality perspective could have to the sustainability of defense human resource. In this respect, recent statistics and the analysis of some specific on-line content offered valuable information on the practical benefits of the gender equality perspective. To conclude, this study highlights the need that the military human resource management adapt its policies, to ensure a positive contribution of the gender perspective to the permanent and functional availability of its human resource.*

Keywords: *gender equality; sustainability; SDGs; defense; human resource; model.*

Introduction

The sustainable development (SD) debate is ample and, so far, attracted many researchers, as it tackles serious problems the current generation is called to solve, to ensure the followers benefit from the same pool of resources. Taking into account the complexity and diversity of this problematic, a holistic approach is requested, which should involve the entire spectrum of stakeholders. Consequently, although the military domain belongs to the public sector and has a minor contribution to the process of value creation, the core of the economic dynamics, its role in implementing the sustainable development goals (SDGs) is not sufficiently explored. Furthermore, the same situation appears when it comes to the way the military management can exploit the context of sustainable development, to find valuable solutions to problems related to defense resources scarcity.

To partially contribute to this endeavour, this article is focused on gender perspective, a problematic that is common to SD and military management, in order to find solutions for a more efficient defense human resource management (DHRM). Thus, this preliminary research is oriented toward the following objectives: creating a model that offers a possible interpretation of the concept represented by the sustainability of defense human resource (DHR) in the context of sustainable development; mapping the SD requests for gender equality; and applying the military lens, to identify the contribution the gender equality could have in the efficient implementation of the proposed sustainability model. Consequently, the article has a tri-dimensional structure, each section being dedicated to accomplishing the objectives mentioned above.

In terms of methodology, the contribution of gender equality perspective to the sustainability of DHR was revealed through a qualitative research, based mainly on the

critical analysis of primary and secondary relevant documents, issued by specialist researchers from the social and economic fields. Moreover, specific policies and recent studies conducted by multinational organizations like United Nations, North Atlantic Treaty Organization and other prestigious institutions were reviewed, for a multidisciplinary approach of the investigated problematic. Additionally, some relevant content was analyzed and integrated in this research.

The concept of defense human resources sustainability, in the context of sustainable development

Sustainability represents a complex and highly debated concept, used mostly with the meaning of durability or long-term availability, especially when it comes to resources. Recently, its usage became commonly associated with sustainable development. Nevertheless, both concepts encompass multiple dimensions and when used together, this association can raise a series of detailed perspectives, as resulted from the reviewed literature.

First of all, it is important to mention the fact that sustainable development (SD) has as a main objective the responsible usage of resources, so that they be available in the future (United Nations 1987, 16). To make this possible, SD appeared as a relatively new form of economic development, a superior one, that takes into consideration not only the economic criterion, but also the ones related to society, environment (United Nations 2002) and modern technology or institutions (Munasinghe 2009, 35). A more complete definition, that also sets the background for this scientific research, refers to “protecting and conserving the planet’s natural environment and promoting social equity and a degree of economic equality within and between nations” (Blewitt 2018, 20). As one can easily notice, the idea of equality stands at the core of this multidimensional concept that describes, through its main components, a complex and dynamic process (Blewitt 2018, 37-72).

In direct connection with SD, sustainability enjoys a large spectrum of interpretations, like: concept and process, final goal of SD process, condition (Blewitt 2018, 1-75) or even science (Kates, Robert W. et al. 2001, 641-642). When it comes to resources in general, sustainability is associated with the concept of “sustainable resource use”, which describes the goal of maintaining the same level of renewable resources (Pezzey 1992, xi). What sustainable development and sustainability have in common is the four pillars, namely: economic, social, environmental and institutional, already mentioned in the part dedicated to the former concept. From the four components, in this article, I will focus on the second one, because I believe it is more appropriate to the subject represented by HR, without excluding its connections with the other three components, because the sustainability approach should be an integrative one.

From the HR perspective, my opinion is that an organization is constantly facing a process of renewal, dealing with different situations when some new employees enter the scene, others leave or the remaining ones upgrade their working skills and knowledge base, to be able to respond to the dynamic of demands. With regard to HR sustainability, the reviewed literature highlighted several interpretations. One of these treats HR sustainability as “the human dimension of social sustainability related to work” (Zink 2014, 35). Another one considers HR sustainability as a “dynamic state of human resources regeneration and growth” which takes into consideration various inputs from different actors (Guerci, Shani (Rami) and Solari 2014, 207). Nevertheless, a more detailed understanding could be provided by a model proposed in 2009, which takes into account the internal and external factors which enhance the HR sustainability, both at organization and employee level (Ehnert 2009, 228). The model, which encompasses three main dimensions (factors of influence, objectives and

activities), represents, from HR sustainability perspective, a real guide to organizations that follow the path to sustainability, in general.

Although the model was elaborated with a view on corporate organizations, my opinion is that it could also have an applicability in the military domain, with several modifications. For example, the military organization faces the same internal and external drivers specific to HR. Thus, it is affected by the demographic evolution, by the results obtained in the education systems and the level of employment, while targeting a high level of efficiency when managing defense HR. At the same time, the specificity of military organization requires, in my view, a greater amount of effort and dedication to the military profession. To these, I could also add the fact that military employees have to renounce at various rights, while asked to give their lives for the country. In this context, the objective of obtaining sustainability of defense HR could require a bigger effort from the military management.

Analyzing the second dimension of the model, which refers to “overall sustainability objectives” that are aligned with HR-related sustainability ones (Ehnert 2009, 228), I depicted the idea that first of all, the military organization should develop a sustainability strategy, with sustainability objectives deriving from it. Then, the sustainability objectives specific to HR should be developed to tackle essential problems faced by this domain. Generally speaking, these problems are the same for corporate and military organizations, but, once again, the ones in the military area present several particularities.

In terms of similarities, as companies want to obtain profit and to retain this performance over the years, the military organization could set some HR sustainability objectives that target obtaining/maintaining the highest level of fighting power on the long term. From my perspective, this is not an easy task. Starting from the components of fighting power, namely: moral, conceptual, and physical one (NATO Standardization Office 2017, 1-16, 1-17), it becomes obvious that each of these elements require a complexity of subsidiary debates. However, the HR component is omnipresent in each of the mentioned elements. This is the reason why it should be paid special attention, in terms of understanding the legitimacy of military leaders’ actions, trusting the comrades, creating cohesion, gaining adequate training and knowledge and experiencing an improved quality of life, so that the level of motivation be sufficiently high and allow mission accomplishment. Additionally, the military employees have to cope with obtaining the civilian environment support, either when it comes to military operations, or when attracting the right level of funds, in a complex context when armed conflicts, pandemics, environmental problems and economic crises could raise the contradictory need for both military organizations and resilient society.

All these considered, it can be understood that defense HR sustainability objectives consist of mainly two parts: attracting and retaining activities, the former being dependent on the image the military organization displays in society and on recruits’ desire to defend own country, while the latest encompassing a lot more elements (continuous training, career, medical services, logistic and financial support, well-being, etc.). Taking into account that military HR is exposed to injuries or death in conflict situations, regeneration is the third main factor that contributes to the sustainability of defense HR, aspect which is not covered by the mentioned HR sustainability model.

Another difference is that the corporate model provides some activities that facilitate sustainability of HR (Ehnert 2009, 228), which are not fully applicable, in my opinion, to the military organization. For example: global mobility (excepting periodic missions accomplished in multinational environment), occupational safety (the case of combat missions or other activities that imply a high level of risk), work-place quality (sometimes the operational environment does not offer the best life conditions for military), work-life balance (there are situations when personal life comes on the second place, while missions are more

important). Nevertheless, in my opinion, these aspects, should be maximized as much as possible for reaching defense HR sustainability.

Apart from the analyzed model, the reviewed literature highlighted several concepts that complete the sphere of DHR-sustainability. From my perspective, the following find applicability in the military organization: human sustainability, which aims at preventing stress and burnout (Kira and Lifvergren 2014, 65), work-system sustainability, that ensures compliance with all actors affected by the system (Kira and Lifvergren 2014, 66), sustainable work, performed by employees who maximize their knowledge to accomplish the objectives of the organization (Kira and Lifvergren 2014, 71), decent work, a broad concept which implies aspects like cooperation, dialog, improved working conditions, long term benefits for the organization (Hirsig, Nathalie et al. 2014, 130, 141) and equality of treatment and non-discrimination (Hirsig, Nathalie et al. 2014, 146), the last one being closer to the subject of the current research. There are also views that associate HR sustainability with the attitude that employers have towards the objectives of the organization, most of them stressing on four qualities, like: vitality, proactivity (Dorenbosch 2014, 156, 168), identification with organization (Kira and Lifvergren 2014, 69,70) and responsibility (Sarma, Ekta; Rao, Madasu Bhaskara 2020, 41). Nevertheless, specialists consider that HR management (HRM) needs to focus not only on the contribution of employees to organizational objectives, but also on the management's avoidance of those measures which cause loyalty and efficiency reduction (Sarma, Ekta; Rao, Madasu Bhaskara 2020, 38).

At the same time, the permanence of the military HR availability could be the result of management practices that avoid a high level of stress for the subordinates, thing that could be very demanding in the military sphere. That is why, from my perspective, the military HRM should focus on finding the balance between tasks equally assigned to all employees (no matter the gender, avoiding attrition of a certain part, formed not only by individuals which are considered most capable in an area of expertise), their recurrence, the level of risk and the means to encourage and motivate people to be creative in finding innovative solutions that are not imposed by the leadership.

It is this balance that facilitates, in my opinion, the development of the “psychological contract”, concept related to the way the employee and the employer understand their obligations and cooperate to accomplish missions (Susomrith 2020, 58). At this point, I would mention the importance of a real and complete presentation of future obligations, right from the steps related to military career promotion and recruitment. For example, after passing all the admission steps (medical, physical, psychological etc.) and promising to respect the oath of defending their country with the price of their lives, the military employees sign contracts that should be very detailed in terms of rights and obligations for the both sides, so that everybody become aware of the future expectations. These conditions assured, the so called “psychological contract” can be signed daily, the open communication and cooperation between military employer and employees being valuable for the retention in the military organization.

In strong connection with this gratifying experience, the reviewed literature brings into attention two additional aspects that need to be considered. The former, related to half of the population, signals the need that women, in general, have a sustainable career (Singh and Vanka 2020, 88). This concept is a multidimensional one, encompassing several ideal conditions that are difficult to be met, in my opinion, like: balance between family life and career development, the capacity to adapt to changes, financial stability and lifelong education (Singh and Vanka 2020, 96). Taking into consideration that military women enter a sphere dominated by men, it is important that DHRM identify ways to make them remain in this organization and actively contribute to its objectives. This approach is vital in the actual

context, strongly characterized by population ageing, decline in the available work-force and women’s poor representation in the managerial positions (Singh and Vanka 2020, 87).

From this perspective, researchers have shown that with respect to women’s sustainable career, the employer’s ability to integrate the family dimension is crucial for retaining this HR category into organization (Singh and Vanka 2020, 99). As for the military organization in particular, I believe this request could generate several conflicts, one example being the attitude and biases the male military comrades or chiefs, which do not form a family with a military woman, could express at some point. Thus, it is not a wonder specialists sustain the idea that military professional women follow different career paths, which provide the work-family equilibrium (Singh and Vanka 2020, 101). Nevertheless, in the case military women embrace such an idea, further research is needed to identify ways this approach can be operationalized in the military organization.

The later dimension which favors a positive experience and, as a result, the retention of HR in any organization is represented by emotional intelligence (EI). Being a broad concept, the HRM literature associates EI with the main steps related to HR availability for an organization: selection and recruitment, tasks accomplishment, training and development, and reward (compensation) (Odame, Pandey and Pathak 2020, 281). Generally speaking, the sustainability of HR is perceived as a result of positive emotions along the mentioned steps, which favor an easier interaction among employees and between employer and employees, and make them imply personal resources to support organizational objectives (Odame, Pandey and Pathak 2020, 280). Associated with actors internal or external to the organization, these positive perceptions determine the employee to work, because this is the reason they are recruited.

With regard to tasks accomplishments, training and compensation, the military organization presents another specificity, in my opinion. Thus, compensation, expressed in terms of material incentives or promotion, should come only if the assigned tasks and the training requests were completed. But going back to the conflict situation, the emotional intelligent soldiers are the ones that can act without additional material or financial resources, or even if they do not have any of these. This is the common result of their leaders’ and their own EI, which allows them to shape their motivation.

After comprehensively analyzing the aspects presented so far, I developed the conceptual model of DHR sustainability, as depicted in the following figure:

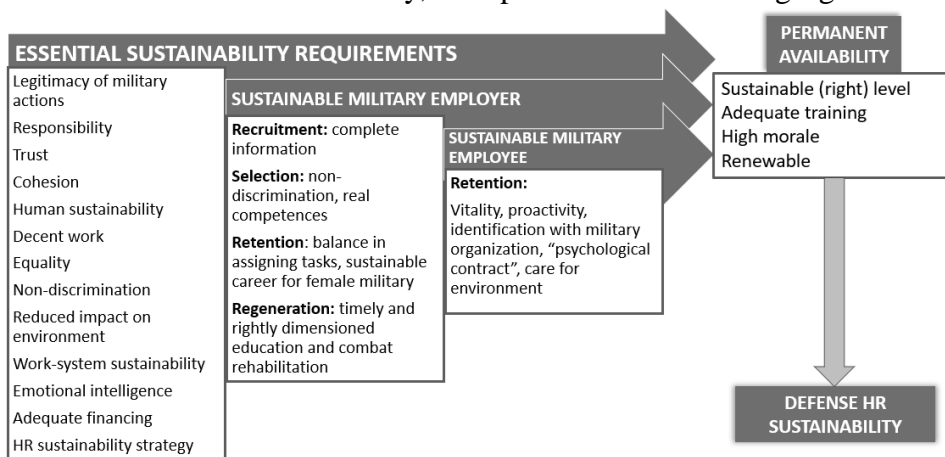


Figure no. 1. The Conceptual Model for Defense Human Resource Sustainability
(Source: Author)

The second important issue for this scientific research is represented by understanding the specificity of military gender equality perspective in the SD context, in order to connect it with the aspects related to defense HR sustainability, analyzed so far.

The military gender equality perspective in the context of sustainable development

The achievement of “gender equality and women and girls’ empowerment” represents the fifth goal of the SD, intended to be obtained through nine targets oriented toward increasing women’s quality of life (Nations n.d., 22). In comparison with most of the targets established for the other sixteen SDGs, the targets specific to SDG no. 5 do not specify a deadline for accomplishment, which shows that this problem is a complex one. However, the United Nations, as initiator, assumed the 2030 year as a broad deadline for accomplishing all SDGs, including the one which refers to gender equality and women’s empowerment (Nations n.d., 6).

Starting from the fact that SDG no. 5 is not important only in itself, but has a direct contribution to other SDGs accomplishment (Nations n.d., 10), it can be generally accepted that an organization cannot become sustainable in the right sense, if this goal and assigned targets are not met. This approach is highly sustained by the United Nations, organization which envisaged the need that women, representing half of the planet population be efficiently utilised to support SD, as a precondition of attaining the full potential of human resources (Nations n.d., 20). Thus, ideas referring to socially inclusive policies, economic empowerment of women and sport as an enabler (Nations n.d., 7-13), are highlighted in connection to women’s empowerment, as preconditions of SD.

In fact, the gender equality perspective represents a milestone of the United Nations policy, this organization establishing so far ten resolutions to facilitate women’s inclusion in peace processes and their protection from conflict violences. Analyzing the central points of these resolutions, I could notice that gender perspective evolved from recognizing the negative impact conflicts have on women and their potential to be actively involved in conflict prevention and mitigation, to identifying sexual violence as a war tactic, developing dedicated structures and measurement indicators to assess progress and even to establishing laws and ways to punish perpetrators (United Nations Development Programme 2019, 6).

The reviewed literature shows that the seventeen SDGs adopted by UN in 2015 complement the same multinational organization’s WPS Agenda issued in 2000 and previous initiatives in this area, this alignment being expected to contribute to accomplishing especially three SDGs: no. 5, no. 8 and no. 16 (United Nations Development Programme 2019, 12). As a result, it becomes clearer that gender perspective is seen as a steering element for attaining the sustainability of this important part of HR, but also of HR, in general. For instance, three out of ten targets associated with SDG no. 8, which generally refers to “decent work and economic growth”, are focused on ensuring women with inclusive work conditions, the main purpose being to eliminate old problems, like “forced labor, modern slavery and human trafficking” (United Nations Development Programme 2019, 13).

Although, apparently, SDG no. 16, which stands for “peace, justice and strong institutions” has nothing to do with gender equality, its importance in obtaining real results in this direction cannot be contested, taking into account, on one hand, the contribution that injustice and exclusion could have on conflict generation, and on the other hand, the reverse effect that conflict could have on positive gains obtained so far in the gender equality spectrum (United Nations Development Programme 2019, 13). At this point it is noteworthy that this objective can be considered valuable not only for women, but also for men, though the SD context balances more to the feminist approach, based on the reality that women are more exposed to discrimination and negative effects of conflicts (United Nations

Development Programme 2019, 2). Considering this multidimensional approach to gender perspective, my opinion is that the connection between these SDGs is paramount, highlighting the need to comprehensively apply institutional and legislative instruments to obtain the desired effects.

But UN is not the only multinational organization interested in solving the complex problems associated with gender perspective. Thus, Resolution 1325 (United Nations Security Council 2000, 1-4) was operationalized seven years later by NATO through its own *Women, Peace and Security (WPS) Agenda*, the Alliance having a transformative approach as a recognition of the special way this problematic needs to be addressed, taking into account three main directions: integration, inclusiveness and integrity, with the components (North Atlantic Treaty Organization 2020, 1) briefly presented in the following table:

Table no. 1 Main directions of NATO gender equality policy

Directions	Integration	Inclusiveness	Integrity
Measures	Change: intelligence requests Cooperation with military and civilian partners Gender perspective in all NATO military activities, operations and missions, and defense planning process (gender advisors)	Improving gender balance across NATO Gender inclusive language Sharing experience	Policies for clear standards Prevention and response to sexual harassment

Source: based on https://www.nato.int/nato_static_fl2014/assets/pdf/2020/10/pdf/2010-factsheet-WPS-en.pdf, accessed May 9, 2022.

With time, NATO became more involved in gendered problems. This is the result of a higher interest in identifying means to address the problematic related to women’s employment in the military, in a context when the number of women that serve in this domain increased considerably (NATO Science and Technology Organization 2021, 74). To ensure relevant information to decision-makers in the Alliance, an integrative scientific report published last year reveals four main themes that preoccupied many researchers during 2000-2020, namely: employment and integration of women in the armed forces, sexual violence and harassment, characteristics of military kit and equipment and health factors related to military women (NATO Science and Technology Organization 2021, 74).

In my opinion, this approach is the best if the intention is to support women’s empowerment and accession in the military sphere. Moreover, this view is highly supported by two main findings: the former highlights the essential role played by leadership in relation with adapting the organizational culture and prevention of sexual abuse, while the latter reveals a somehow evident reality that military women present distinct physical strengths which need to be taken into consideration to avoid injuries and when designing military equipment (NATO Science and Technology Organization 2021, 4). As subsequent findings, the same report mentions “the uncritical acceptance of existing masculine norms as gender-neutral standards” (NATO Science and Technology Organization 2021, 11), fact that could threaten women’s military career.

However, aspects that support and hinder retention of women in the military are largely presented in the mentioned report, and these are crucial, in my opinion, for the sustainability of DHR, requiring, from case to case, development or reduction. From the military organization perspective, for example, the fact that operational effort has positive results when women participate in combat teams (NATO Science and Technology Organization 2021, 22) should definitely be explored at maximum extent, despite of the existing biases. Nevertheless, researchers point to the need that future female recruits be

completely informed about their rights and mostly about their real job obligations, to prevent attraction of unsuitable personnel, that want to leave the system after admission (NATO Science and Technology Organization 2021, 23). What is more, is that NATO recognizes the challenges the emerging technologies might pose to military women, admitting the need to conduct further research in this area (NATO Science and Technology Organization 2021, 4). Further research was also expected in 2021, on several important aspects of the gender perspective, like: integration of gender perspective into the military educational programs, with accent on eliminating gender biases, implementation of standards related to collection and sharing of data, identification of tools to eliminate unnecessary barriers during selection, mapping the main factors that cause attrition, quantitative investigations related to sexual harassment, and other significant issues related to gender framework in NATO (NATO Science and Technology Organization 2021, 16-75).

To stress the importance of gender perspective in NATO, a recent declaration made by NATO Secretary General Jens Stoltenberg at the NATO Youth Summit organized on April 28, 2022, points to the need that gender discrimination be treated as a critical security factor and therefore, included in the next strategic concept (Stoltenberg 2022). This idea is deeply rooted in the results presented in the last annual report, where gender integration is treated as a capability (NATO Secretary General 2021, 113). Furthermore, this report presents another important achievement related to gender perspective in the context of SD, materialized by the fact that NATO's Climate Change and Security Action Plan, adopted in June 2021, sustains the different impact climate change has on women, opening thus a new subject for debate from the environment perspective (NATO Secretary General 2021, 113). I believe this measures would bring more involvement from the member states, with great potential to tackle a wider range of unsolved gendered problems.

The contribution of gender equality perspective to the sustainability of defense human resources, in the context of sustainable development

In order to identify the gender perspective's contribution to the sustainability of DHR, I will start from the conceptual model provided in the first subsection. Subsequently, its four main conditions and their elements will be analyzed from the perspective of gender policies promoted by UN and NATO.

Firstly, the gender equality perspective could contribute to DHR sustainability from outside the military organization. From my perspective, the extern drivers could be represented at least by the demographic evolution, the results of the educational system, the level of employment, the gross domestic product (GDP), the security context and the civilian people's support to the military actions. All these drivers could have an impact on achieving several of the essential requirements provided in the conceptual model, like: legitimacy of military actions, responsibility, trust, cohesion, decent work (the parts related to cooperation, improved working conditions), work-system sustainability and adequate financing.

In my view, the above extern drivers influence the level of HR the military organization can attract. Nevertheless, the gender perspective, in general, not only in the military, could have an influence on the number of both men and women who could choose the military path. Recent studies show the demographic evolution determined by women's empowerment stands at the core of a rightly dimensioned population (United Nations. Department of Economic and Social Affairs 2022), and as a consequence, of a sustainably sized army. Excepting this positive impact, also a negative influence could appear in the military domain. For example, the third reason invoked by women who leave the military system is represented by not being able to have a balance between the military career and the

family life, after retirement and personal undisclosed reasons (North Atlantic Treaty Organization 2019, 64).

Another extern driver for HR defense sustainability is represented by the results of the educational system, in general, from which the military organization retains a lot of benefits and which can also be allocated to women's empowerment, as statistic data show. For instance, at the global level, female teachers have a higher level of representation than male teachers in primary (67%) and secondary (85%) education, and a smaller one in tertiary education, academic staff (43%) (The World Bank 2019). At European level, in 2020, the percentage of women working as teachers was between 88,1% and 99,15% (EUROSTAT 2020). This contribution translates into a sustainable work in every domain, where the possibility to maximize knowledge ensures conditions for any organization to attain its objectives. However, these numbers reflect a domain opposed to the military one, females dominating the scene, in comparison with male counterparts, posing questions of gender equality from the men's perspective.

The last four extern drivers that facilitate the gender perspective's contribution to the defense HR sustainability (the GDP, the security context, the civilian people's support for the military actions and the level of unemployment) are, in my opinion, directly proportional to both women's and men's participation in the military organization, but detailed studies should be conducted to evaluate exactly to what extent these factors influence women's decisions to join the military system.

Secondly, I will refer to intern drivers generated by the military management. As I mentioned in the first part, the existence of a HR sustainability strategy is paramount in any organization oriented toward an efficient and durable resource management and it should also be developed in the military organization. Among the HR sustainability objectives that should be taken into account by this strategy, military management should include policies to attract, retain and regenerate the HR in such an amount that they be permanently available in the right level, at the right time. The three core directions adopted by NATO, presented in the second part of this article, could also be taken into consideration, as they are intended to enhance women's participation in the military system. For instance, concrete actions like improving the balance between work and family life were taken by NATO members, like: the possibility to transfer parental leaves between parents (62%), to choose part-time positions (52%), or to benefit from flexible working hour options (78%) (North Atlantic Treaty Organization 2019, 60-61). Important steps were also made to sustain military women reintegration in civilian life, at the end of active duty (NATO Secretary General 2021, 115). This factor, is, in my opinion, of great concern for the ones at the middle or end of the military service and should be taken into consideration even from the beginning, so that young women who want to join this system be aware of their possibilities and not be determined to quit.

Other examples include policies to improve the levels of women's participation into the reserve (14%), to promote their recruitment (41%) and to develop different enlistment requirements for men and women (78%), to establish specific retention policies targeting women (26%) and to create networks to support women (63%) (North Atlantic Treaty Organization 2019, 38-57). By far, the most important policy adopted by NATO members is the Policy on the Prevention, Management and Combatting of Harassment, Bullying and Discrimination adopted in November 2020 (NATO Secretary General 2021, 120), fact that ensures women an enhanced assurance that they can benefit from a safe work-place in the military system. The integrity problem is a real one, as 2019 marked the enlisting of 8,829 incidents, the gender being disclosed in 934 cases (76% affected women, while 24% affected men), and undisclosed in 7,895 cases (North Atlantic Treaty Organization 2019, 104). It is obvious incidents like these could have a negative impact on both men and women in the military organization, but especially on women, who are more vulnerable. All in all, with

these measures, NATO military management shows, from my perspective, a high level of emotional intelligence and also the intent to get to higher levels of women's participation, to enhance its sustainability.

So far, this gender equality orientation resulted in increased percentages of military women. For instance, 2021 marked an important evolution, as the number of women in NATO Members Armed Forces doubled for the first time in twenty years, reaching 12%, also an increase being registered in the case of female officers (NATO Secretary General 2021, 114). This progress has a direct impact on the availability of the military HR. Moreover, analyzing the last published NATO report, I noticed that, in 2019, women did not have a domain in which they outnumbered men. Nevertheless, the published data show women occupy 46% in health care, 34% in legal and 33% in personnel and public affairs, and have a smaller representation in aerospace control (18%), training development (17%), logistics (16%), signals (13%), aerospace engineer (10%) (North Atlantic Treaty Organization 2019, 75). These are domains in which I believe the average level of representation could be much higher, because some of them are comparable with the civilian ones, in which women outnumber men (North Atlantic Treaty Organization 2020, 2). Additionally, because data show women also occupy positions in combat support and combat areas, these spheres should remain open to this category.

With regard to the environmental domain of sustainability, recently published data reveal an increase in the percentage of professional women who activate in this area. For example, at European level, statistics show 2020 was the first year when environmentalist women outnumbered by 1% their male counterparts (EUROSTAT 2022). Additionally, at the international level, there are voices who sustain the enhanced contribution the gender equality in general, and female involvement, in particular, could have in obtaining a greener world (Van Bronkhorst 2022).

Consequently, the military organization could benefit from women's orientation in this field, designing positions to ensure both the need for sustainable HR, and the goal of protecting the environment.

Finally, the last type of driver that determines DHR sustainability is represented by those qualities that complement the level of real competences and determine a high probability that military employees remain in the system, which should characterize both men and women. When it comes to gender perspective's contribution, the reviewed studies were oriented toward identifying whether women have a higher degree of emotional intelligence, essential element for the HR sustainability. Thus, a comprehensive international study conducted between 2011-2015, concluded that "women outperform men in 11 of 12 key emotional intelligence competencies", sustaining women's empowerment and their ability to generate organizational performance (Korn Ferry Institute 2016). Nevertheless, specific studies of a similar magnitude should be conducted with participants from the military sphere, in order to consider women's emotional intelligence as a positive factor of DHR sustainability.

Conclusions

The context of sustainable development could be a very favorable one for the strategic decision-makers, because it offers ideas and solutions for enhancing the efficient usage of defense resources, in times when pandemics, war and economic crises stretch the managerial efforts to the limits. This idea is based on several findings. First, the sustainability model provided in this article ensures a comprehensive understanding of the broad concept represented by DHR sustainability. However, this preliminary model should be regarded as a starting point and could be improved with elements that facilitate the implementation of

concrete actions in this direction. Apart from being extremely useful for accomplishing the other objectives of this research, the conceptual model has the potential of offering the military decision-makers a summarized perspective on the main directions which should be developed when designing a DHR sustainability strategy, taking into account the specificity of the military system highlighted in the first part.

Second, for the core objective of this article, the model served as an inventory framework, providing the pillars of DHR sustainability, on one hand, and the outcomes expected from one of its central elements represented by women's sustainable career, on the other hand. As a matter of fact, this element proved to have a high potential to activate a lot of actions for obtaining a sustainable DHR, as depicted from the second section. Additionally, the military lens attributed to the gender equality perspective in the second part reveals there is a vivid awareness at the military leadership level in most NATO countries, though different approaches and asymmetric results highlight a lack of common understanding, unity of effort, accountability, transparency and communication, which could translate in significant delays related to the practical implementation of the military women's empowerment measures that facilitate the readiness of this new capability. For this reason, there is a pronounced likelihood that the positive contributions presented in the third part be neglected and postponed, in the detriment of the military organization, and even of the entire society's sustainable development.

Third, the idea of a new form of military capability is highly sustained by statistical inputs from the last part of the article, where the real contribution that gender equality perspective can have to the sustainability of DHR is not negligible at all, consisting mainly of ensuring the quantitative and qualitative input to a sustainability that allows the military organization's alignment to the global, regional and national efforts to have a permanent access to resources. From this perspective, military women's empowerment has the potential of obtaining a sustainable in itself human resource, especially if further research is conducted to identify the full spectrum of military positions and occupations that are more suitable for women and the instruments that facilitate their recruitment and retention.

Finally, the contribution of gender equality perspective to the sustainability of DHR could be a favorable one for the sustainability of military organization, in the context of sustainable development. Therefore, further detailed research is needed to complete the findings of this article. In my opinion, a good start would be the validation of the proposed conceptual model, followed by identification of concrete steps that need to be taken by the military leadership, to ensure the attractivity for the military career and the continuous availability of the DHR. To facilitate future studies in this area, accountability, enhanced cooperation and transparency measures must also be put in place.

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PERFORMANCE MANAGEMENT – A TOOL FOR STRENGTHENING THE EDUCATION PROCESSES? METHODS OF INTEGRATION INTO THE HMES

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Abstract: *We argue that the principles and practices specific to the performance management can be used as levers in the education system and in the professional training of military personnel, especially in the higher military education system. We will focus particularly on the most important aspects of performance management: planning and goal setting, monitoring, evaluation and feedback. Beyond the conceptual aspects, we will discuss the implications that these practices have on the teaching-learning process and we will highlight their value in the military academia by elaborating on how they can be applied in three problematic situations. Thus, this article provides teachers and instructors in the military education system with learning-oriented methods that will create a productive classroom environment and highlights the opportunities that students have and the benefits at the institutional level.*

Keywords: *performance management; education; teaching-learning; higher military education.*

Introduction

In the context of the 21st century learning environment, relying on singular ways of assessing the teaching and learning process, such as conventional tests that measure predominantly formal knowledge, can no longer be an effective strategy for pupils, students, trainees and teachers to prepare themselves to become more productive in applying knowledge, skills and competencies in authentic contexts. Building on this point, this research aims to provide insight into the understanding of performance management in educational organizations and to propose some methods of integrating it into the higher military education system. As a result, this paper can be summarized as follows: after the introduction we set the conceptual framework, conducted a literature review on the adoption of performance management in the education sector and elaborated on how its specific practices can be embedded, so that students, teachers and leaders of military educational institutions can bring improvements to their work in three challenging situations. Finally we state our conclusions.

1. The conceptual framework: theory and hypotheses

The idea that performance management can be a tool for improving individual and organizational outcomes is rooted in the expectancy theory which posits that people’s motivation to engage in an activity depends on a combination of the employee’s subjective expectations regarding the value of the potential rewards they might enjoy after achieving their goals, the estimated likelihood of achieving those goals, and the possibility that the promised benefits will actually be granted when the expected key-results are achieved.

First, the literature has conceptualized performance management in different ways. In this paper, we will focus on the developments that have been at the heart of intense debate in the literature and among practitioners, such as the elimination of annual appraisals or other

formal aspects of PM (Cappelli and Tavis n.d.), and the configuration of the high-performance management of human resources that we have dwelled upon in a previous paper (Ionașcu (Huluba), Alina Elena; Pleșanu, Toma 2021). As such, in this paper we will refer to a broadly defined content approach concerned with the study of the “continuous process of performance improvement through setting individual and team goals that are aligned with the organization’s strategic objectives, performance planning to achieve its targets, reviewing and evaluating progress and developing people’s knowledge, skills and competencies” (Armstrong 2017). This paper explores the ways in which the practices specific to performance management can shape the process of military professional preparation (MPP). The fundamental premise is that military education can use performance management as a tool to improve military education. The main argument is that performance management proves to be an effective strategy for improving outcomes in civilian, public and even educational organizations.

Second, this article argues for a broader approach to professional training, in line with Janowitz’s farseeing assertions (Janowitz 1960) that militate for a broader approach to military education, especially with regard to the officer corps, which will be responsible for meeting the needs of national and collective defense in a context governed by uncertainty. Such an approach is supported by a more recent paper that draws attention to the fact that effective military training involves a system geared towards “education rather than training, intellectually preparing officers so that they can cope with future uncertainty” (Mukherjee 2017). Following this line, in our review of the evolution of the study on the professionalization of the armed forces in agreement with the evolving security environment, we also highlight the difference between the two dimensions of the military profession, military education and training, and the importance that their relationship carries in training the officer corps (Ionașcu (Huluba), Alina-Elena; Pleșanu, Toma 2021). Therefore, in this paper we focus more on the education seen as the cognitive process through which officers shape and develop their critical thinking, innovative thinking and abstract reasoning, become familiar with ambiguity and uncertainty and broaden their horizons regarding complex problems (Johnson-Freese 2012) marked by uncertainty, and less on training as a result of which they gain knowledge and skill sets essential for managing specific and clear activities.

Therefore, we can state that the rationale for using performance management in military education is the procedural development of specific mechanisms for identifying and setting goals, monitoring progress, evaluation and feedback at the level of the relationship between teachers, students and the institution.

2. PM in education

2.1. Principles and practices specific to PM, associated with better outcomes

Education research indicates that the adoption and implementation of performance management approaches to improve the teaching-learning process and achieve key-outcomes has become an important component because of its potential to provide critical information, evaluate actions, make better decisions, allocate resources more effectively, and strengthen institutional accountability. Building on the findings of Aguinis (Aguinis 2013) who defined two prerequisites for effective PM systems in civilian organizations (acknowledging the organization’s mission and goals and the employee’s workplace), one of the few studies in education that examines the relationship between performance management practices and educational outcomes as measured by standardized test scores has developed. Using data from New York public schools, Rusi Sun and Gregg Van Ryzin proved that institutions which do a better job along the lines of leveraging the information gained from the use of specific PM

elements have better outcomes (Sun, Rusi; Gregg Van Ryzin G. 2014). The study points to the elements that defined the effective application of performance management as follows:

1. collaboration between school managers and teachers in order to set rigorous, objectively measurable and time-bound targets;
2. integrating intermediate targets into plans for improving the results of students and teachers, with the ability to be subject to possible adjustments and to measure success;
3. the use of regular assessments and other diagnostic tools by teachers to measure the effectiveness of plans and interventions for individuals and groups of students in key-areas;
4. the use of information generated by regular assessments and other measures of progress by teachers to immediately revise plans to meet set targets;
5. monitoring the results of regular assessments and other diagnostic measures by school managers and using the results to make strategic decisions to change practices and improve student outcomes;
6. planning of future targets is carried out by school managers and staff based on the intermediate and final results of previous plans.

Therefore, these elements describe the conditions under which performance management can be a tool for improving education. They highlight the cause-effect link between the main practices associated with performance management – planning and goal setting, monitoring progress over time, assessment and feedback (mediated by process fairness) and their positive influence on the expected outcomes for the three main components of the learning system: students, teachers and school managers. Along these lines, performance management can be a catalytic model through which professional training can be improved.

First, the literature is consistent when it comes to planning and setting targets accurately. On the one hand it is proven that setting clear goals by leaders is “*far more effective in attracting performance than setting easily attainable ones*” (Locke, Edwin A. 1968) because they encourage employees to use all their resources to achieve key-results, even developing innovative ways of approaching tasks specific to their work (Locke, Edwin A.; Latham, Gary P. 2002). On the other hand, the more specific the goals, the more employees prioritize their tasks, focusing their attention on the most important ones. These aspects provide a context for feedback as well as motivational strategies for achieving organizational goals (Taylor, Jannette; Beh, Loo-See 2013). In the context of the education system, the role of the teacher is not so decisive in setting the objectives of the course as in guiding students towards setting specific objectives tailored to their expectations. For example, when a teacher does not take this role into consideration, a student with a high level of knowledge and skills may set easily attainable learning and performance goals (e.g. mastering 4 out of 7 courses, obtaining the grade of 7), missing out on possible opportunities to demonstrate their skills and develop themselves (Gillespie, Treena L.; Parry, Richard O. 2008). Also, in research using completions of qualifications as a measure of performance assessment in higher education institutions, the author draws attention to the importance of using an appropriate language when formulating targets and describing what is being measured in order to have a healthy, accountable and valuable course (Alach 2016).

One method to foster alignment and overlap between the student’s goals and those of the organization is to create a vision and/or a mission of the discipline, followed by the creation of a clear student task sheet. Designing a statement of the aspirations (the vision) or the identity and the purpose (the mission) of the course encourages student accountability, interest and effort (Luechauer, David L.; Shulman, Gary M. 2002). In other words, if the mission of the course is directional, a job description delineates measurable course objectives sequentially into concrete steps that are consciously and consistently pursued, scaled and monitored.

Second, monitoring progress over time is documented by Luenchauer and Shulman in the cited paper as having positive effects when students are involved in defining the parameters. At a practical level, this approach is associated with a learner-centered learning process.

One method of encouraging progress monitoring over time and minimizing or eliminating the subjective nature of assessment (Doerr 2019) is for students to create an agenda to guide discussion with the teacher. In this case, students guide the conversation and teachers share their technical expertise and practical experience, suggesting a range of ways to approach the tasks and encouraging them to discuss the sensitive issues that are the most important barriers in their work. Therefore, an important aspect is encouraging students to engage in ongoing communication with the teacher, ask questions, seek clarification and identify resources to improve performance. In turn, the teacher reviews the student's steps towards improvement (Kunkel 2002). In this way plans are followed and students, together with their teachers, adapt to new circumstances while meeting deadlines for achieving their goals. In this respect, a study on the analysis of different forms of teaching university courses (Hattie 2015) points out that what is of greater importance is the way in which teachers – regardless of the teaching method – clarify their criteria for success and provide challenge and feedback, together with the quality of interaction between students and between students and their teachers.

Last but not least, monitoring progress is connected to evaluation and feedback. In a broad sense, evaluation “involves a way of gathering information and judging the process, the products or the program, either during the program or at the end of it.” (Schleicher, Deidra J., Baumann, Heidi M. , Sullivan, David W. , Levy. Paul E. , Hargrove, Darel C., Barros-Rivera, Brenda A. 2018). A wide range of methods can be adapted and used in the evaluation of students by teachers and of the latter by leaders of educational institutions. In the first case, from formal teacher evaluations, supported by the strategies specific to performance management mentioned above, to those carried out among students at team or class level, to self-evaluation – all of them can be seen as effective methods of objectively analyzing the students' results, represented by statements that dwell upon the students' achievements at the end of the course, seminar or training program. In the second case, 360 degree feedback and evaluation done by managers (e.g. evaluation of students, department colleagues, self-evaluation and evaluation of the manager) is a good way to promote the teachers' strong points and to improve the weak ones with the intention of designing new ways of improvement through continuous learning. Designed in this way, assessment is seen as a means of learning and gaining knowledge (Senge, Peter, Cambron-McCabe, Nelda, Lucas, Timothy, Smith, Bryan , Dutton, Janis, Kleiner, Art 2016). Likewise, a strategy of recognizing and rewarding teaching in the academic environment – as a component of assessment in performance management, is considered to have positive effects such as: “an approach to learning that is more learner-oriented; enthusiasm among academics for transitioning to a newly perceived discipline; and the professional and personal benefits of establishing communities of practice around teaching and learning” (Mathison 2015).

Arguably, this approach is not something singular and new in education, as it falls under what literature calls systemic thinking in education. This is characterized by: discussing problematic goals by pilot groups, analyzing them from multiple perspectives, mapping the forces involved in it, identifying similarities and differences in archetypes and structures, identifying leverage that can produce major changes through relatively small actions (Senge, Peter, Cambron-McCabe, Nelda, Lucas, Timothy, Smith, Bryan , Dutton, Janis, Kleiner, Art 2016). Moreover, planning and setting goals before learning, monitoring progress during learning, and self-assessing performance after learning are part of what education specialists

call proactive processes that make up self-regulated learning – a characteristic of students associated with higher performance (Zimmerman 2008).

Therefore, the practices of monitoring learning outcomes carried out by the management of educational institutions and using them to adjust, develop and promote their teachers is a tool for improvement and recognizes their importance in the success of the organization. In turn, teachers use this information for two purposes. The first one is to guide students and provide them with individualized support to minimize or eliminate the risk of not meeting their goals. The second one is to reflect on the methods used and develop new approaches aligned to the needs of the students by engaging in ongoing teacher and subject specialist training. Last but not least, it is the students – the actors for whom all these actions are staged – who have the least influence on how these practices are organized and applied. However, being part of such a mechanism, not only do they receive adequate support to improve performance, but they are also engaged in a system that develops their vision of their own learning, knowledge and skills.

Thus, the targeted key-practices associated with performance management in education have the ability to adjust learning processes in a targeted way that can sometimes produce significant improvements if done at the right place and time.

2.2. Criticism, limits and complaints

Besides the fact that performance management is widely considered to be an effective strategy for improving educational outcomes, the literature mentions a number of initiatives that are considered less effective and undesirable to be integrated into the education system.

Pollitt argues that managerial performance management schemes are “inappropriate for universities because they are unsuited to services dominated by highly organized professional providers, they contradict such organizational cultures and are (correctly) perceived by many of the professionals concerned as hostile political ploys” (Pollitt 1988).

In the same line, Kirsi-Mari Kallio, Tomi J Kallio and Janne Tienari address the main criticisms of the use of performance management in academia in their paper *Ethos at stake: Performance management and academic work in universities*. Making use of mixed methods to study how performance management is understood by academics in Finnish universities and departments, they captured the overall critical and negative view that Finnish academics have when it comes to performance management (Kallio, Kirsi-Mari, Kallio, Tomi J., Tienari, Janne, Hyvönen, Timo 2015). Their respondents described as their main dissatisfaction the emergence of a “new kind of academic ideal” that favors competition and short-term results encouraging individualism over collegiality and academic discussion. Another grievance that they state is that performance management increases the power of leaders and diminishes the autonomy of academics. To exemplify this, they bring up the rewarding of teachers based on maximizing publications and the fact that this method attracts people capable of performing mechanical tasks such as co-authoring articles using the same quantitative data at the expense of qualitative research that seeks novelty, thus producing a negative effect on the construction of the scientific vision.

Analyzing the performance management implemented in Finnish universities, Chris Hughes and Cathy Sohler draw attention to the need to address some of the issues raised by the application of performance management in an academic context, such as: “establishing realistic links to a participatory planning process; ensuring visible high-level commitment; providing adequate staff resources and practices to ensure tangible results; developing unit-based plans that have realistic targets” (Hughes, Chris, and Sohler, Chaty 1992). To address these limiting issues they propose a list of recommendations inspired by the practices of the private sector that involve: developing a visible institutional commitment to performance management; setting clear and simple goals that have the support of all those involved; encouraging open communication; focusing on actual evaluation criteria; monitoring progress

followed by making recommendations that can be implemented quickly; linking the program with career development.

Taking into account these issues identified in the literature, it can be noted that the integration of specific performance management principles and practices that are successful in civil organizations or in specific education sectors in different countries cannot be applicable to a particular education system without taking into account changes appropriate to the context and building a learning environment with “sensitivity” for teachers and students.

3. Applying PM in HMES: How can performance management contribute to strengthening training programs?

Militaries are the oldest and arguably the largest organizations in the world, with an extensive experience in managing personnel for the most fearsome and troubling situation that can arise: real war. That is why, in today’s strategic environment, the professional training of military personnel is a central area of defense reforms, particularly in terms of the education and development of the officer corps as future leaders. In this context, a strategic objective of the Romanian Army is *“to provide trained and equipped human resources as an essential part of interoperable capabilities, able to act in a coherent and convergent way to effectively counter risks and threats to national security by anticipating trends in the security environment and incorporating technological progress”* (The National Defense Strategy of the country for the period 2020-2024).

Regarding the topic of the article, we note that the pioneers in the literature concerning research projects related to academic learning – the United States military services – have included in their system of learning strategy principles and support practices (associated with the performance management defined in the previous section), such as: goal setting, monitoring, self-assessment through self-report questionnaires (Seymour, George Edw; Main, Ray E.; Randel, Josephine M. and Morris, Barbara A. 1991). As a result, we can say that the mission of the higher military education system is to achieve the professional training of personnel in the Ministry of National Defense in accordance with the set of skills and competencies required by the jobs in the beneficiary units and to promote their abilities to adapt to the changes in the security environment.

Taking these issues and the benchmarks indicated in the previous section into consideration, in this part of the paper we set out to identify and elaborate on some concerns of the higher military education system where elements of performance management that are consistent with effective teaching and self-regulated learning practices can be applied to produce improvements.

A first concern is meeting the requirements of the final employer for each specialization in a context of reduced human resources. We propose the idea that aligning military students’ goals as closely as possible with those of the military specialization results in performance behaviors that are more valuable to the student’s learning process and to the student’s successful integration into the function that they will occupy after graduation, while being in line with the expectations of potential military employing units. To this end, data collected from employers on the most sought-after and critical skills, knowledge and competencies in a particular specialization can be shared with students at university level. This could be facilitated through the creation of a dedicated section on military academy websites or through conferences held by delegated unit leaders of university campuses at the beginning of the first academic year.

The second concern is related to the involvement of students in research activities and projects. More often than not students take part in such activities because they are set as their mastery goals which are result-oriented (a condition for passing a study program), when they

could be achieved by them as a development and performance goal (deepening a subject, gaining academic recognition, achieving higher performance, which can result in extended knowledge and skills in a field and a very good grade). If a less productive collaboration with the teacher is added to these conditions, there is a risk that the student's research talent may not prevail. The student faces the risk that despite their high level of research skills, they will not consider writing a challenging paper, thus missing the opportunity to demonstrate their skills. Moreover, students often engage in research activities for which they take relatively little time for documentation because they do not consider them as important as other military academy-specific activities whose consequences are clearly defined and immediate (physical training, training in specific fields), and their relevance may be impaired. For teachers, this situation illustrates a missed opportunity to connect their potential students to their field of expertise and to the possibility of mentoring them, instilling a passion for teaching. For the system, the opportunity to counter the threat of insufficient human resources in relation to the final beneficiary's requirements is lost. In this situation, students could be co-opted into the development of tasks specific to the military student status, whereby the objective would be to commit to writing a research paper during the course that meets the performance standards and is free of plagiarism, grammatical errors and other ethical or quality issues. Since military students are more determined if they see an activity as a tool for their career success, teachers have the role of guiding them in choosing a valuable topic for their future position, giving them leverage to improve their potential and accepting their work only if they have achieved professional quality. In addition to these levers associated with monitoring and feedback, teachers can also make use of the recognition of the students' work by giving them a diploma for professionalism for the most appreciated work according to the results of their own evaluation and that of other students – methods specific to the process of transparent evaluation followed by reward. As such, if military students are engaged in interesting and worthwhile activities, not only do they benefit from them, but so do the teachers, the academy and the beneficiary units.

The third concern: the effective management of learning based on the use of computer-based tools requires key-elements of performance management to be used to develop students' skills in timetabling activities in e-learning environments. This is established in the literature (Baker, Rachel; Evans, Brent; Li, Qiuji; Cung, Bianca 2018) as an essential component of success in online and hybrid learning. According to scientific research on the conditions under which teaching and learning in digital environments become more effective, one of the conclusions is that students' training depends more on metacognitive strategies, as well as internal and external strategies related to resources that help them plan, monitor and regulate their learning processes in a targeted way (Broadbent, Jaclyn; Poon, W. L. 2015). Consequently, we consider the role of the teacher to be extremely important in this context. Clarifying objectives and success criteria, providing scientific challenges and feedback based on quality interaction, is an approach that is centered more on students and less on issues that suppress their proactive behavior, such as teaching based on the accumulation of knowledge through rote memorization or communication governed strictly by military and teaching grades.

Given the magnitude of this issue, we believe that understanding how performance management – which as a technical and developmental tool for knowledge deepening in the context of blended learning contributes to the ability of military students to gradually develop and strengthen self-efficacy in the process of training based on computer-based tools – can be seen as a significant research topic. This reflects an important issue: understanding the actual state of how military students practice learning by using computer-based tools and determining their profile and the factors that relate to their experiences.

Finally, we note that the situations we have identified here as suitable for interventions associated with specific performance management practices and advanced methods of producing improvements, probably need to be adjusted by those with expertise in the issues involved, but we believe that they are ways of thinking that can provide the premises for concerns in the higher military education system.

Conclusion

The main contribution of this paper is to determine how to apply specific elements of performance management in the education field, with reference to the micro level of proactive teaching-learning as accepted in the literature. The article also proposes the perspective of incorporating performance management practices in higher military educational institutions by outlining ways of action in relation to three topical concerns in the field. Moreover, the idea of integrating performance management into the military education system that we have proposed in this paper is diligently connected to important aspects of proactive teaching (e.g.: scientific support for students, teachers' openness to discuss with their students, acceptance of student feedback, fairness of assessment etc.) and self-regulated learning considered to be a fundamental predictor of academic performance for traditional education and in particular for education based on the adoption of computer-based tools (e-learning platforms, cloud-computing etc.). However, the paper has the specific limitations of a literature review and content analysis approach, therefore research is needed in order to provide empirical evidence on the integration of performance management into the higher military education system to see to what extent the generalization of our proposals is confirmed.

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PERSPECTIVES ON THE TRANSFORMATION OF NATIONAL MILITARY STRUCTURES SO AS TO ADAPT TO THE ALLIED CONTEXT

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Abstract: The complexity of the security situation at international and especially regional level, generated by Russia's aggression against Ukraine, accentuates the need to develop and strengthen the North Atlantic Alliance's collective deterrence and defence posture. The collective defence system is and will remain an effective element in geopolitical equations, especially in the current context, when the threat spectrum is unprecedentedly diverse, and the system is NATO's main objective. Against the backdrop of these challenges, following the financial crisis and in particular since 2014, with the NATO Summit in the UK (4-5 September 2014), there has been a demand at Allied level for a robust set of defence capabilities capable of responding effectively to the full spectrum of threats and supporting NATO's political and strategic objectives in the coming phases. Initiatives such as the 'Defence Capability Building', the 'Interoperability Platform' or the 'Connected Forces Initiative', together with the gradual increase of defence budgets to reach the 2% of GDP target, have been aspirations adopted by Member States and largely imposed at national level. Subsequent Summits since 2014 have made significant progress in strengthening NATO capabilities and adapting the Alliance to the current geopolitical reality. Therefore, as the types of threats confronted seem to evolve and acquire increasingly diverse features, states and their instruments, in turn, must undergo a process of transformation and adaptation, both individually, at state level, and in the allied context. Transformation is a constant challenge and requirement for the Alliance and its members, which will have to be faced continuously.

Keywords: *threat; defence; military structures; transformation; adaptation; capabilities.*

Introduction

Clearly, approaching the security of nations from the strict perspective of the individual military dimension is no longer sufficient. Even if the military factor is the ultimate and most important guarantee of security, especially in an allied context, its importance is truly appreciated in situations where non-military instruments seem no longer sufficient to counter contemporary risks and threats.

War has been and will remain the harshest and most violent manifestation of conflict. Whether triggered for religious, economic, political or any other reason, the military capabilities deployed can have a devastating effect on society with all its components, from individuals and organisations to infrastructure. Global and regional developments continue to influence how states, non-state actors and the public view security and defence, the use of military assets and warfare, and ultimately the role of armed forces (Holmberg și Jan 2017). The military factor has always been one of the main points found in the backbone of every state, materialised both through the individual state's military capability and through the military alliances to which it is party. The allied context also gives the state the possibility to use the military entity as a tool in foreign policy. Under these circumstances, the military factor is one of the main generators of national, regional and international security. This particularly important role means that it must be adapted in order to meet the commitments of states in the global geostrategic context.

In terms of research methodology, the main objective was to carry out a study on the prospect of adapting national military capabilities to an allied or unified context, a particularly eloquent objective, mainly in terms of establishing those elements that determine the need for

change in the military field. Starting from the study and analysis of the foreign policies of the various states that are active in foreign policy and determining how they are influenced or adopted, we can identify different requirements for the military capabilities of individual states or international organisations in the situation of the allied context. In this respect, the use of qualitative research elements, based on genetic, historical and comparative analysis tools, allowed me to achieve the research objective set for this study.

The hypothesis from which we start revolves around the question: *if the diversity and complexity of contemporary military operations require a united and allied intervention, then the national military body must metamorphose and adapt organizationally and operationally to ensure an appropriate response in terms of cooperation, force generation and regeneration?*

Starting from the obvious difficulty of the current geopolitical equation, this research revolves around Romania's membership of the North Atlantic Alliance. NATO, perhaps the most important alliance of recent history, seen as an inter-state and inter-state political-military security alliance, provides member states with security rights, but also entails obligations and responsibilities. Since its inception, it has been a living body, constantly changing and adapting to threats, based on a firm commitment between partners, which states can use for mutually agreed purposes, but which is constrained by certain limitations on objectives, resources and capacity to act, imposed by the members themselves. Throughout history, the Alliance has provided a forum for each member to determine its national interest within the broader context of consensus among members of the Alliance as a whole.

The analysis of the evolution of contemporary risks, generated by the competition for resources and the possibility of mankind being drawn into a new global war as a result of Russia's latest actions in Ukraine, gives us the opportunity to appreciate that there are still multiple threats to global security and that the role of the North Atlantic Alliance in managing and resolving major global crises is both topical and crucial. However, NATO has no armed forces of its own, relying on the assumption and contribution of member states. While NATO's political and military structures provide the necessary mechanisms for national forces to assume responsibility for missions, as well as the organisational arrangements under which joint force command, control, training and exercises operate, in most situations the forces made available to the Alliance remain under full national command. Here, then, is a first challenge to the synergy of a force package, often governed by heterogeneity in terms of equipment, doctrine, training and even culture.

Over the last decade, especially after Russia's annexation of the Crimean Peninsula in 2014 and the aggression unleashed at that time in eastern Ukraine, coupled with the actions in Ukraine these days, the Alliance is undergoing substantial reform, both structurally and conceptually. Operations have often been the driving force behind most defence investment and modernisation (Shea 2014). As stated in the NATO Secretary General's annual report of 26 January 2016, "the effects of the global financial crisis have accelerated a wide-ranging Alliance-wide reform process, which is reflected in the austerity measures taken by member countries and seeks to modernise the Alliance by making it more efficient and effective. Major institutional reforms have been undertaken, covering NATO's military command structure, agencies and commands, while the concept of 'smart defence' has been introduced to prioritise the Alliance's most pressing capability needs, to set force goals and to assess how allies will use their resources to help them get the most value for money." (The Secretary General's Annual Report 2016 n.d.).

NATO's relevance today is measured in terms of its ability to conduct crisis response operations and participate in managing the security environment both in areas of responsibility and in areas outside member states' territory. As a result, the Alliance is continuously seeking to improve its structural and operational effectiveness, and NATO's transformation is also an expression of the need to match the political commitments made to launch operations with the delivery of the capabilities needed to conduct those operations. NATO's planning and force generation mechanism is more developed than that of any other organisation (Shea, NATO's

Future Strategy: Ready for the Threats of the Future or Refighting the Battles of the Past? 2014). Efforts are currently underway to improve NATO's force generation process, increase the usability of allied forces, develop its future capabilities, the planning process and intelligence work within NATO.

Romania's position on the eastern flank of the North Atlantic Alliance as well as at the interface of high-level security risk areas underlines that defence and security go beyond the responsibility of a single state. At the national level, too, in order to respond to partners' requirements, it is necessary to redefine concepts and establish measures to ensure predictability and consensus in the use of national instruments both independently and in an allied framework. The main guarantor of Romania's security is the North Atlantic Alliance, the transatlantic relationship being the strategic link that gives coherence and consistency to actions. The strength of the transatlantic relationship depends on maintaining US engagement in Europe and on how European allies and partners, including us, allocate resources to develop their own defence capabilities.

1. Organisational changes generated by the allied context

The force structure process is closely linked to the type of mission, or more precisely the specifics of the missions, that these forces have to perform. Force structure planning, as a process, is primarily the shaping of a reference model that will later become a standardised model for future structures, the end result of which must meet the requirements of the allied context.

The transformation and organisational adaptation of the military force for a given type of mission is a fairly complex process, based on structural, technological and doctrinal transformations aimed at achieving a structure that is capable of responding effectively to the needs for which it was created. Thus, from the outset we can define the variables on the basis of which the military body can be transformed from an organisational point of view:

- The dynamic context of the security environment in which this process takes place;
- The cause-effect link between the factors that need to be taken into account when designing the force;
- Fluctuations occurring in the economic development of the country;
- The steady implementation of the reform process in all areas of activity, including national defence;
- Interaction between the stages of the national planning process;
- The multitude and accuracy of policy documents (programmes, actions and measures initiated) on which these transformations are based.

From a theoretical point of view, I believe that the process of organisational transformation can be cyclical, based on four steps (Figure 1), achieving a correlation between the type of mission and the criteria established for the force structure, as follows:

➤ **Step 1, the definition of needs**, which, using scientific mechanisms, determines the weaknesses of the organisation and establishes the type of mission to be participated in while highlighting the specifics of the mission;

➤ **Step 2, setting objectives and allocating needs**, where the needs of the structure within the mission must be clearly defined so that during the resource allocation process the overall objective to be achieved by the organisation is taken into account;

➤ **Step 3, facilitating the implementation of the planning**, the step in which the correlation between resources and the requirements of the mission for which a force has been created is achieved, is the most extensive and complex activity of the process.

➤ **Step 4, the evaluation of results**, which is a continuous activity throughout the process, analysing the effects within the military organisation, but also within society, whether in the political, economic or international relations environment. In the event that the construction does

not fully meet the needs, it will be necessary to modify or adjust the allocation of resources, with the results obtained being re-examined each time in order to make the necessary corrections to the product created.

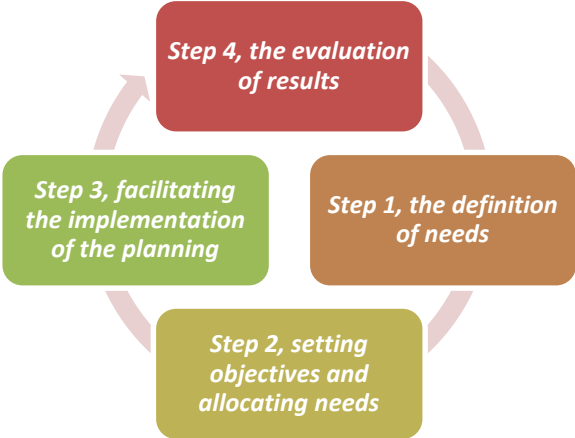


Figure no. 1. Organisational transformation process
 (Source: own through consultation of literature)

Starting from the three main categories of military operations, namely: operations specific to armed combat; stability and support operations and intermediate operations, the four steps of the process will be applied to each type of military operation in order to establish the force structure. At the end of this process, the structure required to meet the needs initially identified is broadly achieved. By applying the specific features of the mission in question, a force structure will be obtained which will be able to respond effectively to the challenges for which it was built.

Force structuring is often approached on the basis of three different criteria, represented graphically in the figure below: threat-based, scenario-based and future capability-based.

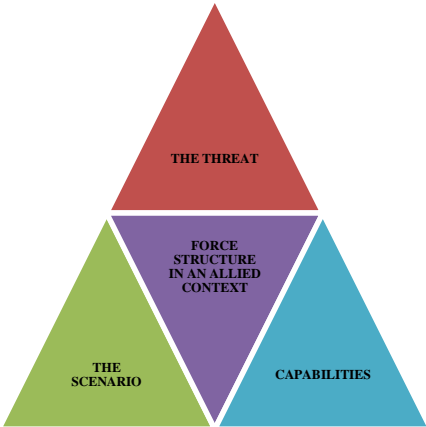


Figure no. 2. Force structuring criteria in an allied context
 (Source: own through consultation of literature)

When *the threat* criterion is applied, the force is structured with the stated purpose of dealing with specific threats. To this end, intelligence services make assessments of likely threats, and defence and security decision-makers determine what structures are needed and allocate them in such a way as to be able to counter those threats. Applying this criterion has a number of advantages in terms of the credibility of scenarios based on valid intelligence assessments. Obviously, structuring according to threats also has its drawbacks, the most

important of which are limited perspective and the risk of making it impossible to adapt to unforeseen changes in the security environment.

The *scenario* approach is not fundamentally different from the previous one, starting from a set of generic scenarios from which defence policies and strategies are derived and with the help of which configuration priorities are set, and capabilities are then designed according to each scenario. As in the previous case, this criterion has its advantages and disadvantages. Its main advantages are: a clear link with the requirements of the strategy and a fairly transparent relationship between each scenario and the forces it requires. Its major drawback, however, is its degree of flexibility in the face of unforeseen events, and a wide range of scenarios would be needed to eliminate this shortcoming.

The *future capabilities* criterion seeks to determine the capabilities and forces that will be developed to meet future threats based largely on future challenges and opportunities. It is a criterion that can ensure the correct evolution of structures, but it is fundamentally based on the accuracy of predictions of the characteristics of the future security environment. The possible missions and operational hypotheses formulated will be closely aligned with the various types of force structures, depending on the required capabilities, structures validated solely through experimentation.

Each criterion has its advantages and disadvantages, so the choice of one or the other will depend on the specific context of the future mission entrusted to the force structure in question.

The implementation of Capability Based Planning (CBP) at NATO level, at this point in time, is based on an algorithm based on 6 steps, graphically materialised in figure no. , which facilitates the identification and understanding of the capabilities needed by the Alliance to fulfil its missions, respectively:

- Phase 1 - Analysis of the strategic environment;
- Phase 2 - Identification of capability needs;
- Phase 3 - Determining requirements;
- Phase 4 - Capability Gap and Achievement Analysis;
- Phase 5 - Identify possible solutions;
- Phase 6 – Implementation.

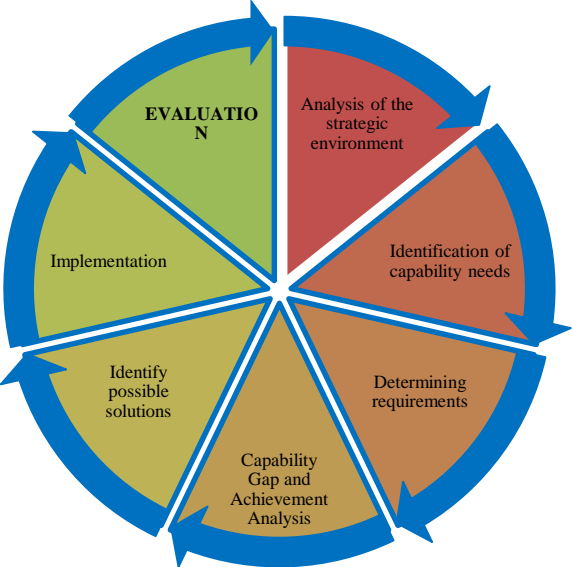


Figure no. 3. Force structuring criteria in an allied context
(Source: own by consulting literature)

However, I consider it necessary, as shown in Figure 3, to include evaluation in this process as a cyclical step, subsequent to the other steps, thus achieving a real-time adjustment of the process and a better correlation between mission and capability. For example, the objective of Phase 2 is to analyse the types of missions determined in Phase 1 to identify the capabilities that the force is required to possess, or this is determined solely through an assessment phase. At the same time, capability requirements are a qualitative and/or quantitative assessment of capability needs, expressed in terms of specific, quantifiable parameters, defining the essential components and associated capability outcomes.

2. Operational changes generated by the allied context

The complexity and fluidity of the post-Cold War security environment, and in particular recent events in Ukraine, has led the Allies to decide on the need for rapidly deployable, integrated and sustainable forces. As stated at national level, since 2007, in the Romanian Army Transformation Strategy, but also in NATO philosophy, military transformation at operational level is a continuous process of development and integration of new concepts, strategies, doctrines and capabilities with the aim of improving the interoperability of forces and increasing their effectiveness in operations (România 2007).

The transformation directions at operational level aim to match the capabilities a structure has at a given time with its collective defence responsibilities and its commitments in managing the international security environment. For example, after the first Gulf War, NATO constantly sought and asked allies to transform their existing military forces so that they could become rapidly deployable, interoperable and sustainable, in line with American principles. Progress has been slow, and today only a fraction of NATO forces are deployable beyond Alliance borders. At times, the emergence of atypical threats after the end of the Cold War and differing threat perceptions has made it more difficult for allies to reach consensus on a common vision of transformation. A common strategy is often difficult in a complex international situation where organisational processes, bureaucratic politics, economics, legal constraints and, not least, public opinion and media control influence decisions (Nissen 2014).

Over time, at the operational level, the alliance has often adopted a dualistic approach to transformation, seeking both to develop rapidly deployable forces and to promote stability and transparency in crisis regions. Since 2010, with the launch of the current strategic concept (active engagement, modern defence), the North Atlantic Alliance has been able to take a significant step forward in energising the transformation process by coupling capability reforms with the Alliance's political reinvigoration, and on this basis giving a much-needed new impetus to the transformation of NATO's operational philosophy.

Strategic objectives can take years to achieve, and some short-term operations can lead to major reactions and fundamental strategic changes. That is why the time factor can have substantially different connotations in contemporary operations. Against this background, the main transformational trends at the operational level are related to the assumption of a greater role by NATO and its member states, using the military instrument also in areas such as political, economic, social, humanitarian, informational, cultural, etc. In this context, developments and approaches such as:

- increased military action in the areas of counter-terrorism, combating cross-border crime, border control, restoring internal order, combating drug trafficking, etc.;
- increasing the share of missions in operations other than war;
- increased responsibilities in the area of countering cyber threats and protecting critical national infrastructure in digital space, such as cyber intelligence and counter-terrorism operations;

➤ participation in the eradication of pandemics, such as in the context of the COVID 19 pandemic;

➤ equipping the armed forces to create an integrated technical and equipment model to ensure the capabilities required for new types of missions including countering hybrid threats.

Of course, the new missions listed above are not exhaustive, but we can see that the change in the content of missions leads to fundamental changes at the operational level with implications for the composition, equipment and equipping of forces. Thus, also in the operational philosophy, in order to increase the level of interoperability, strategic mobility and operational efficiency, NATO member countries have developed and continue to develop and refine the NATO Response Force as a modern form of response to the new threats that are manifest these days. Russia's illegal intervention in Ukraine is a turning point in regional and global geopolitics. Suddenly, NATO-Russia relations are undergoing a radical change, throwing the relationship back more than 30 years to the Cold War. Moreover, the onset of this change in the bilateral relationship began after Russia's annexation of the Crimean Peninsula, culminating at that time in the suspension of regular meetings within the NATO Russia Council (NRC).

Therefore, given the temporary and limited in space and time nature of the reassurance measures, NATO allies considered it urgent at the time to adopt a package of measures of a permanent nature aimed at adjusting the Alliance to the new security conditions due to Russia's actions. The reassurance measures of the Eastern Allies, including Romania, adopted after the outbreak of the Russian-Ukrainian crisis in 2014, must be reinforced today, through a long-term projection. Starting in 2014, in response to major changes in the security environment and the deteriorating situation in the Alliance's immediate neighbourhood, NATO has begun a broad process of adapting its defensive posture. The Wales Summit marks the endorsement of **The Action Plan for Improved Responsiveness (RAP)**, which outlines the Alliance's strategic and operational adaptation, while at the same time ensuring that Allies are able to defend themselves (Delegația permanentă a României la NATO n.d.). Operationally, it combines a range of assurance and adaptation measures, striking a balance between an increased military presence in the Alliance's east and the ability to send reinforcement forces in the event of crisis or conflict anywhere in Allied territory. Following these decisions, an extensive transformation process was launched that dominated the post-summit agenda and resulted in the tripling of the NATO Response Force (NRF) to division size and its enhanced operability and responsiveness, which we see today when part of the force is present on home soil. The operationalisation of the High Readiness Response Force (VJTF), which can be deployed within days throughout the Alliance, together with the operationalisation of new command and control structures on the territory of the Eastern states, with a role in facilitating the training and reception of reinforcement forces, are also very important conceptual elements for the implementation of the measures contained in the RAP (Delegația permanentă a României la NATO n.d.).

In today's security environment, where risks and threats of war have become a certainty, NATO is forced and obliged to adapt its security thinking and tools to respond to these threats. "The process of transformation of the Alliance is a natural necessity arising both from fundamental changes in the security environment and from the new strategic guidelines adopted at NATO level" (Mavriș 2012).

The voluntary national contributions of all the Allies translate the plan into a vigorous programme of military activities mainly in the strategic eastern dimension. Romania has been and remains a contributor to and beneficiary of the security and defence measures adopted since 2014, which are aimed at strengthening both the Alliance's security and, implicitly, national security.

Military strategy is a phenomenon that involves a sensitive distribution of efforts and a complex interaction between the political level and the higher military level (Edström, Hakan and Westberg, Jacob 2022). Proactive military, politico-military and diplomatic efforts have resulted in the strengthening of the allied presence on Romanian territory and in the Black Sea area. Thus, four multinational commands have been created on the national territory, as part of the NATO Force Structure, namely: Multinational Corps Command Southeast (HQ MNC-SE), Multinational Division Command Southeast (MND SE), Multinational Brigade Command Southeast (MN BDE SE) and NATO Force Integration Unit Romania (NFIU ROU), in Sibiu, Bucharest and Craiova, which have the role of supporting the conduct of missions in the southern area of the allied eastern flank. A tailored Forward Presence (tFP) has also been established, structured on the basis of a set of proposals from our country covering the land, sea and air domains. As part of this presence is the Combined Joint Enhanced Training (CJET) initiative, which creates the framework through which allied states will be able to affiliate or send forces to Romania to train for increased interoperability and operational capability.

Other decisions aim at increasing the allied air and maritime presence in the region and creating a coordinating relationship for NATO maritime activities in the Black Sea, materialised through integrated training activities and exercises involving NATO Standing Naval Groups (SNFs), together with ships from littoral states and other interested allies (Ministerul Afacerilor Externe, n.d.). By coordinating these maritime activities, NATO is ensuring good surveillance of the situation in the region, as well as coherence between NATO's activities in the Black Sea and the Alliance's maritime activities as a whole.

The measures adopted at operational level are defensive in nature, in line with Romania's international commitments and the need to strengthen national defence. At the same time, in order to increase security in the region and to ensure the level of operability and responsiveness of national forces alongside allied forces, the Romanian Army has recently tripled the number of multinational exercises, thus contributing to increased interoperability with allied forces.

Conclusions

As a member of the North Atlantic Alliance, Romania is in the midst of a political-military transformation and is engaged in an unprecedented operational effort. The participation in a large number of missions, mostly non Article 5 missions, since NATO accession, has required a reshaping of the force structure, objectives and, why not, personnel training, starting from the conceptual and doctrinal dimension and ending with the military capabilities developed. Of course, the process could be said to be slow and sometimes delayed, but it is closely linked to the political, economic and social realities of the time. Based on the results of successive assessments of the threats that characterise the dynamics of international security, the vulnerabilities and risks identified, NATO and Romania as a member, a state at the "hottest" border of the alliance, has, in the last three years, restarted a new accelerated process of transformation, aimed at preparing a firm and effective response to the new challenges of the 21st century.

The main strands of transformation relate to:

- modernising capabilities, updating missions and making command and control structures work more efficiently;
- moving to capability-based planning;
- further implementing the provisions of NATO's 2010 Strategic Concept - 'Active Engagement, Modern Defence', which has led to the promotion of the concept of 'Smart Defence';

- active contributions to the development of the new Strategic Concept, which is envisaged for adoption next year;
- increasing the responsiveness of the structures made available to NATO and beyond;
- increasing the level of interoperability of capabilities and structures operating within the Alliance.

The development and modernisation of military capabilities requires the allocation of significant financial and material resources (a minimum of 2% of GDP per year) by the Member States. In this respect, some Member States have and others do not, a situation which results in technological differences in the military instruments they possess. At the same time, the degree of development of military capabilities can also be assessed in terms of the number of military personnel, types of units and large manoeuvre and combat support units. From a technological point of view, the relevance is given by the number and type of essential combat systems (aircraft, helicopters, surface ships, tanks, guns, etc.), which are closely linked to the defence budget and its allocation for modernisation and equipment.

Of course, we can see that at national and allied level we have not fully achieved our objectives, although significant changes have taken place in recent years and a major new review of NATO's command structure is under way. Even though the Alliance's command structure has changed, in the area of capabilities, results are lagging behind in some areas, with states having difficulty in generating the forces needed to bring the response force and those for ongoing operations up to the level originally proposed or required by the mission.

In conclusion, referring to the meaning of the verb "to transform", defined as the process by which an object "changes, alters its appearance, its form", we can state that the process of national adaptation to the permanent modification of NATO concepts and military structure is a continuous process of transformation, carried out in order to respond to new security requirements and to create new forms of response compatible with the level of threats that have arisen.

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QUESTIONNAIRE TO IDENTIFY THE SPECIFIC NEEDS OF STUDENTS INVOLVED IN COUNSELING

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Abstract: *One of the aims of the education system is social and professional integration of young graduates. But in the ever-changing world we live in today, choosing a career becomes a very difficult task. Today's students, subjected to the flow of information from a very young age, enter school with a great deal of knowledge about the world around them. The extracurricular activities in which they participate during the school years open their horizons of thought and many of them may be attracted to several areas, thus being in a very difficult position: what to choose, when I find that I am attracted to more things/professions and I think I can do them well? Therefore, career counseling becomes extremely important in the life of any young person. Counseling refers to a process in which a professional establishes a relationship – based on trust – with a person who needs support. During this process, the young student expresses his/hers ideas and feelings about a problem and receives support in clarifying their meanings, in identifying value patterns based on which solutions will be formulated. The counseling process involves guiding a young person to a profession for which he/she shows interests and skills. At the heart of this process one can find self-knowledge, vocational education, career education, exploration and career planning.*

Keywords: *education counseling; career counseling; vocation; skills.*

Needs identification

One of the most important functions of higher education institutions is to support students to find their path to the labor market, to smoothly make the transition from learning, studying and researching to the professional field, to creating solutions, to providing services, collaborating with their colleagues in work teams. Thus, Romanian universities have started housing counseling and career guidance centers, structures in which students can make use of the services of career counselors or can participate in various activities in which the labor market is presented, in which students can train on looking for a job, on performing in a job interview or adapting to a new job.

Facilitating the transition of students from attending faculty classes to finding a job and entering the labor market is the general objective of the START project running at the CAROL I National Defense University in Bucharest. Students enrolled in this project, 2 series of 162 students each, participated in career counseling and guidance activities, both in individual and group meetings, in order to investigate the strengths and weaknesses of each student, in relation to the occupational standards targeted by the various study programs, analyzing work motivations developed by each future graduate, identifying alternative career paths after graduation and analyzing these possibilities in correlation with the short, medium and long term goals of each student.

The counseling activity has turned out to be extremely attractive and very much needed as students make their study options around the age of 18, in most cases through the filter of the subject matters studied through their high school years and towards which they

felt passion, in terms of content, without projecting themselves into a career or profession after high school graduation. Towards the end of their undergraduate programs, students are viewing their career plan seriously for the first time and need to investigate, with the help of a counselor, the personal and professional resources they can use to sketch their professional future.

Another aspect that has led to elaborating a student self-assessment counseling needs tool is the major difficulty they face when they have to present themselves, with strengths and weaknesses, to an assessor or interviewer for a job. Students have a real difficulty in talking about themselves, identifying personality traits that add value in a professional field, displaying skills that they have developed over the years of study and that might be important in their future careers, in talking about their formative experiences that represent a valuable experiential asset for their future profession.

Another difficulty that START students show is to identify issues that need to be either corrected or improved on their own. The vast majority of the students tend not to point out any weakness or to identify a strength as a weakness (eg sincerity). Perfectionism leads students to believe that recognizing aspects that deserve improvement in one's own person is a sign of weakness and makes you vulnerable to potential evaluators.

Introduction

The concept of self-knowledge refers to the process of exploring and structuring one's own characteristics (abilities, emotions, motivations, attitudes, requirements, defense and adaptation mechanisms), which results in the person's self-image. Self-image is the essential landmark of behavioral and emotional self-regulation.

Efficient functioning in the contemporary socio-professional environment is facilitated by the person's ability to self-knowledge and efficient self-regulation. "The difficulties that some young people face, in their attempt to cope with contemporary demands, but also the specific difficulties of childhood and adolescence, seriously raise the issue of the need for students to acquire strategies for self-knowledge and personal development." (Lemeni Gabriela; Axente Anca coord. 2011)(27).

The questionnaire we propose is a tool of **self-knowledge** for the young person seeking guidance. These can be used by pupils or students before the counseling sessions or, it could even be applied by the counselor at the first meeting with the pupil/student. Each item in this questionnaire is, in fact, a topic to be reflected/discussed, so we do not consider that a standardized interpretation of the answers is needed. The most important role of this tool is to make the young person aware of certain personality traits that he/she probably did not know, to make him/her ask various questions. Positive self-image is very important, but it must be realistic. This positive self-image "It is a source of energy, stimulation and potential for career success" (Jigău 2001) (190).

The questionnaire is structured in four chapters (Janda 2003). We first try to find out your opinion about the counseling session. The second chapter identifies what the term career means to you, if you have a career plan and when you made it. The third chapter deals with personality, the former makes you think about your skills and how they might or may not help you in your chosen career. And the last chapter refers to how well you know the chosen field, to the actions you can take to follow the chosen career.

Another important aspect in the counseling sessions is to determine which are the most important values for you. Then, you can start analyzing whether the professions you are considering are right for you; and the best way to do that is to talk to people who carry out such professions. It is important to talk to several people to make sure you get a reasonable assessment of that area.

The questionnaire

I. About the counseling session:

I.1. Have you ever participated in career counseling and guidance activities?

- a) yes
- b) no

I.2. If yes, when? (what age?) _____

I.3. What information would you like to learn in counseling sessions and career guidance?

- a) about myself
- b) about jobs
- c) about job market
- d) about how to get a job
- e) about how to present yourself at an interview
- f) other _____

I.4. How you would like your career counseling and guidance sessions to go?

- a) face-to-face
- b) on-line

I.5. How long do you think a career counseling and guidance session should last?

- a) 30 minutes
- b) 60 minutes
- c) 90 minutes
- d) other _____

II. About the term *career*:

II.1. Please indicate three words suggestive of the *career plan* concept:

- a) _____
- b) _____
- c) _____

II.2. What is your opinion about *having a career plan*?

- a) it has a decisiv role
- b) it has no use
- c) other _____

II.3. Do you have a *career plan*?

- a) yes
- b) no

II.4. When did you make this plan, at what age? (approximate)

II.5. You made the career plan over a period of _____ years.

II.6. Is your career plan complete? (includes scope, purpose, objectives, terms, deadlines, payoffs)

- a) yes
- b) no

II.7. What led you to develop such a plan?

.....
.....
.....

II.8. Have you decided to put your career plan into practice?

- a) yes
- b) no
- c) later _____

II.9. Who influences you the most in your career choice?

- a) my family
- b) my group of friends
- c) a certain professor

III. About your personality/your abilities:

III.1. I'm not determined when I want to start living on my own.

- a) true
- b) false

III.2. How quickly you get used to people you just met?

- a) very quickly
- b) quite quickly
- c) not too fast

III.3. What kind of activities do you like?

- a) in-door activities
- b) out-door activities

III.4. Do you like:

- c) city activities
- d) nature activities

III.5. What kind of job do you want?

- a) an office one
- b) a job that involves getting out

III.6. Would you prefer a job that provides you with a lot of free time?

- a) yes
- b) no

III.7. I am willing to make many sacrifices to progress in my career.

- a) yes
- b) no

III.8. I'm the kind of person who turns my plans into actions.

- a) yes
- b) no

III.9. Would you be willing to leave the country to succeed in your career?

- a) yes
- b) no

III.10. Did you take a test to determine your professional skills?

- a) yes
- b) no

III.11. I set very high standards for myself.

- a) yes
- b) no

III.12. I know where I can find answers to the questions I have.

- a) yes
- b) no

III.13. I can decide what information I need.

- a) yes
- b) no

III.14. I know how to choose and use keywords to search for the information I need.

- a) yes
- b) no

III.15. I have many sources of information and I know how to select the important ones.

- a) yes
- b) no

III.16. I know how to make a list of important sites for the chosen profession.

- a) yes
- b) no

III.17. I know how to use search engines.

- a) yes
- b) no

III.18. I know how to change my search terms to detail what I'm looking for.

- a) yes
- b) no

IV. About actions related to the chosen profession:

IV.1. What profession would you like to pursue?

IV.2. Why did you choose this profession?

- a) it is well-paid
- b) it suits me
- c) it has an impact, it is a respected profession

IV.3. What personal qualities recommend you for this profession?

- a) _____
- b) _____
- c) _____
- d) _____

IV.4. What are your interests that influenced this choice? (name at least 3)

- a) _____
- b) _____
- c) _____

IV.5. Did you find out about the skills required by your favorite profession?

- a) yes
- b) no
- c) there's still time to get informed

IV.6. In what field would this job be?

.....

IV.7. The program of study is consistent with the chosen career plan?

- a) yes
- b) no

IV.8. What criteria did you consider in choosing the optional courses?

- a)
- b)
- c)

IV.9. How the chosen extracurricular activities helps you in your future profession?

.....

.....

.....

IV.10. Do you intend to find a job since college?

- a) yes
- b) no
- c) I have not decided yet

IV.11. What obstacles do you think you might encounter in finding a job?

.....
.....
.....

IV.12. Do you think that the profession you choose now you will follow until you retire?

- a) yes
- b) no, I think I'll change it over the years

IV.13. You would like a job:

- a) very well paid, but with overtime
- b) average salary, without obligations over working hours
- c) part-time job

IV.14. In which city/area would you like to settle after graduation and find a job?

.....

IV.15. Know the forecasts regarding the development of the city/area in which you want to settle?

- d) yes
- e) not yet

IV.16. What books/magazines have you read lately on topics related to your chosen profession?

.....

IV.17. What sites have you consulted to help you choose your profession?

.....

IV.18. Do you know the requirements of employers regarding the chosen profession? List at least three:

- a)
- b)
- c)

Completing the questionnaire before the counseling session is important, but not sufficient. Because we did not make a standardized interpretation of the answers for this questionnaire, it would be good to allocate some time to complete the following table:

Chapter I		Chapter II	
Conclusions	Actions to be taken	Conclusions	Actions to be taken
Chapter III		Chapter IV	
Conclusions	Actions to be taken	Conclusions	Actions to be taken

Now we think you have a clearer picture of your strengths and weaknesses. We hope that, after you follow the counseling sessions, you will feel much more prepared to go out into the world, to go to an interview and to prove your ability to present yourself well.

Self-knowledge is a basic process in counseling and career guidance. The significance of this process may be more important than the results of psychodiagnostic examinations or

assessments, because self-knowledge means the appearance of problems, confronting one's impressions with others about oneself and drawing a realistic conclusion, balancing personal achievements, potentialities, individual qualities and traits, about which the individual must be made aware that he has them and can value them (Jigău 2001) (183).

Conclusions

In the economics of this questionnaire, we have allocated many items that refer to extracurricular activities or to the influences of the group of friends of which the young person belongs. This has a simple explanation: in Romania, career guidance is left mainly to the family. High school leadership classes (1 hour/week) fail to cover the issue of career guidance or college choice. School counselors are dividing their work between several schools and thus their program is not enough to provide counseling with each student. In the faculties, things are a little better than at the high school level, in the sense that there are counseling offices in each university. But even here, we can say that there are too few counselors compared to the students' request. Young people who want to get to know themselves better can, with the help of their families, access online tests to find their skills or turn to private professional counseling offices.

We think that before going to these offices, it is easier to try to do a self-knowledge exercise. And this is exactly what this questionnaire does: it offers the chance for self-knowledge; further, it is the task of each young person to reflect on their own strengths, on the skills they have and, especially, on those they want to develop.

The literature has shown that students who do not know what interests them will experiment and try various jobs. This process of trial and error is important in finding a successful career. Therefore, do not be afraid to make changes if you are not satisfied with the initial choice.

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- <http://studiamsu.eu/wp-content/uploads/1.-p.5-14.pdf>

SNAKE ISLAND – BLACK SEA STRATEGIC AREA

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Abstract: *In this article, we will analyze the strategic importance of the Snake Island for the entire Black Sea area and even the European and NATO countries, which are non-riparian states. Utilizing historical analysis as a research method, we will objectively state the importance of the island throughout history while also pointing out some contemporary elements. In addition, we will focus on the political, military, and economic factors that motivated Russian forces' decision to launch an attack on the first day that hostilities broke out between Ukraine and Russia. For this reason, after Ukraine had already lost both control of the Crimean Peninsula and free access to the Azov Sea, the seizure of Snake Island by Russian forces was most likely planned well in advance, as a tactical operation with strategic implications, for the purpose of cutting off Ukraine's maritime routes and denying access to all of its sea lines of communication. Another factor of great importance is the island's location, which presents the possibility of basing military assets on the island in order to conduct intelligence, surveillance, and reconnaissance (ISR) operations and even pose a threat on the eastern frontier of NATO with the probable deployment of mobile multi-layered missile systems.*

Keywords: *Snake Island; strategic; Black Sea; threat; maritime.*

Introduction

In this article we will analyze the motives why Snake Island is a significant strategic zone of the Black Sea, from Russia's point of view, and not only, concerning political, military and economic aspects. Snake Island, even if it is practically a rock, because of several aspects is considered a strategic point by Russia, which took it over, even since the first day of the invasion of Ukraine.

Historically, it was owned by all the major empires which conquered the area, and after the disintegration of USSR, the island continued as part of Ukraine and commenced being used as a military unit, until the legal settlement with Romania, regarding parts of the exclusive economic zone around it, when the demilitarization of the island was part of the agreement. The reasons the island turn out to be a central point for the Russian political and military decision makers are multiple.

From a military and strategic point of view, Snake Island provides the opportunity of conducting an efficient sea denial, forbidding all of the Ukraine's sea routes, after already taking over their Crimean Peninsula and controlling Kerch Strait, the only gate to and out of the Azov Sea. After the war commenced, Ukraine had no way of maritime logistic transports of any kind.

Also, Snake Island provides the most suitable location for conducting ISR operations in the western Black Sea area. Russia can deploy here surveillance, electronic warfare or SIGINT systems, or even missile mobile launching systems against air and ground targets, in order to track Romanian/NATO assets.

From an economical perspective, declaring north-western Black Sea a war zone, enforcing the area and the existence of mine danger in the whole western part of the Black

Sea, disturbs the entire Black Sea navigation, not only the Ukrainian commercial traffic, transport companies tending to redirect their vessels on safer routes.

After considering all the previous reasons, we will understand with no difficulty why Russian Black Sea Fleet took over Snake Island even since the first day of the Ukrainian war, and can start assessing how it could be used for their advantage.

General considerations

Located at the conjunction of Southeast Europe, Eastern Europe and the Middle East, the Black Sea is a source of food, an economic zone, a transport route, a base of power and since Russia attacked Ukraine, a theater of war.



Figure no.1. Snake Island location

Source: www.google.ro/maps

This poses a risk, as three NATO countries (Bulgaria, Romania and Turkey), two of which are members of the EU, border Russia here. Moldova and Georgia are considered targets for a possible further expansion of Russia - and are much smaller and less well equipped than Ukraine.

The security of the riparian countries is now even more threatened by the effects of the war. Snake Island is the emerging part of a rock form in the Black Sea, 45 km from the shores of Romania and Ukraine, near Musura Bay. The island, once Romanian, was occupied by the USSR after the end of World War II and annexed during 1948. Theoretically, is now part of the Chilia district in the Odessa region of Ukraine, but practically is under Russian occupation since 25 February 2022. With an area of only 17 hectares, the island of Snakes is not of great importance from a territorial point of view, instead it is important from a strategic-military and economic point of view.

Historical waypoints

Historically, after the periods of Greek and Roman rule, the Snake Island came, successively, under the rule of the Byzantines, the Genoese, and then Romanian territory. Later, the island, together with the mouth of the Danube came under Ottoman rule.

In the successive conflicts that took place over time between the Tsarist Empire and the Ottoman Empire, Russia expanded further west. A protocol between the two great powers of 1817 established the transition of the Sulina channel of the Danube to the domination of tsarism, and since then, Russia has considered that, in fact, Snakes Island belongs to it.

By the Treaty of Berlin of July 13, 1878, Snake Island was returned to the territory of Romania.

After World War II, in 1948, the Protocol specifying the state border between Romania and the USSR provided for the illegal transfer, contrary to the Peace Treaty, of the

Snake Island to the USSR. The Soviet Union imposed on Romania the signing of a simple report of the surrender of the island, which violated the provisions of the peace treaties concluded up to that date, which was signed under pressure from Soviet troops occupying Romania at the time. In fact, this protocol has never been ratified by the parliaments of Romania or the former Soviet Union.

Immediately after the occupation of Snake Island, the Soviets set up an important military base here, that controlled the mouths of the Danube, and radar systems that monitored the entire Balkan area.

After 1980, with the discovery of considerable reserves of crude oil (10 million tons) and natural gas (1 billion m³), interest in the island's surroundings increased greatly.

After the dismemberment of the Soviet Union, in December 1991, and the appearance of the new independent states detached from the Union, the problem of the occupied Romanian territories returns to the present. The Soviet Union, the holder of the titles of sovereignty – also questionable – over these territories, disappears as a subject of international law, in its place appearing new states; among them the Republic of Ukraine and the Republic of Moldova. Snake Island, along with its military base and territorial waters, became "de facto" part of Ukraine as the heir to the former Soviet empire, without any legal or historical rights. However, Ukraine was in a crisis of legitimacy, having territories that belonged to all neighboring states: Poland, Czechoslovakia, Romania and Russia.

Romania demanded the application of the provisions of the 1947 Paris Peace Treaty, but in 1997 NATO advised the Romanian government to resolve any territorial disputes with Ukraine in order to integrate into the organization. Until 1997, negotiations on the conclusion of the Basic Treaty with the Republic of Ukraine were balanced. In the same year, the President of Romania, at that time, signed the "Treaty on good neighborly relations and cooperation between Romania and Ukraine", which voluntarily enshrined the loss of all territories hijacked to Romania by the Soviets through the Ribbentrop-Molotov Treaty.

In 2004, the request for the initiation of proceedings by the Romanian Party was sent to the International Court of Justice in The Hague, the main legal body of the UN, in order to resolve the issue of delimiting the continental shelf and the exclusive economic zones of Romania and Ukraine, the Black Sea disputed area being approx. 12,200 km².

In 2007, Ukraine founded here a village named Bile (which only consisted of a few houses of the Ukrainian soldiers stationed there), to serve its interest in the dispute with Romania regarding the territorial waters surrounding the island. The dispute ended in 2009, when the court declared that Snake Island cannot be a part of the Ukraine's coastal configuration and consequently ruled that Romania would get 80% of the disputed maritime area.

In August 2021, as Russian forces built up around Ukraine, Ukrainian president Volodymyr Zelenskyy held a press event on the island, during which he said: "This island, like the rest of our territory, is Ukrainian land, and we will defend it with all our might."

Russian attack on Snake Island

The first day of the Russian invasion in Ukraine, 24 February 2022, also represented the day when Russian Navy attacked Snake Island. The operation was conducted by Moskva cruiser, at that time the flag ship of the Russian Black Sea Fleet, and patrol boat Vasily Bykov (Zubkova 2022). Moskva hailed over the radio the Ukrainian military stationed there (13 border guards) to surrender, in return for their safety, which was firmly declined by the defenders. Recordings of the answer given by the Ukrainian soldier Roman Hrybovof, "Russian warship, go yourself!", became widely circulated on the internet and went viral on social media platforms, and since then, it transformed into a uniting shout by both the Ukrainian military and civilians protesting the invasion.

The cruiser Moskva and patrol ship Vasily Bykov bombarded the island with their deck guns. Officials announced that Russian forces had captured the island following a naval and air bombardment carried out by a Russian Su-24, that destroyed all infrastructure on the island (Veselova 2022). Afterwards, a Russian soldiers detachment landed and took control of it.

All contact with Snake Island was lost. The thirteen Ukrainian border guards defending the island were captured as prisoners of war by the Russian forces. Also, on 26 February, Ukrainian authorities announced that the Sapphire civilian search and rescue ship was captured by the Russian Navy in the vicinity of the island.

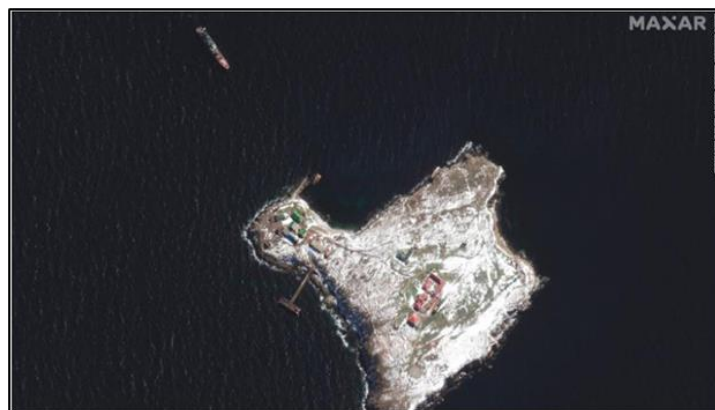


Figure no. 2. Snake Island, 13 march 2022

Source: www.cnn.com

The image in figure no. 2, taken by Maxar Technologies on 13 March 2022, depicts a Russian Ropucha class landing ship anchored in the close vicinity of the Snake Island, and it can be seen that some of the red-roofed buildings in the center of the island have been significantly damaged as a result of the Russian military strikes. Although some parts of the island are covered in snow, impact craters can be seen on it.

On 13 April, Moskva cruiser, that was the lead ship in the attack, was hit by two anti-ship missiles fired from the Ukrainian shore, exploded and burned. On April 14, the Russian navy tried to tow the damaged ship towards Sevastopol, but she sank before she reached port.

Strategic importance

Since the annexation of the Crimean Peninsula, the Putin regime has steadily increased its control over the entire Black Sea region, enforcing Crimea as its base and modernizing its Black Sea fleet with short- and medium-range missiles, especially Kalibr sea cruise missiles. In addition, short-range surface-to-surface missile Iskander missiles and ground cruise missiles are stationed in Crimea. In essence, the hybrid actions (Scipanov and Nistor 2015) carried out in 2014 continued, maintaining the de facto state by capitalizing on the strategic advantage achieved.

The results of the modernization are currently being used against Ukrainian cities, but they can, of course, also be used against the coasts and navies of neighboring countries.

With the deployment of modern missile defense systems in the Black Sea region, Russia has also developed its own protective shields. The goal is to prevent the enemy from gaining access to a selected area, Anti-Access Area Denial (A2AD) zones, all around the Crimean Peninsula, but also in the extended Black Sea area.

From Russia's point of view, Snake Island is an important place to further extend the Russian protective/ offensive umbrella over the Black Sea region. Not only can the Black Sea region be controlled more comprehensively, but it can also make it more difficult for the allies of the riparian states to support their partners in an emergency. Snake Island is a perfect

deployment location for mobile ISR systems like aerial, surface and even submarine unmanned vehicles, electronic warfare and even SIGINT systems, the proximity to NATO shores being of utmost importance. These systems could provide first hand-real time information about all the movement of the air and surface platforms in the area.

In addition, if Russia stations here any of their mobile ground-to-air (like S-400 Triumpf, which has an operational range of up to 400 km, or the newest S-500 Prometey, with a 600 km range) or ground-to-ground missile systems (K-300P Bastion-P system with a range of up to 450 km, Kalibr system using 3M-14 missiles with a range of up to 2,500 km or even the 4,500 km Kalibr-M variant), they will extend their respective ranges with at least 270 km, the distance with which Snake Island is closer to NATO territories than Crimea.



Figure no. 3. S-400 and S-500 extended ranges – author’s concept



Figure no. 4. K-300P Bastion-P extended ranges – author’s concept

In figure no.3 are depicted the extended ranges of the S-400 and S-500 ranges given the possibility that they could be stationed on Snake Island. This position could provide the ability to launch missiles against air targets above most of the Romanian, Bulgarian, Moldovan, Ukrainian and even Turkish territories, fact that could not have been possible when they are deployed in the Crimean Peninsula. The S-400 Triumpf is a mobile, surface-to-air missile (SAM) system developed as an upgrade to the S-300 missile system. The newer version of the S-400 is the S-500 Prometheus, which entered service in 2021 (Episkopos 2021). S-400 can be fitted with a panoramic radar detection system with a 600 km range, protection against jamming, it can track up to 100 targets, has anti-stealth detection capabilities, making possible the recognition of the air assets which fly over the eastern half of Romania, Bulgaria and all Moldovan territory. It can also be used as an early warning system for the Russian Black Sea Fleet command, based in Crimea.

The same applies to the Bastion missile system (figure no.4), in the case that they would deploy it on the Snake Island. The Bastion missile system could employ strategic targets on all the Moldovan territory and half Romania and Bulgaria, reaching way over Bucharest, thing that couldn’t be accomplished from the Crimean positions. Even if it is mainly a coastal defense system against surface targets, it can also launch missiles on ground targets up to a 450 km range. In 2016, Russia deployed Bastion-P systems to Syria, where it launched Oniks missiles at land targets (Rashed 2016) as part of the Russian military intervention in the area, demonstrating an undisclosed land attack capability, until that time, for the coastal defense system.

When we consider Kalibr missile system locations on ground, 270 km doesn’t seem to make a difference, considering their ranger can go up to 2,500 or even 4,500 km, covering almost entirely the whole Europe and the Mediterranean Se, and also being able to be

launched from surface and submarine platforms, which theoretically, in a worst-case scenario, could be easily deployed in the western Black Sea area.

As for the ground-to-surface missile systems, it is not an advantageous location, because the ones in the Sevastopol area provide a better covering for almost all the Black Sea, including Bosphorus Strait.

Analyzing only the above mentioned and the fact that the Snake Island was among top priorities for the Russian invasion, being attacked in the first day of their “special operation”, we reach the conclusion of the area strategic maximum importance from the military and strategic points of view.

We need to understand that the Putin regime dominates escalation. This means that the danger of a NATO-Russia confrontation in the Black Sea exists - but not only since the open war of aggression that Russia launched on February 24.

The declaration of the 2016 NATO Summit in Warsaw had already called for "large-scale snap exercises contrary to the spirit of the Vienna Document, and provocative military activities near NATO borders, including in the Baltic and Black Sea regions" and “Russia's [...] use of its military presence in the Black Sea to project power into the Eastern Mediterranean have posed further risks and challenges for the security of Allies and others”.

Economical considerations

Another motive due to which Snake Island is important, represents the economic point of view. After taking control of the Kerch Strait and Azov Sea following the annexation of Crimea, Russian Federation remained just to cut off all of the Ukraine’s commercial navigation in the north-western part of the Black Sea, in order to practically leaving them without any maritime access to the commercial routes.

In any case, the economic interests of all the riparian states are further diminished, as important sea routes and waterways pass through the Black Sea.

Security and freedom of navigation are in jeopardy, even more so than before, when Russia restricted navigation in certain maritime areas at its discretion, maneuvered there, even in the foreign economic zones of Bulgaria and Romania, thus ignoring the sovereignty of neighboring countries freedom of navigation.

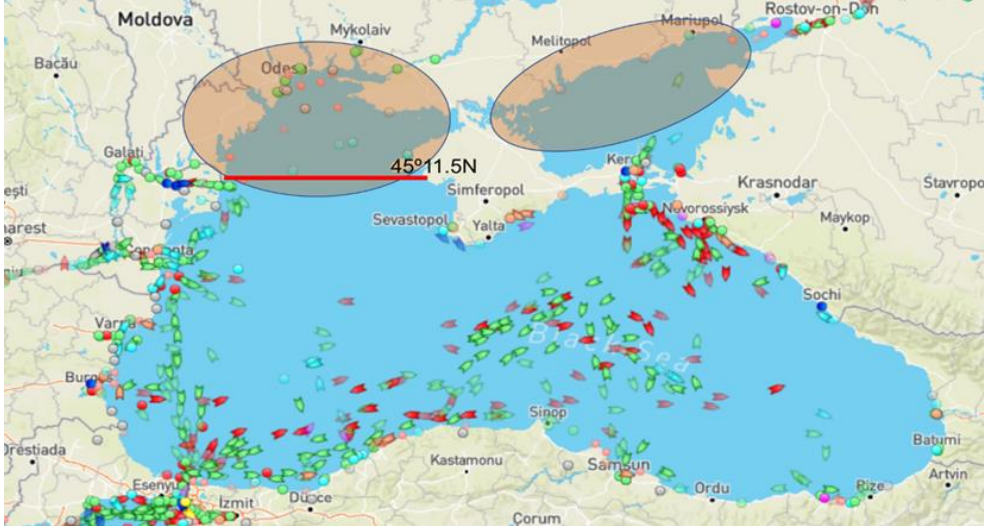


Figure no. 5. Naval traffic in the Black Sea area on Apr 20, 2022

Source: www.marinetraffic.com

As it could be noticed in figure no.5, commercial shipping towards the Ukrainian ports was reduced to zero after Feb 24, being declared officially through a NAVAREA III notice to

mariners (Armada Defensa 2022) a war risk area north of the 45°11.5N parallel (depicted with the red line).

Another factor that affects not only the Ukrainian port, but all the Black Sea commercial traffic and maritime lines of communication is the danger of mines. On March 19, 2022, Russia's Federal Security Service (FSB) issued a press release that stated the fact that about 420 mines had drifted into the Black Sea after breaking off from cables near Ukrainian ports. The mines supposedly were part of the Ukrainian mine fields, planted for the protection of their shores against Russian ships and landing operations, and because of the stormy weather, the cables connecting the mines to anchors broke and commenced drifting freely in the western part of the Black Sea, because of the wind and water currents. Ukrainian officials considered it as a complete disinformation from the Russian side, in order to justify the closure of maritime areas of the western Black Sea, under the danger of mines (Guy Faulconbridge 2022). In the following days, three mines were discovered by the Turkish and Romanian navies and their diving teams defused them (Stan 2022). Though, it is extremely difficult to demonstrate if these were mines coming from the Ukrainian fields, with their chains broken because of bad weather or some other intended external factors, or could have been planted adrift in the area by Russian forces, in order to disrupt the Black Sea commercial traffic in the western Black Sea and turn it into a no-go zone, as the Black Sea is a major shipping artery for grain, oil and oil products for the entire Europe.

Becoming officially a dangerous area, where ships are advised or even forbidden to sail, means most of the shipping companies would start by-passing it, choosing other routes, especially because insurance companies don't provide compensations for accidents occurred here. Since the first days of war, Russia had taken control of Ukraine's territorial waters and the north-western Black Sea. The Russian navy didn't allow access in and out of the Ukrainian ports of any merchant ship enforcing a blockade. Moreover, the alert level increased after Russian forces fired three Panamanian-flagged merchant ships (a ship was sunk by Russian missiles and two other ships were damaged) (Ziarul Unirea 2022).

The Black Sea is on the way to being transformed into a Russian lake just like the Sea of Azov, but the Black Sea area is also divided between several NATO member states: Romania, Bulgaria and Turkey. Probably, the best thing to be done could be a maritime exclusion zone in the Black Sea, because Russia has targeted international shipping.

Conclusions

In this article we analyzed the reasons why Snake Island is an important strategic area of the Black Sea, from Russia's point of view, and not only, regarding political, military and economic aspects.

Since ancient times it was a disputed area, all the major conqueror empires wanting to take it over, due to its strategic location, in that period mainly being the area where the Danube River naval traffic could be surveilled or even enforced. After the dismemberment of USSR, the island remained part of Ukraine and started being used as a military garrison, until the legal settlement with Romania, regarding parts of the exclusive economic zone around it.

Being at about a 40 km distance from the Romanian and NATO shores, the island became a focal point for the Russian political and military decision makers for a multitude of reasons.

First of all, because of the possibility of conducting an efficient sea denial of the north-western part of the Black Sea, and forbidding all of the Ukraine's sea routes, after already taking over their Crimean territory and controlling Kerch Strait, the only gate to and out of the Azov Sea. After the war started, Ukraine remained with no other way of maritime logistic transports military, humanitarian or any other kind.

Second of all, Snake Island provides the most suitable location for the surveillance of the western Black Sea area with surface and 3D radars (for air targets), and not only. Russian can easily deploy here ISR assets like air, surface or submarine drones unmanned vehicles, electronic warfare or SIGINT systems, and even missile mobile launching systems against air and ground targets. That means all of the Romanian/NATO assets could be tracked and classified straightforwardly.

The third aspect is the economical one. Enforcing north-western Black Sea area, declaring it a war zone and the existence of mine danger in the whole western part of the Black Sea, up to the Bosphorus Strait, affects not only the Ukrainian commercial traffic, but at an extent, the whole Black Sea navigation, because no naval transport company wants to jeopardize its ships, crews and cargo, so most likely they would reroute their vessels in safer areas. Taking all of the above into consideration, we can easily understand why Russian Black Sea Fleet took over Snake Island even since the first day of the Ukrainian conflict, and can give us an idea about how it could be used for their benefit on short, medium and long term.

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C5ISR-D – APPLICABILITY OF THE CONCEPT IN NAVAL FORCES

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Abstract: *C5ISR is an acronym that stands for command, control, communications, combat systems, intelligence, surveillance, and reconnaissance. It plays a vital role in both combat missions and military operations by supplying real-time information to military forces so that they can make the necessary decisions while they are engaged in combat. This article aims to analyze how C5ISR systems may be effectively integrated onboard maritime platforms such as ships or submarines, including shore-based command centers, in order to enhance mission effectiveness. Incorporating artificial intelligence into the decision-making process (D), planners will be provided with optimal solutions for establishing mission objectives and priorities, as well as the most effective means of achieving them. The first aspect that will be covered, is a description of C2 architecture, which is really the foundation for C4ISR, C5ISR, and even C6ISR. Following, we connected this essential debate into a summarization of the differences between the aforementioned systems, providing answers regarding their implications, meaning, and constant upgrading. Throughout this study, after a process of data collection and analysis, we will also enumerate some of the major players in the C5ISR Market and mention a few technical systems that are already present in the maritime operational environment.*

Keywords: *C5ISR; artificial intelligence; navy.*

Introduction

The main objective of this study is to raise awareness regarding the magnitude of command and control not only as a process but also as a system. Notwithstanding the importance and practicality of technology, we also want to emphasize the relevance of humans in operating the system while also understanding the operational environment by means of a C5ISR-D system of subsystems. Using historical research, we followed the backward trajectory of technological progress and focused on the expansion of C2 architecture and framework. Also, we think is appropriate to be acquainted with the market around the systems of interest i.e., C5ISR, and the competitors that are developing them, which we managed to achieve in this article through a process of data collection and analysis.

In the records of military history, the development and the deployment of troops are two facets of the same body, and they have frequently served as a model throughout the chronicles of military conflict. For instance, the discovery of gunpowder prompted a shift in the formation of infantry phalanxes and the strategy of defending fortifications. The development of breech guns, which had the advantage of a faster fire rate, caused the formation of skirmishers as opposed to linear formations. Also, the introduction of chariots resulted in revolutionary shifts on the battlefield and so on. Many times, technological advancements and innovations have served as a source of inspiration for military commanders and staff members in the art of military application.

When considering galley warfare in terms of naval tactics, raw power determined the outcome, and maneuvering a large number of small ships was quite similar to how it was done on land. When fighting using sails, a significant deal of firepower could be concentrated

in a single ship. The tactics, maneuvering formations, and signal flags were used to coordinate and direct the wind-restricted, slow-moving formations. Later, when it came to battleships, steam power granted the ability to maneuver in any direction, and the range of the powerful weaponry allowed the concentration of fire from the entire formation. Due to the fact that strategic decisions had to be made before it was feasible to see the adversary, scouting, i.e., surveillance and reconnaissance, became an increasingly vital component of the overall strategy. The need to exercise control across much wider distances increased the number of possibilities to exploit the instruments of control. Throughout the period of the aircraft carrier and into the age of the guided missile, the tactical significance of surveillance and reconnaissance, concealment of own forces, and command and control expanded rapidly. These aspects will require the same level of resources and effort as armament or combat systems in order to obtain strategic or tactical success in naval operations (Hughes 1999).

The experience of past conflicts demonstrates that it is much simpler to amass knowledge than it is to disseminate it at the appropriate time and place. In the past conflicts, information perished and paled in importance in a matter of days, but nowadays, on a digital battlefield, information is rendered futile and ineffective in a matter of hours.

In conventional warfare, understanding of the information environment is becoming increasingly important. Connecting and compiling the data from all the types of the environment including the electromagnetic field, cyberspace, and geospatial field, with the data from the adversary will increase the speed of the decision-making process, thus creating the opportunity to take initiative.

The transition from C2 to C4ISR, C5ISR, and C6ISR

The concept of commanding and controlling armed forces dates back to the earliest days of battle, and that incorporates the operational planning and achievement of tasks.

The term command denotes the exercise of authority, while control, refers to exercising authority over subordinates, both being characteristics of leadership, which are also referred to as C2 in colloquial terms. According to the Allied Joint Doctrine AJP 3, C2 represents to the "*exercise of authority and direction by a commander over assigned and attached forces to accomplish the mission*" (AJP 3 – Allied Joint Doctrine for the conduct of operations, Edition C 2019). Furthermore, C2 can be split into two distinct concepts in order to differentiate the equipment and procedures used to enable C2 (command and control system), from the decision-making processes that are carried out by the commanders directly (command and control process).

The C2 process can be divided into three primary categories (Uppal 2021): *Information management*, also known as the act of acquisition of current and accurate information with the purpose of providing it to the commander to utilize in the decision-making process; *Decision Management*, judgements issued by the commander issuing sustained by the collection of information available; *Execution Management* refers to the numerous methods/ways that a commander and the armed forces use to carry out activities in accordance with decisions taken. These categories also represent the OODA cycle (Luft 2020) meaning "*Observe and Orient*" which are sections that fall under the umbrella of information management, "*Decide*" function is, evidently, a component of the decision management area, and "*Act*" belongs to the execution management.

The C2 system is a collection of technologies and procedures that commanders and staff personnel use to inform and support the command-and-control processes that are carried out during operations. Some of the fundamental attributes of the system are: *reliability* - performing tasks under the conditions imposed for a given amount of time; *sustainably* - a high level of resilience, which can survive attacks from hostile forces across the full range of

armed conflict, *adaptability* – the system is capable of adjusting to situations that undergo rapid change and can be upgradable in accordance with the advances in technology, *responsiveness* – the system is capable of providing a prompt and correct response in order to support the leadership of the commander, *interoperability* – the system and subsystems of all branches of the armed forces can work together in an integrated manner to support joint or combined operations; *friendly interface*: the commander and staff members have convenient access to information that can be used, and is presented in a way that is clear and without ambiguity.

The primary goal of the C2 system is straightforward: to fulfill the requirements of the commander in order to enable that person to exercise effective leadership. Despite what some people may believe, the system's primary focus is not on technology but rather on a wide range of other factors and considerations. Thus, the C2 system is comprised of the following four primary variables (JP3-32 2021): *Facilities and equipment*, along with command-and-control centers, servers, and workstations that enable information flow throughout the system; *Communications*, satellite, and telecommunications, which, when added to C2 framework, forms C3 (command, control, and communications). Furthermore, when computers are added to the system, the previous designation of C3 is upgraded to C4, which stands for "command, control, communications, and computers."; *Personnel*, for example, staff members who contribute to the decision-making process of the commander, and guarantee that the system's components are functioning properly; *Procedures*, that help control information, decision, and execution management.

Due to the obvious progression of technology over the years, the C2 framework has been expanded to include additional disciplines, activities, and practices.

The process of acquiring essential information that leaders and commanders must have in order to successfully complete a mission is referred to as "intelligence". As a direct consequence of this, C3I and later on C4I commenced being utilized. Furthermore, ISR is an acronym that stands for "intelligence, surveillance, and reconnaissance" which refers to the processes that are applied in order to synthesize and compile the information that has been collected. The practice of keeping regular watch over specified parts of a situation is referred to as surveillance, whereas the practice of maintaining watch over certain happenings is known as reconnaissance. As a direct result, the collective name for these types of systems is now C4ISR systems. A command-and-control center that is configured with a network connection, servers, and workstations is an embodiment of a C4ISR system. Because of these components, the center is able to interface with nearby ground, naval, and air platforms in order to acquire data pertaining to the operating environment.

ISR (Intelligence, Surveillance, and Reconnaissance) is now one of the areas that are receiving the greatest current investment in military AI. It is anticipated that the capability of autonomously collecting information using drones, from sensors in the terrestrial or maritime domain, space, and even in cyberspace, would lead to a rise in the total amount of data being created. In addition, the quantity, intensity, and complexity of the data will need to be evaluated in part or its totality by AI-enhanced machines. Due to bandwidth limits that make it impractical to send such vast volumes of data, some of that analysis will have to be done on ISR systems that have been deployed in the operating environment. No matter where it is implemented, artificial intelligence will make it possible to generate far better intelligence from the vast amounts of ISR data that are gathered.

As mentioned before, the purpose of a C4ISR architecture is to provide the common operational picture of a battlefield, the operational environment of ships, forces at sea, land, or air, or it could be a catastrophe region, among other things. This enables the mission commanders to have a clear situational awareness, which enables them to make better decisions that will benefit them to accomplish their objectives. The capacity to have a

comprehensive and superior situational awareness of the operating environment guides the commander in making effective and timely decisions, which in turn assists in effectively controlling the situation through the use of advanced planning and optimal utilization of the resources that are presently accessible.

As more sensors are deployed, C4ISR networks will be required to process an ever-increasing volume of data. The warfare is shifting, and it is projected that a far greater proportion of it will be dependent on making on-scene rapid decisions. Nowadays, due to spatial and electronic communication the process of decision-making (D) needs to be even more rapid. The advent of artificial intelligence and the associated technologies are revolutionizing the capabilities of command and control, communications, computers, intelligence, and surveillance and reconnaissance. The way wars are planned and waged will be recalibrated by the rise of artificial intelligence. In order to effectively address more integrated, conventional, hybrid, and peacetime challenges, AI systems will be indispensable.

Cyberwarfare is also redefining the architecture of the battlefield. The number of sophisticated and artfully designed cyberattacks is on the rise. Within the next several years, the next generation of military conflict will contain, on the one hand, AI-enhanced more complex C4ISR and, on the other hand, the war will be fought between autonomous machines. According to this standpoint, the opposing forces will attempt to disrupt or disable our infrastructures and systems as well as our own autonomous entities. New cyber-attack strategies will be launched and autonomous intelligent malware (Theron and Kott 2019) (AIM) will play an important role in the new landscape. This is where the fifth C comes to upgrade the C4ISR to transition into C5ISR adding cyber-defense to the already crowded system.

In the event of a conflict with an opponent that is technologically advanced, military networks will be required to operate in an environment that is heavily contested. Given that some relevant Black Sea actors have adapted their maritime strategy and used misleading strategic intentions, the adaptation of countermeasures has become a desideratum of C4ISR to transition into C5ISR. One of the Black Sea actors *"has changed its modern warfare approach by developing a new doctrine which has been tested, step by step, in the last 40 years, culminating with Crimea's annexation as a masterpiece of deception and disinformation."* (Maxim and Scipanov 2021). Here the role of C5ISR gets its foundation. Hostile software will likely penetrate and attack friendly networks and systems. In the future operating environment, relying on human cyber-defenders to protect networks will be an unsustainable solution. Autonomous cyber defense, also known as ACyD (Theron and Kott 2019), is a comparatively new field of research and technology that is being driven by the defense industry in preparation for the possibility of future threats to military infrastructure systems and operations. Swarms of cyber defense agents that are autonomous and intelligent will be used to put an end to the threat posed by autonomous intelligent malware (AIM) within our networks and computer systems. In a setting in which there is a possibility that human intervention will not be possible due to disruptions in communication, it will be important to utilize artificially intelligent agents such as AICAs (Kott, et al. 2019) in order to remain effective in countering the adversary malware.

The construction of a comprehensive operational situation and the sharing of information through C5ISR-D architectures will provide commanders with the ability to make timely decisions. Data collected from operational forces deployed at sea, allied forces, and civilian agencies are incorporated into the C5ISR-D systems, generating resourceful intelligence that will provide commanders the ability to make timely decisions (D), while also disseminating useful necessary information such as plans, orders, or reports for the subordinate units.

Adding more equipment regarding combat systems, to the aforementioned framework C6ISR arises. An example of a C6ISR system could be a combat information center on board a warship. This center would have an internet connection, servers, workstations, and cyber defenses; all of these components would be used to assist a defense system such as the Aegis combat system (Uppal 2021).

If we were to differentiate C4ISR from C5ISR, we would point out that the second system has embedded a different kind of equipment, procedures, etc. which are linked with cyber defense. The next level of architecture would be C6ISR which adds a combat system to this array of functions. As new and developing technologies are incorporated into the C2 framework by the military, it is highly possible that we will continue to see variants of the acronyms that are linked with it. Admittedly, the C2 system needs to be adjustable to evolving changes in order for it to be upgradable with technological improvements that are generally acknowledged forefront of innovation.

Some of the functions that a C5ISR/C6ISR systems provide for naval forces are: *understanding of the operational environment – situational awareness* by providing a clear and comprehensive picture of the current state of the area of interest in real-time, using multiple sources of information (radar, optical, visual, etc.) and formats are available on a web-based platform; *information dominance* – intelligence through constant gathering and sorting the information for decision-making process throughout the operation, target management, enemy analysis; *strategic and operational planning*, the system provides authorization tools, generates the order of battle, timing all actions, etc.; *deployment*, all task units will receive mission tasks; *monitoring and assessment*, in real-time, other systems that will support information protection, encrypted communication services, etc.

In the context of military operations, "situational awareness" refers to the capability of decision-makers to process, recognize, and analyze crucial systems of information pertaining to the operational environment. Military personnel from air, ground and maritime systems will have access to real-time databases due to the improvement of technology, enabling more possibilities. When it comes to decision-making in any military action, having secure network routers, high bandwidth sensor processing, and video management systems are all extremely important components. These systems help increase the effectiveness of the overall decision-making process in military operations by presenting, handling, storing, and transmitting essential mission information. Therefore, C5ISR systems contribute to the generation of real-time data, which makes it possible to maximize any warship's effectiveness throughout any mission.

Individual navy warships of any class can be equipped or connected to the C5ISR system. Submarines, frigates, aircraft carriers, battleships, and unmanned vehicles can each be outfitted with these systems to enhance their respective roles. Unmanned maritime platforms connected to the system and able to transmit intelligent video analytics will provide over-the-horizon (OTH) mapping and targeting, therefore expanding the fleet's line of sight in all directions. The Royal Navy of the United Kingdom intends to install AI systems on its ships to better identify threats and analyze warfare scenarios. "STARTLE" machine situational awareness software from Roke Manor Research (Roke) complements existing detection systems aboard ships and delivers data-driven decisions using information obtained from those sensors. Intelligent systems powered by AI will alert other systems to possible threats, and then retransmitted to a human authority, moreover, *“these systems will recognize behavior patterns, run multi-agent-based simulations with deep learning techniques, and allow end-users to improve their Maritime Domain Awareness for rapid tasking, detecting, and tracking of non-cooperative vessels”* (Mukherjee 2018).

In recent years it has become vital to building a common operational picture in order to raise situational awareness. This can only be accomplished through the accurate and real-time

flow and sharing of data inside a C4ISR or C5/C6ISR architecture across all relevant systems in all military branches and other multinational systems.

Market of C5ISR

In 2020, the size of the worldwide C5ISR Market was estimated to be \$120.3 billion, according to the meticulous study made by Research and Markets (Global C5ISR System Market 2019). Also, the findings of the study, suggest that the global market displayed an outstanding increase of 2.47 percent in 2020 in comparison to the average growth from one year to the next over the period 2017 to 2019. It is anticipated that the market would expand from a current value of 123.63 billion USD in 2021 to 152.51 billion USD in 2028, and prospects for market expansion would present themselves as a result of the increased need for space-based systems and artificial intelligence in C5ISR systems for a military operation.

The key findings of the study can be evaluated as having both positive and negative aspects regarding the way warfare is conducted today. So, even though the C5ISR system made the contemporary warfare easier to perform, there will be a considerable financial investment necessary for the design, development, and implementation of these technologies and as a result, the expansion of the market could be restricted and it will be necessary to combine several different command-and-control systems, air defense systems, ISR systems, and other types of systems. Developing, launching, and maintaining these high-tech systems all come at a very high financial cost. In addition, the length of time and amount of money necessary for the development and implementation of this system serve as a barrier to the expansion of the market in every region of the world. The ever-growing demand for artificial intelligence in the military can be considered both an opportunity and a challenge in developing C5ISR (C6ISR) systems, combined with the reality that the development and maintenance of such systems will be highly expensive.

The competitive landscape of the market illustrates the prominence of many competitors, including BAE Systems, the Thales Group, Northrop Grumman Corporation, and Lockheed Martin Corporation, L3Harris, amongst others. These firms can be linked to a number of factors, the most significant of which include a varied product range, increased investment in research and development, and strategic acquisitions. Currently, BAE Systems has been granted a \$137 million contract for lifecycle management and sustainment by the US Department of Defense, for C5ISR systems in US naval forces (Naval Technology 2022). In the meantime, over the course of the past twenty years, *“the system developers at Advanced Ground Information Systems (AGIS) have been successful in designing, developing, and delivering a Worldwide International C5ISR”* (PR WIRE India 2022) system for the military of NATO, the United States of America, and Australia.

Conclusion

The lessons learned from history have demonstrated that having efficient communication and information sharing mechanisms is just as vital as having a sound strategy and well-planned operations. The strategic importance of situational awareness has increased dramatically in recent years mostly due to the rapid progress in technologies. Big data ISR processing, advanced decision support systems (D), robotic combat vehicles in all domains, and autonomous weapons are already viable.

According to the Romanian Military Strategy (Strategia Nationala a Romaniei 2021) and Romanian Defense White Paper (Carta Alba a Apararii 2021) from 2021 one of the main national lines of effort, in the military domain, is the operationalization of the C4ISR on a tactical, operational, and strategic level. Also, when it comes to combat missions and military operations, C5ISR-D plays a crucial role by delivering real-time information to military forces so that they would make necessary decisions on the battlefield. Designing for modernization and completing

an interoperability evaluation for C5ISR both demand meticulous planning, an excellent awareness of the processes involved, and mutual engagement amongst a diverse range of stakeholders and technical fields. The construction of a comprehensive picture of the operational situation and the sharing of operational information through C5ISR-D architectures will provide commanders with the ability to make timely decisions.

Acknowledging the fact that, at the birth of algorithmic war, we must take advantage of information technology in order to enable the exchange of data between departments, different military branches, allied nations, regional allies, etc., we also have to keep in mind the potential threats of prioritizing the technology over human superior cognitive function, their creativity, agility, and social interactions. Technology can sometimes facilitate deeper integration and decision-making, while it can also overcrowd and disrupt C2.

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TARGETING IMPLICATION IN A JOINT FORCE OPERATION FOR NATIONAL DEFENSE

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***Abstract:** In this paper I wanted to highlight the importance of the targeting process in planning and conducting an eventual joint force operation for the purpose of armed national defense. Even though Romania is an active member of the North Atlantic Treaty Organization (NATO), for national defense purposes Romanian armed forces must be capable to plan and conduct operations with existent armed structures until allied forces would intervene in case of an armed aggression under article 5 specifications. Having participated with forces and structures in various multinational operations and exercises alongside current national contributions under NATO partnership, Romanian armed forces continuously improve their level of training and over time implemented in our standing doctrines and field manuals many of our partner's procedures. One such procedure is the target management process. National joint force headquarters including those functioning at component and division levels should permanently consider, plan and conduct target management training for responsible personnel, especially with those working in information and operation modules, as they will be part of targeting working committees, groups or cells that activate at their respective structures both in peacetime or combat operations. One other significant factor influencing the target management process in a national defense operation is the application of Laws of Armed Conflict and rules of engagement in an eventual armed aggression.*

***Keywords:** targeting process; joint targeting cycle; joint force operation.*

Analyzing recent confrontations from the past century, we can observe that the target management process appeared as a concept at the same time with the air power concept. Air power generated at the end of World War I, new target engagement possibilities and it also gave new meanings to basic military actions. Limited resources available and the desire to exploit new technologies determined higher challenges in selecting and engaging objectives with air forces. Subsequently, requirements for accurate determination of objective location increased in volume and importance. All of these considerations lead to creation of specialized reconnaissance squadrons with the mission to search and detect targets for strategic bombing purposes. The new method for using available air forces ultimately led to formation of mixed civilian military teams that interconnected reconnaissance, intelligence and planning. A new operational process was created - the target management process.

The targeting process is in a continuous evolution and it is correlated with recent discoveries and applications in military domain. Targeting has an essential role in managing limited resources for an operation while also mitigating futile loss of life or collateral damage generated through target engagement. Fighting enemy structures and capabilities from greater distances nowadays has a multidimensional character, requires precise information regarding enemy systems and relies on a just target and effect determination process which will ultimately destabilize and paralyze the enemy. The main purpose of joint targeting process is to generate, in a systematic manner, specific required effects that will enable mission success as fast as possible with minimal resources. Joint targeting process secures an integrated and optimized exploitation of joint force capabilities through its specific cycle and described methodologies applicable to every joint force component.

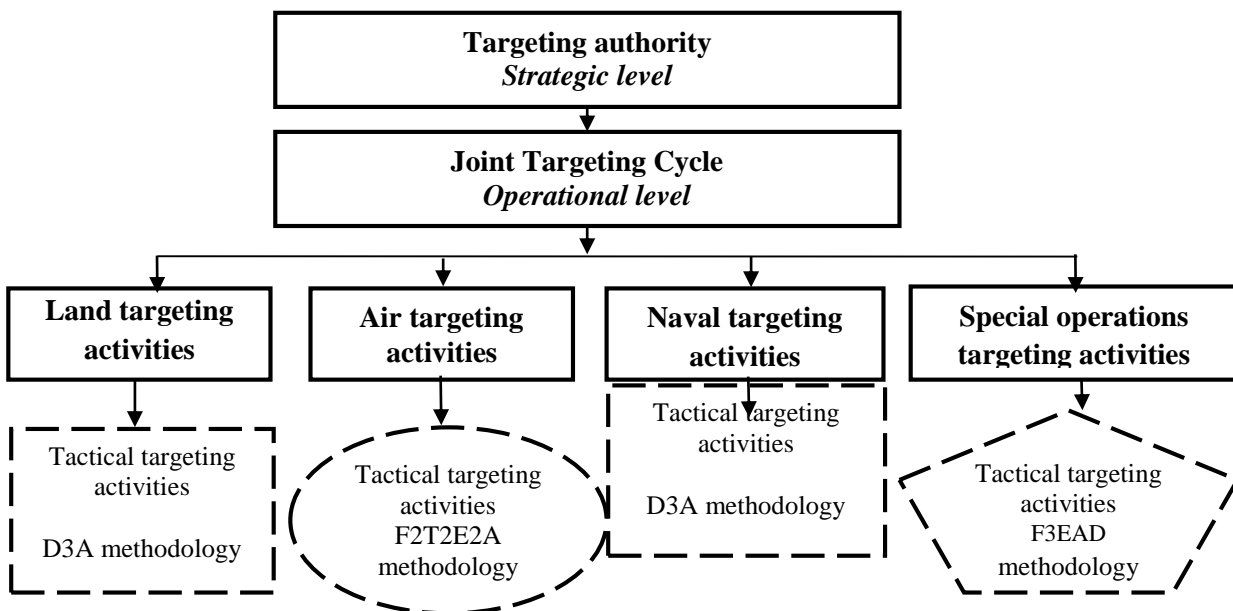
Objective determination and target selection alongside battle damage and effect assessment, are standard processes conducted during both conventional confrontations and crisis situations. Through target management a determined objective directs collecting target data and information in order to disseminate specific intelligence products used by target engagement

systems to generate desired effects. Ultimately, target management end state is about obtaining the planned effect and determining the opponent to give up fighting. (Stanciu 2016, 85)

1. The joint targeting process at the operational level of operations

A joint force operation with a national defense purpose is planned and conducted at the operational level. In NATO terminology “*The operational level is: the level at which campaigns and major operations are planned, conducted and sustained to achieve strategic objectives within theatres or areas of operations*”. (NATO Term – NATO Agreed) The operational level of operations is meant to link objectives established at the strategic level with tactical actions and activities. The operational level exploits tactical success over enemy forces and capabilities to create necessary conditions and desired effects for achieving strategic objectives or attaining the envisioned end state. These are made possible by proper understanding of operational environment and joint force objectives which lead to an effective application of combat power using instruments like the joint targeting process, to generate favorable results.

The targeting process is described in NATO fire support doctrine as a command responsibility requiring staff implication under the commander’s direct supervision. The commander directs his subordinate staff by providing targeting purpose, targeting priorities and by determining the level of effort responsible personnel commits to the target management process for the ongoing operation (NATO 2015, 1-4). In a joint force operation some components may conduct their own targeting process like the Land Targeting Process, the Air Targeting Process or the specific targeting process used by special operations forces, but they are all driven by the Joint Targeting Cycle because joint capabilities are involved. Target management process at the joint force level will include resources and capabilities from one or more force components in accordance with the general concept of operation. At joint force component level tactical actions and activities enable component commanders to comply and contribute to the joint targeting process.



Legend:

D3A – Decide, detect, deliver, assess

F2T2E2A - find, fix, track, target, engage, exploit and assess

F3EAD – Find, fix, finish, exploit, analyze, disseminate

Figure no. 1. The joint targeting process

The targeting process consists in selecting and prioritizing targets and, subsequently, associating specific engagement or striking systems, in accordance with commander's objectives, operational requirements, existing or available capabilities and limitations. Targeting is not a substitution for the planning process in an operation, it stands as a component element as it is a staff activity at every operational level and in every type of operation. The targeting process is conducted throughout the entire planning process and it offers a logical instrument to connect commander's objectives and desired end state with specific planning, execution and assessment of effects for friendly force actions and activities.

From another perspective *"The joint targeting cycle is a command function at both the operational and component level and assists with:*

- *determining the effects necessary to achieve the commander's objectives;*
- *identifying the actions necessary to create them based on the means available;*
- *selecting and prioritizing targets;*
- *synchronizing capabilities; and then*
- *assessing their cumulative effectiveness, taking remedial action if necessary."*

(NATO 2016, 1-1)

The main effort of targeting is identifying important resources for the enemy (targets) and their vulnerable components that can and should be engaged in order to achieve established objectives. The targeting process provides a logical connection between intelligence, plans and operations at every force structure level. Targeting purpose consists in integrating and synchronizing joint fires upon designated targets to generate specific lethal and nonlethal effects with available striking systems.

In a more general approach associating targeting process with target effects usually implies lethal actions and is perceived as the responsibility of fire support specialists. This is not the case as the target management process is the responsibility of the entire joint force staff under direct supervision and coordination of the commander because an efficient targeting process consists in engaging the most suitable targets, at the right time and using the right lethal or nonlethal systems to generate desired effects meeting operational requirements. From another perspective, the target management process coherently and constructively integrates maneuver elements actions with available informational and fire support systems in order to exploit joint force capabilities for optimal target related intelligence and target engagement.

2. Targeting implication in a national defense operation

The Supreme Council of National Defence is the highest targeting authority that is responsible with issuing national targeting guidance for a joint force operation. It approves target sets, time sensitive target list, restricted target list and other targeting products that a strategic commander submits and subsequently enforces on the joint force commander. One important responsibility relevant for a national defense operation is the creation of target related materials including target system analysis that probably fall under subordinate intelligence structures or other specialized structures specific tasks with a need-to-know directive. Accurate and detailed target related dossiers needed for conducting effective joint targeting process are created in advance during peacetime under strategic, political and NATO guidance. Existing national force structures can and should contribute to target material development as they will ultimately use them in multinational exercises and in an eventual joint force operation for national defense.

The strategic operation plan contains besides clear objectives, general intent and military operation guidelines, targeting related products in the form of target materials, approved target sets including time sensitive targets that the joint force commander is

authorized to engage. Strategic level target system analysis and target audience analysis products are also transmitted through the strategic operation plan. The targeting process in a joint force operation for national defense is issued under political and strategic guidance through the strategic operation plan that will initiate the six phases of the joint targeting cycle as shown below.

In accordance with NATO Joint targeting doctrine, our national Joint targeting doctrine (SMG 2016, 10) describes the Joint targeting cycle as a command function valid for every operational level that consists of determining required effects for achieving joint force commander`s objectives, identifying necessary actions to generate those effects with available resources and capabilities while considering target priorities, lethal and nonlethal engagement synchronization and thorough assessment of effectiveness for subsequent actions.

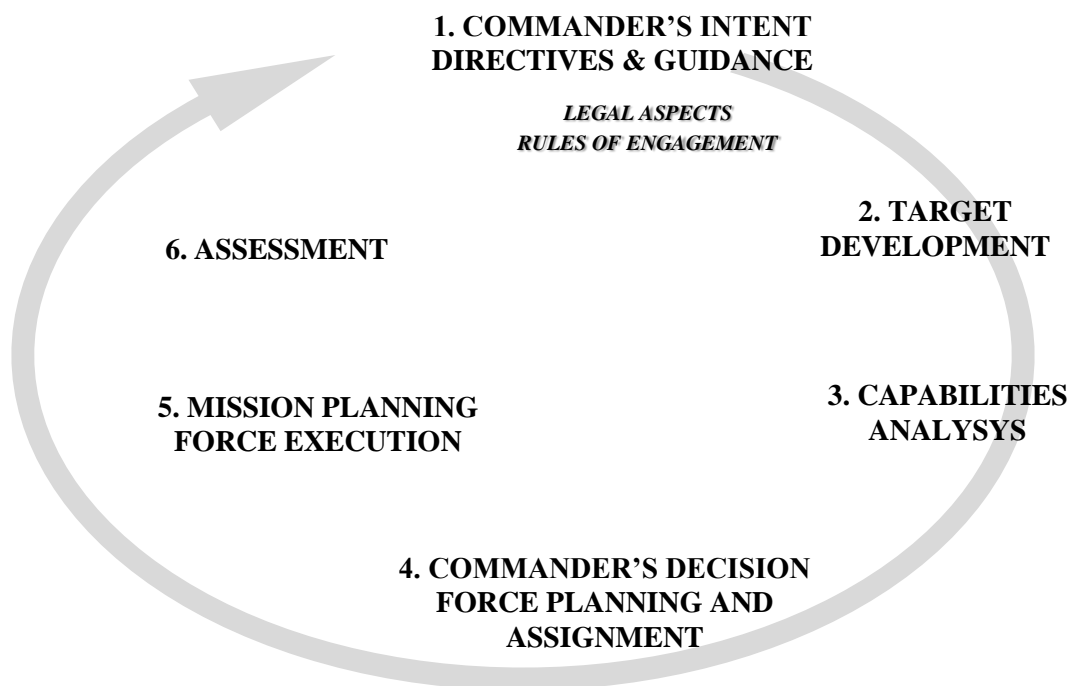


Figure no. 2. The joint targeting cycle

Target management cycle provides a joint force staff a useful methodology to develop, plan, execute and assess target engagement using available capabilities. Target management process determine coordinated steps for mitigation or elimination of unwanted effects, collateral casualties or damages in using target engagement systems. It also ensures maximal efficiency of military actions while applying well-known warfighting principles like mass, maneuver or economy of effort.

Target management process in a joint force operation for national defense purposes is designed to link directives and guidance from the highest strategic level with concrete tactical level activities within the targeting cycle in such a way to generate required effects for completing military objectives and attaining desired end states. Repelling an eventual aggressor implies engaging a multitude of enemy targets using available intelligence system, target acquisition and striking capabilities. By using a coherent target management process, the joint force staff and commander can evaluate the advantages and disadvantages of striking enemy targets in order to best answer questions like what, where, when or why (for what purpose or benefits) a target should be engaged for their concrete contribution to achieving joint force objectives or desired end state. A major purpose of conducting targeting at the joint

force level is to provide, for the ongoing operation, a logical and systematic methodology to deprive the enemy of his valuable combat capabilities and, thus, setting favorable conditions for friendly forces mission success. One of the most sensible problems posed to a joint force operation on national territory is eliminating or diminishing unwanted collateral casualties and damages that could hinder friendly forces operational progress and overall success of the defensive mission. Collateral casualties and damages occur when unintended noncombatant casualties and unwanted physical destruction of material are generated when a specific target is engaged.

Conducting a defensive operation that involves fighting within national boundaries is usually guided by preapproved or authorized levels of collateral casualty and damage, but, ultimately, it comes to the joint force commander to decide what collateral would be acceptable for him and his force structures, when engaging a valid military target and also if, the resulting gains or advantages, are worth the risk of provoking collateral casualties or damages.

One other important consideration when conducting joint force operations on national territory is the application of national and international law. Even though a lawful action can be performed to engage a target while considering standing Law of Armed Conflict and Rules of Engagement specified by higher echelons, the joint force commander and his subordinate commanders must determine if those specific lethal or nonlethal actions or a fully committed decisive use of force is the most suitable course of action in specific conditions that describe national defense operations. The legal advisors a joint force commander has in his staff fulfills an important part by providing specialized feedback for target prosecuting and target management products in order to validate operational actions that comply with national and international legal norms. Prosecuting targets on national territory through a joint targeting process is influenced by extensive legal considerations and general Law of Armed Conflict enforcement. Joint force operations are by nature very complex as the joint force staff is expected to manage at the same time combat actions in one area, humanitarian activities or stability tasks in other parts of the joint area of operations. Every action and activity of the joint force structures has specific legal implications in relation to the general context where it occurs. From a national defense point of view considering target engagement benefits versus collateral risks or establishing a clear distinction between military and civilian objectives, are of great importance for the joint force commander. From another perspective complex legal issues occur if we consider preemptive strikes or applying combat power on enemy forces that operate outside our national boundaries when international laws or specific rules of engagement must be considered. NATO and national target management doctrines highlight the great responsibility that target management personnel have in deciding necessary actions under concrete combat environment circumstances. As targeting doctrines highlight there is no excuse for unlawful target management due to negligence, recklessness and voluntary mishaps or blindness of responsible targeting staff at any level of command.

Considering targets nature and their specific action, the joint targeting process is conducted using two basic methods: deliberate targeting and dynamic targeting.

Deliberate targeting is the utilized method for engaging planned targets that are present or known to be in a joint area of operations, using lethal and/or nonlethal means in accordance with the concept of operations. Target engagement usually occurs upon a preplanned schedule or under specific situational development that requires it. This targeting method usually rely on certain or predictable target data and information regarding their characteristics or strike related parameters, and it is accomplished by matching assigned resources and capabilities available to the joint force commander for the given operation. Targets that fall under this method are *planned* targets – to be engaged at a specific planned

moment in space and time, or *on call* – the exact moment of engagement is not established as it depends on concrete operational development.

Considering this specific targeting method in a national defense joint force operation some plausible target data and information can be procured or produced from peacetime. Conducting a coherent target management process while fighting within national boundaries should rely, when possible, on previously determined target characteristics like physical details and functionality of critical infrastructure elements or general terrain and weather characteristics that apply to Romania.

Dynamic targeting is the method used to engage existent targets in a joint area of operations that were not previously selected or precisely determined as targets for specific actions directed against them as deliberate targeting method required it. The dynamic targeting method also applies to those targets that are unexpected or meet prosecuting conditions or criteria during operational development. Using this targeting method implies directing resources to complete target development and validation while, also, assigning available striking assets to perform effective engagement.

One interesting approach on these targeting methods is presented in Joint Targeting, Joint Publication 3-60, 2013 edition where “*Timing is the primary factor that determines whether deliberate or dynamic targeting will support the joint force commander’s targeting requirements.*” (Joint Chiefs of Staff 2013, II-2)

Deliberate targeting supports future operations and future plans concentrating targeting efforts on the next phases of operations within a 24 to 72 hours’ time frame. Dynamic targeting usually supports current operations planning due to its required immediate application, usually within the next 24-hour time frame.

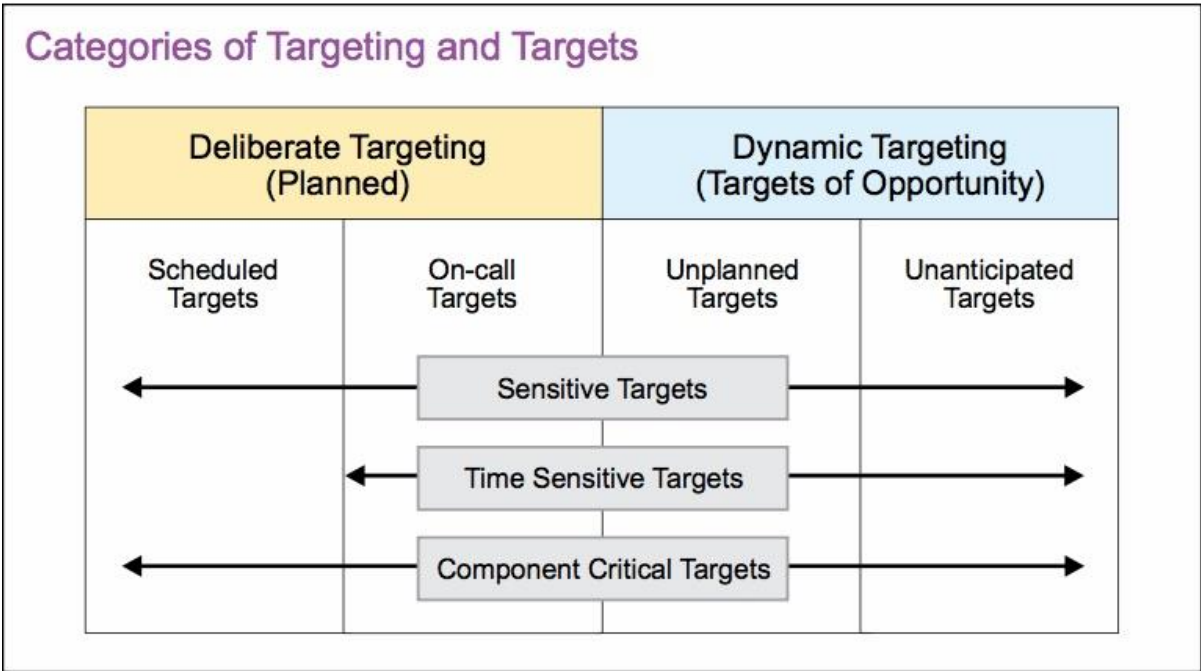


Figure no. 3. Categories of targeting and targets
Source: Joint Publication 3-60, Joint Targeting, 2013, p. II-2

Considering multinational NATO entities in Romania like the recently created Headquarters Multinational Corps South-East (HQ MNC-SE) that was added to existent Multinational Division (HQ MND-SE) and Brigade headquarters (HQ MNBDE-SE) we have the general context to implement and exercise with NATO partners every aspect regarding the targeting process up to corps level and below. A Romanian joint force commander conducting

operations for national defense purposes can benefit from previously gained expertise of his staff members and, also, at the time will benefit from a coherent targeting doctrine and procedures that secures interoperability with allied forces if operations under article 5 emerge. Proper trained staff members in institutionalized targeting classes that practice and exercise targeting doctrines and procedures, preferably within a multinational training setup, should be the norm for every level of command, especially operational and tactical as force structures conduct their own target management process. (SMFT 2019, II-10)

Conclusions

Confrontational environment characteristics are specific to current informational era and, alongside technological progress we see implemented at target engagement systems level, determine an increasing number of options that a joint force commander has at his disposal to generate required effects to complete assigned objectives. Implementing a coherent targeting process during operations and campaign considers aspects like an increasing number of existing precision weapons, ranging from cheap to very expensive, obtaining high credibility information from a multitude of sources and also artificial intelligence presence in target acquisition, validation or target engagement systems. From a national perspective, when compared to allied and modern armies, the target management process conducted in a joint force operation has some limitations regarding its application and specific methodology. These limitations come from our current armed forces organization as we are undergoing several national programs to better equip force structures with modern target acquisition and target engagement capabilities like those provided by M142 HIMARS (High Mobility Artillery Rocket System) or MIM-104 PATRIOT systems.

Implementing in our standing doctrines and field manuals procedures described in NATO and other allied army's specific doctrines on joint targeting process, provides a comprehensive procedural and regulatory framework to plan and conduct military operations with national force structures. Multinational headquarters created in recent years in Romania offer the possibility to implement these doctrines, to form and train specialized staff officers that can cover the joint targeting process and practice specific methodology during various exercises and other major training events. Therefore, an applied training is ensured for every organic joint targeting responsible staff member.

In my opinion, proper training for active and future targeting staff officers requires completion of dedicated institutionalized classes like those currently held in Oberammergau NATO School. These trained personnel will activate, in case of aggression, at every level of operation especially within a joint force or subsequent component headquarters. When considering Romanian armed forces operating in an eventual national defense operation it should be the concern of our active joint force headquarters to plan and conduct joint targeting training for every active or future responsible personnel. Also, national joint force components and divisions should consider, plan and conduct target management training for personnel within information and operation modules, including sending them to specified institutionalized classes. They will be part of targeting working committees, groups or cells that activate at their respective structures in peacetime or combat operations. According to our standing joint targeting doctrine working groups and cells are standard for planning and conducting specific targeting activities at headquarter levels. These entities must be activated and trained in dedicated exercises in order to consolidate specific information cycle and existing relationships with higher and subordinate echelons or with similar structures.

One other conclusion is about the need to create dedicated data bases that a joint targeting process will eventually utilize in a national defense operation. Active force structures should be involved in creating data bases by generating studies and specific

intelligence products containing data and information about national administrative, economical or cultural objectives, communication, terrain or other relevant characteristics regarding their current areas of responsibility. This is also a valid requirement for every structure possible area of responsibility or operation in case of external armed aggression on our national territory.

From a legal point of view, a national defense operation must be conducted under clear domestic and international rule of law. Considering the fact that some neighboring countries are NATO allies while others aren't, all legal aspects of a joint force operations on national territory should be covered no matter the origin of an eventual foreign aggression. Conducting a target management process that can and should prosecute eligible targets outside Romanian borders, respecting domestic and international laws, the laws of armed conflict and rules of engagement applicable to the entire joint area of influence will ultimately support mission success and our national defense cause.

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ROMANIAN ARMY'S JOINT FIRE SUPPORT APPROACH AND ITS IMPLICATIONS IN CONDUCTING MILITARY OPERATIONS

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***Abstract:** In this paper I wanted to highlight those characteristic elements regarding the joint fire support concept as they are presented and detailed in our standing national doctrine and field manuals. From a national point of view, joint fire support is described as being the use of specific fire support platforms – land, maritime or aerial – that have the ability to execute indirect fire to generate planned effects on ground targets in direct support for land force operations. This is somewhat a limited perspective that comes, in my opinion, from our current level of equipment with modern fire support systems. The increasing need for modernizing armed forces capabilities and for implementing ongoing and future army equipment programs determine from a conceptual and a doctrinal point of view an adaptation regarding how these new structures and capabilities can best contribute to military operation's success. Equipping the Romanian Army with modern systems designed to engage targets from distant standoff positions offers new possibilities for the joint fire support system, possibilities that require a new level of integration and synchronization for activities and actions that specialized armed structures, existing at the component level or attached from higher, need to execute in order to properly engage and exploit these fire support capabilities.*

***Keywords:** joint fire support; joint force operation; combat operations; effects.*

Fire support in a military operation consists in using weapons and other specific means to engage targets in order to generate a certain lethal or nonlethal effect on them. At the joint level of operations target engaging systems include conventional weapons that use direct or indirect fire and specialized equipment used in psychological operations, cyber-attacks and electronic warfare. Like in every modern army, Romanian armed forces consider fire support as being essential in an operation and it is currently determined as a warfighting function. This means that the fire support function is an instrument for grouping tasks and responsibilities of armed forces structures in a way that enables efficient applying of combat power on adversary forces and capabilities.

The joint fire support is a constant concern for the joint force staff when developing and conducting specific operational processes. Joint fire support opportunity and effectiveness are among a force commander's priorities, at every level of operation, especially during planning, execution and evaluation of operations. Joint fire support opportunity depends on the specific method used for coordinating force structures or supported elements (maneuver units) with specialized supporting elements that provide fire support in order to achieve established objectives in accordance with the concept of operation.

Fire support with air defense, information and engineer structures, alongside other specialized structures represent essential combat support elements that every commander considers during every stage of the operation. They all have a key role in providing continuous operational support to fighting units through the command and control system and through established supporting relations between structures for conducting the operation.

1. General aspects of joint fire support from a national perspective

In accordance with standing national field manuals, fire support means the use of fire to engage targets while close coordinating with maneuver or fighting structures in order to fix, neutralize or destroy enemy forces and capabilities (SMFT 2020, II-14). The purpose of

providing fire support at the joint level of operations exceeds those lethal and nonlethal effects to fix, neutralize and destroy presented above, as it is considered and included in informational operations, for enemy deception and also takes part in psychological operations when considering certain targets.

Providing fire support and engaging targets to generate effects on enemy combat power is planned and conducted in close relation with the movement of friendly structures and entities thus creating maneuver. In our previously mentioned field manual for general tactics maneuver is described as using forces in combat by combining movement with fire support in order to secure advantageous positions or conditions in relation to the enemy that will enable efficient engagement of enemy forces. Planned and generated effects using the joint fire support system are possible or attainable from a physical, psychological, functional or systemic perspective but, in order to exploit them, integrated and synchronized activities, responsibilities and actions are needed, especially maneuver and joint fires.

Romanian Army concept of joint fire support in a military action involves land, maritime, riverine and aerial platforms that have the capability to engage targets and to generate physical, psychological or functional effects. These effects must be exploited by maneuver elements, components of the joint force. (SMFT 2018, I-5) Joint fire support is described as being the use of specialized platforms – land, naval or airborne – that have the ability to execute indirect fire and to generate planned or desired effects on ground targets, in direct support for land operations.

Every component of the joint force can contribute to providing joint fire support. The multitude of specialized capabilities the joint force commander has available to execute joint fire support should be seen as complementary when planning and conducting operations, as, these diverse specialized structures and systems, offer flexibility for the commander in applying combat power to enemy forces, systems or capabilities. Complex and diverse joint fire support systems available to the joint force commander and to his subordinate commanders are essential aspects to consider when developing options to identify and to exploit enemy vulnerabilities.

In a joint operation effective fire support rely on an integrated and synchronized use of specific systems to detect and engage enemy targets in order to generate desired lethal and/or nonlethal effects, and also to evaluate the impact of these effects on the ongoing operations. Joint fire support must be integrated and synchronized with activities and actions that are specific for special destination structures or entities such as special operation forces, forces and equipment involved in informational operations, psychological operations and electronic warfare. The multitude of capabilities for command and control, target information, acquisition and engagement are used and exploited with unity of concept to generate lethal and nonlethal effects in every domain of confrontation. Furthermore, consistent discoveries in informational technology domain that facilitate intelligence products through satellite or aerial platforms and high precision weapon guiding systems, have ultimately changed the physiognomy of armed confrontations. (Stanciu 2016, 13)

Integrated and synchronized action of available joint fire elements are key to mission accomplishment for the providing component that has specialized fire support capabilities and, at the same time, for the joint force as a whole. Fire support integration translates as optimal exploitation of available fire systems to complete established missions or objectives for components and for the joint force as a whole. On the other hand, fire support synchronization represents target engagement in a prioritized, simultaneous or successive manner, in accordance with operational requirements for generating planned effects. These aspects are also valid for every joint force component and other tactical level structures. (SMFT 2019, III-33)

Joint fire support is integrated and synchronized through a specific structure, a comity existent in a joint force headquarters, called *Fire support coordination element*. (SMFT 2018, I-1) This entity is responsible for planning, preparing, executing, evaluating, integrating, synchronizing and coordinating actions and activities required for providing effective fire support and for generating desired effects. The fire support coordination element also has responsibilities in target management domain thus being able to integrate and synchronize actions and activities for component elements of the fire support system in order to generate planned effects on designated targets.

Fire support in land force operations manual states that the fire support coordination element is a designated structure within the force headquarters that is responsible with fire support planning, execution and evaluation in an integrated, synchronized and coordinated manner in order to generate effects. This fire support coordination element established at the joint level considers specific actions and activities that are planned and executed by the fire support system component elements – those structures and entities designed for providing relevant target data and information or for engaging/striking targets – available at the component level of the joint force.

At the joint level of operations planned lethal and nonlethal effects can be required at any desired time in the entire area of operations, whether it is in close contact with the enemy, behind enemy lines in the deep or further back in rear sectors of the joint area of operation. Also, of great importance, is that, in modern operations, simultaneous actions and activities are the norm as a joint force commander can conduct specific armed combat operations in one area and stability or support operation in another, within the same joint area of operations that was previously assigned to him.

2. Fire support system components and desired or planned effects

The efficiency of joint fire support comes from the ability of the joint force commander to coordinate and to concentrate activities and actions for the specialized fire support structures in an integrated and synchronized manner with maneuver structures, in accordance with the concept of operation.

2.1. Fire support system components

In accordance with our standing fire support in land force operations manual, the fire support system has four main components: the command, control and intelligence system, a data and information acquiring system, the target engagement or striking system and a sustainment system.

The command, control and intelligence system consists of specialized personnel and equipment within the command posts that plan, conduct and assess fire support components, specific activities and actions. The joint fire support coordination element or the joint fire element is the main structure that integrates and synchronizes joint fire planning and execution as directed by the joint force commander.

The second component data and information acquiring system, includes personnel and equipment required for providing necessary meteorological, geographic or other data and information for effective target detection, engagement and assessment purposes. In this category we can find every type of sensor like forward observers, artillery radars, aerial unmanned vehicles, acoustic weapon locators, etc. The data and information acquiring system is essential in creating the common operational picture and in providing relevant intelligence, surveillance and reconnaissance products.

The target engagement or striking system include specialized means for striking and generating lethal or nonlethal effects on designated targets. In this category we can find

weapon systems and platforms at every joint force component level – air, naval, land – alongside other special destination elements or structures available for the operation. The aerial component of the joint force contributes to joint fire support mainly with weapons and platforms that can provide close air support and air interdiction. These aerial weapons and platforms are manned or unmanned multipurpose airplanes and helicopters carrying various weapons and rockets. Joint force naval component provides fire support from riverine and maritime platforms carrying rockets, artillery or other target engagement systems. Special destination structures or elements from the joint force also contribute to the joint fire support with special operation forces, electronic attack structures and equipment or through informational, psychological and civilian-military cooperation operations. The multitude and complexity of effects planned or desired at the joint level can sometimes require exploiting other entities and capabilities existent in the joint area of operations for intelligence or striking purposes.

The sustainment system includes logistic support units available at every force component, logistic bases and other specialized entities existent in the joint area of operations that provide necessary logistic support for reaching established force objectives.

2.2. Joint fire support effects

Joint fire support in a joint force operation comes as a result of going through several stages: deciding upon target engagement for generating planned effects, fire support system elements maneuver for detection and engagement purposes, actual target detection and efficient engagement with required weapons and ammunitions in order to generate desired or planned effects.

Lethal effects of joint fire support are generated by using kinetic actions through ammunitions fired or launched by land weapon systems (field artillery, antiaircraft artillery, etc.), naval weapon systems (artillery, rockets, etc.) and airborne weapon systems.

Nonlethal effects of joint fire support are generated by both kinetic and non-kinetic actions of electronic attack systems, through psychological and deceiving operations and also by using special destination ammunitions like smoke or illumination rounds.

From another perspective desired effects for joint fire support systems can be classified by type in physical, functional, psychological and systemic effects. Physical effects are produced by conducting military actions with direct impact on the engaged target activities. On the other hand, functional effects are produced by conducting direct or indirect military actions against a target with the purpose of affecting target functionality. Psychological effects are generated as a result of military actions conducted within the joint area of operations, actions that can be executed immediately or that can be conducted at any time - potential actions. The final category of effects by type are systemic effects that are indirect by nature and are generated through actions or operations against a certain enemy system and all of its components.

Effects generated through fire support system can also be classified by nature in collateral effects, rapid (in cascade) effects and cumulative effects. We talk about collateral effects when unanticipated or unplanned consequences of executed actions are considered. The impact of these effects can have a positive or a negative influence regarding an ongoing operation. On the other hand, rapid or in cascade effects generated on a target or system are a result of direct or indirect actions against other enemy targets or systems. These effects are propagated within a system and they often influence other integrated structures or systems. Cascade effect evolves from higher to lower levels as it is a product of affecting critical points in enemy systems. (Stanciu 2016, 116) one last category of effect by nature is represented by cumulative effects that represent the sum of all generated effects through direct and indirect actions. This effect type is to be preferred for the joint fire support system as it gives the joint

force commander the possibility to harmonize the potential of assigned fire support capabilities with available forces as to generate the highest cumulative effect possible, effect that is higher than the sum of individual effects generated by each joint force component.

Effects can be generated at every level of operation: strategic, operational or tactical. (SMFT 2018, A-2-2) At the strategic level planned effects are generated by attacking or affecting enemy will and capacity to continue hostilities for a longer period of time. Strategic targets for the joint fire support system include enemy command and control system, weapons of mass destruction and corresponding infrastructure needed for their use in conflict. In lower operational level effects are generated by attacking or affecting enemy military capabilities like air defense systems, ammunition and fuel reserves, lines of communication and other capabilities that directly supports enemy combat operations. At the lowest level of operations, the tactical level, effects are generated by attacking or affecting enemy armed forces that are capable to prevent or influence friendly action such as air force structures, enemy forces in reserve, etc.

From another perspective effects generated through target engagement are also described in our national field manuals by specific terms: annihilation, destroy, neutralize, exploit, suppress, harass, disrupt, delay and deceive.

By target annihilation fire support system inflict severe casualties and material or infrastructure losses that determines a full loss of combat power for the designated target – striking success rate is above 60%. Considering a lower striking success destruction is considered, when inflicted casualties and material or infrastructure losses determine the designated target to lose combat power – 30% strike success rate. A lower striking success generates a different effect as a target is considered neutralized when inflicted casualties and material or infrastructure losses determines a temporary loss of combat power – 10% strike success rate.

Field manuals also use specific terms to describe specific effects as follows. A desired exploit effect for target engagement secures a specific domain superiority and a higher level of friendly forces freedom of movement. Suppressing effect appears when target engagement renders impossible enemy retaliation through fire or it actively denies conducting enemy action and activities. Planning a harassing effect requires target engagement with the purpose of influencing enemy morale, creating a permanent state of uncertainty and expanding enemy focus ability. A disrupting effect is achieved when target engagement renders impossible conducting and executing standard enemy activities or actions. Considering operational dynamics, a more feasible delay effect may be more appropriate at a given time or place, as this effect is generated when target engagement makes it hard or impossible for the enemy to plan, conduct and execute activities and actions in accordance with established battle rhythms or matrixes.

One of the most complex effects involving the fire support system is, in my opinion, deception as this is described as the effect through which a certain situation is created so that a person or group believes something else is happening in the operational environment. From a military point of view this effect secures a certain influence of enemy decision-making factors in order to conveniently shape their thought process.

Although fire support is specific to every component of the joint force it presents some similarities when considering army branches. Whether it is an intelligence, surveillance and reconnaissance sensor or a surface-to-surface striking capability from any joint force component, at the joint level of operations fire support provided by available capabilities is directed by generating and exploiting planned effects for the entire joint force, for a particular maneuver structure or for a specific component element.

3. Joint fire support contribution to combat operations

Timely joint fire support contributes directly to effective and efficient military actions conducted by a joint force. Exploiting limited resources that the joint force commander has at his disposal for a given mission require proper use of fire support capabilities, as stated above, in an integrated and synchronized manner while constantly considering fighting structures maneuver and the concept of operation.

Joint fire support tasks are common for all joint force components as they include: establishing specialized personnel and equipment designed for target detection and engagement, fire support integration and contribution to the target management process, exercising command and control of subordinate fire support elements, securing force protection and sustainment throughout developing operations.

The joint fire support comes as an essential element in generating and preserving combat power for every force structure engaged in a military operation. As a warfighting function, fire support groups specific capabilities and activities to assist the joint force commander in directing force structures efforts in accordance with the concept of operation. Modern confrontational environment dictates conducting combat operations simultaneously with stability and support operations in the same joint area of responsibility.

Offensive combat operations have objectives like seizing and exploiting initiative, surprising the enemy, mass of effort or rapid action in order to defeat the enemy and achieve established objectives of the joint force. Timely and effective fire support ensure objective achievement by exploiting maneuver and fire mass possibilities fulfilling effect requirements upon engaged targets or upon enemy forces and capabilities. Fire support system components can participate in rapid and decisive engagement of designated targets, in the most advantageous method and moment, needed for operation progress or for a friendly force structure action. One other important aspect is the joint force staff possibility to exploit available fire support capabilities in an unconventional or atypical manner, thinking outside the box, in an orchestrated attempt to deceive or misinform the enemy about friendly actions or operations.

Prioritizing target engagement and concentrating fire support elements effort to generate planned effects at the required time and place, in accordance with the concept of operation, facilitate seizing and maintaining initiative while sustaining a higher offensive rhythm for the joint force. This high offensive rhythm facilitated by the fire support system also comes from timely maneuver of forces or fire and from a coherent application of mission command principle maintaining a centralized command and a decentralized execution at the fire support component level.

Joint fire support contribution to a developing offensive operation comes in the form of securing target data and information, target engagement in accordance with operational requirements especially for fire preparation, for targeting enemy air defense elements thus enabling aerial assaults or operations using friendly aerial platforms and for engaging enemy fire support components securing freedom of movement for our own force structures. Between these specific tasks fire preparation for the offensive operation is the main concern when planning, conducting and assessing fire support actions and activities because of its high complexity and the increased need for specific fire support elements that contribute at this time to isolate enemy force structures for the attack, to provide proper force protection when friendly forces approach enemy positions and to engage designated targets in accordance with fighting units maneuver scheme.

Joint force defensive operations mainly occur when a deliberate answer to a developing operational situation is needed due to a temporary enemy tactical or operational superiority. These defensive operations take place in order to reach partial or temporary

objectives of the operation but their main purpose remains creating favorable conditions for offensive operations needed for mission accomplishment. Fire support in defensive operations concentrate on striking enemy force structures, preferable as far away as possible or before making contact, supporting friendly forces in direct contact and also supporting rear operations. Providing timely fire support in defensive operations aims at striking enemy forces before they are able to engage friendly forces thus generating specific effects like delaying reserves or denying coherent enemy actions taken in support for direct contact structures. Fire support for forces in direct contact with the enemy concentrates on assisting the covering force and those structures defending the main area of operations. When considering rear fighting structures, the fire support contributes to securing exposed sectors and enable decisive actions against enemy elements infiltrated or operating behind friendly structures securing the forward line of own troops. In essence the fire support system contributes to defensive operation success by securing target data and information and by engaging designated enemy targets in the entire joint area of operations supporting covering or defending force structures and especially counterattacking forces.

Alongside combat operations a joint force must simultaneously conduct stability and support operations in the same area of responsibility. These simultaneous operations are limited or contained by time or location factors but the fire support system must be able to secure specific advantages for friendly structures engaged in various actions and activities. Joint fire support system can influence developing stability and support operations through securing specific informational and intelligence products, ensuring the possibility to use nonlethal target engagement means, providing force protection and avoiding or limiting collateral damage or casualties that might endanger established joint force objectives. Joint fire support system contribution to stability and support operations becomes obvious when considering that this type of operations has specific characteristics like a higher demand for informational and intelligence products, predominant nonlethal effects or an almost mandatory elimination of collateral damage for mission success.

Conclusions

The possibility to influence military action with specific fire support systems is in direct relation with technical characteristics of these systems that the joint force commander has at his disposal for the operation. These technical possibilities depict by definition a so-called zone of influence where lethal or nonlethal effects can be generated in accordance with the concept of operation. In our standing joint operations doctrine as well as in the general tactics manual this influence zone is described as a geographical area where a joint force commander can directly influence operations through maneuver or through physical and psychological effects he can generate using specific joint fire support systems available for a given operation. (SMG 2014, 47)

Although NATO fire support doctrine and its specific procedures stand at the base of our current national field manuals, in my opinion they present a somewhat limited approach to the joint fire support system for several reasons. First of all, we do not have a dedicated joint fire support doctrine, as this concept is detailed in a field manual, also known as *the artillery doctrine* (SMFT 2020, II-30), that is developed and destined for land force structures. A joint fire support doctrine should be elaborated at the highest military authority in order to implement a coherent joint fire support concept across every army branch and joint force component. This fire support doctrine should elaborate on sensible subjects like command and control for joint fire support system or essential elements for joint fire support planning, execution and assessment in accordance with joint force operation requirements.

From another perspective a limited approach to joint fire support can be highlighted in the way this concept is defined and described in our current national field manuals. Modern armies, including our NATO partners' armies, consider joint fire support as an assisting capability for force structures provided by any army branch, or any joint force component – land, maritime, aerial, special operation or cyber – in order to ensure force freedom of movement and maneuver to control territory, airspace, cyberspace or targeted audience (NATO 2015, 1-4). From a national point of view, joint fire support is described as being the use of specific fire support platforms – land, maritime or aerial – that have the ability to execute indirect fire to generate planned effects on ground targets in direct support for land force operations. (SMFT 2018, I-5) In my opinion, this limited perspective of joint fire support oriented on supporting land force operations, comes from our traditional and current armed forces capabilities available at the joint force level, capabilities that a joint force commander would have today at his disposal for conducting combat operations.

From a conceptual perspective, in our doctrine and field manuals regarding the fire support concept, there is a direct relation between joint force component capabilities to provide fire support and the actual way Romanian force structures can exploit the joint fire system in combat operations. Considering the fact that, on a national level, several programs to modernize and better equip current armed forces are being implemented (e.g.: M142 HIMARS - High Mobility Artillery Rocket System), doctrines and field manuals have to be updated in order to properly exploit new joint fire support capabilities that this equipment provides now or in the near future for the joint force commander.

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ROMANIAN COMBAT DIVERS TECHNOLOGICAL PERSPECTIVES

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Abstract: *This paper aims to provide an overview of the technological perspectives of Romanian combat divers, to present the current status and possible development directions towards state-of-the-art capabilities in line with the needs of the Romanian Naval Forces and the Special Operations Forces Command as beneficiaries. The article uses domain observation and analysis, both longitudinal and cross-sectional, of military divers, dedicated to identify current capabilities, technological trends for combat divers as well as to highlight the importance they represent within the Naval Forces, taking into account the contribution and especially the role that combat divers play in countering the hybrid threats of the current security environment. For this paper, we have set out to identify the current state of the capabilities of Romanian combat divers, to this end we will present the possibilities of their use for military purposes and identify possible missions that they can perform in the Black Sea area. Moreover, we will highlight technological perspectives on the modernisation and development of the military capabilities concerning combat divers. The novelty of this article stems from the analysis and highlighting of the effective use of combat divers through new technological possibilities in response to the challenges of the new security context. Through this paper, we address to master students and personnel of the Naval Forces, to those who contribute to the implementation of feasible ideas at the level of the Romanian Naval Forces and wish to develop the capabilities of combat divers to deter the actions of a potential adversary.*

Keywords: *divers technological perspectives; Romanian combat divers perspectives; combat divers; divers modernization.*

Introduction

In this paper we intend to highlight some aspects of the technological possibilities of the modernisation and development of the military capabilities concerning combat divers.

The idea of our article is related to the fact that security at sea has grown as a European strategic issue in the last decade, but also because of the recent conflict between Russia and Ukraine in the Black Sea area, which brings new threats to the littoral countries, drifting naval mines and endangering Black Sea trade routes (Walter, Jan D.; Topcu; Elmas . 2022).

The Romanian Naval Forces responded promptly to ensure the safety of navigation in the maritime area of responsibility with ships, a helicopter and EOD combat divers in order to remove the mine hazard, thus "In rotation, 11 maritime military vessels and a Puma Naval helicopter have planned systematic search activities to detect and limit the mine hazard and to ensure the safety of navigation of all ships in transit to and from Romanian Black Sea ports.

The Romanian Naval Forces are prepared to act with appropriate neutralisation means, sea mine countermeasures capabilities and specialised personnel "(Statul Major al Forțelor Navale, 2022).

Using their specialised skills and equipment, military divers perform a wide range of critical tasks, including underwater reconnaissance, underwater obstacle clearance, clearing underwater improvised explosive devices, protecting critical water infrastructure, ship

maintenance and repair, search missions and underwater rescue and salvage operations. If we understand how to use military divers effectively in conflict, we will understand their growing importance in today's security environment.

One goal we have set ourselves is to raise awareness among Naval Force graduates and personnel, as well as those who contribute to the implementation of feasible ideas within the Romanian Naval Forces. Also, to determine the modernization needs of combat divers in order to strengthen interoperability with the armed forces of NATO member states in order to increase the effectiveness of military actions in the current security context.

Current capabilities of Romanian combat divers

Naval combat divers perform a variety of tasks and missions in underwater environments. Romanian military divers are operationalised or in the process of being operationalised forces, they have the capability to participate, when ordered, in actions to prevent and combat terrorism or to remove the danger generated by conventional or improvised explosive devices, on national territory and beyond, independently or in cooperation with other similar NATO forces, in areas where their intervention is required (Centrul de scafandri, 2022).

"The capabilities of combat divers to operate in the vicinity of unfriendly coastlines, well guarded by the enemy, heavily defended by both conventional and special forces of the enemy, in difficult hydro-meteorological conditions, recommend them for the execution of complex missions" (V. Stanciu 2011).

The combat divers' actions are aimed at ensuring the protection of objectives in the area of responsibility of the Naval Forces, deployed on land, on water or underwater . These may be ships, maritime platforms, pipelines for the transport of gas or oil products, cables for the transport of energy or communications, navigable canals and the river area, "The mission of combat divers is to ensure the protection of objectives in the area of responsibility of the Naval Forces, deployed on land, on water or under water (ships, maritime platforms, pipelines for the transport of gas or oil products, cables for the transport of energy or communications), navigable canals, and the river area."(Centrul de scafandri, 2022).

In Romania there are several categories of combat divers specialising in different areas, such as: incursion divers, river divers, EOD divers and naval special operations forces combat divers.

Incursion combat divers are the combat sub-unit designed to collect tactical data and intelligence both assembled and by formed elements within it. In certain situations, divers may execute missions from the spectrum of special operations forces, raids and direct action on targets at sea and ashore. In order to carry out search or surveillance and combat missions, the incursion combat divers operate by day or night, in a variety of terrain, in all weather conditions or with reduced visibility, as follows: by sea, by air and by land.

River divers have as their area of responsibility the course of the Danube and the Danube Delta area. River divers carry out amphibious reconnaissance missions, collect information and report on enemy activities and resources, or collect information on the hydrographic characteristics of an area for the use of their own forces. Another specific mission is the insertion and extraction underwater of combat diver teams, which are intended to infiltrate clandestinely to execute ground reconnaissance actions in designated areas. They can use underwater vehicles for missions in flowing water and are also easily adaptable to the use of state-of-the-art underwater technology in this area of operation.

In the following we will try to briefly present the combat possibilities of EOD divers specialised mainly in fighting with and against mines. EOD divers are trained to deal with any type of explosive both in water and on land, even more EOD specialists are trained in

complex areas from jumping from helicopter for search and rescue operations, to using explosive detection devices, from handling robots to destroy explosive charges to controlling ships against mines. They are the only experts qualified to respond to explosives underwater, regardless of depth.

Naval Special Operations Forces combat divers can perform the full spectrum of Special Operations Force missions with a particular focus on the maritime domain. They cooperate with institutions and public authorities that are part of the National System for Prevention and Fight against Terrorism (NSPFT), as well as with international partners. Naval Special Operations Forces are "THE TIP OF THE SPEAR" according to the Cambridge dictionary, a person or group of people who are the first to do something considered difficult or dangerous, especially a group of soldiers etc. who are the first to enter a combat zone (Cambridge Dictionary, 2022).

Therefore, eighteen years after Romania's accession to NATO, military divers have continued to transform, eventually becoming a specialized, rapid response, tactical level component producing strategic level effects, with specialized structures, trained and equipped to perform their missions in the maritime, land and air environment. These combat diver structures play a decisive strategic role in addressing risks and threats to Romania's security and defence, regardless of their type, conventional, asymmetric or hybrid.

Technological possibilities for the modernisation and development of the combat divers military capabilities

In this chapter we present the current situation and the possibilities for upgrading naval platforms and equipments for combat divers. According to the article, Romania's Naval Forces at the crossroads, more than ever, the implementation of the critical thinking concept has highlighted the Romanian military potential under the current force structure, identifying the lack of modern ships and modern equipment, but highlighting the professionalism of combat divers „The Naval Special Operations Squadron formerly known as Naval Special Operations Group (GNFOS) provides the Romanian Naval Forces with a special warfare capability. The squadron in its current form was established after Romania became a member of NATO. Its preceding special forces structure was centered around the 39 Diving Center which trained explosive ordnance disposal divers (EOD) and combat divers ("commando frogmen", "incursori"). Naval special operators are trained in diving, combat diving mountain warfare, demolition, survival, parachute training, mobility and vehicle maintenance. Insertion and extraction is done by high speed boats, rigid inflatable boats, helicopter and parachute (Vişan 2017).

The special forces component was created with the aid of NATO allies in particular U.S. Navy's SEALs and the unit regularly takes part in international exercises, A small detachment was deployed in Afghanistan as part of Romania's contribution to the ISAF mission and another was deployed on board Regele Ferdinand (F-221) during Atalanta antipiracy mission. Lately, GNFOS exercises have emphasized the protection of offshore oil and gas rigs” (Vişan 2017).

At the moment "in terms of overall capability, the Romanian Navy is significantly behind Turkish and Russian naval forces in the Black Sea, comparable in strength to the Bulgarian fleet, but still significantly ahead of the Ukrainian and Georgian navies," Omar Lamrani, a military analyst at Stratfor, a US agency specialising in military and geostrategic analysis, told HotNews.ro (Cozmei 2016).

He also pointed out the vulnerabilities to which Romania is currently exposed in the Black Sea: "Most of Romania's current ships were built in the 1970s and 1980s. Therefore, Romanian ships are ageing, and as in the case of air force aircraft, they need modernisation

and replacement. Romania has a solid number of frigates, corvettes and minesweepers (although these too are ageing), but is considerably disadvantaged by a lack of developed naval aviation, a low ground-to-air defence capability and a mediocre anti-submarine warfare capability. Romania also lacks an effective force on the submarine side," Lamrani explains (Cozmei 2016).

Once with Russian invasion of Ukraine on 24 February 2022 and the continuation of the war, the entire global security environment has deteriorated considerably and the conditions for global uncertainty in all sectors of society have been created.

Under these circumstances, Romania is obliged to develop and modernise the only force with which it can intervene in the Black Sea area, the Romanian Naval Forces. As Omar Lamrani mentioned above, we need an effective force on the submarine side, and this force includes military divers.

EOD combat divers perform operations to inspect the underwater hull of a submarine in order to locate and identify whether it has explosive ordnance placed on its hull and to pinpoint the location of a damaged submarine for subsequent intervention to rescue the crew in DISTRESS. For such missions, EOD divers are provided with two specialised vessels to carry out their tasks: NMS Grigore Antipa and RMS Grozavul. The Maritime Diving Ship "Grigore Antipa" was launched and joined the Diving Centre in 1979 (Marian Tănase, 2018). With multiple facilities in providing underwater activities from the surface, with decompression and treatment chambers, diving turret up to 120 m, gas mixing and storage installation, this vessel is a real floating laboratory that can reach the most remote intervention districts. The tugboat "Grozavul" was built in the Oltenița shipyard between 1989 and 1993 and entered service in April 1993. Designed as a maritime salvage tug, it can be used as an icebreaker in ports and coastal areas. It can perform rescue missions for ships in distress, crew rescue, fire fighting, evacuation of water from flooded compartments, logistical support for diving activities and can also provide diving activities with a barocamera mounted on board .

EOD divers and raid divers perform missions within the Naval Forces by insertion at targets with the maritime intervention diving ships "Venus" and "Saturn" (Cocea 2011). They are also equipped with 8 plus 1 seater rigid hull speedboats.

For the execution of the specific missions of military divers, an extremely important role is played by the platform which ensures the insertion or transport in the raion, the safe execution of dives to depths greater than 12 m, the need for a fixe hyperbaric chamber, the instrumental search using AUV, ROV, SIDE SCAN SONAR, as well as the extraction or transport from the zone of execution of the mission. Also, the length of time the platform is stationed in the zone is extremely important, as the effective execution of a mission requires on average three days of stationing in the area.

EOD divers are equipped to NATO standards and are familiar with specific techniques and tactics in the search, discovery and identification of unexploded underwater explosive devices, both conventional and improvised (UXO and IED).

As for the EOD divers' equipment during exercises, "they used specific equipment such as inflatable abstraction, Autonomous Underwater Vehicle (AUV) sonar, closed/semi-closed circuit magnetic diving apparatus and compressors. They trained in the use of NATO EOD documents and databases"(Trustul de presa al Ministerului Apararii Nationale, 2018).

It is imperative that military divers train under the same conditions in which they will fight. Military divers also need to be highly trained, equipped and equipped so that they can carry out their activities in optimal conditions, with the capability to operate in multinational maritime forces, regardless of environmental conditions.

Naval Special Operations Forces (NSOF) combat divers or similarly-structured naval force incursion combat divers are those combat divers equipped with RHIB-type fast boats who appear on exercises, "They are those sailors who execute sea insertion aboard fast,

inflatable, rigid-hulled craft, so-called RHIBs (Rigid Hull Inflatable Boats), with a capacity of 12-15 persons, on the sides of which are inscribed the name Fulgerul 1, 2 etc. , ready to carry out maritime interdiction, counter-terrorism, anti-piracy, anti-smuggling missions (all of which include the danger of retaliation by the adversary), as well as search and rescue missions at sea, or the transfer of personnel and material. They are those divers specifically equipped with closed-circuit breathing apparatus (so they cannot be detected due to air bubbles that might escape to the surface of the water in the process of breathing) who are unseen and suddenly emerge (the element of surprise), dressed in black neoprene suits and wearing swimming shoes, effectively dripping with water and frighteningly 'armed to the teeth', with personal weaponry and state-of-the-art sighting (including night vision) and sighting equipment, ready to carry out their specific missions and tasks, on shore, on land" (Ilie 2018).

In terms of equipping NSOF divers, according to mission needs and operational requirements, they need in particular fast surface insertion craft, tactical kayaks for operation on lakes or lagoon areas, underwater insertion means, including mini submarines, or electric underwater propulsion systems, diving screens, high performance parachutes, UAS or high precision drones, other land-based means of transport.

NSOF divers should be equipped with state-of-the-art technology to perform tactical-level surgical missions with strategic-level effects.

In this regard, it is interesting to note the current trend in the procurement of state-of-the-art equipment for similar structures such as US Navy SEALs (Ilie 2018). A suggestive example is USSOCOM's intention to procure suicide drones (Kamikaze), which are actually "loitering" smart munitions weapon systems for US Navy SEALs with undetectable equipment to improve capabilities against asymmetric and conventional threats at sea and on land (Trevithick 2018).

Suicide drones (smart "loitering" munitions) is a weapon system in which munitions fired from various mobile or static platforms can fly over the area of an enemy target for a limited time and only after a time can execute the attack on the target. These weapon systems significantly improve rapid response to camouflaged or concealed targets, a key feature of NSOF capabilities, and increase troop protection because they can be fired from a safe distance, reducing operator risk, mission risk and the risk of collateral casualties among civilians or friendly forces, thus" Commando Diver Insertion Platforms equipped with such weapon systems can strike from the sea, with discretion and surgical precision, certain terrorist elements, or targets designated by military operations planners and approved by decision-makers as being of strategic or operational importance. These could be enemy air defence systems, anti-ship defence systems, radars, mobile ballistic missile launchers, or mass-destruction weapons depots. NSOF detachments become capable of executing precision strikes on targets in depth, from a safe distance from the target, and will have more time for covert execution of exfiltration. NSOF operators can thus be more successfully employed in special search missions in the vicinity of enemy occupied positions in the beach area, and where they could land new forces, but also in other coastal areas where larger military operations are taking place.

Compared to manned or unmanned aircraft intended to provide close air support, with target-hitting capabilities that require air bases from which to take off, flight planning and direction, synchronisation of activities, and possibly ground indication of targets, complex resource- and time-consuming activities, these systems provide a much more flexible response to the dynamics of military action, the speed of change in military intelligence, and the battlespace. Depending on the configuration of the systems decided to be acquired, fast craft and their crews will also have much faster follow-on strike capabilities in case an initial attack has failed.

Intelligent loitering munitions launched from such fast insertion platforms on the water or even by commando divers once ashore, in the portable configuration, can be, even for a limited duration, a very important and much appreciated and expected close air support capability for other special operations force operators already executing missions deep in enemy territory and unable to be air-supported by their own forces.

At sea, suicide drones can be equally useful against small hostile craft that may be carrying weapons, equipment and contraband, can support maritime interdiction operations, with the systems providing a direct means of stopping or even destroying such hostile elements that may be trying to evade law enforcement, significantly reducing the risk of collateral casualties" (Ilie 2018).

Dedicated platforms for military divers must technically and operationally correspond to the current level of development worldwide and must be equipped with techniques and equipment interoperable with those in the naval forces of NATO member states, ensuring that all specific standards relating to both the seaworthiness and facilities of the vessels and the diving equipment and facilities on board are met. Communication systems installed on board must be interoperable with NATO systems and ensure encrypted reception and transmission of messages, documents, images and video.

Military diver support ships must be capable of performing missions at sea by surprise, during which insertion into the combat zone and support of military divers carrying out training or combat actions will be carried out, in order to help ensure the protection of military objectives, as well as the mitigation or elimination of mine hazards in the area of responsibility of the Naval Forces.

The current state of the Naval Forces' equipment calls for urgent, coherent and applicable measures to ensure that the process of transforming the military institution proceeds according to the planned stages, while fully fulfilling its national and international missions and obligations.

Starting from the current state of the Naval Forces, analyzing the probability of risks and threats in the region and taking into account the possibilities of financial support for development and modernization processes, we can assess that under the current and foreseeable conditions, the implementation of such an endowment is possible to be carried out only gradually, in the medium and long term and depending on priorities.

The Naval Forces' procurement strategy includes acquisition and modernisation programmes aimed at creating a balanced structure of modern capabilities needed to fulfil new missions. Such missions specific to military divers call for the urgent need to equip them with vessels that are indispensable for their success.

Recent military and security developments in the Black Sea provide an insight into the need to modernise the Romanian fleet and its components, and the decision to make major investments in the capabilities of the naval forces will bring, in addition to national benefits, a major contribution to increasing the defence capability of the Standing Naval Groups, as required by the current NATO Defence Planning Process.

Based on a firm commitment to increased defence spending, Romania has today become the sixth NATO member, along with the US, Greece, the UK, Estonia and Poland, to meet the percentage of GDP set for such spending.

Thus, on the basis of an effective procurement plan, Romania's military could be equipped with state-of-the-art capabilities that will enable it to face and contribute to the Alliance's joint effort to ensure regional security.

Conclusions

In conclusion, Romanian combat divers have actively participated in most of the Naval Forces missions both nationally and in the allied framework. Equipping them with state-of-the-art equipment is essential for the success of the actions, but it is closely linked to the Romanian Navy or Army's procurement programmes.

In the conditions of modern warfare and in the current geopolitical and geostrategic context of the Black Sea, the complexity and dynamics of combat operations that may take place in the area of responsibility create new specific tasks in the maritime combat domain. The role and importance of Romanian combat divers in the conduct of these operations has increased considerably.

As far as the technological perspectives for combat divers are concerned, they should be correlated with the equipment of NATO partners, because having standard tactics, techniques and operating procedures with NATO partners should also keep us abreast in terms of technological perspectives. The current situation is acceptable and we can successfully carry out our missions, but we must understand that this area of warfare must be regularly upgraded with state-of-the-art techniques and equipment in order to maintain our prestige as an elite force.

Despite recent rapid changes in the evolution of diving techniques and methods, the human factor remains fundamental to diving activities. Ongoing technological development of diving equipment and methods will also involve the development of human capabilities and skills, which cannot be replaced by any technology. The modern combat diver must have a broad understanding of the physics of the marine environment and a detailed understanding of its physiology and how it is affected by the environment. He must learn to adapt to environmental conditions in order to perform successfully.

Although the technique has evolved greatly, the combat diver is still the factor that executes the last stage of the action. Even if ROVs, sonars, mini-submarines or AUVs will provide us with complex information about the target, transport us faster and safer to the raid, the last stage of the action will still be executed by combat divers, regardless of their specialisation, SOF, EOD or river divers.

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LOWER BACK PAIN, A FREQUENT MEDICAL AFFECTION AMONG THE MILITARY. RECOMMENDED EXERCISES TO PREVENT, ALLEVIATE AND COMBAT IT

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Abstract: *After an introduction on the frequency of low back pain among the population, the first part of the article addresses issues related to the causes of this musculoskeletal disorder in the military, as a result of specific motor acts and actions. Given the causes of lower back pain and the fact that the lumbar muscles are at high risk for hypotrophy, the need to exercise and mobilize the muscles that support the spine is highlighted. Thus, given that the effects of back pain on the operational capacity of various military structures can be significant if no concrete action is taken in this regard, the second part of the paper presents a wide range of exercises, designed to especially for strengthening the muscles in the middle of the body, performed from three basic gymnastics positions (lying on the back, lying down facial, on the knees), which help prevent, alleviate and combat lower back pain. Based on the systematic evaluations performed over time for the treatment of acute, subacute and chronic lower back pain in which the specialists offered as exercises for recovery, i appreciate that it is necessary that specialists in the field of military physical education, in close cooperation with military doctors, to develop various clinical guidelines for the treatment and prevention of this condition. The physical exercises presented in this article are practically a useful guide for each military to design their own training program, obviously, after consulting specialists in the field.*

Keywords: *lower back pain; exercise; prevention; alleviation; combat; initial position.*

Introduction

Lower back pain or *lumbago*, according to the World Health Organization, is a common cause of work-related disability, being the most common musculoskeletal disorder in the adult population. Thus, it is said that at least 80% of the active population of the globe suffers, at least once in a lifetime, from an episode of lower back pain. In the military, a special professional category due to the specifics of their activity, it is regarded as one of the most common types of bodily pain. In this sense, in order to fulfill their missions, the military must discover the most modern and effective ways to alleviate and possibly combat pain. Thus, regular and continuous exercise, based on specialized recommendations, can be a great way to relieve lower back pain.

First of all, it is important to know that the lumbar spine consists of five vertebrae (L1-L5). The anatomy of the lumbar spine is represented by these strong vertebrae connected by capsules, ligaments, tendons and muscles, with extensive innervation. The entire spine is designed to be strong, as it must protect the spinal cord and the roots of the spinal nerves. At the same time, it is very flexible due to the joints between the vertebral bodies, offering mobility in different positions. The ligaments help to stabilize the joints during rest and movement, preventing injuries caused by hyperextension and hyperflexion. The lumbar spine is also governed by four functional muscle groups, divided into extensors, flexors, lateral flexors, and rotators.

1. Causes of lower back pain in the military

Where did the idea to write this article come from, given that today we have a multitude of sources of inspiration for the systematic practice of physical exercises of any kind? On the one hand, as a military man and specialist in military physical education, I have experienced such episodes of pain as a result of carrying out specific activities both personally and at the level

of my comrades, throughout my career being often put in the situation to answer questions about ways of alleviate lumbago. On the other hand, as a physical education teacher at the National Defense University "Carol I" since 2015 and until now, I may say that out of the dozens of study groups where I had the honor to teach, without exaggeration, I do not think that there was one that did not include at least one student who showed such pain during the study program, which determined their inability to achieve the objectives of the projected performance standards. Thus, with the publication of this article but also with the future activity that I will continue to carry out at the department, I hope to guide any soldier, and not only, in designing his own training program that will lead to preventing, alleviating and combating lower back pain.

Lower back pain is often the result of injuries such as muscle strains, damage to the intervertebral discs, joints and ligaments or nerves in the area. In addition, vertebral fractures, especially in individuals with osteoporosis, are a cause of lower back pain. Activities that can lead to back pain include lifting weights, sudden movements, lengthy standing, working on the computer for long periods, or sleeping in positions that do not keep the spine straight, and so on (Popescu 2021)

Military activities are characterized by a multitude of specific acts and actions that could go wrong (adopting an incorrect position when using weapon systems, military equipment and simulators; long jumps, high jumps, deep jumps and landing on hard surfaces; long marches on uneven terrain on foot or on skis; various climbs; crawling; throws; lifting and transporting equipment / materials; various staff activities; resting in non-compliant places in unfavorable weather conditions, etc.) and, obviously, the accumulation of stress in the spine.

Given these causes that can lead to lower back pain and the fact that the lumbar muscles are highly exposed to the risk of hypotrophy, it is absolutely necessary that the muscles that support the spine be exercised and mobilized voluntarily.

In this context, Dr. Jeffrey N. Katz, a professor of orthopedic surgery at Harvard Medical School, stated that *"an episode of acute lower back pain is a warning to people who do not move,"* and the occurrence of such pain can be *"a good opportunity to make a commitment to get moving when you start to feel a little better - usually in a few weeks"*. However, it is very important to understand that exercise does not remove back pain, but it can limit its frequency, and *"the risk of recurrence in the coming years would decrease,"* said Dr. Katz (xxx 2014)

2. Exercise to prevent, relieve and combat lower back pain

Lower back pain, especially if it is chronic, can seriously affect the quality of life of the person dealing with it. It is well known that sports or exercise can combat and prevent low back pain, but in the same way these activities can also trigger back pain, so choosing the most appropriate exercise is very important. Improper exercise can force a certain muscle group, causing a painful episode, which results in the impossibility to practice certain sports; these, together with improper exercise, are to be avoided by individuals suffering from lower back pain.

In the practice of the field of physical education and sports, more precisely in sub-domains such as school or professional physical education, physical therapy, medical gymnastics, etc., there are a number of exercises that can reduce the risk of lower back pain by strengthening the muscles that support the spine in the lumbar area. These exercises, performed regularly, are a significant way to increase the functional capacity of the whole body by preventing, alleviating and combating lower back pain.

Based on the systematic evaluations performed over time for the treatment of acute, subacute and chronic lower back pain which specialists have offered as exercises for recovery, it is imperative that specialists in the field of military physical education, in close cooperation with military doctors, develop various clinical guidelines for the treatment and prevention of this condition. This will lead to the fulfillment of the main objective of military physical education (maintaining soldiers' health) and, at the same time, to increasing the operational capacity of the armed forces.

In this context, based on my own experience in the field of physical education but also the abundance of sources from the literature, in the following lines I am going to present a sort of guide to physical exercises performed from three basic positions in gymnastics (lying on the back, lying face down, on the knees) and other initial positions derived therefrom.

2.1. Exercises in "the lying back" position:

- from the initial position *lying on your back, body perfectly stretched, heels on the floor*: simultaneous flexion and extension of the feet; 3-6 sets of 8-12 reps;
- from the initial position *lying on your back, legs bent at the knee joint, feet flat on the floor apart, arms outstretched sideways with palms on the floor*: alternating lowering of the knees on the floor inwards; holding the knee for 4 seconds with the inside on the floor, returning to the initial position; 3-6 sets of 8-12 reps with each leg;
- from the initial position *lying on your back, legs bent at the knee joint, feet flat on the floor apart, arms outstretched sideways with palms on the floor*: place the right foot over the left knee, then the left knee descends with the inside on the floor; ditto on the right; 3-6 sets of 8-12 reps with each leg;
- from the initial position *lying on your back, legs bent at the knee joint, feet flat on the floor, knees side by side, arms outstretched sideways with palms on the floor*: lowering to the left of the knees, leaving the outside of the left knee on the floor; hold for 4 seconds then return to starting position; ditto on the right; 3-6 sets of 8-12 reps with each leg (**lower back rotational stretches**);
- from the initial position *lying on your back, legs bent at the knee joint, feet flat on the floor, arms outstretched next to the body with palms on the floor*: with clenched fingers, grab the left leg below the knee joint and pull the knee to the chest to feel a slight extension of the lumbar area; hold the position for 15-20 seconds then return to initial position; 6-10 reps; ditto with the right leg; the same exercise is performed by pulling both knees to the chest at the same time; 3-6 sets (this exercise can also be performed by lifting the torso and bringing the chin to the knee) – **knee to chest stretch**;
- from the initial position *lying on your back, legs bent at the knee joint, feet flat on the floor, arms outstretched next to the body with palms on the floor*: lifting the pelvis 2-4 cm by tightening the abdominal muscles and relaxing the gluteal muscles; hold the position for 1-2 seconds then return to initial position; perform 20-30 reps; 3-4 sets (**pelvic tilts**);
- from the initial position *lying on your back, legs bent at the knee joint, feet flat on the floor, arms outstretched next to the body with palms on the floor*: lifting the pelvis by tightening the abdominal muscles until the thighs are in line with the torso; hold the position for 1-2 seconds then return to initial position; perform 20-30 reps; 3-4 sets (**bridging**);
- from the initial position *lying on your back, legs bent at the knee joint, feet flat on the floor, arms outstretched next to the body with palms on the floor*: lift the left leg and pull the knee to the chest, then lower the knee to the left side and rotate the leg from the coxofemoral joint until the entire left leg becomes stretched; ditto on the right; 10-20 reps; 3-4 sets;
- from the initial position *lying on your back, legs bent at the knee joint, feet flat on the floor, arms bent with hands clasped at the nape of the neck*: slowly lift your head and

shoulders off the floor, tense your abdominal muscles, hold the position for 2-4 seconds, then return to the initial position; 8-12 reps; 3-6 sets (**partial crunches**);

- from *the supine position*, move to *the reverse plank position* (support on the soles and palms with the fingers facing forward, body raised so as to form a straight line from head to toe); hold the position for 30-60 seconds; 3-4 series.

2.2. Exercises in "the lying down facial" position:

- from the initial position *lying face down, arms outstretched in torso extension, palms on the floor*: lift the left arm and the right leg (both the arm and the leg are outstretched from the elbow, respectively the knee joint); ditto with the right arm and the left leg; 3-6 sets; 8-12 reps;

- from the initial position *lying face down, arms outstretched in torso extension, palms on the floor*: lift the arms and the feet (both arms and legs are stretched from the elbow, respectively the knee joint) and hold the position for 4-6 seconds; 3-6 sets; 8-12 reps (**superman exercise**);

- from the initial position *lying face down, legs perfectly stretched from the ankle and knee joints, forearms and palms on the floor with elbows below the shoulders joints, right neck and head up*: pushing in the forearms and palms, by contraction of the lumbar extensor muscles lift the head and area upper torso; hold the position for 10-12 seconds; 3-4 sets; 8-10 reps;

- from the initial position *lying face down, legs perfectly stretched from the ankles and the knees joints, arms bent with the palms on the floor on either side of the shoulders (cobra position)*: pushing in the palms, stretching the arms while lifting the torso in extension; hold the position for 20 seconds; 3-4 sets; 6-8 reps (**cobra exercise**);

- from the initial position *lying face down, the legs stretched perfectly from the ankles and knees joints, the arms bent with the hands folded together at the nape of the neck, the elbows sideways*: lifting the torso in extension and returning to the initial position; 3-4 sets; 8-12 reps;

- from the initial position *lying face down*: move to the plank position (support on tiptoe and forearms, elbows under the shoulders joints, head facing forward in the extension of the torso); keep the body for 30-60 seconds in a perfectly straight line between the heel and the shoulders; 3-4 sets (**plank exercise**);

- from the initial position *lying face down in support on the abdomen with arms and feet lifted outstretched forward respectively backward*: perform a simultaneous traction movement with the arms so that the elbows are next to the sides of the torso, then return to initial position; 3-6 sets; 8-12 reps.

2.3. Exercises in "on the knees" position:

- from the initial position *on the knees with the hands on the hips*: place the left foot with the sole on the floor so as to form a 90-degree angle between the leg-thigh and the thigh-torso, hold the position for 20 seconds; ditto with the right foot; 3-4 sets; 6-10 reps with each leg;

- from the initial position *on the knees with the hands on the hips*: bring the arms back to the torso with the hands on the soles, the pelvis forward so that the thighs are on the same line as the torso; hold the position for 20 seconds; 3-4 sets; 6-10 reps;

- from the initial position *on the knees*: lower the bottom on the heels while bending the torso forward and stretching the arms forward with the palms resting on the floor (**child position**); hold the position 20-30 seconds; 8-10 reps; from the same position the exercise can be performed by lifting one arm, 4-6 sets; 8-12 reps;

- from the initial position *on the knees sitting on the heels, hands on the floor with arms outstretched*: bend the torso and arms so that the forehead touches the knees; hold the position for 15-20 seconds; 8-10 reps;

- from the initial position *on the knees with the torso bent forward, arms outstretched in the extension of the torso and palms on the floor*: stretch the legs and place the feet on the floor on the soles; hold the position for 10-20 seconds; 4-6 reps;

- from the initial position *on the knees* place your palms on the floor so that a 90-degree angle is formed between the torso-arms, thighs-torso, thighs-legs and forearms-hands (***dog position***): lift and stretch a leg, and the opposite arm; 3-6 sets; 8-12 reps on each side; the exercise can be performed holding the position for about 20 seconds, and an alternative to it can be lifting the arm and leg on the same side;

- from the same position as in the previous exercise: lift the left arm and leg on the same side so that the left side of the body is stretched in a straight line; simultaneous left arm-leg extensions are performed; ditto on the right; 3-4 sets; 20-30 reps on each side;

- from the same position with the head straight so that the gaze is directed towards the floor: arch your back upwards while bending your head towards your chest, then lower your abdomen towards the floor without moving your shoulders at the same time as you lift your head towards the ceiling; 3-6 sets; 8-12 reps (***cat stretch***);

- from the same position: put the left hand to the nape of the neck, then the left elbow is lifted at the same time as the torso is twisted; ditto on the other side; 4-6 sets x 8-12 reps on each side;

- from the same position: move the left leg forward with the tibia on the floor, the foot extended on the floor, the abdomen on the thigh, the forearms resting on the floor; at the same time the right leg stretches perfectly on the floor back from the knee and ankle; hold the position for 15-20 seconds; ditto on the other side; 6-8 reps on each side.

In conclusion, what I presented above is a set of exercises that are performed from three gymnastics basic positions that can prevent, relieve or combat lower back pain. Certainly the exercises described must be adapted to each individual body and, where appropriate, to each individual condition, as the pain differs from person to person. Thus, it may take some time to find the right exercise program with effective means of action and an adequate dosage of effort (number of sets / repetitions).

Before creating your own exercise program, especially for combating back pain, it is absolutely necessary to consult specialists (doctor, physiotherapist, etc.) to obtain a postural assessment, to determine the posture deficiencies to be corrected, to perform functional movement tests (including details of the plans in which the exercises are to be performed), plus a nutrition and lifestyle analysis.

The most important thing to keep in mind when studying this article is that the dosages used above are indicative.

Conclusions

Lower back pain is one of the most common musculoskeletal symptoms among the population and especially among the military, due to the specific activities they perform. The effects of back pain on the operational capacity of different military structures can be significant if no concrete action is taken in this regard. Lower back pain should always be approached as a complex pathology in which the establishment of an accurate diagnosis of pain generators is mandatory before the start of any treatment, and therefore of an exercise program.

Exercise to strengthen the main muscles, around the torso, stomach, back and pelvis, is a good way to relieve and eliminate lower back pain, improving stability and balance.

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STUDY ON THE PERCEPTION OF CIVILIANS IN THE LIMITED SITUATION OF FORCED DISPLACEMENT IN THE COLD CLIMATE ENVIRONMENT

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Abstract. *The present study aimed to make a diagnosis among the civilian population regarding the perception of confrontation with a limited situation represented by the possibility of an armed conflict in which the need to move in a safe area, far from the horrors of the war, is achieved in hostile weather conditions. Refugees are some of the most vulnerable people in the world, many have suffered on the way to a safer place, violence, losses and hunger, but in winter it beats relocated families are facing significant risks for their health. Providing by this study that the perception of civil and incompletely informed civilian persons regarding the movement, transport of weights and physical effort at low temperatures and unfavorable weather conditions can be an important factor that can be speculated. The study was conducted on a sample of 107 subjects, university customers, bachelor's degree. Before carrying out and applying the questionnaire, discussions were held with the study participants. The study method used was the questionnaire. The centralization of the results leads to the need to establish well-defined and realistic objectives, correlated with the real level of theoretical knowledge and physical capacities of the civilian population. The study shows a real challenge in terms of structuring a civilian training plan. The level of information on the risks that appear with the exposure to low temperatures over a longer period of time is minimal, the perception of the majority of the study being in a small correlation with the real capacities to bear low temperatures to carry moderate weights or to move.*

Keywords: *civil; movement; physical effort; weather conditions.*

Introduction

Conflicts or strategic activities in cold weather, include military operations affected by snow, ice, thaw or cold conditions, both on the ground, in the air and on the sea. From a historical point of view, most such operations were in winter in the northern hemisphere. They have appeared where the snow, ice and cold are present in the cold season or throughout the year. Sometimes the cold or thaw were a decisive factor in the failure of a military campaign, such as the French invasion of Russia in 1812, the Soviet invasion of Finland in 1939 (Rehman 2016) and the German invasion of Russia. The Soviet Union during World War II. In 1242, the Teutonic order lost the battle on the ice on Lake Peipus in front of Novgorod. In 1520, the decisive battle of Bogesund between Sweden and Denmark took place on the ice of Lake Åsunden (David 1996). In 1643 or 1644, Prince Rupert made a wrong attack on the parliamentary fortress of Aylesbury England (Peter 1974). Carol X Gustav of Sweden led his army over the ice of frozen lakes to besiege Copenhagen. The war ended with the Treaty of Roskilde, a very favorable treaty to the Swedes (Herman 1992). During the Great War of the North, the Swedish King Carol XII started invading Moscow, but was eventually defeated in the battle of Poltava, after being weakened by the cold weather and the tactics (Stewart 2005). The Russian invasion of Finland during the Winter War showed the power of asymmetric warfare on the Finnish side, where small units were able to cut the road-bound Soviet invading troops into segments, like firewood, and vanquish each segment. The small units arrived silently on skis or with light artillery pulled by reindeer over frozen, untracked terrain, using winter conditions as an advantage. Although the Soviet Union gained territory from the Finns, it was at the cost of 200,000 fatalities against 25,000 on the Finnish side, (Rehman 2016). Roadway and landing zones require heavy equipment, which is more

fatiguing to operate in the cold and necessary to protect from freezing. Snowstorms require cleanup and spring thaw requires management of thawed soil. Landing zones require stabilization of dust and snow to avoid blinding helicopter pilots. The US Army has cold-weather adaptive kits for providing water and electrical utilities (Army 2017).

Anyone who spends a lot of time in cold weather can get hypothermia. You can also get it from being cold and wet, or if you are in very cold water for too long. Babies, elderly people, and people with heart disease are especially at risk. As we age, it becomes harder to maintain a normal body temperature. Because elderly people seem to be relatively insensitive to moderately cold conditions, they can get hypothermia. Physical activity in winter has several ways to maintain body temperature in front of the strong cold. Major problems occur by increasing the intensity of physical activity in cold environment, or as a result of increased heat loss by expiration. The speed and direction that the wind has in contact with the surface of the body, of the penetration through the wrongly chosen clothes, have a major contribution to shortening the exposure time and implicitly to shortening the distances traveled. The tremor can generate heat at a speed of 10 to 15 kJ/min, but affects the capacity for effort, while the use of the resulting glycogen speeds the appearance of fatigue and mental confusion. Studies look like in men, a combination of moderate physical exercise and facial cooling induces a substantial fat loss over a period of 1 to 2 weeks, with an associated ketonuria, proteinuria and body mass increase (Shephard 1985). Soviet Army doctrine gave them the responsibility to establish build and maintain routes, including water crossings, build and destroy obstacles that require special equipment, construct and maintain airfields, and to build shelter for personnel. Operations that didn't require special equipment were left to other troops (Armstrong 2014). The *Taschenbuch* describes a variety of ways to employ local resources to create roads, shelters and fortifications (Barracks 2001).

Refugees are some of the most vulnerable people in the world, many have suffered on the way to a safer place, violence, losses and hunger, but in winter it beats relocated families are facing significant risks for their health.

The huge numbers of people arriving at the same time as winter is raising fears of a new humanitarian crisis within Europe's borders. Cold weather is coming to Europe at greater speed than its leadership's ability to make critical decisions. A summit of EU and Balkan states last week agreed some measures for extra policing and shelter for 100,000 people (Borger, et al. 2015).

But an estimated 700,000 refugees and migrants, have arrived in Europe this year along unofficial and dangerous land and sea routes, from Syria, Eritrea, Afghanistan, Iraq, north Africa and beyond. Tens of thousands, including the very young and the very old, find themselves trapped in the open as the skies darken and the first night frosts take hold (Borger, et al. 2015). Hypothermia, pneumonia and opportunistic diseases are the main threats now, along with the growing desperation of refugees trying to save the lives of their families.

The movement of unprepared persons in unfriendly meteorological conditions in which the strong wind and mainly the air temperature is low, is a serious risk factor. The stress caused by leaving the house and a large part of the accumulated goods is an extremely stressful factor, to which if added to long distances at low temperatures, below 100⁰ C, can cause serious disorders and even losses of human life. In the case of elderly people who are more likely to become hypothermic and who simply do not notice the decrease in body temperature, the category can be considered with the highest risk. The 10-20 minutes from the beginning of a trip in which a large part of it can be spent walking or standing waiting for a bus or train in cold can tilt the balance and trigger a heart attack, it is important to end before to go out, not to start freely made and then react to the cold sensation later. Early morning is the most dangerous time because of natural daily rhythms, so prepare for the winter shuttle (www.coolantarctica.com 2018).

In the case of a military invasion or a conflict that puts the civilian population in the situation of leaving the domicile and moving into the cold environment to save their lives, the distance that civilians can travel varies very much. Thus, in the case of a temperature with an average value below -10°C the distance traveled represents maximum one third of the distance that civilians can cover under bearable weather conditions. In the case of traveling on a road covered with soft snow at a temperature of the air below 0°C , in which the snowfall alternates with the melted snow distance that civilians can cover is about 1.2 km/h. Armed confrontations bring physical and mental challenges that civilians must overcome in their attempt to save their lives.

The US Army groups cold temperatures using categories. The temperature categories are (with quoted summaries): considera ca: *Wet cold* – From (4°C to -6°C). Wet-cold conditions occur when wet snow and rain often accompany cold conditions. A wet-cold environment is more dangerous to troops and equipment than a dry-cold environment because the ground becomes slushy and muddy and clothing and equipment becomes perpetually wet and damp. Under wet-cold conditions, the ground alternates between freezing and thawing as the temperatures fluctuate above and below the freezing point. As temperatures warm, heavy equipment can sink into the softening mud; then as temperatures turn colder, the equipment becomes immobilized in frozen ground. This makes planning equipment recovery operations problematic (Army 2017). Under dry-cold and intense-cold temperatures, from $+19^{\circ}\text{F}$ (-7°C) to -25°F (-32°C), operations become more difficult (figure 1-1). At the warmer end of this range, lack of winterization results in only a slight loss of operating efficiency (Army 2017). Proper training prevents many failures of materiel and injuries to operators. Nevertheless, non-acclimated troops usually show signs of having difficulty at temperatures above -10°F (-23°C). Planning for Cold Weather 9 February 2017 TM 4-33.31 1-3 1-10. When temperatures drop below -25°F (-32°C), operations become extreme. At temperatures nearing -40°F (-40°C) and lower, operations become hazardous, requiring the maximum efforts of well-trained personnel to perform even the simplest tasks, even with fully winterized materiel (Army 2017). Temperate weather (a nominal temperature that is above and outside the cold weather categories). Wet-cold: (4°C to -6°C). Dry-cold: (-7°C to -20°C). Intense-cold: (-20°C to -32°C). Extreme-cold: (-32°C to -40°C). λ Hazardous-cold: (-40°C) and below (Army 2017).

Studies conducted on a representative sample show that an experienced infantrymen performed a simulated military mission (SMM) of 21 hours a day in a middle mountain environment, with 27 kg weighing equipment and 43 kg during the marches (Grenier, et al. 2012). The NM function has been evaluated for knee extensors (KE) and plantar flexors (PF) pre- and immediately post-SMM using the isometric measurement of maximum voluntary contraction (MVC), neuronal and surface EMG stimulation (Grenier, et al. 2012). The twitch-interpolated method has been used to evaluate central fatigue. The peripheral changes were examined by stimulating the muscle in a relaxed condition. The energy cost, the mechanical work and the spatial-temporal model of walking were also evaluated pre-/post-SMM on a tape instrument in three equipment: sports, fight and March.

The results of the study show that the fatigue related to the SMM has not changed the energy of walking or mechanics, and the different equipment transported on the treadmill did not interact with this fatigue.(Grenier, et al. 2012)

In the case of the civilian population, the outdoor walking can be a recreational activity along with friends and family members, but this time spent away or moderate intensity physical activities, do not have the potential to simultaneously impose stress on several systems. of the human body. Physical requests caused by exposure to low temperatures and imposed by prolonged outdoor walking under adverse weather conditions, induce a state of accentuated fatigue, a low efficiency of thermoregulation processes that

perisap the development of a severe state of hypothermia, in the case of unprepared civilian population. for long distances terrestrial displacements. For any given unit of work, more man hours of labor or time are required in cold weather operations. By temperatures below -20°F (-32°C) workflow has seriously slowed down (Army 2017).

The major observations were the varying thermoregulatory responses and the negative energy balance incurred during the hill walk. It is concluded that recreational hill walking can constitute a significant metabolic and thermoregulatory strain on participants (Ainslie, et al. 2002). The triggering of an armed conflict, of an invasion in close correlation with the weather conditions, synchronizing the military operations with the low temperature values as well as the precipitation, leads to a stressful factor for the civilian population in refugee columns, to secure areas, away from the danger of the war . Temperature variations, precipitation, land status can influence mobility and distances that civilians can cover. Relief forms, rivers, frozen lakes, marshy or water soil surfaces, slippery roads will immobilize the means of transport and refugee columns (Barracks 2001).

This study aimed to make a diagnosis among the civilian population regarding the perception of confrontation with a limited situation represented by the possible possibility of an armed conflict in which the need to move in a safe area, far from the horrors of the war, to be realized in hostile weather conditions.

Methods

The study was conducted on a sample of 107 subjects, university customers, bachelor's degree. Before making and applying the questionnaire, discussions were held with the study participants, so that choosing the response options to show reality to the greatest extent and objective. The study method used was the questionnaire.

Results

The centralization of the results obtained in this study at the eight questions have been processed statistically and are further represented. At the first question: *Sensation of cold all the time is a common symptom of a number of medical conditions, such as:* the answer that has obtained the highest percentage, 62.7% – anemia, lack of iron in the diet or inability To produce sufficient red blood cells, it is in the general tendency registered by the recondents participating in this study. Other response variants were: 7.5% – hypothyroidism, 27.1% – Raynaud's consistency, 24.3% – Diabetes, lack of blood flow to the fingers and feet and 3.7% – anorexia.

The second question of study: *In what part of the day do you think you go through the cold 5 km?* Surprisingly, the respondents participating in the study, all civilians, without military or special training, considers that, the most favorable period for moving in hostile weather conditions, with low temperatures is – in the morning at 6.30, with a percentage of 72.9%. The physiological studies conducted show that the least favorable period for cold exposure is represented by the morning. The thermoregulation and mobilization systems of glycogen and free fatty acids in order to perform thermoregulation have the lowest yield at morning hours. The most suitable period for carrying out physical activities, moving in the field, transporting weights at low temperatures and on difficult displacement areas is the lunch period, the response variant - between 13 and 15 hours, surprisingly the lowest percentage in the options of the repondents, 15%. Other response variants were – Evening, after 19, with a representation of 3.7% and – after lunch, after 4 pm, having 8.4%. Providing by this study that the perception of civilian and incompletely informatin civilian persons regarding the movement, transport of weights and physical effort at low temperatures and unfavorable weather conditions can be an important factor that can be speculated.

The following question of the questionnaire applied was: *During a Walk for 4 Hours, at Between temperature -10^0 C and -20^0 C, what is the important period of time?*, the first answer variant was – the last 2 hours, with a percentage of 27.1%. The second answer variant – the middle period, 2 and 3 hours, set 23.4%. From the studies presented it appears that the degree of adaptability of the body to low and very low temperatures is recorded in the first part of the day. The first two variants of response, totaling 50.5% prove insufficient information and knowledge of the particularity of adapting the human body at low temperatures. The variant in which the first minutes represents the most important period of a cold environment is understood by only 10.3% – the first 20 minutes, being the response variant that summed up the smallest percentage, representing the most important period in terms of physiologically and the least important period from the perspective of the respondents. Last answer being - the last 30 minutes with a percentage of 39.3%

The centralization of the results obtained in the fourth question: *the probability of a heart attack increases when physical effort is made* – it shows that the level of general information on the risks represented by the physical effort in the cold or hot climatic environment is minimal. The risks to which civilians are exposed in case of physical activities are increased, 85% consider that there is no request at the cardiorespiratory level in case of hot effort. Another worrying percentage, respectively 93.5%, considers that the effort in the cold environment is not a risk factor. Other responses provided by the respondents were - during the night 16.8%, but – the heart attack is not caused by the air temperature, 61.7% represents a percentage confirm that the information level is insufficient and the exposure to low temperatures Without a preliminary training and appropriate equipment represents an important risk in the event of a possible forced movement over medium and long distances in the cold environment.

The low experience and the level of precarious information contribute to the formation of a distorted perception with insufficient correlation between the real possibilities and the perception of their own performances. Question Number Five: *If the Snow is Light and the Air Temperature Has Fallen Below -10^0 C, What Distance Can You Travel?* A percentage of 91.6% represents the share of those who overvalue their own physical performances and the level of supportability of a trips the winter at temperatures below -10^0 C. Thus, the two answers that have a correlation with the result of the studies and the real situations are: - About 2 km 8.4% and maximum 1 km 0%. The answers that confirm that there is an overvaluation of their own performances and a wrong perception about the effects produced by the low temperatures were: - more than 6.5 km 48,6% and between 5 and 6 km, 43%.

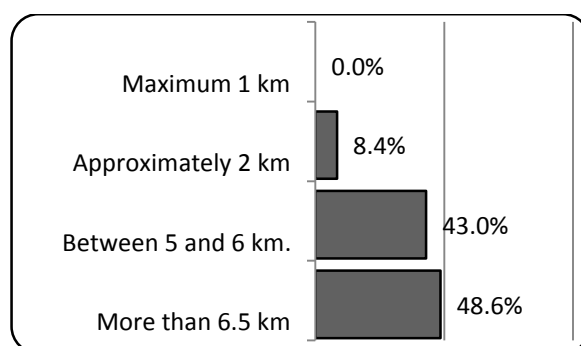


Figure no 1. Question number 5 – If the snow is light and the air temperature has fallen below -10^0 C, what distance can you travel in an hour?

In contrast to the two sets of answers addressed to previous questions, at the sixth question - *In winter at a temperature of 0 degrees, for 12 hours daily, you can take a walk, 7 days with a backpack of 20 kg?*, a percentage of 72.9% considers that it is impossible to move with a weight in the cold environment for 12 hours. The percentage of 14.9%, of those who consider that such travel is possible is represented by the two answers - very, very difficult.6.5%and under extreme conditions, yes, 8.4%. Another answer option was - I can't resist 12 hours, not in summer! 7.4%.

In a completely unexpected way, the perception of people participating in this questionnaire is that, adults over 50 years old, are those who have the ability to withstand a long period in the cold environment. At the question - *What category of population resists the best in the cold?* 73.8%, consider that young people or adults up to 50 years old do not have the physical ability to carry out physical activities in the cold environment. Three other answer variants were: young people under 15 years old. 0%, women. 11.2% and those between 15 and 25 years old, 15%. An important percentage among the participants in this study is in the age category under 25 years. The fact that only 15% of those who have answered the questions consider that they are able to move in the cold environment, falls into the tendency highlighted by the previous answers and confirms that the young population is not enough for forced trips over winter long distances.

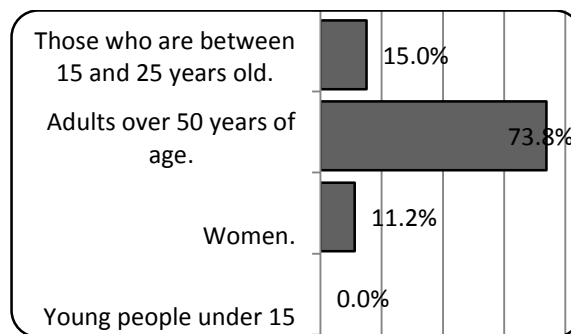


Figure no 2. Question number 7 - What category of population best withstand the cold?

The last question of this study brings a confirmation that most civilians have a very good perception about the level of training of the military personnel. Question Number eight: - *What professional categories resists more in cold weather conditions?* He had four answer variants, the first two being occupational areas in which there is a risk of exposure for long periods at low temperatures - the driver. 8.4% and the farmer, 5.7%. The last two answer variants were - the sports teacher, 36.4% and awaited and desired, the soldier 49.5%.

The way in which the training exercises in the military profession, the profile of the Romanian military are perceived by the civilians confirm that the Romanian army is the most important trust factor.

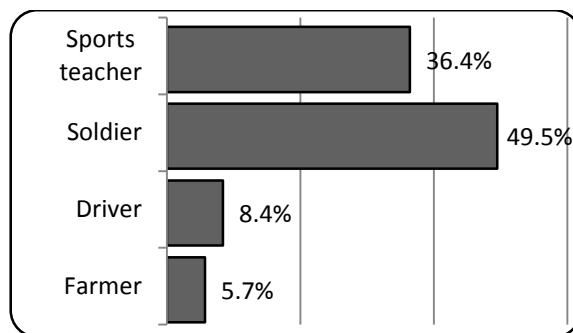


Figure no 3. Question number 8 – What professional categories resist more in cold weather conditions?

Conclusions

The increased activity, at the beginning of the winter 2022 of the Russian army on the border with Ukraine, created the civilian population located in the conflict areas a limit situation in which, for the shelter and avoidance of danger, groups of refugees were put in the situation to move to the cold environment. over long distances. The external dimension of the intensification of military activity, especially related to the situation on Syria, should be considered as having only a secondary importance (Wilk 2013). The misunderstanding of the world geopolitical context prior to the conflict in Ukraine has brought the civilian population to the limit of fleeing the war. The conflicts produced by the armed confrontations or other limit situations have shown that a large number of groups of civilians were put in the situation of fulfilling various tasks for which they did not have the necessary training. The answers provided by the participants in the questionnaire bring to the attention of the specialists the need to prepare civilians regardless of age and awareness of the population regarding the preservation and increase of the physical ability to move to the field, in the cold environment.

The level of information regarding the risks that appear with the exposure to low temperatures over a longer period is minimal, the perception of the majority of the study participants being in a small correlation with the real capacities to support low temperatures to carry moderate weights and to move on slippery or different surfaces.

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WARGAMING THEORY

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Abstract: *In this article, we want to make an overview of a distinct stage in the process of planning military operations, namely wargaming. From our point of view, as specialists in the field of military art, wargaming is a particular aspect of the decision-making process, offering the possibility to identify optimal response solutions, depending on certain variables of the operational environment. Thus, in this approach, we will start from the main historical landmarks regarding the appearance and development of the domain, so that later we can present certain particularities of wargaming, on which occasion we will be able to identify the general theory of the domain, next to developing a series of directions of action, adapted to probable courses of action of a possible enemy. The development of military art, the experience of military strategists, the emergence of new technologies, and the adaptation of tactics to changes on the battlefield, represent a milestone in the way of conducting both warfare and wargaming. The only constant in this field is that human imagination is limitless and we can only hope that the military specialists will find the proper solution to transform fiction into a reality. Thus, we address not only the specialists but also those who are at the beginning of their military career, offering a perspective on the field.*

Keywords: *wargaming; course of actions; decision-making process.*

Introduction

The main topic that we intend to analyze in this paper with a scientific point of view is the wargaming theory, the main purpose is to identify its possible evolution and the ways that this theory could influence the conduct of operations during military campaign.

To achieve this purpose, we resorted to a historical analysis of the evolution of war games, with increased attention on the advantages that a commander could benefit from a battle simulation. Next, starting from the concepts specified in military doctrines, manuals and instructions, using the hypothetical-deductive analysis, we will highlight what could be the wargaming's major impacts over the own courses of actions.

At the end of the paper, we will submit to attention the conclusions by following the analysis we proposed at the beginning.

The motivation for choosing this topic for analysis is given by the proximity of the Russian – Ukrainian conflict and the need of identifying a way to predict any impact that it could have over national interests.

The novelty of the research lies in the analysis of the evolution of war games and the one of the specific procedures that establish the general framework in which these simulations take place with an increased focus on the methods most used during exercises and training programs in Romanian National Defence University.

Human urge of establishing peace and global harmony, obliged our leaders to identify a variety of ways to defuse tensions, put an end to armed conflicts or wars or, at least, to reduce human and technical losses and financial costs. From this point of view, the importance of simulating a battle is without question. Having the alternative to identify

strengths and weaknesses, vulnerabilities, critical capabilities and everything else needed for the success of an operation without involving troops movements or losses of human lives and equipment is of major importance and offers the possibility to assess a lot of courses of action in a shorter period of time.

1. Wargaming overview

For a very long time both historians and philosophers struggled to answer a numerous of intricate questions. Among all of these, we can identify one that is very much related to armed conflicts, namely wargaming. From our point of view, it is not relevant if human kind had faced either warfare or developed a simulation of the battles in the first place. We consider that the most important fact is that, in accordance with human nature, no effort had been spared in order to improve the efficiency of the fights, on the one hand and to save lives on the other hand. It seems that these two antagonist feelings, living together in our minds, are of the utmost importance in the progress of our society. Therefore, the development of one of these branches induced a symmetrical effect on the other. As much as the tactics or technologies involved on the battlefield were developed or invented, technics and methods of the wargaming were adapted and improved to the same extent. Thus, we can observe that the history of war simulation is in a strong connection with the history of the way the battles are fought. As a result, in order to accomplish a study regarding the history of wargaming, we have to concentrate our efforts on the history of the armed battles, development of technology and evolution of tactics and strategies as all that impacted the simulation process.

It is very difficult to determine which of the warfare or wargaming appear the first in human history. Taking into consideration that every conflict and every game is based upon a strategy in order to claim victory, it is easily to observe the strong connection between the two concepts. Being so, according to some researchers, the complexity of the game of Chess and Go is a strong argument that these two games could be the source of inspiration for the modern battle simulation (Goria 2011, 1 - 16). Moreover, the real masters of the game have that unique ability to conceal their true intentions in front of the opponent, the very essence of military art: “*all warfare is based on deception*” (Tzu 2000, 3). Even for this single reason we are inclined to declare that there must be a very close connection between the two ancient games and the way the battles were fought in that era. What’s more, when it comes to chess, the similarity between the game figures (kings, queens, bishops, knights, castles and foot soldiers) and the specifics of the fighting units are conspicuous. This similarity and the facts that for a very long time the *Queen* was known as the *General* or the *Prime Minister* (Dunnigan 2005, 140), and that the end of the game coincide with the surrender of the *King*, the symbol and the highest representant of a nation and an army, are also evidences that the Game of Chess is one primitive attempt to transpose field events on a flat, small surface always at the disposal of the supreme commander.

As stated above, the development of the warfare and the evolution of its simulation go hand in hand. Consequently, as the inventions and innovations in the field of army fighting transformed and enlarged the dimensions of the conflicts, in the same manner, the games used to imagine the courses of action readjusted in order to face the new challenges. In our opinion, out of the multitude of factors that had a significant impact on the progress of the battle simulation, was, the discovery and the use of the geographical maps. From this point forward, the planners and the engineers were able to simulate the movements of the troops more closely to reality, having the opportunity to establish the distance covered by a specific unit in accordance with the variety of the field, the presence or absence of rivers or other difficult terrains. Furthermore, the technology also influenced the way of conducting wars. Every new breakthrough had an application in the military field, either improving the capabilities of the

standard fighting units of by creating the necessity of new specific units. In every moment of our history, all these changes induced by technology were requested to be part of the new simulations. Thus, the chess board consisting in 64 planned squares became obsolete, being replaced with maps whose accuracy was strictly dependent on the technological possibilities of research and simulation of the battlefield. Moreover, the 16 figures of each chess gave way to a variable number of objects representing divisions, battalions or companies, coded according to the main characteristic of their use in battle. Around 1650, in Prussia, the so called *Koenigspel* (King's Game), nothing else but the so called first "War Chess" emerged and included a different number of figures displayed on a bigger board reflecting the reality of the wars conducted in the XVII century. What is considered to be the first simulation of naval conflict is identified to have been organized for the first time in the second half of the XVIII century, when, using warships represented by small wooden pieces, the players managed to imitate a real fighting action at sea, even the wind effect over the ships' maneuvers or the effect of the firing shots upon the enemy battleships (Goria 2011, 1-16).

The importance of the wargames became indisputable. Every new hypothesis, theory, strategy or tactic could have been tested without involving a large number of troops and equipment, implying a dramatic reduction of costs and the opportunity to invest in better preparation of the military personnel or in the modernization of the military units and fighting equipment. Also, it seems to me, that it was in this period of time that the specialization of the wargaming players became an absolute necessity. Therefore, besides the supreme commander and the other commanders, functions such as operators, maintainers or engineers made their presence felt and became indispensable for the accuracy of the simulation. Moreover, simulations were used to validate those innovations and to apply them in future battles (Goria 2011, 1-16). Before making a change of the strategy or tactic, commanders had the chance to test it before the battle and, depending on the conclusion of the game, decide whether to apply it or not in military actions, saving a lot of money and, more important, saving the lives of their comrades.

The apparition of aviation and submarines represent a milestone in the way of conducting both warfare and wargaming. It forced engineers to exceed the limits of the imagination, in order to create a virtual reality as accurate as possible. From this point forward, the classic simulation of the battles became obsolete, on the one hand due to the high speed of aerial operation, a real challenge for the operators, and, on the other hand, due to the request of a tridimensional representation of the battlefield, in order to introduce submarines in the actions. It was the development of the Information Technology – IT – that solved that huge problem. The tremendous impact of IT over the game simulation is hard to imagine. Suddenly, almost anything could be visualized on the display of a computer. Nothing seemed to be impossible, the only limit residing in the restrictions of human imagination. From now on, with a very reduced cost, thousands of simulations, happening in different places of the world, having different combatants and equipment became available on the same device, located far from the battlefield and returning much more data. All of that in a significantly shorter period of time, involving a reduced number of additional staff, improving therefore the level of security and decreasing the risk of information leaks.

Involving more and more non-military experts in the simulation of armed conflict, it was only a matter of time until a company would have the idea to use this concept for civilian purpose. This happened in 1958 (Dunnigan 2005, 141), when a dedicated company decided to create an edition for civilians, a real turning point in the history of game simulation. Having the possibility to test different theories in a short period of time, with fewer employees and, more important, with a huge reduction of costs and risks, made the civilian leaders to concentrate their resources in the development of these applications. The unprecedented rapid pace of change in the civilian environment could only be matched by that of computer development. From

this point forward, the human history is a mixture between the military and civilian technology in almost every field of activity, especially the imitation software. The games of war, by the high imitation of the military assets, represent the undisputed evidence to highlight this fusion. In these video games, ships, aircrafts or tanks are designed with an unseen accuracy and their actions are subject to the rigors and limitations of the battlefield reality. Perhaps, the most important advantage of these games is the fact that they are addressed to all people, indifferent their age or occupation, allowing engineers and planners to have a better and unrestricted feedback about their work.

Therefore, we have taken a trip throughout the history of wargaming to see how the evolution of the military actions, tactics and strategy impacted the simulation of the battles. The purpose of a tactical wargames is to identify some important lessons by recreating a specific battle with army maneuvers or to propose the best solution in order to minimize the loses and to attain victory in the future armed conflicts. We highlighted that most of tactical maneuvers and strategies could be tested and validated with this system, in order to streamline the entire defense process of a nation, by reducing the costs and the loss of military personnel and equipment.

Furthermore, in our opinion, this information visualization tool allows us to perform competitive intelligence practices with the possibility to add value to information by its representation. Another advantage is to extend the question about the operational environment to identification of threats and opportunities linked to a specific military action. In the continuation of this idea, decision-makers can identify where the major impact of an action could be.

Finally, not being able to foresee the new technological breakthrough, it is almost impossible to predict the design of the future warfare simulation. We can only imagine that the development of the new quantum computers will have in this domain. The only constant in this process is that human imagination is limitless and we can only hope that our intellect will find the proper solution to transform what seems to be a fiction in a future reality. Not less important is that internet provides us the essential infrastructure to interconnect our devices giving us the opportunity to transfer information from one corner of the world to another with the speed of light, this advantage being available for a variety of purposes such as military cooperation, simulation of the integration of combat units from different countries or in the educational process.

2. Wargaming process particularities

During history, great generals understood that anticipation is very difficult to achieve, therefore, their most important ability was to find new and better ways to analyze the adversary and to identify as many enemy Courses of Action as possible. For this reason and not only, the battle simulation became one of the most important steps during the planning process, giving the possibility to assess the potential of the own Course of Action (COA) to fulfill the mission against the opponent COAs and to correctly identify the deficiencies. However, the real value of the war game is that it allows the commander and staff to synchronize and visualize the conduct of operations. It can help anticipate possible events, identify potential risks and opportunities that may be necessary to counteract and exploit different situations, with the final purpose of achieving victory (SMG-3 2016, 125). In order to get the most out of a war game, Joint Operations Planning Group (JOPG) should maximize the efficiency of the simulation by taking into consideration a variety of factors such as: available time for planning and for execution, critical events to be played, the need for the involvement of subordinates, commanders in support and cooperation with relevant national and international actors, the type of war game - staff estimation, map exercise, operational

analysis (SMG-3 2016, 125), etc. From our point of view, the success of a war game is strictly related to the appointment of a coordinator, whose main purpose is to carry out the preparation of the simulation and to maintain an objective approach of every actor involved in the process.

Studying the planning process and the different approaches of the wargaming, we can observe that usually, the simulation process includes several phases such as: setting the conditions, conducting game rounds and evaluation. Though each of these phases has a specific format, JOPG should always remember that flexibility is one of the most important qualities of a good officer, therefore, they should not be limited to this. Generally, the setting the conditions phase is an introduction setting out the strategic and operational conditions that influence the operation, including political considerations, the nature of threats, environmental, civil, media, information conditions, etc. Additionally, the conducting game rounds refers to a series of rounds of play on the typology of action - reaction - counter-action, every time giving the initiative to the opponents. Finally, the evaluation involves the assessment of the probable results and conclusions that would follow after each round, being used to determine the conditions under which the next rounds will take place.

The game starts with the "Action" item. The head of the cell initiating this move (Part A) will present his own COA segment which will be analyzed, highlighting the threats identified during it. This presentation will also include the objectives to be achieved, the measures taken by the forces themselves, the level of detail established, all available forces and capabilities, the tasks assigned, the description of the planned combat actions, as well as the deployment and maneuver of the forces. Next, the "Reaction" element in this move, is very important to determine which actions taken by Part A in the "Action" can be discovered / identified. "Counter-reaction" is the element that ends the move. This is the most flexible element of the cycle. The representative of Part A will present his options regarding the actions / threats presented in the "Reaction" (SHAPE 2013, 4.73-4.81).

Based on the above aspects, it may be necessary to revise your own COA. No major COA changes are made during the execution of the war game, the process is stopped, the changes are made and the game is resumed. The purpose of the analysis phase of each cycle is to record the information identified by the game director and the resulting conclusions in the synchronization matrix. The results recorded during the "Action", "Reaction" and "Counter-reaction" will be evaluated by the participants. Depending on the method of play of the war game chosen, the next cycle may be, chronologically, closely related to the previous one or represent the beginning of a new segment, staggered in space and time.

There are many conclusions that the JOPG could extract after a well-played war game. According to military literature and documentation, among the most important results of the war game are: validation of own courses of action, identification of decisive points, the need of elaborating variant plans or/and alternatives, new information requirements that should be sent to designated structures, synchronization of actions, identifying the advantages and disadvantages of each COA, risk assessment and identification of ways to reduce it, updating initial estimations, updating the costs, proposals to amend the Rules of Engagement (ROE) or identification of opportunities and vulnerabilities, additional strength and capability requirements, loss estimation, etc. (NWP-5-01 2018, 4-21). Out of all these, we can conclude that the war game can improve some planning aspects like the succession, in space and time, of the stages of the planned operation, the required level of coordination between forces, the synchronization of the forces participating in the operation, the determination of the necessary own capabilities and the fighting power of the forces, etc.

The conclusions of the war games support the staff in establishing the organization of the forces for the execution of the operation, the synchronization in time and space of the actions of the forces, as well as in the realization of the decision support matrix. For this, all the data provided after the rounds of the war game must be recorded in such a way as to facilitate the

activity of comparing the courses and drawing up the operational plan. There are two known ways to do this: the synchronization matrix and the course analysis worksheet. Both methods support the staff in recording all observations regarding the identified strengths and weaknesses, additional tasks for subordinate units, or the organization of the necessary command-control system.

The experience developed at Romanian National Defense University gave us the opportunity to participate in a variety of exercises, whose main purpose is didactic, as a consequence we are able to list some of the conclusions obtained from the war games during these exercises: the analysis team improved the force organization for the mission and managed to develop a synchronization matrix. Also, it was easier for them to identify advantages and disadvantages of each COA, to identify variants and alternatives or to identify some risks that may affect the development of real actions. Moreover, the planners were able to visualize and to improve the succession and synchronization of military actions between the river and the sea, to evaluate and to change the surveillance and striking alignments, to reconsider the accepted risks, etc.

From the multitude of methods in which a war game can be played, based on our experience, we can identify some fitted for didactical purposes of the wargaming: the war game in phases of the operation; the war game for going through the decisive points; the war game on segments of the operational environment (SMG-3 2016, 125-129).

The development of the war game in phases of the operation consists in the analysis through war game of the main tasks of the assembled forces, related to some phases of the operation, well defined in time, in relation to the objectives associated with the phase. In terms of the fidelity of the results, this model is based on predefined scenarios in which participants intervene in the decision. Thus, a major disadvantage in manual warfare is that the outcome and sequence of events are influenced by the decisions made by the players. The advantage is that the phases can be carefully chosen so that the war game allows a realistic picture of possible situations in the short term. Also, an error in one phase of the game does not affect the analysis of the next phase. In this case, the challenge for planners is to identify computer-assisted warfare solutions where the decision maker can make a decision with minimal errors (SMG-3 2016, 125-129).

The development of the war game for going through the decisive points consists in the realization of a war game in which the elements of analysis are based on the need to fulfill some decisive conditions, defined by the main tasks of the assembled forces. Decisive points lead to the enemy's center of gravity. The turning points represent those critical moments of the military action that allow the transition to the next stage, so that the succession of the decisive points leads to reaching the proposed final state. The advantage of this method is that there are concrete possibilities to quantify the results, both in the manual war game and in the assisted one. The disadvantage is that a wrong analysis of a decisive point, in a cascade, leads to errors propagated to the following decisive points analyzed (SMG-3 2016, 125-129).

The method of conducting the war game on segments of the operational environment consists in identifying the results obtained by analyzing the main tasks specific to the different areas of action. The advantage is that tasks specific to one medium of action do not influence the outcome of the analysis of another medium of action. The disadvantage is that an analysis of a common task, related to two means of action, can produce different effects without identifying where the error is (SMG-3 2016, 125-129).

Following personal practice, we are able to recommend a number of methods for conducting war games at the tactical level, that can be used individually or in combination:

- avenue in depth method;
- belt (strip) method;
- box method;

- area method;
- the succession of essential tasks method.

The avenue in depth method is suitable for both offensive and defensive courses of action if in the area of operations there are clearly delimited directions in the field. Based on the analysis of decision points, critical events and centers of gravity for all forces analyzed, this method is the correspondent of the war game method for traversing the decisive points at the operational level.

Using the strip method, the area of operations will be divided into transverse strips (across the width of the area of operations), and the components of the battle will be analyzed in stages. It is a good method of analysis as it provides information about all the forces that influence a certain event, which is why it is recommended especially for actions that take place over large spaces (delay operations, contact advance), analysis of different stages of an operation (forcing a river) or when the enemy is grouped in clearly defined and identified echelons. This method helps us to analyze sequentially the actions carried out along the entire front of the designated strip, but it is recommended to include portions of strips belonging to neighbors, in order to assess the influence of their actions on the actions of their own forces.

The box method involves the analysis of critical events in certain districts, sectors, employment area, the delimited area being isolated and the simulation channeled strictly on the area. This method involves concentrating the development of the war game in a certain geographical area, in which a certain effect must be achieved. Applying this method, takes into account that the delimitation of the chosen area is done taking into account the general characteristics of the terrain, the alignments of their own forces, the areas of action of the acting enemy, specific geographical boundaries (delimited by lakes, rivers, deltas, beaches, mountains, roads communications, etc.). The method is used when military actions are planned in areas of operations delimited by predominant geographical features.

The area method involves subdividing action rates into subareas in the area of operations. Each subzone corresponds to a time segment to be analyzed. When this method is used, the planning group isolates the area and focuses on critical events within that area.

The method of succession of essential tasks is one of the handiest. This method involves traversing one or more-time segments of the COA. Dividing a COA into time segments can be done in two ways. A process involves dividing the COA into segments with equal time intervals, identical for all own and enemy COAs (OPFOR). Another procedure is to divide the COA into segments with flexible time intervals that correspond to the tactical sequences. The method of the succession of essential tasks allows to determine the way in which the execution of an essential task achieves the success and identifies the conditions for the development of the next phase of the operation. It also offers the possibility to review the course of action according to certain possible reactions of the opponent.

In view of the above, we consider that military planners have at their disposal adequate tools for analyzing the indices and warnings that underline the development of COAs, based on the results of a war game that respects the most fundamental principles of planning, analysis, and an optimized decision. The methods of war games presented, along with the particularities of the field, offer the possibility of developing an overview of the possibilities of analyzing possible situations, for an informed decision.

Conclusions

According to doctrinal precepts, the most widely used principles of the war game in the virtual environment are related to the type of operation, the purpose, and mission of the structure, and the initial conditions listed in the scenario. The scenario provides a captivating environment in which all games take place.

Similar to the operation planning process, in the wargaming process, the formulation of purpose and objectives is essential to ensure that an issue to be examined has been correctly formulated/framed.

As a particularity, the players and their decisions are the basis of all war games so the objectivity of war games is represented by the fairness of the players' decisions.

Simulation is the essence of the action models contained in the war game. All simulations are based on data and data sources that underlie the action models. According to the aspects presented in this approach, it can be seen that the simulation can be computer-assisted or manual. Thus, the decision of the planning group is better to be based on the assisted analysis process.

With the mention that we can consider our intervention to present certain aspects of the process, we are sure that we come to the aid of those who want to develop the subject in order to develop this overview. Finally, through this intervention, we emphasize the importance of the war game in a process of planning military operations.

From a didactic point of view, as specialists in the field, we emphasize that in addition to the results of the war games we simulate, our experience grows with the results collected in the game – which are normally needed to help us understand what happened during a war game and strengthen its benefits. We transmit this experience from generation to generation of students but also to military teachers.

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PARTICULARITIES OF CONTROL IN THE ROMANIAN ARMY

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Abstract: *The control and inspection corps was established on 20.02.2007 by merging the General Inspectorate of the Ministry of National Defense with the Control Corps, being the successor of the institution "Inspector General in the Romanian Army" established on April 1, 1910, by High Royal Decree no. 1217, signed by King Carol I. According to this document, the first inspector general of the army was appointed FERDINAND I, the heir to the throne of Romania, division general, commander of the Second Army Corps and inspector of the cavalry. Fields of activity, according to the provisions of art. 16 of Law no. 346 of July 21, 2006 with the subsequent amendments and completions regarding the organization and functioning of the Ministry of National Defense, are the following: 1) The control and inspection body elaborates the general regulatory framework of inspection and control activities in the Ministry of National Defense; 2) The control and inspection body investigates / verifies, on order, issues necessary to inform the ministry's management to substantiate decisions; 3) The control and inspection body elaborates policies and regulations specific to the Ministry of National Defense in the field of environmental protection and that of occupational safety and health, coordinates, monitors and controls their integration/application in the army.*

Keywords: *military system; control; inspection; Romanian army.*

Introduction

Romania is a national, sovereign and independent state, unitary and indivisible, a state of legal, democratic and social; the form of government of the state is the republic. The state has that fundamentally the unity of the Romanian people. Citizens are equal before the law and with public authorities, without privileges and without discrimination, being public, civil or military functions and dignities equally accessible. Citizens have the right to choose and to be elected in the institutions of representative leadership of the state, as well as the obligation and the right to defend Romania.

The army is led and controlled, by democratic means, by the civil political structures policy of the rule of law. Parliament is the supreme representative body of the people Romanian and the only legislative authority in the country.

The Romanian Constitution establishes that "the army is subordinated exclusively to the will to guarantee the sovereignty, independence and unity of the state, territorial integrity of the state and constitutional democracy (Romanian Constitution 2003). At the same time, the Supreme Council of Defense of the Country is entitled to organize and coordinate in a united way "the activities that concern national defense and national security" (Romanian Constitution 2003).

In Romania's National Security Strategy, the purpose of state action in the sphere national development lies in "building a stable, prosperous and democratic Romania, able to participate effectively in the dynamics of international life" (Romania's National Security Strategy 20 decembrie 2001). Fundamental interests concerned are: maintaining the integrity, unity, sovereignty and independence of the Romanian state; guarantee fundamental rights and freedoms and ensuring the well-being and security of citizens Romania; asserting one's

national identity and promoting it as part of the community of democratic values; environment protection.

"Romania will act, through its defense policy, as part of national security, for: integration into Euro-Atlantic and European military structures; body reform military in order to develop a credible, modern and effective defense capability; strengthening civil and democratic control over the armed forces, in accordance with the principles and the values of democracy; consolidating Romania 's status as a security generator, through maintaining and improving the contribution to regional stability. [...] Use of military means is a last resort mean for defending the fundamental interests of the country”.

Romania's Military Strategy states that the general objective of the Romanian Army consists in strengthening the national defense capacity by developing a force structure flexible, modern, adequately equipped, deployable, interoperable both internally and internally Allied context, with multidimensional support and protection capability, with a system of order efficiently.

For the period 2021-2024, the national military objectives are:

- removing the effects of the COVID 19 pandemic and enhanced national resilience; - developing defense skills for knowledge, prevention, deterrence and rejection of any aggressive actions against our country;
- participation in the realization of the national system of integrated crisis management;
- strengthening the military profile of Romania, with an emphasis on the dimension of defense and deterrence within NATO, as well as the contribution to the CSDP;
- increasing the presence of allied and partner forces in the Black Sea region, facilitating mobility, their disposition and development;
- continue to participate in the development of NATO attack capabilities with ballistic missiles;
- active participation in measures to combat the effects of the new pandemic coronavirus, to restore and increase the resilience of the national health system;
- strengthening military cooperation in a regional context, in the spirit of maintaining the profile of Romania as a regional stability pole.

The national military objectives will pursue the following strategic level effects:

- prevention, deterrence and frustration of aggressive actions against Romania;
- limiting the duration or influence of a hostile military action likely to generate a crisis or a situation of instability;
- protection of the population and the territory;
- projection of military capabilities for participation in the extended national security; - strengthening the strategic credibility of our country;
- developing the resilience of the military system and contributing to ensuring national resilience (Military Strategy of Romania 2021).

The National Defense Law of 1994 stipulates: “Leadership of the national system of defense is an exclusive and inalienable attribute of the constitutional authorities of the state and carried out by: the Parliament, the President of Romania, the Supreme Council of National Defense, The Government of Romania, the Ministry of National Defense and the public administration authorities with attributions in the field of national defense ” (Law of national defense of Romania 1 Juli 1994). Diplomatic documents, signed by representatives of Romania contains explicit articles on the Army - society - civil society relationship, in the political regime of representative democracy. Partnership Framework Document for Pace, from 11 January 1994, calls on the Member States: “(a) to facilitate transparency the process of elaborating plans and budgets for defense; (h) determination of the exercise democratic

control over the armed forces." Democratic civilian control over the Army is highlighted, moreover, as a priority condition for joining NATO and the EU.

Several laws regulate foreign military relations and security commitments Romania (ratification of the Armed Forces Treaty) in Europe since 19 November 1990; ratification of agreements on military relations with other states, including the Peace Partnership Agreement of 19 June 1995 etc.). Romania's participation in international peacekeeping missions is, in turn, validated by decisions of Parliament.

Therefore, the Romanian society builds and controls its Armed Forces, in the first through specific political institutions: Parliament, the President of the State and The Government of Romania. This is an absolutely necessary and beneficial democratic control, regulated by law and exercised as such.

Leadership and control of the Army in the rule of law system: Parliament exercises leadership and control over the military institution in its capacity its supreme representative body of the nation and its sole legislative authority. As a legislative power, the Parliament establishes through organic laws: the structure and the missions Army and national security system; policy, doctrine and strategy in the field national security and armed defense; the system of alliances and external military relations; regime the state of siege and the state of emergency; the place and role of the Army in society, including insurance protection of military personnel in activity, reserve and withdrawal, etc. On this basis it was built in Romania a new subsystem of legislation with military content, agreed with the requirements the rule of law and the rules specific to the European and Euro-Atlantic institutions.

Until 2001, the Parliament regulated by law: the legal regime of defense national (Law no. 45/1994); preparing the national economy and territory for defense (Law no. 73/1995); preparing the population for defense (Law no. 46/1996); military personnel status (Law no. 80/1995) and their remuneration (Law no. 138/1999); organization and functioning of the Supreme Council of National Defense (Law no. 39/1990) etc.. Organization and the functioning of the Ministry of National Defense was established by an Emergency Ordinance (no. 14/2001), unlike the organization and functioning of the Ministry of Interior, the Romanian Intelligence Service, the Foreign Intelligence Service, the Special Telecommunication Service, which benefit of ordinary laws.

By virtue of the powers of the state leadership, the Parliament also establishes the directions of socio-economic, cultural, political and legal activities. Of particular importance in the highlighted context is the approval by the Parliament of the State Budget, which also includes the Army Budget.

The size of the Army Budget is established in relation to: the financial needs self-assessed by the Army; the Government's ability to respond to the general needs of society, in particular those of defense; the political will of parliamentarians. The specialists appreciate that the Parliament controls through the Budget in the most concrete, firm and definitive way the military institution (Tismăreanu 2017).

On the other hand, the same Parliament approves the declaration of partial or general mobilization, the declaration of a state of war, the suspension or cessation of military hostilities, the approval of the state of siege or emergency - all at the notification of the President of Romania. The Parliament also debates and approves the Annual Reports of the Supreme Council of National Defense and directs its activity through decisions of the plenum of the two Chambers.

Through its powers in the field of election, formation, appointment or removal of state authorities, Parliament proves a certain preeminence over other public powers; he may suspend the President, who is also the Supreme Commander of the Armed Forces; at the same time, the Parliament grants or not the vote of confidence to the Program and the list of the Government, of which the Minister of Defense is part of.

Finally, the Parliament has the right to directly control the observance and application of the Constitution and the laws, as well as the way in which the state authorities interpret their specific role in the state mechanism. This control is complete, in the sense that Parliament can assess the entire activity, annul illegal acts and revoke state bodies or senior officials. Parliamentary control is materialized through: reports, messages, reports, programs, questions, interpellations, information, parliamentary commissions (permanent, investigative, special). The Chamber of Deputies and the Senate have separate parliamentary committees for defense, public order and national security. The profile committees examine all Government projects and legislative proposals concerning the Army: normally, parliamentary committees should, in particular, facilitate the development of harmonious and beneficial relations between Parliament and the Army.

The President of Romania – as the holder of the executive power – represents the Romanian state and is the guarantor of the national independence, unity and territorial integrity of the country. "The President of Romania oversees the observance of the Constitution and the proper functioning of public authorities. To this end, the President exercises the function of mediation between the powers of the state, as well as between the state and society"(art. 80/2). The President promulgates the laws adopted by the Parliament, appoints the candidate for the position of Prime Minister and appoints the Government, on the basis of its validation by the Parliament. The President may take part in Government meetings when examining matters of national interest, including those of a military nature. The President also concludes international treaties on behalf of Romania and submits them to Parliament for approval. The military attributions of the President are well specified: the commander of the Armed Forces and president of the Supreme Council of National Defense; "He may declare, with the prior approval of the Parliament, the partial or general mobilization of the Armed Forces" (art. 92/2); "In case of armed aggression directed against the country, the President of Romania takes measures to repel the aggression and brings them without delay to the notice of the Parliament, through a message" (art. 92/3); The President also establishes the state of siege or the state of emergency and requests the approval of the Parliament for the measures adopted; The President awards decorations and titles of honor and grants the ranks of Marshal, General and Admiral (Dumitru Iacob 2017).

The government – as an essential component of the executive branch - ensures the implementation of the country's internal and external policy and exercises the general management of the public administration. The Government leads and controls the Army in the management system of the specialized central public administration ("ministries are organized only under the subordination of the Government"). The Armed Forces, primarily the Army, are part of the central and specialized public administration institutions. By law, adopts decisions and ordinances (under an empowerment law), is politically accountable only to Parliament, negotiates and signs agreements, conventions, agreements and treaties at governmental and departmental level.

If the Constitution states that "the structure of the national defense system, the organization of the Army, the preparation of the population, the economy and the territory for defense, as well as the status of military personnel are established by organic law", the Law on Government Functioning, no. 4/1991 letter n, stipulates: the latter "carries out the measures adopted according to the law, for the general organization of the armed forces, their endowment and the fixing of the annual contingents of citizens to be called to perform military service" (Law on the organization and functioning of the Government 1991). As a result, a series of Government decisions regulate: the organizational structure of the Ministry of National Defense (no. 282/1994); the functioning of the Medical-Military Institute, of the Academy of Higher Military Studies and of the Military Technical Academy; wearing a uniform; hiring the military on a contract basis; food and equipment rights of defense

personnel; measures to implement international conventions banning the production of weapons of mass destruction, etc. The government also issued emergency ordinances regarding: the state of emergency and the state of siege (no. 1/1999), social protection measures for military personnel and civilian employees (no. 100/1999), the transfer of military protection civil service units subordinated to the Ministry of Interior (no. 179/2000), the organization and functioning of the Ministry of National Defense (no. 14/2001). In turn, the National Defense Planning was the subject of an ordinance (no. 52/1998), while the Military Strategy of Romania was approved by a Government decision (no. 318/2000), as well as the organization of the central structures of the Ministry of National Defense (no. 489/2000).

The Prime Minister leads the government and coordinates the activity of its members, presents reports and statements to the Parliament on government policy, proposes to the President the removal and appointment of ministers, represents the government in relations with other state powers, etc. At the same time, he appoints and dismisses secretaries and undersecretaries of state, signs government decisions and ordinances, and some presidential decrees.

The Minister of National Defense, as a member of the government, applies his policy in the field of military subsystem represented by the army; at the same time, it promotes the specific interests of the Army in the Government, in relation to the other state institutions, to the political environment and to the civil society. Through the Chief of the General Staff, the Secretaries of State and the Chief Inspector, the Minister of National Defense exercises his authority over the entire army. At the same time, the Minister of National Defense coordinates the activity of the Military Section within the Supreme Court of Justice, the Military Prosecutor's Office and the Directorate of Military Courts within the Ministry of Justice. The Superior Military Council of the Army acts as an advisory body to the Minister of National Defense (Stoian 2015).

The courts: The Romanian Constitution and the Law on the Organization of the Judiciary (no. 92/1992) establish that the Judiciary is governed by the principles of independence and immovability of judges. The judges are appointed by the President on the proposal of a Superior Council of Magistracy, elected by the Parliament. Military courts prosecute crimes committed by the military, certain crimes committed by civilians (on property owned, administered and used by the Armed Forces or in connection with their military obligations), crimes committed by civilian military personnel. Civilian personnel committing civil offenses are tried by civilian courts. Under current law, military personnel and civilian personnel do not enjoy legal privileges.

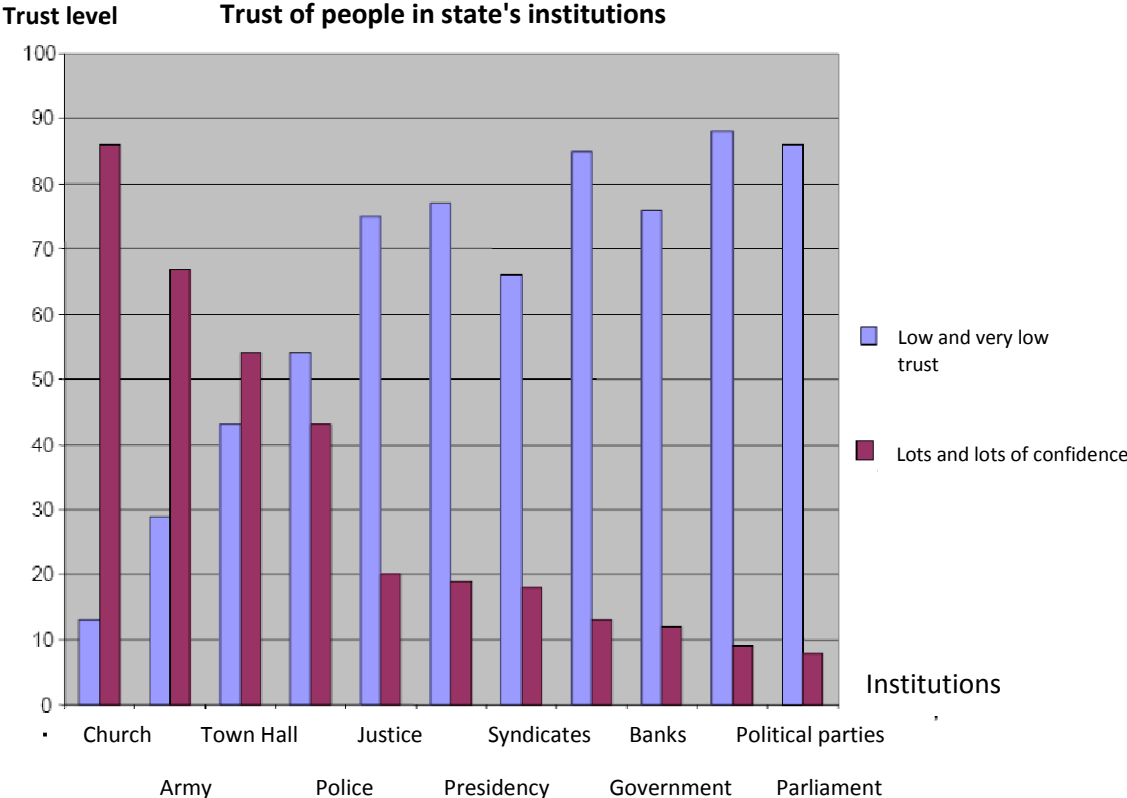
Supreme Council of National Defense: The Romanian Constitution stipulates: "The Supreme Council of National Defense organizes and unitarily coordinates the activities concerning the country's defense and national security." The Council is chaired by the President of Romania and includes the Minister of National Defense and the Chief of General Staff, in addition to the Prime Minister, the Minister of Foreign Affairs, the Minister of Interior, the directors of the Romanian Intelligence Service and the Foreign Intelligence Service, the Adviser for Defense and National Security of the President of Romania. This institution of the central public administration makes proposals addressed to the President and the Parliament and adopts its own decisions, in the sphere of national security. Thus, the Supreme Council of National Defense proposes for the approval of the Parliament: the fundamental concept of defending the country; the structure of the national defense system; declaration of state of war; suspension of hostilities; armistice etc. (Law no. 39/1990). SCND also analyzes the situations in which it is necessary to declare the state of emergency, the state of siege and the partial or general mobilization. Important are the SCND's responsibilities to analyze and approve: the organization of the national defense system; dislocation and

redeployment of large units, from brigade echelon upwards; the plan for mobilizing the national economy; military equipment endowment programs; the collaboration plan between MoD and Ministry of Interior for the defense of some important objectives on the national territory; maintaining and restoring the rule of law; basic guidelines in the field of international military relations; draft international military treaties and agreements; reports of the heads of the state administration bodies with responsibilities in national security, etc. The SCND is convened by the president and adopts decisions by open vote, by simple majority. Decisions adopted by the SCND are binding. Every year, the SCND presents a report to the Parliament on the activity carried out.

Conclusions

The existence of an army-civil society relationship is particularly important for maintaining and promoting national stability and security. The military influences social life and, at the same time, civil society exercises indirect control over the military body, a control that guarantees that the military maintains its constitutional role in ensuring national security and defense.

In Romania, this relationship is unfolding in an optimal way considering the degree of development of the civil society here. As proof are the results of opinion polls in which the army ranks second after the church in terms of public confidence in institutions:



Analyzing this data and correlating it with the analysis of the army as a social institution, the explanatory model of the phenomenon of society's trust in the military institution is revealed:

1. extra-institutional factors:

- confidence as an effect of history, as an inclination towards tradition – high confidence in the military institution is an effect of the positive presentation of the role of the Army in the history of Romania;

- confidence as an expression of the need for a support point in transition - the Army is associated with fundamental values (independence, sovereignty, territorial integrity) that cannot be the object of transitional transformations;

- confidence as a mechanism for reducing uncertainty – social transition determines the creation of unique situations that human individuals face. These situations generate strong states of uncertainty and insecurity that are manifested by awareness of real or imaginary threats, followed by the orientation towards and support of those social actors who may oppose the threat. In this context, the Army is appreciated and valued as the only one capable of promoting and safeguarding the vital interests of the nation; - trust as a component of the collective mind - the foundations of the credibility of the military institution belong to the deep structures of the collective memory crystallized throughout history.

2. institutional factors (these have been previously explained):

- the correlation between the army and the population;
- the military-culture relationship;
- the economic relations established between the army and society;
- the relationship between the army and politics.

It should be noted that for a complete analysis of the image of the army in Romanian society, the aspect of trust in the military institution is not enough. This issue is a study in itself based on a large-scale social survey, which was not carried out by the research team due to limited material and human resources.

It is absolutely necessary to establish the relations between the army and the civil society on the criterion of mutual credibility, in which the relationship becomes fluid, viable and operational. This state of affairs corresponds to the need derived from the imperative to democratize the process of rebuilding the country's security and defense, in accordance with the principles of the democratic world as a whole and with the requirements of European and Euro-Atlantic integration.

In the case of Romania, an appropriate proportion is achieved between subjective and objective control of society.

In terms of subjective control, the coalition of ruling political forces exercises constitutional political control.

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CHALLENGES IN USING IRS STRUCTURES IN UNCONVENTIONAL OPERATIONS IN THE CURRENT SECURITY CONTEXT

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Abstract: *The unpredictability of the security environment, amplified by the current conflict in Ukraine, the increasing presence of unconventional operations in modern conflicts, create the premises for a real challenge in the use of ISR structures in support of decision makers at all levels. The current Russian-Ukrainian conflict demonstrates the existence of a broad unconventional approach both before and during the conduct of classical military action. The acceleration of the deteriorating economic relations between the Euro-Atlantic states on the one hand and the Russian Federation on the other, but also the effects of the pandemic will contribute to the continuation of tensions between the two blocs, as these appear to have an economic, energetic, sanitary and social agenda to surpass the moment and redirect and channel their own resources towards solving problems of an internal nature. The definition of unconventional operations is a topic of debate for military theorists in all modern armies, the line between conventional (classical) and unconventional (non-classical) being increasingly difficult to achieve. For ISR elements, the combination of hybrid, asymmetric, network-based, mosaic-type information operations is a turning point in trying to change the paradigm of information support in all confrontational environments, in the current security context. The diversity of unconventional operations, the permanent emergence of new features and different approaches of some state or non-state actors, represent a real challenge for ISR structures, both from a national and allied perspective.*

Keywords: *Intelligence; Surveillance; Reconnaissance; Unconventional operations.*

Introduction

Russia's invasion of Ukraine on February 24th will inevitably lead to a reconfiguration of the global and regional security paradigm, which will be accentuated by the revitalization of competition between both state and non-state parties, and creates the premise for maintaining it, at least for the short term of the unpredictability of the current security environment.

In the *National Defense Strategy of the country for the period 2020-2024*, reference is made to the tendencies to establish conjunctural alliances, with emphasis on the activities of state actors on a bilateral level. The same strategy shows that "*the exponential trend of developing emerging technologies (5G, artificial intelligence, big data, Internet of Things, cloud and smart computing)*" (Administration 2020) leads to increased measures of collection, processing, dissemination and security of information.

The hypothesis I started from is the need to understand whether in a security context unanimously accepted as extremely volatile, ISR structures at all hierarchical levels and in all categories of forces can adapt in a flexible and robust way thus to contribute in real time, with the necessary information support for military decision-makers.

For this, our study will analyze the main directions of action specific to ISR structures in the main unconventional operations using as research methods the study of NATO and national documents and doctrines, historical investigation, the method of observation.

Unconventional – in the current security context

On the one hand, the definition of unconventional operations is a topic of debate for military theorists in all modern armies, the line between conventional (classical) and unconventional (non-classical) being increasingly difficult to achieve. On the other hand, in the spectrum of unconventional operations, a close interdependence and interrelationship can be observed, so that the delimitation from the conceptual point of view is increasingly difficult. The initiator of unconventional operations is in principle focused on the outcome of the action and less on the type of action being taken to achieve the intended purpose.

The concept of unconventional warfare is not new, it is defined in American literature as a war that includes *"activities to allow a resistance or insurgency movement to coerce, undermine, or overthrow a government or power, occupant through operations carried out by or with an illegal, auxiliary or guerrilla warfare in a prohibited area."* (JP 1-02 Department of Defense Dictionary of Military and Associated Terms 2012)

The war in Ukraine, the acceleration of the deteriorating economic relations between the Euro-Atlantic states on the one hand and the Russian Federation on the other, but also the effects of the pandemic will contribute to the continuation of tensions between the two blocs, as these appear to have an economic, energetic, sanitary and social agenda to surpass the moment and redirect and channel their own resources towards solving problems of an internal nature.

This "special military operation" defined by Russia shows that, both before and during the conventional actions, there are a number of unconventional operations tested during the military operations in Georgia and Crimea and revalidated in the current operations in Ukraine.

We can conclude that, at this moment, there is no unanimously accepted delimitation between military thinkers regarding the typology of unconventional operations. Therefore, in this approach we aimed to analyze from the ISR perspective the main non-classical operations identified so far and with a significant impact on the conduct of combat actions, namely: network-based operations, effects, operations specific to information warfare, hybrid, asymmetric, mosaic operations.

ISR structures in support of unconventional operations

By definition, network-based warfare is a concept that *"generates increased combat power through the informational integration of sensors, decision makers and performers, in order to know the theater of operations, increase driving speed, accelerate the pace of operations, intensify lethal effects, emphasizing protection and achieving a certain degree of self-synchronization"*. (Alberts D. 2000)

In this type of operation, ISR systems are fully integrated, by complementing technical sensors on certain platforms with human sensors to create a "system of systems" capable of transforming information superiority into decision-making superiority. However, technical limitations, differences in interoperability, insufficient knowledge of the opponent and surprise elements can hamper the actions of SRI structures.

According to the definition, effects-based operations have the role of *"producing effects that impose the desired political results"* (Saunders-Newton D. 2002) and represent the classic principle in military science called the principle of "economy of forces and means" with the help of tools through which *"those who are experts in the art of war subdue the enemy army without a fight."* (Tzu 2004)

In order for the effects to be as expected, the decision makers have the appropriate, necessary information in terms of the actions of the ISR structures. In this type of operation,

ISR structures rigorously substantiate the informative preparation of the operational environment and represent an essential part of the targeting process, with both valences: lethal or non-lethal.

Actions taken to achieve *"information superiority in support of the national military strategy by degrading the opponent's information and information systems, while positively influencing and protecting one's own information and information systems"* (Vizitiu C. 2008) can be defined as actions specific to the information war.

Direct examples of information warfare are present today in the war in Ukraine, where the struggle for information superiority is evident. For ISR structures, the challenge of this type of operation is given by the ability to collect, centralize, analyze and exploit information primarily from open sources. We see today, a general infusion of news, on media or social media channels, whether they are real or not, the purpose of some being misinformation or misleading. In order for the information to be true, the elements of ISR are engaged in an extensive process of analysis and dissemination based on the "need to know" principle.

According to some authors, in military conflicts in which not only military forces are confronted, but also other structures, such as non-military, mixed, military-civilian, asymmetries predominate. (Ghe. 2021) If conventional operations aim to concentrate forces at the dominant point in order to execute the attack quickly and achieve victory in a short time and with minimal losses, asymmetric operations aim at dispersing forces, concealing actions, prolonging the duration of actions, time becoming a real weapon in this type of operation. (C., The future of conflict - asymmetric and hybrid operations 2012)

In asymmetric operations, the civilian population having an essential role for SRI structures, the main challenge is determined primarily by the contribution of HUMINT in information support. To this end, the preparation of ISR elements in the field must be carried out in peacetime, with the increased involvement of specialists in the field. Therefore, we consider it necessary to prepare the elements of ISR in the interaction with the population in different social environments. Therefore, the human sensor in this type of operation can be superior to the technical one, through a specific training in the field of human intelligence.

NATO has defined hybrid threats as threats that are launched by *"adversaries who have the ability to simultaneously use conventional and unconventional means to achieve their goals,"* (Bi-SC Input to a New NATO Capstone Concept for the Military Contribution to Countering Hybrid Threats no.1500/CPPCAM/FCR/10-270038 2021) and in the first analysis of the European Center of Excellence to Combat Hybrid Threats, inaugurated in 2017, the current security environment is characterized as *"an era of hybrid threat."* (Lehaci N. 2019)

The direct example of the hybrid type operations used by the Russian Federation can be found in recent history both in the war in Georgia, but especially in the purpose of annexing the Crimean Peninsula. We find the same approach in the self-proclaimed independent regions of Donetsk and Lugansk.

For the ISR elements, the challenges in this type of operations are multiple, as the scope of hybrid warfare is extremely varied, and to understand it requires a detailed analysis of the concept of PMESII (political, military, economic, social, infrastructure, information). For this, we support the exchange of information between the categories of forces, but also inter-institutional, through a synchronized matrix at national level, both from a military and non-military perspective.

For example, American theorists have proposed, in the case of the hybrid threat, the complex IPB that describes six stages (Pike T. 2022): defining the operational environment; description of the effects of the political, cultural and social system; evaluation of majority social groups; estimating the interactions between social groups; assessment of population behavior.

In response to the Chinese and Russian anti-access and areal interdictions (A2 / AD) systems, US researchers have launched the "mosaic" concept of warfare, which aims to "bring together all the individual battle platforms." *to establish a complete picture of a quick and decisive victory against any aggressor, as well as to develop an appropriate package of skills.*" (Ioniță C. 2021)

Today, scientists are developing innovative concepts such as machine learning artificial intelligence systems called Generative Pre-trained Transformer 3 / GPT-3. (Ioniță C., The latest technological developments in the mosaic war 2021) Some theorists also mention expert systems, such as the "AMUID" system (provides real-time information, integrates all information received through research reports, assists the commander in battlefield analysis) and the "ANALYST" system. (Able to investigate critical situations in the area of operations). (Stanciu C. 2016)

In order to meet the challenges of this new type of war, IRS structures are required to maintain the level of procurement in line with operational requirements. The development of technology is causing rapid reactions in the approach to endowment with smart means, as the acquisition of systems may be too late and may be inefficient in relation to information requirements. Therefore, we believe that today it is necessary to purchase less expensive systems but in as large a number as possible and in the shortest possible time to equip and streamline ISR structures.

We can conclude that the diversity of unconventional operations, the permanent emergence of new features and different approaches of some state or non-state actors, represent a real challenge for ISR structures, both from a national and allied perspective.

Conclusions

In the recent conflicts, and especially in the current war in Ukraine, we have witnessed an increase in all types of unconventional operations, operations performed before or during classical operations, following their evolution even after the end of combat-type actions. Unconventional operations hinder the actions of ISR structures, structures trained to support decision-makers, especially in conventional actions.

Starting from the general characteristics of the listed unconventional actions, we can conclude that a doctrinal reform is needed in the conceptual paradigm of ISR, so that expertise especially in the fields of collection disciplines (such as HUMINT, IMINT, SIGINT, OSINT, etc.) be a permanent concern in the area of preparation of structures from all categories of forces.

The cooperation of ISR structures in the ground forces with the naval and air forces and the exchange of information, in order to avoid redundant, outdated or unnecessary information, as well as to avoid clutter of repetitive information, can be achieved by intensifying joint training, in particular continuously throughout a year of training.

On the other hand, the integration of national ISR systems into alliance ISR systems can help increase interoperability and the level of expertise between existing capabilities.

At the same time, we propose the co-optation of experts in the analysis of information for the capitalization of the entire information cycle, by setting up support cells affiliated to the organic ISR structures on the national territory.

Inter-institutional cooperation between SNAOPSN structures and ISR structures belonging to the Ministry of National Defense can be carried out in large-scale exercises carried out on the national territory with the interconnection of existing sensors and systems so that the information reaches the beneficiary in the shortest time.

The current experience of supporting refugees in Ukraine demonstrates the inter-agency capacity to use information for the benefit of the structures involved, but also the importance of involving governmental or non-governmental organizations.

From an endowment perspective, current historical experience shows that certain ISR systems can provide the information support needed by decision makers, and better systems can have lethal effects on a superior adversary in terms of their capabilities.

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NATO – RUSSIA CRISIS OF 2022. TAKING LESSONS FROM THE PREVIOUS CRISIS

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***Abstract:** In this article we are placing an analysis of the current crisis that erupted at the Russian-Ukrainian border. The main purpose is to identify possible hidden causes that could influence evolution. For this purpose, we have developed a comparative analysis of the current situation, taking attention to the similarities with the Cuban Missile Crisis of 1962. Next, using the hypothetical-deductive analysis, we will highlight what could be the major objectives of the big actors involved and what could be the big dilemmas they are facing in decision making. At the end of the paper, we will submit the conclusions by following the analyzes that we have proposed. The motivation for choosing this topic is to understand the future of the crisis and to focus on the crisis in the interests of the EU and NATO in general, and especially in Romania. The novelty of the research lies in comparing the evolution of the actual state of the situation on the Russian-Ukrainian border, with the one of 1962, when the tensions between NATO and the former Warsaw Treaty Organization reached their peak, as well as from the analysis based on the fundamental differences between the democratic regimes and the totalitarian ones, focused on identifying the objectives of great importance that each of the parties wants to achieve.*

***Keywords:** crisis; conflict; Russia; Ukraina; NATO.*

Introduction

The main topic that we intend to analyze in this paper with a scientific approach is the current crisis at the Russian-Ukrainian border, the main purpose is to identify possible hidden causes that could influence evolution. To achieve this purpose, we resorted to a comparative analysis of the current situation with that of the Cuban Missile Crisis of 1962, with increased attention benefiting from the similarities between the two critical battle cries. Next, starting from the fundamental differences between democratic and autocratic regimes, using the hypothetical-deductive analysis, we will highlight what could be the major objectives of the big actors involved and what could be the big dilemmas they face in decision making. At the end of the paper, we will submit to attention the conclusions by following the analysis we proposed at the beginning.

The motivation for choosing this topic for analysis is given by the proximity of the crisis situation and the impact it can have on the interests of the EU and NATO in general and on those of Romania in particular.

The novelty of the research lies in the comparative analysis of the current situation on the Russian-Ukrainian border with that of the crisis in the vicinity of Cuba in 1962 when the tensions between NATO and the Warsaw Treaty Organization reached their peak and the armed conflict between the two large blocs seemed imminent, as well as from the analysis based on the fundamental differences of the democratic regimes and the totalitarian ones, focused on identifying the objectives of great importance that each of the parties wants to achieve.

Since the beginning of civilization, for the sake of establishing peace and global harmony, we are seeking ways to defuse the crisis, resolve tensions, and end conflicts and wars. Although it isn't always possible to avoid conflicts because of geopolitical interest, financial issues, differences in ethnicities, the aggressiveness of ambitious leaders, and so that makes it hard for people of various regions or states to live friendly in a peaceful manner. To go for further understanding, according to the aforesaid point of view, the historical reconciliation between France and Germany is remarkable, the very foundation on which the European Union was built, so that the old continent enjoys, with small exceptions, more than half of a century of peace and prosperity, has led to unprecedented technological and social progress.

Unfortunately, if the people of the EU Member States have come to accept and understand that "*unity in diversity*" is the guarantor of peaceful coexistence, the same is not true in other parts of the world. Thus, less than a thousand kilometers from the EU's eastern border, we are currently facing a state of crisis that has led to the largest concentration of troops in history since World War II and which, if it is not treated with all the seriousness and available means for peace involved, it can trigger a major conflict in those areas; implications and impact on humanity are difficult to anticipate, especially since the invention of weapons of mass destruction.

Thus, for the beginning we will make a comparative-transversal analysis of two different stages of manifestation of the global interests of some actors in different geographical areas, at different times, the common point being the geopolitical context in which the scenario was implemented. Later, starting from the differences between the forms of government of the actors involved in this crisis, democracy, and autocracy, we will perform an analysis based on criteria represented by elements of operative art (end state, vulnerabilities, strengths, weaknesses, effects, etc.).

1. Crisis at the russian-ukrainian border and cuba rocket crisis

In this chapter, our intention is to do a comparative analysis between the biggest crisis during the Cold War and the current crisis at the Russian-Ukrainian border, because, at least until a certain moment, we can identify approximately the same scenario of evolution.

In order to better understand the origins and causes of the current crisis that has arisen at the Russian-Ukrainian border and which tends to turn into a real armed conflict, either between the two neighboring countries or between democracy and autocracy, on the territory of a country that by no means wants this, we must go back to the end of the Second World War. In our opinion, the post belic situation is deeply marked by the atypical peace concluded in 1947, in the sense that it was not a wave of peace between the victors and the vanquished but a peace or, rather, an armistice concluded between the two great victorious allies: the democratic system represented by the United States of America (USA) and Great Britain and the dictatorial system represented by the Union of Soviet Socialist Republics (USSR). We consider that this conflagration ended in such an armistice because the conflict between the two former allies lasted for another half-century and became known in history as the Cold War, in fact, one of the longest phase of competition in human history.

As we said, the end of the greatest conflagration in human history has led to a situation of atypical conflict between the two most important actors in the world, namely the USA and the USSR. In a short time, both countries realized that "where there is one, there is no power" and thus emerged the two great alliances that dominated the end of the last millennium: the North Atlantic Treaty Organization (NATO/OTAN) – the alliance of states with democratic values – and the Warsaw Treaty Organization – an alliance of dictatorial states. The major differences between the two alliances lie in the very differences between the

democratic and the dictatorial system. Thus, whether NATO retains the sovereignty of Member States that decide for themselves whether or not to support initiatives proposed by other states or its representatives, and whether or not to participate in any possible conflict in which it is involved, the Warsaw Treaty Organization is characterized by the full submission of the Member States to the strong will of the Kremlin and they are obliged to support the imposed decisions, even the military intervention in the territory of an alliance member state. Small exceptions, such as the condemnation of the 1968 invasion of Czechoslovakia, cannot be considered expressions of the freedom of decision of the states situated east of the Red Curtain.

The tense situation between the two major blocs had its ups and downs, culminating in the outbreak of the 1962 Cuban Missile Crisis (History Today, 2007). Although the strained relations between these actors have also had consequences that may seem more serious, such as the Korean War or the Vietnam War, in our opinion, the high number of nuclear weapons involved in the Cuban Missile Crisis, generated the peak of the tensions between NATO and the Warsaw Pact.

The main cause of these crises is, most probably, the desire of each party to expand or, in the worst case, to maintain the sphere of influence established in 1947 and 1954 by the Paris Peace Treaties (American Foreign Relations Web Site). Although the current situation is very different from that of 1962, the Warsaw Treaty Organization was disbanded and the USSR was dissolved in 1991 (Historia Web Site), NATO and the Russian Federation now having a common border, we can conclude that the current crisis at the Russian-Ukrainian border is essentially still an attempt to expand the sphere of influence of predominantly Western democracies on the one hand and autocracies, as the dictatorships are now called, on the other hand, mostly Eastern. Thus, we can say that this crisis is a confrontation between West and East or between Occident and Orient, terms frequently used during the Cold War, or between NATO and Russia – the heir of USSR, the leader of the powerful Eastern Bloc.

The similarities between the two situations continue, each of the parties claims that they want to avoid conflict, make public their demands, threaten with the use of military force, or for imposing economic and financial sanctions, or the start of sending troops in the area. As in 1962, the more aggressive and belligerent tone belongs to the regime based on dictatorial principles, which, in the shadow of populist discourse focused, depending on the situation, either on non-involvement in the internal affairs of states (the 1962 crisis), or on the right to self-determination of peoples of a certain ethnicity (independence recognition of Donetsk and Luhansk in 2022), seeks to impose its own will and leadership in another country, if necessary, by the use of the armed forces. On the other hand, democratic states adopt a more conciliatory tone, urging negotiations, but, if necessary, do not hesitate from taking the necessary measures to achieve their own goals and to prevent their opponent from fulfilling his own. Moreover it can be noticed that after 2010, the geo-strategical endeavour was characterised by the revitalisation of the race for resources, highlighted through the Ukrainian conflict, as well as through other hybride manifestations (STANCIU, 2016, pp. 88-107).

The difference in tone can be explained again by the basic differences between democratic and dictatorial regimes. In a democracy, decisions and actions are based mainly on consensus and popular support, while in a dictatorship, decisions are made by a small circle of people, often by one person and imposed on many, with an opponent or critic removed in the shortest time possible. Another justification for the different approach to public discourse lies in the defensive nature of NATO, as stipulated in the founding act (NATO/OTAN Official Web Site), which must be respected in democracy, and the tendency of dictatorships to disregard any legislative or other regulation, the will of the supreme leader being the only law valid at any given time.

Furthermore, we can see that in both cases, as the situation evolves, the demands become more and more and sometimes utopian, but all the public statements of the representatives of the parties involved have as a central element, the availability for negotiation. This cannot be attributed to the lack of experience and expertise, but to everyone's attempt to gain the most advantageous position at the negotiating table. Sending troops in the crisis zone opens a ground to use arms' threats during negotiations and can lead to intimidation of the other party, and many demands at the highest level provide a greater margin for negotiation.

So far, in our opinion, the similarity between the situation and the evolution of the Cuban Missile Crisis of 1962 and that of the current Russian-Ukrainian border crisis is striking, the only element that remains unknown is the end of the latter. Although we cannot say with certainty that the end of the current crisis will be the same as that of the 1962 crisis, relevant to us is a possible long-term consequence of the outcome of the first state of crisis.

Our view is that a close link can be made between the decision of leader Nikita Khrushchev to cede, to withdraw his ships from the western Atlantic and not to go all the way to meet the original objectives and his replacement from the Communist Party of the Soviet Union (CPSU) leader position and, implicitly, of the USSR. It is not excluded that this resignation was perceived as a sign of weakness by the members of the governing bodies of the CPSU, and two years later, in 1964, we witness the first and only replacement of a communist leader in Moscow by a palace coup (Britannica Web Site).

This fact cannot be ignored and, moreover, it cannot but influence the future decisions of Russian President, who, regardless of the outcome of the current crisis, is obliged to maintain his victorious aura and thus avoid losing power. This is possible if, regardless of how the crisis ended, the general perception will be that the desired end state established at the beginning of the crisis has been met.

In conclusion, the fate of the USSR leader from 1953 to 1964 may be one of the main factors for which Russian President decided to escalate the crisis between the Russian Federation and Ukraine in a real military conflict, the intrinsic motive of this decision residing in his desire to remain in the current position of power. Another important factor is the goals that each of the actors involved set at the beginning.

The emergence of the two major alliances The North Atlantic Treaty Organization (NATO) and the Warsaw Pact Organization represented the delimitation of states with democratic values from dictatorial ones. The two blocs being the supporters of the positions of force in the conflicts of the last century, they maintain their regional authority, in the conditions of contesting the unipolarity of the global power.

However, a major difference between the two crises is that at the beginning of the present one, Russian Federation claimed that it was not involved in any way in this crisis, the responsables for its outbreak being ordinary citizens, whose level of patriotism is extremely high. Therefore, Moscow's continued denial made it difficult to estimate the extent of Russian forces involvement in what had turned into a real armed conflict. This may be considered an excellent example of Maskirovka. Last but not least, the news about one humanitarian convoy was meant to be a cover of troops infiltration on ukrainean territory through the border crossings entirely controlled by the Russian authorities (Alexandru Roxana, 2021, p. 150).

Consequently, the will of the two blocs is antagonistic, so the final state of the conflict is not the same. Thus, in the next chapter we will make a comparative analysis of what we consider to be the end state established by each of the parties involved in the current crisis on the Russian-Ukrainian border; the continuation or cessation of the military conflict and the defuse of the crisis situation largely depend on the degree of their fulfillment.

2. Russia and NATO – End States

Once again, we must return to the differences between the forms of government that define the two parties involved in this crisis: democracy and autocracy. Thus, if in the case of NATO, we can say that a clear distinction can be made between what certain members of the alliance want, be they member states or influential leaders, and the general interest of the alliance, on the other side, it is not very clear whether the personal interest of the autocrat leader pales in the general interest of the state or vice versa.

In view of this, NATO's intended end state of affairs is, in general, to maintain order and peace on the eastern border, to end the conflict, and to maintain Ukraine's status quo, including its right to self-determination. At the same time, one of NATO's major vulnerabilities is a strong point and stems from the need for consensus for decision-making. On the one hand, this need can lead to difficult adaptability during the course of events, and on the other hand, it can be a factor in strengthening the position of the alliance's representatives at the negotiating table.

Things get very complicated when we analyze the end state desired by the Russian Federation. This complication lies in the difference between what Russia "wants" and what Russian President wants. Like any nation, state or country, the Russian Federation tends to return to its maximum expansion for a very simple reason: the status of great power that derives from it. Similarly, like any other past, present, or future autocratic leader or dictator, Russian President wants to remain in the position of control and strength that he is in today. We do not consider that this desire is based only on selfish motives, but can also be explained by the conservation instinct of the human being; it is very rare that the change of the leaders of the totalitarian regimes has been done with their survival and freedom.

What's more, we should understand that an authoritarian leader remains in power as long as those close to him, members of small decision-making circles, grant him that authority/power. In our view, it is only now that we can make a pertinent analysis of what the end state of Russian President may be regarding the current crisis at the Russian-Ukrainian border.

This requires a brief foray into recent history and brief analysis of the culmination of 2014, the annexation of Crimea by the Russian Federation. We do not intend to continue a detailed analysis of this event of major geopolitical importance (analysis of this event: Lucian Valeriu, Scipanov, cpt.cdor.instr.sup.ing.drd, Florin, Nistor, cdor.instr.av.dr., *Considerații privind acțiunile militare desfășurate în nordul Mării Negre*, Bulletin of the National Defense University "Carol I", Bucharest, June 2015, p. 100, (<https://revista.unap.ro/index.php/revista/article/download/153/132/>)), but we will focus on what can be considered to be the factor with the strongest impact on the current crisis: the imposition of economic and financial sanctions, diplomatic and not only, both to Russia and to certain citizens of this country. As we can see, the sanctions imposed on Russia have a major impact on the standard of living of ordinary citizens, and their dissatisfaction is reflected in the level of popularity enjoyed by the current Kremlin leader. On the other hand, the sanctions imposed on certain citizens of the Russian Federation do not have a very big impact on ordinary people, but they do affect them and their circle of relatives. What is important, however, is that these people, targeted by the sanctions imposed, are, for the most part, members of the small decision-making circles in Moscow.

Faced with a sharp decline in popularity among many, Russian President is forced to rely on the support of the few and influential to remain in the position of authority held. Thus, we can state with a high degree of certainty that its "*selfish*" purpose is to obtain the lifting of the sanctions imposed following the annexation of Crimea, both those aimed at the state and those aimed at certain citizens. As the lifting of sanctions amounts to the recognition of the

Russian Federation's right to Crimea by the European Union (EU) and NATO, we can say that the end state desired by the Russian leader is precisely the recognition by these entities of Crimean affiliation with the Russian Federation. This claim is not so surprising or of the realm of the fantastic, if we take into account the result of the organized referendum, after which more than 90% of voters chose to join the Russian Federation (Digi-24, 2014). Even if the organization and conduct of the referendum did not benefit from the monitoring of international organizations, the result is strongly contested by democratic states, until the organization of another such approach, we could see that this annexation enjoys some validation of the Crimean Peninsula inhabitants.

Over time, statements have appeared in the press about the Russian Federation's intention to reach the mouths of the Danube, fulfilling a wish made by Tsar Peter I the Great, to establish a land link between mainland Russia and the Crimean Peninsula, or to annex the eastern part of Ukraine. These statements on Moscow's claims are not without substance, but in this case, we do not consider them to be binding.

Russia can only reach the mouth of the Danube through other territorial annexations, thus risking new and tougher sanctions that will further affect the living standards of Russians, translated into authoritarian leadership by declining popularity and growing dependence on members of the small decision-making circle. Also, from our point of view, the gains of such an enlargement of Russia are not worth the possible risks, because, in the happiest case, Russia could only reach the Chilia Arm, and most of the maritime traffic is taken over by the Sulina Arm, located on the territory of Romania, a NATO member country and under the protection of Article 5 of the NATO Charter (MAE-România Web Site).

Moreover, even a smaller territorial annexation meant to make the land link between mainland Russia and the Crimean Peninsula, justified by the need to supply the latter, cannot be considered very important for the Kremlin leader. At present, Russia already enjoys a landline of communications with the Crimean Peninsula via the bridge over the Kerch Strait. In addition, Russia's Black Sea ports, mainland ports, and the Russian merchant fleet provide the infrastructure and resources needed to fully transform Crimea into a province of the Russian state. If we take into account the fact that a similar situation is found in the case of the Kaliningrad region, in which Moscow does not issue any additional territorial claims, we can conclude that these claims have only the ultimate goal of creating an advantage at the negotiating table.

As far as the eastern region of Ukraine is concerned, no matter how highly industrialized it is, we believe its annexation could not be done as peacefully and smoothly as in the case of the 2014 annexation. Firstly, the percentage of ethnic Russians in this region is lower and, secondly, the new administration may face actions of sabotage the smooth running of the region, caused by the dissatisfaction of the population in the region, the resentments they have towards those who, they can be perceived as aggressors. Undisputed evidence in support of this assertion is given by the resistance met by the Russian Army in the city of Kharkov, which, despite having a predominantly Russian ethnic population, opposes and has resisted for more than 60 days in the face of numerous occupation attempts carried out by Russian soldiers. If we consider that the same resistance is encountered in other localities, considered easy targets for the planners of Russia's military action in Ukraine, we can realize the problems that the Russian administration would have to face in case of a possible annexations of these territories. In addition, if the annexation of Crimea was carried out with almost no casualties, in the case of the eastern region of Ukraine the number of victims is already very high, leading to an enmity of the local population against the aggressor from the east.

If we succeeded to make a quick review of the end states desired by the two major actors involved in this crisis, let's now try to make a brief analysis of what could be the end of it. In this case, the NATO alliance is obliged to act on the assumptions and theoretical

estimates but still benefit from the lessons learned throughout history. In our opinion, democratic countries are facing a double dilemma: the first – forcing Russian President to give in and the second – if they accept even if only his claim to recognize the annexation of Crimea, which is a guarantee that in the short term they will not face a new such claim?

Why did we say that forcing Russian President to resign is a dilemma for Western democracies? From our point of view, in connection with what happened in the 1962 missile crisis and the not-so-happy outcome for Soviet leader Nikita Khrushchev, Russia's renunciation of all claims could give rise to a perception in Moscow that the current leader is weak and that he can be replaced. In the context of the almost complete disappearance of Dmitri Medvedev from the Kremlin's political scene, a possible successor to Russian President has not yet crystallized, we can ask ourselves whether the West is ready to *gamble* and to risk creating the conditions necessary for the seizure of power in the Russian Federation by a leader with more radical and aggressive views than the current one.

Another dilemma can be easily analyzed in the light of what happened in the years before the outbreak of the greatest conflagration that mankind has faced. In the second half of the fourth decade of the twentieth century, Nazi leader Adolf Hitler received concessions after concessions from the leaders of democratic states, also on the subject of territorial annexations, all culminating on September 1, 1939, with the invasion of Poland, the beginning of World War II (Evans, 2008, pg. 1-2). Given these indisputable historical facts, in our opinion, the leaders of democratic countries face a dilemma at least as deep, whose implications in the medium and long terms are impossible to anticipate. No less noteworthy is the fact that a possible recognition by the US and its Western allies of the annexation of Crimea can be seen as a validation of China's claims against Taiwan.

Furthermore, the essence of the impact that the current situation could have upon our future was highlighted in an interview of Romanian Ambassador in Republic of Peru, Mrs. Camelia Ion-Radu published in *Revista Diplomatica*: „*The invasion of Ukraine marks a turning point in human history because the world order will never be the same. It depends on everyone's reactions to the tragedy in Ukraine. Will we return to the past, to an order based on force, in which no one will be safe? Or will we look to the future, to a world in which we all truly respect the norms and principles of international law?*” (Bilateral, 2022). We can conclude from that that any situation, be it crisis or conflict, might influence the future of human society in a variety of aspects, from education and economics to the form of government.

Conclusions

The main purpose of this approach was to identify possible hidden causes that could influence the evolution of the current crisis on the Russian-Ukrainian border, by conducting a comparative analysis of this one with that of the 1962 missiles and to highlight the possible end states desired by the actors involved; the degree of their fulfillment depending on the evolution, aggravation or cessation of the military conflict and the resolution of the crisis situation, thus avoiding the occurrence of a conflict of regional, continental or global scope. At the same time, from our point of view, the availability of all parties involved in one way or another in these events for negotiations must reach maximum levels, taking into account the existence and possibility of using weapons of mass destruction.

History gives us many examples of intra- or inter-state crises and we can draw our own conclusions about the triggers, how they evolved or what were the best or most harmful decisions, and their impact on the outcome of that crisis. However, the geopolitical situation is never the same, so every such situation needs to be treated with the utmost seriousness and

consideration of as many factors and events as possible, regardless of the distance at which they occur, contemporary with it.

The identification of some conclusions based on an analysis using criteria from the military art sphere (end state, vulnerabilities, strengths, weaknesses, effects) was another aspect of the research, so we can continue to present some of them.

In terms of end-state, we conclude that:

- NATO's intended end state of affairs is to maintain order and peace on the eastern border, end the conflict, and maintain Ukraine's status quo, including its right to self-determination

- Russian Federation's end-state is defined by the difference between what Russia "wants" and what the Russian President willing

In terms of vulnerabilities, we conclude that:

- NATO's major vulnerabilities are a strong point of the adversary and stem from the need for consensus in decision-making

- the Russian Federation's vulnerability is the level of popularity enjoyed by the current Kremlin leader

Strengths and weaknesses:

- the sanctions imposed on Russia have a major impact on the standard of living of ordinary citizens

- new and tougher sanctions, will further affect the living standards of Russians

- a smaller territorial annexation meant to make the land link between mainland Russia and the Crimean Peninsula

In the end, but not the least, we underline some geopolitical effects:

- the annexation of Crimea can be seen as a validation of China's claims against Taiwan

- territorial disputes in the maritime space will provide implications for energy security

- implications in the medium and long term are impossible to anticipate for the moment

In the end, we conclude that the conflict is a matter of the utmost concern for NATO and the EU, and especially for their eastern border states. Moreover, the imminence of an armed conflict could lead to an increase in some state's influence within the EU to the detriment of others, mainly for two main reasons: first, the EU economy's dependence on Russia, and secondly, the influence of the EU members with nuclear power status which determined the other Member States to gravitate around these countries.

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CyberNSOF – A CRUCIAL FORCE MULTIPLIER IN MODERN WARFARE

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Abstract: *Cyber security and special operations (CyberSOF) in the 21st century are constantly evolving and changing to meet today's threats. CyberSOF are constantly evolving as allied countries, strategic partners and key players in the Black Sea discover new tactics to achieve strategic objectives. So far, the one that has remained below the threshold of armed conflict by operating in the grey zone is the Russian Federation. The annexation of Crimea by the Russian Federation is the first strong indicator that CyberSOF binomial operations have been executed. The Romanian Naval Special Operations Forces community is still developing specific guidelines or responses to deter or prevent a major cyber attack on Romania and its NATO partners. This research addresses an aspect of special operations and cyber community that has yet to be explained adequately. To achieve this goal, we will describe how the symbiotic relationship between Naval Special Operations Forces and Cyber Defense Command is crucial within the national military instrument of power at the strategic level and the impact of this binomial on the operational and tactical levels of hybrid conflict can be treated as both a force multiplier and force protection generator for Naval Forces and beyond. According to the specified causes to achieve our objectives, we will present the concept of Cyber Operations and Naval Forces for Special Operations (CyberNSOF), a novel concept that can produce strategic-level effects with minimal forces. Although the two entities presented above are services in the Romanian Military, used as a binomial (CyberNSOF) in support of the supported element, will be able to be used both as force multiplier, force protection element and last but not least as forces executing pre-emptive actions to deter the enemy. Taking these recommendations into account will increase the effectiveness of SOF maritime operations with the support of cyber operations while ensuring the transition to a robust/ real joint capability in response to any emerging existing threats.*

Keywords: *Multi-Domain Operations; Naval Forces for Special Operations; Cyber Operations; CyberNSOF.*

Introduction

Interconnection through information technology networks has supported development and is generating huge benefits for society. At the same time, the vulnerabilities inherent in accelerated development and the opportunity to easily exploit social outcomes, achievements and welfare are turning cyberspace into a battleground. From simple material interests to economic, social, governmental, geopolitical, geostrategic or military interests, each of the listed components can be addressed through data networks and information technology infrastructure.

On the military side, cyberspace was recognized in 2016 as an operational domain by NATO in response to previous actions by military adversaries, so cybersecurity and cyber defense have gained a privileged status within the capabilities with priority for development and deployment. Naval Special Operations Forces (NSOF), with a high degree of operational flexibility, advanced technology, long-tested and proven mission methodologies and elite trained personnel, traditionally represent a component that generates effects corresponding to conventional actions, but with a fraction of the resources associated with conventional military actions.

In view of the continuing degradation of the security situation in the Black Sea Region area generated by the actions of the Russian Federation as well as observations on the combined use of cyberspace actions and Special Operations Forces to achieve objectives, we assessed that scientific research on the CYBER-NSOF operational binomial is relevant to national, European and allied security interests in the Black Sea region. Cyber operations are constantly evolving as allied countries, strategic partners and key players in the Black Sea discover new tactics to achieve strategic objectives.

The Naval Special Operations Forces Community is still developing guidelines or specific responses to deter or prevent a possible major cyber attack on Romania and its NATO and EU partners in the Black Sea region.

In this paper we will highlight that the symbiotic relationship between the Naval Special Operations Forces and the Cyber Defense Forces, i.e. the Cyber Defense Command, is crucial within the national military instrument of power at the strategic level, and the impact of this cooperation on the operational and tactical levels of hybrid conflict can be treated both as a force multiplier and force protection generator for the Naval Forces

Thus, we set out to present the concept of CyberNSOF that integrates or creates a fusion between Cyber Operations and Naval Special Operations Forces missions, a novel concept that can produce strategic-level effects with minimal resources.

Although the two types of entities presented above are part of the force structure in the Romanian Army, and their use as a CyberNSOF binomial in support of the Naval Forces can be both as a force multiplier (both to create a decisive condition and to generate effects at low cost) or as a force protection element, and as forces executing pre-emptive actions to deter the enemy.

Lastly, we will analyze and present the CyberNSOF concept as a perspective on new ways of approaching conflicts, as a solution that can contribute to the achievement of Romania's security interests.

Cyberspace – concepts, notions and organizational entities

Cyberspace is part of that information environment in which the armed forces conduct their assets and it can be divided into five domains: maritime, land, air, space and cyber. According to Romania's Cyber Security Strategy (Romanian Ministry of Defense, 2022), the cyber domain encompasses all forms of 'digital warfare'. Similar to the other four domains, the cyber domain has specific characteristics that help determine how a means of power might be used.

NATO member states' concerns about the impact of actions in cyberspace on cyber infrastructure were expressed at the 2008 NATO Summit, which adopted the first version of NATO's Policy on Cyber Defense.

In regard to the theme of cyber attack, paragraphs 72 and 73 of the Declaration of Heads of State and Government issued following the September 2014 meeting of the North Atlantic Council in Wales are relevant in terms of recognizing that cyber attacks can generate effects comparable to traditional attacks, in terms of destruction and the North Atlantic Alliance's response, and in terms of taking military action in cyberspace. (NATO, 2018)

In 2015 a series of studies (DeWeese, 2015) approached the necessity of using the cyber domain capabilities in support of the extended concept of self-defense such as preemptive and anticipatory self-defense due to the fact that the imminence of cyber threats should be taken into consideration in the same manner as the conventional threats.

Subsequently, in the Declaration of Heads of States and Governments, corresponding to the July 2016 meeting of the North Atlantic Council, held in Warsaw, in paragraphs 70 and 71, the following issues were expressed, with relevance to the present work, in addition to the previous declaration, on actions in cyberspace, as follows:

- NATO member states recognize cyberspace as an operational domain similar to air, sea or land in which NATO must protect itself appropriately;

- NATO supports the development of international norms, with voluntary compliance, for responsible behaviour by states and further development of confidence-building measures between states in cyberspace;

In 2018, NATO member states agreed to establish a Cyber Operation Centre (CyOC) within Supreme Headquarters Allied Powers Europe (SHAPE) to coordinate operational activity in cyberspace. Accordingly, at the national level, Law 167/2017 amended and supplemented Law 346/2006 on the organization of the Ministry of National Defense (MoND) to include provisions on cyber defense forces. Subsequently, on 01 December 2018, the Cyber Defense Command was established, as a structure dedicated to ensuring the cyber security of military information technology infrastructure as well as to provide with cyber defense.

The term hybrid warfare attempts to capture the complexity of 21st-century warfare, which involves a multiplicity of actors, blurs the traditional distinctions between types of armed conflict, and even between war and peace. Although hybrid warfare is a Western term, not Russian, all sorts of hostile Russian activities – from the covert use of special forces to election manipulation and economic coercion. (Whiter, 2020)

These threats are multi-domain (land, sea, air, space and cyberspace) and often interdisciplinary. They are likely to be with us for the long term, and defeating them will require a comprehensive multi-level approach. While the United States and its allies and partner nations have already taken steps to protect themselves and confront such complex challenges, there is still a great need to more effectively enable responses, increase deterrence and raise awareness, understanding and resilience.

Cyberspace, although mentioned in official documents and public statements, has relatively few institutionally assumed definitions.

NATO's Joint Doctrine Allied for Cyberspace Operations AJP -3.20, which was promulgated in January 2020, defines cyberspace as a global domain consisting of electronic systems, information technology equipment and interconnected communications systems, networks and the data processed, stored and transmitted by or through them.

Thus, given the common elements of the definition of cyberspace, it can be identified that the element of territoriality, which contributes to establishing jurisdiction or liability for actions and effects arising from operations in cyberspace, is difficult to clarify or apply in the virtual environment. It is also necessary to note the differences between the concepts of cyber security and cyber defence, and to establish the meaning and scope of the concepts most associated with them, namely cyber incident and cyber attack.

Cybersecurity can be defined as the totality of activities, means and measures to protect networks and information systems and information stored, processed or transmitted in order to ensure confidentiality, integrity, availability, authenticity and non-repudiation, and a cyber incident can be interpreted as any cyber event occurring in cyberspace that is likely to affect cybersecurity. Cyber defense, on the other hand, consists of the totality of activities, means and measures used to counter threats from cyberspace and mitigate their effects on communications and information technology systems, weapons systems and networks and information systems supporting military defense capabilities.

Thus, on the one hand, related to cyber attacks, attention is focused on the violent nature and the level of damage, which can be both in cyberspace and in material terms (destruction, damage, etc.), and on the other hand, for use in the field of cyber security, it is important that the cyber security to be affected, an aspect that can be better included in the concept of cyber incident.

Naval forces for special operations (NSOF)

- contexts involving the use/exploitation of a cyber component -

We have identified the beginnings of the Romanian NSOF in the first structure of the 39th Diving Centre (similar to a division); a Deep-Sea Diving Group (two diving vessels) and a

Combat Diving Group (with two fast intervention boats and inflatable boats) were foreseen. (39 Diving Center, 2022)

The diversification of the missions and the possibilities of action of the 39th Divers Centre, both in the military and civil (economic) fields, required a resizing of this large unit on a structure appropriate to its status within the Navy, starting on 30 October 1986. Since 2003, the structure of the combat diving groups has been changing, and important changes have taken place at their level, both in view of the commitments undertaken by Romania to join NATO and the need to resize and transform the Romanian Army. Also in 2003, the Special Operations Battalion "Vulturii" is established in Targul Mures, which is operationally subordinated to the Special Operations Component of the General Staff of Defense (ROUSOCOM). Nowadays, the Romanian NSOF also called 164th Squadron is also subordinated to ROUSOCOM.

The intrinsic particularity of NSOF is that they perform missions in and from the maritime area. They can move, usually undercover, hard to detect, underwater, over water, and through the air to and from their targets, to accomplish their objective. In Romania, the Special Operations Forces have three main tasks that define the main missions of the Special Operations Forces: military assistance (MA), special reconnaissance (SR) and direct action (DA) - these mission sets are common to all NATO member states SOF forces. The afore mentioned three main missions, or derivatives thereof, although initially executed in the physical landscape have implications and ramifications in the cyber, maritime, air, land, space environments as well as the development of other types of SOF secondary operations. Thus, we will highlight how cyber operations support each primary mission and its derivatives and highlight the effects produced.

MA is a broad category of measures and activities that support and influence partner entities through training, advice, mentoring or combined operations. According to AJP-3.5 ALLIED JOINT DOCTRINE FOR SPECIAL OPERATIONS: MA is a broad category of measures and activities that support and influence critical friendly assets through organizing training, advising, mentoring, or the conduct of combined operations. The range of MA includes, but is not limited to: capability building of friendly security forces, engagement with local, regional, and national leadership or organizations, and civic actions supporting and influencing the local population (NATO, 2019). The core mission of the Romanian SOF in the Afghanistan theatre of operations was MA.

If during the execution of mentoring mission of a force that operators have to prepare, train and raise its combat capability we would have a cyber capability that identifies vulnerabilities of the mentored force (*identifying vulnerabilities, checking trusted sources and information technologies infrastructures*), the training process of these forces would go much easier. Thus, the human resources allocated to these validations and scans could be useful in other actions.

In the matter of special reconnaissance, cyber capabilities have multi-functional uses and can be employed in support of the friendly forces. It is important to highlight the similarities between the world of intelligence, surveillance and SR. Threat assessments should, wherever possible, be based on accurate and timely intelligence. Cyber-centric and traditional intelligence SR domains both involve hacking or breaking into the logic/human logic of a network state and will most likely use the same methods and technology to do so. SR also provides the option to observe a target and interpret the behavior of the population and opposing forces over a long period of time. With regard to DA and the cyber domain, Colonel Duggan, a cyber warfare scholar in general, believes that the basic philosophy underpinning all cyber special operations is the idea of promoting asymmetry of cyber technology to reinforce the rudimentary characteristics of DA mission. (Duggan, 2016) Although the process of killing or wounding an enemy combatant will almost always require the use of kinetic weapons, in the near future, an attacker may be able to use the cyber domain for DA attacks. Using a malware that can cause a computer's battery to explode or, quite possibly, attack a vulnerable system such as a surveillance control or a

navigation system may prove that cyber operators in combination with NSOF operators will become a force multiplier in obtaining the mission success.

Predicting the Next Fight

In circumstances of the tactical and strategic value of a Cyber attack, what is even more important for Romania is to address the fundamental question: how does Romania develop a tactical-level cyber special operations capability with strategic impact? Have there been any initiatives in Romania to combine the two categories of force to achieve multi-pronged effects? From the research we have done the answer is NO.

In order to integrate an answer to the above questions, I propose to start from the question: how can cyber capabilities enhance NSOF missions to counter the hybrid threats that the Romanian Navy/Army faces today?

To begin with, we identify many similarities between special operations and cyber operations. A one of the first similarities is that the two capabilities operate in the grey zone (Moon, 2018). Madeleine Moon continues to define this grey zone as: Expanding our understanding of security is hampered by the fact that the main threats to NATO today operate in what academics and, increasingly, policymakers, call the Grey Zone. The Grey Zone is where state and non-state actors use threats, coercion, co-optation, espionage, sabotage, political and economic pressure, propaganda, cyber tools, clandestine techniques, denial, the threat of force, and the use of force to advance their political and military agenda. Cyberspace is influencing the future of the military and will especially affect NSOF's unconventional actions, as both force multipliers are similar. The difference between soldiers using real weapons and hackers pulling the trigger online is increasingly diffuse. For example, automated algorithms designed to engage in combat without direct human intervention or oversight would be a perfect tool for a hacker to turn an armed force against itself. Hacking an enemy to attack another enemy without the instigator even entering the physical war zone - all while claiming plausible deniability - is now a potential threat. The physical role that NSOF plays in hybrid warfare will necessarily evolve as future hybrid warfare is largely conducted online.

When it comes to recovering or protecting ships, naval special operations have a very wide variety of missions such as VBSS (Visit Board Search and Seizure), Opposed Boarding (uncooperative boarding) and other specific direct actions. In the execution of the VBSS mission, a very important step is the exploitation of the information provided by the N2 compartment to clearly establish the position of the enemy on board the crew and not least the capabilities they have. Using cyber capabilities, we could easily determine the above and thus streamline the intelligence gathering process. At the same time using cyber capabilities we can access navigation systems and stop the ship thus facilitating the boarding of the ship by NSOF operators.

One of the most important missions of the naval special operations forces is the defense of critical infrastructure and key objectives along the coast and in Romania's exclusive economic zone. One of the most important major targets of current importance and interest are the maritime oil platforms located approximately 60 miles off the Black Sea coast. The complexity and geographical position make the oil platforms the most difficult targets to defend. For example, in planning a direct action on an oil platform, the type of ammunition must be taken into account (in order not to cause irreparable damage, as oil platforms operate with high-pressure pipes for gas extraction), the platform of insertion of the operators (air, sea or by diving), the desired effect (hostage release, raid, etc.) as well as other variables specific to special operations. Cyber capabilities play a crucial role in the recovery or protection of ships and maritime oil installations. While a wide range of missions can be executed on ships, the options are limited on oil rigs. Therefore, using cyber capabilities we can multiply the effort to gain advantage or relative superiority cited for a given period of time so that operators can gain that decisive advantage for

mission success. For example, in a hostage rescue operation aboard an oil rig cyber capabilities through hacking can access the civilian servers of oil rigs, access civilian phones, radio stations and provide vital information about the presence and location of the enemy, the location of hostages and last but not least triangulate the signal of radio stations used by the attackers to predict or establish a pattern of behavior that the attackers use. This information can be vital to NSOF operators in achieving success.

Romania actively participates in Operation Sea Guardian with a frigate ready to execute counter-piracy operations and maintain maritime security in its area of responsibility every year. (NATO, 2021) On board the frigate there is a naval task force ready to execute the full spectrum of special maritime operations, reporting directly to the ship's commander. If a Cyber team were deployed with the detachment, the effects described above could be achieved with the help of this team and the success of the mission would be exponentially increased.

Conclusions

The experience that Romanian NSOF gathered in the past decade working with multiple entities provides a strong culture in executing maritime operations unilateral or combined. Using the cyber capabilities in order to support the missions of NFOS and to enhance the outcome of any task that are in their area of expertise is a way of improving the operational perspective.

The real challenge in the endeavor of creating a CyberNSOF capability will be to find the right balance between the competencies and know-how that are to be transferred from cyber operators to FNOS and vice versa in order to achieve the best niche force capability.

On the other hand, an integrated approach of a Cyber and NSOF missions and ways of solving operational task will provide the military decisions makers with some innovative solutions by a fraction of costs and risks of any other kind of military forces assigned on similar missions.

Creating a CyberNSOF capability will be a force multiplier for the future battlefields and the task of building such a force will depend on the fight spirit of SOF and cyber operators, their top of the spear professional knowledges and abilities and the vision of the commanders of those military components as well as their willingness to win the next war.

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SECTION III

DEFENSE AND SECURITY STUDIES

THE REGIME AND EFFECTIVENESS OF 2022 ECONOMIC SANCTIONS AGAINST THE RUSSIAN FEDERATION

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Abstract: *In the early 2022, the world economy is recovering from the decline caused by Covid-19 pandemic – the central banks being prepared to gradually withdraw fiscal and monetary support. The Russian military’s invasion of Ukraine and subsequent sanctions have reversed this trend and risks and uncertainty have suddenly returned amid rising energy, food and other important commodity prices, inflationary pressures, deterioration in financial and labor market conditions. This paper outlines the general framework of economic sanctions, reviews the sanctions adopted by the international community against Russia in the first 100 days of brutal, unjustified and unprovoked illegal military aggression against Ukraine, and identifies their effectiveness and impact on Russia’s economic and financial system.*

Keywords: *economic sanctions; Russo-Ukrainian war; Russian economy; European economy; energy.*

1. Economic sanctions – general framework

With the establishment of the League of Nations in 1919 (later the United Nations), the international sanctions became a potential foreign policy tool for changing the behaviors or policies that do not comply with certain standards of conduct shared by the international community (Romanian Ministry of Foreign Affairs 2022).

Following the end of the Cold War, the sanctions regime¹ was increasingly used by the international community (UN, EU or OSCE organizations or individual states) out of the need to respond to major geopolitical challenges (regional crises and conflicts), security threats (terrorism and organized crime), violations of the human rights and freedoms or of various international treaties. The aim is to maintain or restore international peace and security through non-military means, such as economic, trade and financial pressures on state or non-state actors that comply less or not at all with the international law. The sanctions regime refers to certain tools and means of economic nature that try to induce the desired behavior by changing decisions, activities or policies by which, for example, an actor triggers / escalates a military conflict that could involve certain costs. The economic and social costs of a long war are huge and will affect for a long time both the parties involved in the conflict and the neighboring states, the regional and even the global community.

The international sanctions imposing restrictive measures and obligations in relation to the governments of some states, non-state entities, individual or legal persons are instituted via legal instruments adopted by the UN Security Council, regulations of the European Union, decisions of other international organizations or unilateral decisions of any state in order to maintain international peace and security, to prevent and combat terrorism, to ensure respect for human rights and fundamental freedoms, to develop and strengthen democracy and the rule of law and to achieve other goals in accordance with the objectives of the international community (Romanian Government 2008). In general, such restrictive measures include: the

¹ The international community uses a wide variety of “tools” to influence the decisions, policies and strategies of some governments, which, in terms of implementation requirements and effects, can be: public appeals, political-diplomatic approaches, judicial measures, non-economic sanctions, economic sanctions and as a last resort actions that involve the use of armed force.

freezing of funds and blocking of economic resources; trade sanctions; restrictions on imports/exports of dual-use goods/technology and military equipment; travel, transport and communication restrictions; diplomatic, technical and scientific, sports and cultural sanctions. To these we could add the threat of using these means to weaken the economic and financial system of the adversary, which would reduce his political, economic and military power.

The Security Council (UNSC), the main UN body for responding to crises and conflicts, adopts sanctions resolutions against state or non-state entities with a majority of 15 votes and no veto from the five permanent members (China, France, Russian Federation, the United Kingdom, the United States). Thus, by virtue of Chapter VII of the UN Charter, the UNSC may include in its resolutions coercive, economic or other measures that do not involve the use of armed force. According to the Article 41, such sanctions may include “complete or partial interruption of economic relations and of rail, sea, air, postal, telegraphic, radio, and other means of communication, and the severance of diplomatic relations” (UN 1945). These exceptional measures should be used only after the peaceful settlement of disputes has been exhausted, being a stage between negotiations and coercive action by military means.

Economic sanctions are generally defined as “prohibitive economic measures applied by the international community to the export and/or import of goods, services, resources to or from a particular country” (Catedra de Economie și Politici Economice (ASE) 2001, 394). In our view, economic sanctions constitute any restriction or threat of restriction imposed by a country in its current trade relations with a target country in order to persuade its government to change its policy. Their application may be made unilaterally or in concert with other countries through the UNSC or other international organizations.

The most well-known forms of sanctions and coercive economic measures (Jura and Buruian 2015, 32) (Cloșcă 1982, 257-259) (Scăunaș 2007, 334-335) (Băhnăreanu 2007, 24-25), which seek to peacefully force a state to put an end to serious violations of the international law or the principles of economic policy, to reconsider the unjust measures it has taken and to repair the prejudice caused, are:

- *retort* – measures taken by a state, including economic ones, aimed to force other state to put an end to its unfriendly acts contrary to international practices.

- *reprisals* – coercion acts of political, legal, and economic nature adopted by a state, by derogation from the norms of international law, against another state in order to compel it to return to legality and to repair the prejudice caused. There are four subtypes:

- *boycott* – partial or complete interruption of trade relations with a target state in protest or punishment;

- *blockade* – partial or total isolation of a target state by interrupting rail, sea, air, postal, telegraphic, radio, and other such means, obstructing trade and communications relations with other states;

- *embargo* – prohibition of the import and export of a target state, the entry/exit of its commercial vessels (planes) into/from the territorial ports and waters (airports and airspace) of another state or their detention (together with their cargo);

- *severance of diplomatic relations* – unilateral act of state, by which it is decided the recall of its diplomatic mission and asks the other state to recall its diplomatic mission, the mutual representation of such states being performed further on by a third party, state or international organization.

In general, all these forms of action aim at excluding the target state from international economic circuits, prohibiting its access to some markets and depriving it of important goods, products and services and even total economic isolation in order to force it to comply with certain rules, to stop certain practices or to submit to a certain will.

2. Economic sanctions against Russian Federation

This section of the paper deals with the identification and systematization of economic sanctions against Russian Federation in order to create a basis for analyzing their effectiveness and impact on Russia and other countries. To this end, the analysis includes both the chronological criterion and that of the actor imposing the sanction, resulting not only in a time based systematization, but also in a map of the allies against Russia's actions.

On February 24, 2022, Russia launched a brutal, unjustified and unprovoked illegal military aggression against Ukraine, which attracted an unprecedented series of sanctions from the most of the international community. Russia's political and economic isolation, along with the costs of supporting the war effort, is expected to weaken Russian finances and economy and to force the Moscow regime to accept negotiations and end its so-called "special military operation".

In the first week, sanctions targeted Russian-funded institutions and individuals, removing Russian banks from the SWIFT system, freezing the assets of Russia's Central Bank, businessmen, and officials, closing European countries' airspace and seas for Russian aircraft and ships, restricting the Russian economy access to foreign capital and hi-tech, limiting Russia's ability to trade in dollars, euros, pounds or yen, banning certain exports to Russia, suspending Germany's authorization for the Nord Stream 2 gas pipeline, withdrawing major international companies from Russia (BBC News 2022).

In addition to the strong signal given in the early days of the invasion, developed countries adopted new sanctions against the Russian Federation in March 2022 aimed primarily at discouraging and undermining the Kremlin's ability to continue military action in Ukraine. According to the BBC (BBC News 2022), Reuters (Funakoshi, Lawson și DeKa, Tracking sanctions against Russia 2022) and PIIE (Bown 2022), the most important measures against Russian individuals, companies and economy were:

- The Central Bank of Russia has been suspended from the Bank for International Settlements, which means it will no longer be able to use its services, and the US, EU, and UK have banned individuals and companies from working with Russian Bank. The UK has also excluded Russian banks from the British financial system, frozen their assets and limit the deposits that Russians can have in British banks, and ban access of the Russian state and companies to financing or loans in the UK.

- The US, G7 and EU countries withdraw Russia's the most-favored-nation status, which means higher trade tariffs for a number of Russian products. The US has completely banned imports of Russian hydrocarbons, as well as other key products (vodka, seafood, diamonds), and the UK and EU – the export of luxury goods (eg vehicles, fashion items, art objects) to the Russian market. The UK, EU, US and other countries have restricted the export of certain products to Russia, in particular dual-use items (civilian and military), such as chemicals, lasers or vehicle parts (which affect factories of armored vehicles and tractors) and the EU has banned the sale of aircraft and specific equipment to Russian airline companies.

- Assets belonging to Russian President Vladimir Putin and Foreign Minister Sergei Lavrov are freezed in the US, EU, UK, and Canada and several Kremlin-connected oligarchs have had their goods and travel rights restricted by the US, Canada, EU and UK. Moreover, the UK limited the "golden passports" that allowed Russian investors to obtain residence rights on British territory.

- Although Russia was the fifth largest global retail market in 2021, a number of large international companies have suspended/closed their activities here (McDonald's, Coca-Cola, Starbucks, Nestlé, Heineken, Estee Lauder, Inditex, Levi's, Sony etc.). The four major accounting firms (Deloitte, KPMG, EY and PwC) have stated that they will no longer operate in Russia and Visa, MasterCard, American Express and PayPal withdraw from the Russian market in protest to.

- Japan has imposed financial sanctions on certain Russian individuals and companies and banned exports to some Russian entities, as well as those of luxury goods to Russia.
- Norway and Switzerland have aligned themselves with most EU sanctions against Russia.

One month after the start of the war, G7 and EU leaders met at NATO Headquarters in Brussels and pledged to fully implement the already announced sanctions against Russia, to cooperate with other governments to impose similar sanctions, to eliminate possible omissions and to prevent potential and effective evasion, circumvention and backfilling actions that would undermine the effectiveness of already imposed sanctions, as well as to stop any attempt to support Russia by other means (G7 2022a) (European Council 2022a). In the same time, the United Kingdom announced new sanctions targeting Russian strategic industries, including defense sector, businessmen and banks (UK Government 2022) and the US Treasury sanctioned dozens of Russian defense companies, over 300 members of the Russian Duma, and other Russian individuals (U.S. Department of the Treasury 2022a), stating that the imposed sanctions cover any transaction with gold or involving the Central Bank of Russia.

G7 leaders also announced a joint initiative to respond to “evasive measures, including regarding gold transactions by the Central Bank of Russia”, as well as closer coordination - including with OPEC – to reduce dependence on Russian gas, oil and coal and to manage possible supply disruptions. All instruments and funding mechanisms will also be used to ensure food security and resilience in the agriculture sector (G7 2022a). For their part, EU countries have pledged to eliminate dependence on Russia gas, oil and coal imports as soon as possible, in order to urgently implement both the EU gas storage policy and, in the perspective of next winter, solidarity and compensation mechanisms and, last but not least, to voluntary purchase of gas, LNG and hydrogen at Community level (European Council 2022a).

Moreover, following the tragedy in the city of Bucha (Ukraine) on April 6, 2022, the G7 and the EU announce plans to document and disseminate information about the atrocities committed by the Russian armed forces and to impose more economic costs on Russia, including through additional sanctions. Thus, the Biden administration issued an Executive Order banning exports of services and new US investments in Russia (The White House 2022a), and the US Treasury imposed financial sanctions on Sberbank and Alfa-Bank and blocked assets of Putin and Lavrov families and Russia’s Security Council members (U.S. Department of the Treasury 2022b) (Liptak, Klein and Collins 2022). The EU has also adopted the fifth package of sanctions by which: banned Russian coal imports since August 2022, as well as wood, cement, fertilizers, seafood and alcoholic beverages; extended export bans including aircraft fuel, quantum computers, semiconductors and other technological products and services; prohibited the access to EU ports of Russian vessels and the use of EU roads by Russian and Belarusian transport vehicles; imposed a full transaction ban on four other Russian banks and financial sanctions against key Russian oligarchs, politicians and their family members; banned Russian companies from participating in EU public procurement projects (Council of the EU 2022). In the same time, the UK financially sanctioned Sberbank, Credit Bank of Moscow, eight Russian oligarchs, Sergei Lavrov and daughters of Putin, banned imports of Russian iron and steel products, exports of quantum and advanced material technologies to the Russian economy and all new investment to Russia and pledged to eliminate Russian coal and oil imports by the end of 2022 and gas as soon as possible (GOV.UK 2022a) (GOV.UK 2022b). Japan also banned the import of certain Russian products, prohibited new outward investment to Russia and imposed financial sanctions on over 400 Russian individuals and entities (Federal Register of Legislation 2022).

Over the next two months (April and May 2022), the international community continued to expel a number of Russian diplomats and implement new sanctions (BBC News 2022) (Reuters Graphics 2022) (Bown 2022) aimed to destabilize the Russian economy and increase economic and financial pressure on Moscow:

- The US has expanded license requirements on Russia/Belarus export controls and added another 120 Russian and Belarusian companies that support the two countries' armies on its Entity List². It also issued temporary denial orders of the export privileges of the Aeroflot, Azur Air and UTair Russian airlines for alleged violations of previous export controls. Moreover, the Biden administration has signed two bills prohibiting energy imports from Russia and suspending normal trade relations with Russia and Belarus.

- The US Treasury has sanctioned individuals and entities who tried to evade the sanctions already imposed, including companies in the virtual currency industry and networks led by Russian oligarchs (and launched an action to block payments made by Russia to American bondholders). The State Department also announced it is imposing financial sanctions and visa restrictions on hundreds of individuals, including directors of state-owned banks, defense companies and television stations.

- The US has prohibited Russian-affiliated vessels from entering US ports and Norway has added a ban on Russian goods transporting on its roads to that regarding its ports.

- The UK has banned imports of new Russian goods (silver, wood and caviar) and exports of certain products and technologies (chemicals, plastics, rubber, machinery, interception and monitoring equipment) and services (management consulting, accounting and public relations) to the Russian state and imposes additional tariffs on imports of diamonds, platinum, palladium and rubber from Russia and Belarus. It also imposed financial sanctions and travel bans on a number of Russian military commanders and hundreds of individuals supporting the war, such as separatists of the so-called Donetsk and Lugansk People's Republics and entities associated with Russia's "troll factory", several Russian oligarchs close to President Putin, including their relatives. Moreover, the UK's tax authority has revoked the recognized stock exchange status of the Moscow Stock Exchange which could deprive future investors of access to certain UK tax benefits.

- Canada has prohibited exports of insurance services to Russian aircraft, aviation and aerospace industry and imposed financial sanctions on another 33 entities in Russia's defense sector and a number of Russian oligarchs. The Canadian government has also amended its import and export restrictions on trade with Russia.

- Japan has withdrawn the most-favored-nation treatment for imports from Russia, which will increase import tariffs for certain products. Instead, China reduced these duties on coal imports from 3-6% to zero in order to disproportionately benefit Russian exports displaced from other markets.

International sanctions will continue to affect Russia's economic development and will have lasting effects, including on the living standards of the Russian population. In a Statement commemorating the end of the Second World War in Europe, G7 leaders said future measures would include: gradually reducing our dependence on Russian energy; export bans on advanced goods and key services; additional sanctions against Russian banks, oligarchs and individuals; and efforts to continue the fight against Russian propaganda (G7 2022b). In this context, after several rounds of negotiations, EU ambassadors managed to reach in May 2022 an agreement on a partial oil embargo on Russia (European Council 2022b), in particular 75% of current European oil and petroleum products imported from

² "Entity List" contain the names of certain foreign persons – including businesses, research institutions, government and private organizations, individuals, and other types of legal persons – that are subject to specific license requirements for the export, reexport and/or transfer (in-country) of specified items (U.S. Department of Commerce's Bureau of Industry and Security 2022).

Russia (excluding deliveries through Druzhba pipeline to Hungary, Slovakia, the Czech Republic and other landlocked countries) and 90% by the end of this year (O'Kane 2022). The agreement provides for a gradual decrease in Russian oil transport, including pipelines imports of Germany and Poland. The implementation of this measure will seriously affect the Russian economy, given the fact that EU states have imported from Russia about 2.2 million barrels/day of oil and another 1.2 million barrels/day of petroleum products, which means over \$ 1 million/day income for the Russian economy (BBC News 2022). The sixth package of sanctions entered into force with immediate effect on June 3, 2022, with the written agreement of each EU Member State.

In the first 100 days of Russia's military aggression in Ukraine, the economic sanctions imposed by international organizations and individual countries was gradual and targeted individual and entities of the Russian economy, finance and society. This sanctioning process against an actor that who violated the rules of international law mobilized most of the international community, even countries that had close trade relations with Russia, despite the risks and sacrifices involved for the imposing countries. The effectiveness of these economic sanctions and the effects on European countries will be analyzed in detail in the next section.

3. The effectiveness of economic sanctions against the Russian Federation

In general, economic sanctions involve high costs which are often not reflected in the results obtained. Their use requires a very judicious and objective forecast of the subsequent effects on economies and population of the imposing countries. In the political environment and academia inevitably arisen a debate over the effectiveness of economic sanctions adopted by the international community against Russian Federation, including the effects on the economy of those who impose them. Goldman Sachs warns that the economic impact of war in Ukraine could push the US and Europe into recession (Warner 2022), given that energy prices and inflation are already on a strong upward trend adding new risks and volatility to global markets. The European Central Bank has already revised the Euro area economic growth for the current year, from 4.2% in December 2021 to 3.7% in March 2022 (European Central Bank 2022) and the prospects are not very encouraging.

On the one hand, some European countries do not agree with the sanctions. The recently re-elected president, Aleksandar Vučić, stated that Serbia, a candidate for EU membership, will not impose sanctions on Russia because “we do not believe sanctions change anything” (Dunai 2022). Hungary with strong economic interests in the energy resources received from Russia has also a similar position. On the other hand, experts argue that the classic goals of criminal justice – deterrence, enforcement, punishment and rehabilitation – can also be applied to economic sanctions (Hufbauer and Hogan 2022). Clearly, deterrence has failed to stop Russian's “special military operation” in Ukraine, but sanctions imposed after invasion could still discourage other countries, such as China and India, from directly or indirectly undermining measures taken against the Russian economy. In terms of their enforcement, the sanctions have proven to be among the strongest in modern history because they have been accepted by a large part of the international community and the effects on the economy and Russian citizens being quite severe. Russia's rehabilitation of the West cannot be discussed at this time, as there is not the slightest evidence that the Moscow regime will change its course.

Since the beginning of the military invasion in Ukraine, economic sanctions against Russia are having an increasing effect. It is evident that the Russian economy has suffered some damages and soon shifted from a major international economy³, as a provider of energy

³ In October 2021, Russia's economy ranks 11th in the world, with a GDP value of about \$ 1.650 billion (IMF 2021).

resources and food, to one on the verge of collapse, as a result of sanctions and war effort. Although the ruble appreciated at pre-invasion value as a result of countermeasures taken by the Central Bank of Russia and the Moscow administration, Russian experts estimate a slowdown in Russia's economy by at least 8% this year amid rapid inflation – which could reach 20% (Reuters 2022). In fact, even President Putin recognizes that 2022 will be a difficult year for the Russian economy not because of the war in Ukraine, but because of rising inflation (Mazilu 2022). UN experts also forecast a sharp contraction of the Russian economy of -10.6% by the end of 2022 (UN 2022, 3), based on curtailing Russia's trade and financial relations with the rest of the world, the exodus of capital and foreign companies and the possible Europe embargo on Russian energy. IMF expects a fall of Russia's GDP at least -8.5% this year due to the significant drop in private investment and consumption (IMF 2022, 4). Economists at the International Institute of Finance are even more pessimistic and forecast a -15% decline in the Russian economy (Brooks, et al. 2022).

Russia and Ukraine are particularly important to global economy, especially world trade in terms of their role as suppliers of wheat (30%), corn, mineral fertilizers and natural gas (20%), oil (11%), rare metals (palladium, nickel, titanium, uranium) and inert gases (argon, neon) (OECD March 2022, 5). All these sanctions will have a strong impact on the Russian economy – already in recession – which will shrink by at least 11.2% in 2022 amid a sharp decline of domestic demand (The World Bank Spring 2022, 35). The World Bank also estimates for Russia that by the end of 2022, investment will decrease by about 17%, the inflation will reach 22%, and exports and imports will fall by 30.9% respectively 35.2% (The World Bank Spring 2022, 92). Russia's ability to withstand the war effort will be affected, given that much of Russian imports are destined for the advanced products and technology needed to industrialize the Russian economy.

As Moscow's ability to use foreign exchange and credits was blocked, the Russian economy became increasingly dependent on revenues from the sale of fossil fuels (energy exports accounted for 60% of total exports in 2019 (Jayanti 2022)). Russia is the largest exporter of gas to European market and, therefore, the most drastic sanction that would hit the Russian economy hard would be the total cessation of European imports of Russian oil and gas⁴.

What would be Russia's alternative to counter such a measure? Moscow claims that it can quickly redirect, at preferential prices, energy resources destined for Europe to other "friendly" countries that need them, as well as increase domestic consumption (Reuters Staff 2022). It refers to the Asian market, mainly China and India, but this cannot be done overnight because requires political agreements, investments, pipelines and other facilities. Another problem for Russia is the long-term trade relations of these two Asian economic powers with the oil-rich countries of the Middle East – Saudi Arabia, Iraq, the United Arab Emirates (Sullivan 2022).

In the same time, if Russia decides not to deliver energy to Europe, what could be the short-term alternatives for the Brussels authorities? First, especially after the annexation of Crimea in 2014, the EU managed to reduce its dependence on Russian energy resources to a small extent being accused of financing its own insecurity by financing the accounts of the Moscow administration. Moreover, most European countries have given up coal in the context of climate change and others (such as Germany) have completely abandoned nuclear energy. In principle, based on existing energy infrastructure, the EU should have no short-term problems and could meet its energy needs in Norway and North Africa, along with consumption adjustments (McWilliams, et al. 2022). Sharing Member States' gas from their deposits across the EU could also delay or prevent supply disruptions for a limited period of

⁴ The US, Canada, Australia and the UK have already taken such measures, banning oil imports from Russia and the Baltic countries for Russian gas.

time. A total blockade of Russian energy imports into Europe does not seem to be a viable option yet, as some European economies are so dependent on Russian gas that they would almost certainly go into contraction and even recession. But, reducing the use of Russian fossil fuels by European countries, along with improving the supply of oil and gas from other producers, remains a priority that would lead to an increase in the total supply and a decrease in international oil prices. This will have a negative effect on Russia's foreign exchange revenues.

To counter the disastrous effects of sanctions on the Russian economy, the Moscow administration is working in two main areas:

- *full use of the so-called "energy weapon"*, in order to reverse both the devaluation of its national currency and to force Western countries to drop at least some of sanctions imposed;

- *developing partnerships with China, India and other "friendly" Asian countries*, in order to future secure its energy exports and revenues.

As a response to economic sanctions, Russia has imposed a condition to all "unfriendly" countries to pay in rubles for Russian gas and oil through accounts opened on Gazprombank starting with April 1, 2022, otherwise supplies will be stopped (Astrasheuskaya și Abboud 2022). Some European states have complied with Putin's ultimatum, being accused of violating EU sanctions (Hernandez 2022), but many other opposed. Gazprom has halted gas exports to Poland, Bulgaria and Finland due to their refusal to pay in Russian currency (Bounds and Fleming 2022), as well as to a company in the Netherlands and another in Denmark. Russia has also blocked the transactions with 31 foreign energy companies, including former Gazprom subsidiaries in Germany, France and other European countries, traders and operators of underground gas storage facilities, as well as with companies in the US and Singapore (TASS 2022).

In anticipation of Moscow's actions, the US and the European Commission have already announced the strengthening of cooperation in the field of energy security by setting up a Joint Task Force that will aim to ensure LNG deliveries from the US to the European market of at least 15 billion cubic meters in 2022 to about 50 billion cubic meters in 2030 (European Commission 2022). Moreover, in order to reduce prices on the international market, the US has announced an increase in the oil supply by 1 million barrels per day in the next six months from the American Strategic Petroleum Reserve, which will be coupled with a short-term increase of domestic production and in other allied and partners countries and "flooding" the market with millions of additional oil (The Secretary General's Annual Report 2016 n.d.).

Moscow's administration is working also on strengthen economic cooperation with "friendly" Asian countries, especially China and India, by offering oil, grain and other products at reduced prices. Putin even wants a dedollarization of the Russia-China partnership, which could be joined by India, by developing an alternative global financial system to avoid trade sanctions imposed by Western countries. In this framework, some analysts believe that we could witness an Indo-Chinese alliance (Srivastava and Tiberghien 2022), backed up by Moscow, which is still an unlikely scenario given that it would jeopardize about a third of the Chinese exports that are entering the European and American markets (Lawder 2022), as well as China's economic expansion centered on the "New Silk Road".

Sanctions imposed by international community against Russian Federation certainly have an economic effect, but they do not yet decisively change Moscow's domestic or foreign policy, nor do they lead to a change of power. A reason is that the losses are largely offset by the explosion in oil and gas prices in international markets, so that the effects of the economic sanctions are felt especially by the Russian population not by the regime and its elites.

Conclusions

The case of Russia marks a new milestone in the global sanctions practice due to the extent and degree of international consensus on the taken measures. Although the current results of economic sanctions for Russian economy are quite clear, the lessons learned from previous cases could help to increase effectiveness and minimize costs. We believe that safeguards are needed to mitigate the internal economic costs for European countries, especially if these costs are addressed at an early stage.

There are several channels through which Russia's brutal, unjustified and unprovoked illegal military aggression in Ukraine affects the economy and trade. First, the escalation of oil and gas prices, as a result of imposed energy sanctions, is affecting the European market and leads to rising inflation. Second, the disruption of grain, timber, coal and some rare metals' supply chains in Ukraine and Russia keeps prices high for these products which leads to rising food prices and hamper the automotive and aerospace industries and smartphone manufacturers. Third, the political risks and uncertainty generated by this military conflict triggered the reduction/suspension of operations or even the withdrawal of many important companies from Russia, as well as the cessation of investments in the two warring states. Last but not least, the humanitarian crisis and the waves of Ukrainian refugees are requiring assistance from neighboring states, the EU and other actors, which involves some economic and social costs. All these factors, alongside economic impact at national and regional level, will increase the cost of living and place even more pressure on household consumption and income.

Finally, we can say that the full effects of sanctions imposed by the international community on the Russian economy are still ongoing and difficult to estimate, as there are direct and indirect future implications for economic activity in other countries, especially European ones. What is clear is that Russian energy exports will fall, the Russian economy and finances will weaken more and more, and the standard of living of the Russian population will fall for a decade or even more.

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NATO AND EU STRATEGIC REVISION. CONTEXTUAL FACTORS BEFORE AND AFTER THE RUSSIAN – UKRAINIAN WAR

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Abstract: *The present paper approaches the significant contextual aspects in which 2022 NATO and EU strategic revision process is taking place. The study premises that Russian unjustified military aggression on Ukraine and the subsequent security challenges for the European security environment are only the most recent, visible, and implicitly, attention catching ones, and that the background of the current strategic revision of both NATO and the EU is wider and marked by the succession of internal and external crises in the last decade. However, despite the need to approach all these challenges, Russian invasion of Ukraine has a key role in these organizations’ strategic revision, as it can be considered a wake-up call, an undeniable proof that both NATO and EU have to adapt their role in the regional and international security context. Through this rather descriptive approach, this paper is meant to bring to attention the complexity of the current international and regional context, shaping NATO and EU strategic revision. Also, we will argue that one of the main challenges that are to come after this revision will consist in dealing with NATO-EU relation in the best possible manner. In order to do so, the argumentation will be built departing from the general regional context, taking in consideration both internal and external trends, continuing with the origins and signification of NATO and EU strategic revision. This will be the basis on which we intend to reveal some of the challenges of NATO-EU relation and how this relation was impacted by the unjustified Russian military aggression on Ukraine. The argumentation capitalizes recent events with relevance for NATO and EU approach to security and is built on inputs from the level of population perception on NATO and EU, as well as from national foreign politics and trends specific to the organizations themselves. Given that this paper was written before NATO actually published its 2022 Strategic Concept, the author will mostly capitalize on EU’s official documents and, implicitly, on EU’s perspective. The study concludes that despite the highly conflict-prone context, there is also a favourable ground not only for the EU to progress in its military dimension, but also for doing this in full coordination with NATO, avoiding duplications.*

Keywords: *cohesion crisis; liberal democracy crisis; Strategic Compass; Strategic Concept; strategic autonomy; Russian-Ukrainian war.*

From the very first days of the Russian unjustified military aggression on Ukraine, the Euro-Atlantic community showed solidarity with Ukraine. Despite not involving in a direct military manner in the Russian-Ukrainian war, Western actors constantly and strongly supported Ukrainian part in its fight for freedom, sovereignty and independence through a long range of political, economic, military, humanitarian actions. Although all these actions bear a high importance for the Ukrainian resistance, this paper will focus more on the implications of the Russian aggression on Ukraine for NATO and EU from the perspective of their effort to adapt to an increasingly unstable, insecure, and conflict prone international security environment. Also, as the military crisis at NATO’s and EU’s border is only the most recent one in a large succession of crises, we set ourselves to approach as many and as much as possible the long term trends of relevance for this process of strategic adaptation.

1. Elements of context with relevance for NATO and EU strategic revision

In the last decade, world has passed through a range of deep and extended challenges and transformation determining the need for an adapted approach. For the Euro-Atlantic community

these challenges originated not only externally, but also internally, thus creating the need to address security risks and threats while dealing with serious internal vulnerabilities¹.

On the external challenges side, one could easily think about the building-up of the international competitiveness (political, economic, military, energy), the increasingly tensed relations between major international actors once the Russian Federation and China embraced a revisionist behaviour on the international arena, the preservation and even escalation of regional crises, the multiple forms took by hybrid aggression, the deep impact of Covid-19 pandemic on all security dimensions.

At the same time, the Euro-Atlantic security community as a whole has been facing a range of serious internal challenges, among which the decline of liberal democracy and the subsequent erosion of cohesion have the deepest and most extended consequences. The decline of liberal democracy worldwide, including Europe and North America, has been acknowledged by research institutions specialized in this area for at least a decade. Their analyses on 2021 democracy evolutions reflect that this trend not only maintained, but it is also paralleled by the development of autocracies, at such an extent that democracy level worldwide reached the level of 1989 (V-DEM Institute 2022, 6). Indeed, Europe remained the region where democracies were best evaluated, but even in this case the decline is unquestionable (Bauhaus n.d., 38). The trend of autocratization as a result of liberal democracy decline, especially in the context of Covid-19 pandemic, is one of the common conclusions of all the studies on this phenomenon (IDEA 2021, 1) (V-DEM Institute 2022, 5). Therefore, as we are dealing with a long term trend, approaching the decline of liberal democracy as a security threat has become a common thing in security studies, but without laying too much emphasis on its effects on NATO and EU. So, why does liberal democracy decline matter for these organizations?

Since NATO and the EU are based on Member States' common commitment to democracy values and principles, there is a causal link between the declining quality of democracy and the tendency of European and Euro-Atlantic loss of cohesion. In order to be functional, democracy needs to be accompanied by liberalism, namely by commitment to civil liberties and rule of law, which are liberal principles. Also, recent history shows that it is possible for democratic elected regimes to elude or discard those liberal premises. Hungary and Poland are some of the most well documented examples in this respect, especially because they are also subjected to infringement procedure by the EU because of not complying to these standards. This phenomenon entered security studies under the name of illiberal democracy, thus making it necessary to discern it from liberal democracy. Therefore, liberal democracy decline gives the measure of the vulnerability of the two organizations. In addition, in the context of the hybrid conflict between Western actors, on the one hand, and the Russian Federation, on the other, the weakening of the cohesion of the Euro-Atlantic community and the decline of liberal democracy are one of the key vulnerabilities actions targeted by hybrid aggression. The role of liberal democracy in the context of current security challenges was also highlighted at the 2022 Munich Security Conference. Thus, referring to the multiple security challenges, the Conference report mentions that "from a transatlantic point of view, the trends described above would have been less worrying had it not been for the crisis of liberal democracy" (Bunde, et al. 2022, 25).

For NATO and EU, all this context, together with the successive security crises, came with the pressure for each organization to extend and develop their rather adjacent dimensions and the coordinates of the relations between them. In this line of thought, NATO needed to focus more on strengthening its civilian instruments needed for responding to terrorism and disinformation. For the European Union, this context came with the need to identify a position, depending on its hard and soft capabilities, as well as on the dynamics of relations

¹ This paper is based, among others, on previous research results on this subject, disseminated in "Evaluare strategică 2022" (in translation, *2022 Strategic Evaluation* - in process of publication), and "Colocviu Strategic" (in translation, *Strategic Colloquium*) no. 1, 3, 5, 9/2022.

with the main actors in this competition. In these circumstances, in parallel with the effort to define and develop a European strategic autonomy, there is also the fundamental role of the transatlantic partnership is maintained, but with multiple internal challenges.

This is the background specific to NATO and EU on which the Russian Federation launched an unjustified military aggression on Ukraine, starting with February, 24th 2022, shattering not only the security and stability of the Ukrainian state, but of the entire Euro-Atlantic security. This all the more as the declaration of February, 23rd 2022, by which V. Putin argued the initiation of a so-called “special military operation” in Ukraine, mentioned as a first argument in the respect Moscow’s “biggest concerns and worries, and (...) the fundamental threats which irresponsible Western politicians created for Russia consistently, rudely and unceremoniously from year to year”, explicitly referring to “eastward expansion of NATO, which is moving its military infrastructure ever closer to the Russian border” (Aljazeera 2022). Furthermore, Russian president argued the connection between Western actors and Ukraine, stating that “the leading NATO countries are supporting the far-right nationalists and neo-Nazis in Ukraine, those who will never forgive the people of Crimea and Sevastopol for freely making a choice to reunite with Russia” (Aljazeera 2022).

The idea that among the reasons for which V. Putin decided to launch a full-fledged war on Ukraine is the connection between Kiev and Western actors is infused throughout the entire speech of February, 23rd, even though it is surrounded by untruths and misinterpretations of facts. Western actors’ efforts in late 2021 to deescalate the crisis and determine Moscow to withdraw the troops massed at Belarus-Ukraine border were capitalized in the same idea. Then, Russia required guarantees that neither Ukraine nor any other Eastern European state shall get NATO membership, as well as NATO’s withdrawing its military infrastructure to 1997 level (The Guardian 2021), all unacceptable for Euro-Atlantic actors.

Thus, as far as Russia is concerned, war narratives are built around the idea of the fight against morally corrupted Western actors, controlling the “Nazi” government in Kiev, putting at risk the lives of the population. Despite not being directly involved in the war taking place on Ukrainian territory, Ukraine relations with NATO and EU, Russia’s relation with NATO (especially, from the perspective of Moscow-Washington relations) and EU are an important dimension of the current state of facts. Furthermore, Russia’s war against Ukraine has led to the most significant change in the European security context in multiple ways. Firstly, it increased the risk of a military threat to unprecedented levels in the post-Cold War period. Secondly, despite of some exceptions, it determined an unexpected level of cohesion in the Euro-Atlantic community, NATO and EU member states capitalizing all their available to support Kiev, while enhancing their own security. However, this strong incentive of closing the ranks not only between Euro-Atlantic states, but also between them and Ukraine has had exceptions. In this line of thought, Hungary’s position is indicative. Overall, Budapest rallied to the measures decided by its partners and allies within EU and NATO. Nevertheless, the relatively close relations between Hungary and the Russian Federation especially in the energy area as well as the previous tensions between Budapest and EU in the area of the rule of law, migration or civil liberties may have laid at the basis of a rather wary position of this state in the context of the Russian military aggression on Ukraine. We consider explanatory in this respect the temporary decision of Budapest to condition Ukrainian refugees entering Hungary by biometric passport and, after giving up this condition, by subjecting those without such a passport to additional controls. Also, other examples in this respect are the refusal to allow lethal weapons transportation to Ukraine on the Hungarian territory or the acceptance of paying for natural gas in Russian roubles.

This particular example shows that Western actors have showed indeed cohesion, both between themselves and with the Ukrainian cause, but the pace and the degree of this solidarity have varied, especially under the force of trends established before the military

crisis. In this context one shall underestimate neither the fact that cohesion has been reached, nor the difficulties in reaching it.

Under these conditions, there are several inputs of the Russian aggression on the Euro-Atlantic community and security organizations. Firstly, there is clearly a trend of enhancing solidarity and reconsidering NATO and EU's *raison d'être*, which are manifested not only through their unity in sanctioning Russia's actions and supporting Kiev resistance, but also in the emergence of an attraction force towards both member and non-member states as NATO and EU membership are seen as an increase in terms of security. A relevant indicator in this respect is the dynamic of public support for these organizations. Concerning the Alliance, 71% of the interviewed citizens of NATO member states consider that NATO is important for the future security of their country as compared to 9% who considering it "not important". Also, despite there is a high concern for a war happening in NATO countries (84%), 67% think that their country should defend another in case of attack and 62% that NATO membership make an attack less likely (NATO 2022, 3). The EU also benefits of a high support from its population concerning the actions undertaken in the context of the Ukrainian war: eight in ten respondents show support for EU economic sanctions against Russia, two thirds agree to purchasing more military equipment for Ukrainian military forces, 93% agree to the humanitarian actions and, with high relevance for our study, 76% agree that Ukrainian war proves that greater military cooperation is needed in the EU (European Commission 2022, 3).

As far as the EU is concerned, Ukraine, the Republic and Moldova and Georgia have long aspired to becoming members of the organizations and the first two were granted the candidate status in June 2022². Also, of significant importance is Denmark referendum in June 2022 for resigning to the opt-out clause in relation to Common Security and Defence Policy of the EU. The results of the referendum showed an unprecedented level of support of the Danish for EU and CSDP, as the population decided with a 65% majority to join EU CSDP, after 30 years of opt-out clause in this respect and after constantly opposing to further EU integration (Euronews 2022). Giving up CSDP opt-out clause will allow Denmark to contribute to EU military operations and cooperate in military capabilities development and acquisition. Also, Finland and Sweden decision to give up military neutrality and join NATO come under the same trend. However, in this particular case, NATO allies and partners will have to deal with Turkish opposition.

Secondly, Russian military aggression on Ukraine determined strong incentive for focusing on military security after a long time of approaching security mostly in its non-military dimensions. Actually, the emergence of this attraction force of NATO and EU is based on this turn taken by Western actors in terms of security. One of the most significant examples in this respect is Germany's decision to invest 2% of GDP in defence annually, thus marking a significant change in this country's approach on security and defence, well-known for its reticence for defence investment (Marksteiner 2022). Even more, this decision was supported, according to an opinion poll, by 69% of the population, a significant increase from the 39% reached in 2018 (Marksteiner 2022). Other countries deciding to increase their defence budgets are Romania (from 2% to 2.5% of GDP from 2023), Italy (gradual increase from 1.4% to 2% until 2028), Sweden (from 1.3% to 2% in a decade), Austria (from 0.74% to 1%), Poland (from 2.2% to 3% from 2023), Netherlands (meets 2% GDP threshold in 2024 and 2025) (Claverie, Bernard; du Cluzel, François 2022, 6-7).

Thus, the emergence of a military conflict carried out with conventional weapons on the European continent determined a refocus of NATO and EU member states on defence

² For an extended analysis on Ukraine candidacy to the EU, please see: C. Bogzeanu, "Ucraina – de la cererea de aderare rapidă la Uniunea Europeană la perspectiva comunității politice europene", Colocviu strategic, no. 9/2022, pp. 9-13, URL: https://cssas.unap.ro/ro/pdf_publicatii/cs09-22.pdf

issues, increasing their willingness to increase their defence budgets. Also, it is significant that this willingness was built up gradually, as the relations between the resurgent Russia and Western actors have become tenser ever since 2014 and as the successive crises (2014 Ukrainian crisis, 2015 European refugee crisis, 2016 Brexit, 2020 pandemic, liberal democracy crisis etc.) became just as much warnings that international and regional security needed an adapted approach on behalf of NATO and EU.

2. NATO and EU Strategic revision: beyond the process

Russian military aggression on Ukraine determined, beyond any doubt, a strong re-focus on defence matters both in terms of investment and of strengthening the cooperation formats, but the need of NATO and EU strategic revision preceded all these events. This process has begun a couple of years ago, under the pressure of the challenges emerging from the growing competition at international level.

In December 2019, NATO Secretary General was asked to launch a Forward-Looking Reflection Process to identify solutions for strengthening NATO's political dimension (NATO 2019). By the end of 2020, the Reflection Group published "NATO 2030. United for a New Era. Analysis and Recommendations of the Reflection Group Appointed by the NATO Secretary General". The document included recommendations in three main areas: a) reinforcing Allied unity, solidarity, and cohesion, including to cement the centrality of the transatlantic bond; 2) increasing political consultation and coordination between Allies in NATO; and 3) strengthening NATO's political role and relevant instruments to address current and future threats and challenges to Alliance security emanating from all strategic directions (NATO 2020, 3).

The EU also begun its strategic review process in mid-2020 and was thought as a three-step process. Firstly, undertake a security threats analysis, in order to grant a common understanding among EU Member States in this regard and to provide a sound basis for building a European strategic culture. For providing favourable conditions for this phase, the result was and remained classified. Secondly, Member States were supposed to agree on strategic objectives achievable for the EU in order to become stronger as international security actors. Thirdly, offering political guidance for military planning process in the future. There were also established four main "baskets" in which the EU shall take further steps in order to achieve its level of ambition in terms of security and defence – crisis management, resilience, capability development, and partnerships.

EU Strategic Compass is a complex document not only in terms of classification (strategy and action plan) (Paul, et al. 2022), but also contextually and symbolically, as it is meant to provide the common solid ground for EU member states to build up a common approach in security and defence under the circumstances in which they excel neither in cohesion, nor in military capabilities. Thus, the strategy valence of EU Strategic Compass is meant as a sound basis for building a common understanding among EU member states on the current security environment in terms of challenges and what is to be done to approach these challenges. The action plan value of the same document offers a clear organization and timing of the process.

The document has even more value as it was preceded by a long range of initiatives verged towards developing EU's weight as security provider. A turning point in this line of thought can be found in 2016, once the British decided to leave EU's institutional framework. This meant that EU was to lose one of its main economic and military powers, as well as the main opponent to the idea that EU member states should deepen their defence integration and that the EU should develop its military dimension. All the more, as regional security environment seemed turning more unstable with the 2014 Ukrainian crisis, the emergence of

hybrid threats, and the economic challenges of China's rise, all together with an internal crisis in transatlantic relations during D. Trump's presidency (BBC 2017) (Atlantic Council 2019) (The Economist 2019).

The launch of Global Strategy for the European Union's Foreign and Security Policy (EUGS), the operationalization of PESCO, the European Defence Fund, and the Coordinated Annual Review on Defence were all meant to provide both the strategic vision and the tools for reaching the level of ambition. To all these, one shall also add the Military Planning and Conduct Capability, a permanent command and control structure at strategic level, for non-executive missions (2017), European Peace Facility, allowing financing operational actions under CFSP with military or defence implications (2021) came under the same trend. Therefore, it becomes clear that EU has accumulated a series of progresses in this line before the Russian attack on Ukraine, as a result of increasing security challenges and transatlantic relations crisis.

As far as NATO is concerned, the document which will be issued during Madrid Summit in late June 2022³, would be the fourth Strategic Concept of the post-Cold War Alliance, expected to reflect the changes in the characteristics and dynamic of the international security environment, the main security risks and threats and the manner in which these challenges would be approached by NATO. Similarly to the EU, NATO has been involved in a process of adaptation before the launch of 2022 Strategic Concept. The rise of China as economic power and of Russia as a regional resurgent one are most probably to be included and change the coordinates of the security environment assessment. Also, most probably, Russia will not be approached as partner. Also notable is the fact that NATO undertook a series of transformations before the launch of the new Strategic Concept. For instance, the emergence of hybrid and cyber threats determined the Alliance to include cyberspace as a domain of operations, thus, "cyber defence is a part of NATO's core task of collective defence" (NATO 2016). Also, referring to hybrid threats, 2016 Warsaw Summit decided that the "Council could decide to invoke Article 5 of the Washington Treaty" (NATO 2016).

Coming back to the emergence of a conventional military conflict at NATO's border immediately determined the activation of defence plans and increased its military presence in the East of the Alliance (NATO 2022). Also, there are preoccupations with increasing resilience of societies and infrastructure to Russia's malign influence (cyber, situational awareness, civil preparedness). In this respect, one could observe a significant change from a trend characterizing some of Euro-Atlantic leaders just a few years ago. In 2017, the Allies were worried about D. Trump's statement that NATO was obsolete (BBC 2017) and two years later E. Macron's interview for the Economist saying that NATO was becoming brain-dead had a similar effect (The Economist 2019). References to the Alliance in these terms pointed out the need of an adaptation not only of the Alliance, but also of its relation to the EU⁴, which was showing a higher willingness to invest in its defence dimension. However, the security dynamics at their Eastern border determined NATO to refocus on its fundamental purpose – collective defence. At the same time, the same course of events also revealed EU's added value in regional security, by capitalizing not only on its soft power tools (diplomacy, humanitarian and financial aid), but also on its hard power tools some of them previously used (economic sanctions) and others recently created (financing the purchase of weapons by Kiev through European Peace Facility, instrument created in 2021).

³ This paper was written before NATO published its new Strategic Concept.

⁴ Actually, NATO and EU signed joint declarations of their relations in 2016 and 2018, agreeing to enhance cooperation in 7 areas: hybrid threats, operational cooperation, cyber security, defence capabilities, industry and research, exercises, capacity building.

For NATO, Russian military aggression on Ukraine created one of the most dangerous situations after the end of the Cold War. It is not just the conflict in itself creating this situation, but also the fact that Russian war narrative is built on the basis of NATO's interests in Ukraine, especially as a vector of US, and the threat it thus raises for Russia. Therefore, at this level, reaction was severely complicated as the Allies had to find the balance between clearly asserting their defence posture, need to enhance their own security, and the need to support Kiev in such a manner it would not be capitalized by Russian propaganda as an offensive measure against Russia, but, at the same time, to contribute effectively to the de-escalation of the conflict and to be a real assistance to the Ukrainian part.

Additionally, in this context, in Russian narrative on Western actors, the EU could also be given a similar value to the one of NATO. Actually, in a speech on Ukraine's intention to join the EU, Lavrov said "there are doubts about how harmless such a desire is for Kiev", adding that the EU is turning from a "constructive economic platform" into an "aggressive, militant player who declares his ambitions far beyond the European continent" (Euractiv 2022). Therefore, we can identify the beginning of an aggressive rhetoric not only about NATO's eastward expansion (motivated by US membership), but also about the EU, probably determined by the magnitude of sanctions imposed on Russia and Ukraine's financial, humanitarian, political and military support. Moreover, the context in which the Ukrainian crisis broke out at the end of 2013 is significant. At that time, President V. Yanukovich renounced signing the Association Agreement with the EU, which led to widespread mass protests, marking thus the first stage of the crisis that escalated at the beginning of 2014. This whole context can be interpreted as a demonstration of the EU's power at regional level.

Thus, NATO and EU strategic revision has been incentivized not only by the changes in international security environment which brought more uncertainty and instability, but also by internal crises. Under these conditions, for NATO and EU, the major challenge was to keep their ability to properly approach the current security challenges, while keeping their cohesion at a level allowing them to act efficiently. Under these circumstances, the terms of EU-NATO cooperation and their organizational evolution so as to comply with the complementarity principle turned into a key challenge.

3. NATO-EU relation between strategic autonomy and no duplication principle

EU's *Strategic Compass for Security and Defence* sets a series of actions the EU is to undertake in order to become more capable of acting as a security provider and, implicitly, to make progresses in the area of defence, including the creation and operationalization until 2025 of the EU Rapid Deployment Capacity, a reaction force the EU could capitalize in crisis management. Regarding EU's relation with NATO, the document states repeatedly the commitment to the complementarity principle. The Alliance is presented as "the foundation of collective defence for its Member States" (European Union 2022, 9) and that a "stronger and more capable EU" will be complementary to NATO (European Union 2022, 13) and will contribute to strengthening the Alliance as it will be more capable of sharing the burden of maintaining peace and security (European Union 2022, 5). Thus, the Strategic Compass clearly sets at the basis of EU's defence development the strategic partnership with NATO, the principle of avoiding duplication between the organizations. This is important because the previous dynamic of the relations within the transatlantic partnership contained several reasons to question its viability.

EU's efforts to develop its military dimension came with the risk of duplicating NATO's security and defence tasks and functions, thus trespassing one of the key principle of NATO-EU relation. Actually, the long debate on *strategic autonomy* implication is of high

relevance for this state of facts. Strategic autonomy is one of the main concepts coined by the 2016 Global Strategy for the European Union's Foreign and Security Policy (EUGS). Strategic autonomy has been the concept that has guided Europeans' efforts in this direction in recent years. But, in this case too, we can talk about a fragmentation in the views of the Member States, especially as regards the level of independence in the field of defence that Europeans should develop in relation to the USA. Thus, there is, on the one hand, a vision that strategic autonomy supposes independence in action in the field of security and defence in relation to the USA (promoted by France) and another vision in which EU strategic autonomy supposes the development of the EU's capacity for action, but in close cooperation with NATO, which retains its key role in European security (vision promoted by Germany) (CSSAS 2020, 85-87) (CSSAS 2021, 43-44).

After a period of growing distrust, the beginning of 2021 was marked by European actors' optimism against the background of winning the US presidential election by Joe Biden, after the almost mercantilist US approach to European allies under D. Trump was a test of the strength of the partnership transatlantic. All this at a time when the level of instability in Europe's eastern and southern neighbourhood was already rising. The new US president's public speech illustrated a distinct approach to the transatlantic partnership compared to that of his predecessor, referring to a US return to multilateralism, a return to international leadership "alongside nations that share values" (The White House 2021a). However, two events of 2021 challenged the transatlantic cohesion again. Firstly, there was Washington's decision to withdraw troops from Afghanistan, resulted in a chaotic retreat, with the Taliban taking power from Kabul and, probably, massive losses in terms of both the prestige of the Washington government and the level of confidence at the transatlantic level. For European allies, the course of events was a new occasion in which the strength of the Euro-Atlantic partnership was called into question (Hoff 2021), and was also used in public discourse to support the need to develop strategic autonomy (European Council 2021a), considered a proof of the need for the EU to develop the necessary capabilities to carry out missions in the event that action with NATO aegis cannot be undertaken or is not appropriate.

Shortly afterwards, a crisis in relations between France and Washington followed amid the unexpected announcement of Australia, the United Kingdom and the United States to sign a defence pact (AUKUS) and to terminate a previous contract between France and Australia. AUKUS is a trilateral security partnership between the United States, the United Kingdom and Australia, through which they aim to ensure peace in the Indo-Pacific region (The White House 2021b). The agreement also stipulates that the first two will support Canberra in the purchase of nuclear submarines. This led Australia to cancel a contract with France in 2016 for the purchase of conventionally powered submarines. AUKUS has been described by the French Minister of Defence as "unacceptable behaviour between allies and partners, the consequences of which affect the vision of alliances and partnerships" (Le Ministère de l'Europe et d'Affaires Étrangères 2021a). Also, similar to the crisis generated by the withdrawal from Afghanistan, the situation was capitalized to justify the need to develop strategic autonomy, the termination of the contract between Canberra and Paris being considered an event that "increases the need to raise the issue of strategic autonomy. There is no other credible way for us to defend our interests and values in the world, including in the Indo-Pacific region" (Le Ministère de l'Europe et d'Affaires Étrangères 2021b).

These two situations of crisis have reduced confidence that the strength of the transatlantic partnership could be restored (Williams and Lunn 2021). The reporting of European officials to the way in which the withdrawal from Afghanistan and AUKUS was carried out in parallel with the reiteration of the commitment to the development of strategic autonomy is illustrative in this respect. These situations determined expectations for NATO and EU to evolve rather separately in the future as this course of events showed that they had

different priorities, underlining US refocus on Asia Pacific (The International Institute for Strategic Studies 2022, 66).

However, despite the fact that the withdrawal of troops from Afghanistan has generated not only a transatlantic crisis but also a stimulus to the orientation towards European strategic autonomy, NATO-EU defence cooperation remained constant in the official discourse. The President of the European Commission emphasized this in the 2021 State of the Union Address, starting from the idea that, in terms of security and defence, reducing cooperation is not a solution to any of the specific problems. At the same time, if relations with NATO are an essential part of this area, it is equally important that “Europe can (...) be able and willing to do more on its own” (von der Leyen 2021, 13). Ursula von der Leyen further points out that previous attempts to develop the Union’s military capability have failed due to a lack of political will at Member State level (von der Leyen 2021, 14), thus resuming the theme of divisions in the way Member States Europeans relate to the role of the EU in European defence.

Under these circumstances, we consider relevant the results of a recent study issued by RAND Corporation examining three scenarios for the evolution of strategic autonomy (Retter, et al. 2021). The study concludes that the scenario in which European strategic autonomy is directed towards the development of the European pillar within NATO is the one that involves, according to most experts involved, most advantages. The other two scenarios – the failure of European defence integration and the development of EU military power in parallel and independently with NATO – although can be considered antagonistic, pose similar levels of risk to European security (Retter, et al. 2021, v).

Moreover, NATO’s official discourse seems to confirm the conclusion of RAND study. In a speech at the College of Europe (Bruges), NATO Secretary General Jens Stoltenberg argued that EU defence initiatives are beneficial as long as the Union does not duplicate or replace NATO functions, highlighting the risks involved by decoupling Europe from North America: “A European Union that spends more on defence, invests in new capabilities, and reduces the fragmentation of the European defence industry, is not only good for European security. It is also good for transatlantic security”, “the EU cannot defend Europe alone”, “Any attempt to divide Europe from North America, will not only weaken NATO, it will also divide Europe” (NATO 2021a). Furthermore, the US joining the military mobility project is capitalized on to exemplify the advantages of NATO-EU cooperation, the project being considered representative from this point of view (NATO 2021a).

Thus, the debate on the signification of strategic autonomy is a clear indicator of fragmentation both within the EU and between transatlantic allies. The main stake was how to develop EU’s military dimension so as to avoid duplication with NATO tasks and function, not to weaken NATO, while US priorities seemed to be directed towards Asia-Pacific. The latter also functioned as a main incentive for EU’s defence initiatives. Russian invasion of Ukraine and the destabilization it brought for European security could have functioned as a stimulus for finding the middle way in NATO and EU roles for European security. This, all the more as the debates on strategic autonomy finality has been constantly accompanied by warnings on the negative effects of an eventual parallel EU defence development.

Conclusion

NATO and EU carried out in parallel their strategic revision, which can be considered not only opportune, but also necessary, especially we take into account the following: a) common security challenges; b) cohesion erosion; c) hybrid threats aiming the cohesion itself; d) rapid succession of internal and external crises, testing their capacity to act or to adapt in order to act efficiently.

For EU defence, the current context is one of the most favourable grounds to be turned to advantage. Firstly, there is a high public support not only for EU and NATO contribution to Ukraine's resistance, but also from the perspective of their role in keeping peace and stability for their member states. Additionally, there is a higher willingness among member states to invest more in defence. Secondly, the multitude and depth of security threats, especially the military crisis at EU's and NATO's borders revealed that they can assume complementary roles in such situations with a positive impact both on the evolution of crisis situation and on their member states' security. At the same time, for NATO, Russian invasion on Ukraine also determined a strong refocus on its basic mission – collective defence –, proof that its *raison d'être* has never been obsolete.

From this perspective, one could say that Russian military aggression on Ukraine had negative effect from Moscow's point of view as it determined a cohesive reaction of the Euro-Atlantic actors, thus reversing the trend of solidarity fragmentation characteristic to the last years. Nevertheless, this crisis has been preceded by a long series of crises, trends, and events whose effect has been the erosion of Euro-Atlantic solidarity. The constant decline of liberal democracy, the frequent disagreements between Euro-Atlantic actors, hybrid aggression coordinated by third parties targeting Euro-Atlantic cohesion were not ended by the 2022 military crisis, but just put into the shadow. Therefore, scepticism regarding the duration of this solidarity between Western actors shall be maintained and shall determine carrying further the analysis of the causes and effects of the cohesion erosion at Euro-Atlantic level.

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THE EFFECTS OF NUCLEAR WAR AND THE IMPACT ON THE SOCIAL ORGANISATION OF THE MODERN NATION-STATE

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Abstract: *The prospect of a nuclear conflict can be viewed as a concept of terrifying significance to civilisation. It is a contingency that is the antithesis to human existence in organised societies. The following paper is an examination of the effects, which can be brought upon mankind through the large-scale deployment of nuclear weapons and the impact upon the structure of modern civilisation, viewed through the lens of organisations theory. The paper presents some of the principal short-term and long-term consequences from the utilisation of nuclear weapons, based upon research covering the past five decades. The paper examines the impact of nuclear weapons on society by presenting the modern nation-state as a complex social organisation, whose social structure and complexity would be severely degraded. The paper concludes that the deployment of nuclear weapons in the modern era would have consequences of utmost severity in transforming national societies and the nation state, severely altering, or outright eliminating their ability to function effectively and necessitating societal readjustment and even devolution to ensure survival.*

Keywords: *nuclear weapons; nuclear conflict; social organization; societal collapse.*

Introduction

Since the invention of nuclear weapons, the notion of major societal collapse brought upon by their deployment *en masse* has been at the forefront of arguments against the existence of such weapons, or on the contrary as an argument for continued global peace through nuclear deterrence, and the fear of such an event ever occurring. Regardless, both lines of argument have been based upon the complex examinations associated with the sheer potential destructive power of nuclear weapons, and the cascade of catastrophic consequences their deployment could have for humanity. Even in the third decade of the 21st century, when three decades have passed after the conclusion of the Cold War and the greatest concentration of nuclear weapons in history, the overall consensus remains that nuclear weapons still possess the ability to bring about an event of global proportions and of extreme consequence for the continued progress of human civilisation.

The **object of study** of the following paper can be found in the principal notion of the examination of the effects of a nuclear scenario, a nuclear contingency, as crucial in understanding the vast and impactful array of effects that its outcome could have. The deriving **subject of study** of the paper is expressed in the expected aftermath of such a scenario arising in its direct and indirect, short-term and long-term effects and consequences, and their propagation in undermining the basic structures of the societies, examined through the lens of organisational theory, or more specifically the ability of social organisations in their national form to survive large-scale post-nuclear devastation.

The **main objective** of the present paper is to further the discussion on the impact nuclear weapons deployment can have upon societies and nations, and thus to emphasise the need to prevent such a scenario from ever materialising. Within the sections of the paper, **further objectives** are: to present and contrast existing research and information into the effects of large-scale nuclear exchanges; to present the complexity of the modern nation-state through the notion of a complex social-organisation; and finally, to present how the effects

from nuclear warfare could serve to severely degrade the structures of social organisations and the nation-state itself.

The **principal thesis** of the paper is that *in the contingency scenarios of either limited or full-scale nuclear war materialising in the current era, contemporary national societies within the nation-state structure, as the highest order of a social organisation, will face a deluge of unprecedented challenges to their organisational societal order with societal structure being severely degraded due to the short and long-term, direct and indirect effects of nuclear devastation, and forced to undergo a process of substantial negative transformation in order to ensure survival.*

The paper will in its first section provide for the description of some of the most impactful conditions that are expected to arise in a nuclear scenario, thus setting the preconditions for the exploration of societal structure in a post-nuclear environment. In its second section, the paper will provide for the theoretical assumptions of the evolution of social organisations, contemporary societal structures within organisations theory. In its third section the paper would attempt to connect the conditions of a post-nuclear environment with effects that such an environment could have on said societal structures, as well as expand upon the challenges they could face.

In addition, the following paper will adhere to several **limitations in the scope** of its research. As the paper sets out to provide for the general correlation between the integrity of social organisations and their transformation in the aftermath of nuclear devastation, the social organisation shall be viewed broadly, pertaining to the nation-state and the nation as the current highest order of social organisation, but without application to any particular one. The reasons for such a necessary limitation pertaining to the very essence of diverse social organisations and their environment being subjected to a variable experience and reacting differently in a nuclear contingency. Additionally, when presenting the effects of a nuclear crisis, that could afflict societies to varying degrees of severity, the paper would attempt to be brief and concise, the nature of such scenarios presenting numerous factors with a diverse set of values and outcomes, with the source literature providing extensive research into each and beyond the limitations in size and scope of this paper. The paper will furthermore focus chiefly on the aftermath of a regional or global nuclear conflict, as more limited contingencies, whilst devastating and impactful, even beyond the area of their immediate occurrence, are assumed to be unable to create the conditions for widespread societal and environmental transformations as discussed within this paper. Finally, the following paper would not discuss the prime subject matters of nuclear deterrence and prevention of such contingencies from occurring in a direct approach, the opinion provided here is that only through the awareness of the severity in consequences of nuclear war, an awareness that had persisted in the past, its ultimate manifestation can be truly prevented.

When discussing the effects of nuclear warfare and its aftermath in the current era, and not in any particularity to the following paper, a necessary point should be made as to the research utilised and the general state of such research leading up to the present moment. The following paper utilises sources, which can be summed up in two broad categories – material produced in the Cold War-era and material produced in approximately the last decade up to 2022. An additional extrapolation is necessary in order to further define the quality, applicability and relation of such research to the topic of the paper, the overall notions of the subject matter, and the necessity of remedying an existing “knowledge” and “culture” gap within contemporary societies.

Research produced during the Cold War into the effects of nuclear warfare upon societies and nuclear war in general commenced immediately following the first application of atomic weapons at the end of World War II and the subsequent observations in its aftermath. Such initial research material marks the first extensive forays into the effects of

initially atomic and by the late 1950-s nuclear weapons upon civilisation and humanity at large, and as such suffers from the “teething problems” associated with any novel field of research.

By the 1970-s and 1980-s, academic research demonstrates a far more profound and refined understanding of the risks associated with nuclear war and the disastrous effects of it occurring for humanity. Research, especially from the United States, where it is more openly available, provides for extensive and meticulous examples of analysis of most elements and situations pertaining to a large-scale nuclear conflict and its subsequent aftermath. With such research, being now declassified, offering a formative source of information for contemporary researchers, and is also of prime interest for this paper. However, the direct and unapprised application of such sources to the contemporary period suffers from the innate predicaments of the passage of time since their creation and the vast societal changes that have occurred over the past decades, as well as the focus of their analysis on a single national society – a singular example of such a predicament can be seen in the organisational structure and characteristics of a nation state of the 1980s, such as the United States or Soviet Union, whose economies, security branches, political elites, populations, et cetera, would have been prepared and organised in a very different manner and in an environment preconditioned and fully aware of the eventualities of the sudden eruption of a nuclear conflict, compared to the same in the world of today.

The changes to the strategic environment after the Cold War precipitated what can be defined as a subsiding focus on the subject matter of nuclear war and increased optimism towards the rigidity of the international system of the 21st century to prevent such a contingency from ever arising. Increasingly this trend has been reversed and should be seen as a temporary, albeit impactful pause in necessary public attention and scientific study. The threat from nuclear terrorism, rogue states initiating limited nuclear war, and more recently the very real prospects of a hard-line geopolitical fragmentation of the international system into opposing blocs of power in a relationship of uncertainty, competition and confrontation reminiscent of the Cold War, has steadily brought back the spectre of potential nuclear disasters occurring.

Current literature has focused widely on analysing the current strategic nuclear balance between major nuclear powers, the prospective threats arising from expanding and evolving nuclear arsenals in purely technical terms and to a lesser extent the evaluation of the readiness of contemporary social systems in handling such events and the potential consequences arising from diverse contingencies. As such, the level of societal engagement and academic research is far lacking compared to the levels present in the Cold War, and whilst it is a near certainty that such matters of research debate are present within security circles across the globe, producing classified results, the following paper focuses and utilises openly available materials and wishes to further enhance the need for the examination of a crucial and existential topic.

1. Effects of Nuclear Weapons Deployment

The deployment of nuclear weapons will be a devastating scenario for mankind and civilisation. It is thus necessary to first summarise the sequence of events that transpire in the aftermath of their deployment and the overwhelmingly devastating environment that nation-states and societies will find themselves in. This will be split up into two categories that establish a chronology of the preconditions for societal existence in a post-nuclear environment – direct effects and short-term consequences, pertaining to the immediate moments after the deployment of nuclear weapons, and indirect and long-term consequences,

pertaining to the effects deriving from the employment of nuclear weapons on a wider scale creating a self-propagating effect of vastly increased destructive consequences.

One type of scenarios envisioned in broader scientific discussions are singular or limited nuclear detonations, usually associated with nuclear terrorism or a rogue state actor with limited nuclear potential. In such scenarios, whilst nuclear devastation will be present, and the immediate and short-term effects will materialise, it is expected that the nation-state will be able to afford the necessary capabilities to mitigate the consequences for society. The second and third scenarios envisage nuclear exchanges on a much broader scale, involving several actors, and resulting in either a regional, or global nuclear war. In both cases, especially in the latter, the far-reaching indirect and long-term effects of nuclear weapons employment are expected to truly manifest, coupled with a significant reduction of the response capabilities of the nation state and society. The latter two scenarios are of higher interest, as they present potentially insurmountable challenges. The information provided is based on established prognosis from the Cold War-era and later re-evaluations, established in more recent times though the use of modern modelling capabilities. It should be of notice to the reader that, whilst there is general consensus on the overall expectations of what could transpire in the event of a global or even regional nuclear catastrophes, the associated variables and sequence of probable events make a wholesome picture impossible to predict, with only a portion of these being mentioned here. There exists an expansive debate on this subject matter with logically formulated arguments against some of the most severe outcomes predicted; however, these are beyond the scope of the present paper.

1.1. Direct effects and short-term consequences

The first effects to be felt in a nuclear scenario, occurring consecutively with the “double-flash” event of a nuclear explosion, which is likely to cause differing levels of “flash-blindness” in both protected and unprotected observers (Hoerlin 1976, 11-12), are those of the electro-magnetic pulse (EMP). The EMP can cause substantial damage to any unshielded electronics, particularly ones connected to wider power grids. Depending on the altitude of nuclear detonation, which in the suppression phase of a nuclear conflict is expected to include detonations in extremely high altitudes, will likely blanket vast swathes of territory, thousands of kilometres in radius (Hoerlin 1976, 17-20, The Comprehensive Nuclear-Test-Ban Treaty Organization 2020).

Within seconds, the fission-fusion-fission processes of the nuclear detonation would have developed the so-called “nuclear fireball”, which would, depending on the size and altitude of detonation, subject its immediate environment of several hundred meters in radius (megaton-range weapons can reach several kilometres) to temperatures of several million degrees Celsius (Glasstone and Dolan 1977, 24), but would also induce extensive thermal injuries in unprotected individuals far beyond, up to distances of several kilometres, as well as extensive radiation burn injuries due to exposure. The thermal radiation released would also be the facilitator of firestorms across affected areas, which researchers since the late-Cold War have expected to cause damage equal or even exceeding that of the initial detonation (Office of Technology Assessment 1979, 5-6) especially in urban and industrial areas, but the full effects of which materialise only later.

At this stage of the nuclear detonation, the fireball would also have deposited enough energy into the atmosphere to produce nitrogen oxides (NO_x) (Hoerlin 1976, 33, Bonner 1971, 4). The fireball of nuclear weapons in the higher kiloton range of about 800kt (the highest yield of most current era weapons as per Kristensen and Korda (Kristensen and Korda 2021, Kristensen and Korda 2021), have been modelled since the Cold War to be able to inject NO_x directly into the upper stratosphere, thereby setting the first phase of a deadly process of ozone layer depletion. A recent 2021 study “Extreme Ozone Loss Following

Nuclear War” in the Journal of Geophysical Research has concluded this known quality of nuclear detonations to be only the starting point of a much larger disaster, which will be described in the later and longer lasting effects of a nuclear crisis.

Depending on whether the nuclear weapon was detonated at altitude (air-burst) or at ground/below-ground (surface-/subsurface-burst), the nuclear explosion would produce varying levels of physical damage. Air-burst detonations results in a pressure wave that affects a far larger circular area and are most effective against large urban population and industrial centres, as well as non-hardened targets of military importance. Surface-/subsurface-burst detonation tend to be aimed at specific hardened targets, limiting the resultant pressure wave, due to the ground absorbing much of the energy; however, causing severe seismic shock and more importantly ejecting large amounts of irradiated surface strata into the atmosphere, increasing the subsequent fallout effects.

All of the above are immediate effects, which whilst potentially causing substantive damage and creating a situation of direct and severe consequentiality to civilian populations and societal order, could also be limited in their impact on civilian populations. It must be noted that whilst the general image of a nuclear exchange, established in the social imagination since the Cold War, envisages the immediate destruction of urban population centres, such a scenario would be highly dependent on the specific contingency unfolding and the capabilities in qualitative and quantitative terms, as well as strategy of the nuclear states partaking in it. And whilst the above described immediate effects of nuclear detonations, and especially ones from higher-yield nuclear weapons, might not be directed at civilian population centres themselves, but instead against strategic military targets, the below expansive effects from nuclear weapons deployment are likely to manifest regardless.

1.2. Indirect effects and long-term consequences

Following the nuclear detonation itself, numerous other consequences will begin to materialise, all worsening the severity of the nuclear disaster. These consequences would materialise in an environment where the ability to counteract the initial effects of nuclear exchange has been severely degraded, thus exponentially increasing their impact and severity.

The aforementioned high-altitude and even exo-atmospheric detonations, aside from the initial EMP effects, would deposit large amounts of high-energy particles in Earth’s magnetosphere, thereby creating what is termed an “artificial radiation belt”, which would have disastrous effects for most space-based infrastructure. The extent of such radiation belts would vary based on the nuclear conflict envisioned, but in higher estimates, they would cover extensive portions of the inner region of Earth's magnetosphere (The Comprehensive Nuclear-Test-Ban Treaty Organization 2020, Hoerlin 1976, 23-29).

The emergence of firestorms, as previously stated, has been judged to be a factor of equal or even much greater destructive capacity than that produced by the sheer destructive potential of the nuclear explosion itself. Such firestorms can potentially consume the remnants of any urbanised centres, further debilitating conditions within them, and can quickly continue to consume even larger territories spanning entire regions of the globe, dependant on the specifics of the region and state subjected to said effects. Such firestorms eject additional quantities of soot into the atmosphere, extending the effects of the radioactive fallout, but also creating the circumstances for a hypothesised cycle of continued heating of the planet and later exponential cooling, resulting the proverbial arrival of a “nuclear winter”. The deposition of enormous quantities of matter in the upper atmosphere generating initially a greenhouse effect assisting in the propagation of such firestorms, but later creating a solid barrier against the sun, causing a dramatic cooling effect. In the hypothesised effects of the nuclear winter, some models have projected to creation of an environment with a global cooling level of -5 to -7, and cooling of the North American and Eurasian landmass by a factor of between -20 to -

30, respectively, for up to a decade (a commonly provided comparison is the cooling of the last major ice age, where the cooling factor is supposed to have been only -5) (Robock, Oman and Stenchikov 2007, 1-16).

Aside from the conditions leading to a nuclear winter, recent research on the scale of the impact of nuclear detonations on the ozone layer has established new findings on the additional effects of firestorms leading to an even more apocalyptic picture than the one previously established by Cold War-era research. In addition to the nitrogen oxides deposited into the ozone layer during initial nuclear detonations – a process that had been previously evaluated to possibly eliminate only 5% of the ozone layer and in a period where the planet is blanketed by a layer of soot particles that blocks solar radiation regardless; contemporary research has modelled the ability of firestorms themselves to deposit far greater quantities of NOx's in the upper atmosphere than previously projected. After the subsiding effects of the nuclear winter, which could last several years, the degradation of the ozone layer in such a model, which envisions the deposition of 150tg of soot in the atmosphere (soot concentration per current inventories and megatonnage, and the common upper limit on most contemporary models on soot deposition), could reach a 75% reduction of the ozone layer for a period of at least an additional 10 years past the expected duration of the nuclear winter. These later effects, would constitute the additional effects of a proverbial “nuclear summer”, where UV light exposure across the globe, for surviving human, animal and plant life is far beyond survivable levels (Bardeen, et al. 2021, 1-22).

Following the unprecedented and inhumane tragedy that would be a nuclear war, the world would have been changed invariably into a hostile landscape for a period of time that could prove disastrous for human societies.

2. The Social Organisation and the Problem of the Modern Nation-State

In examining how the consequences of a nuclear conflict will manifest in the degradation of the ability of the nation-state to exist, it is important to understand the essence of the nation-state itself. This “essence”, within the following paper and within organisational theory, and in particular the understanding of the state as a social organisation is made of several core tenants that focus on the evolution of the social organisation, social structure and interactions within the state, as well as the principal objectives of its existence.

The existence of any social structure materialises along three core objectives, or tenants, which are applicable to any social organisation across time, and as such, and even within the contemporary structure of modern societies, stand as irreplaceable axioms of both individual and collective human societal existence. These are namely:

- To ensure long-term existence through continued procreation.
- To ensure survival through the pursuit of security against threats.
- To acquire resources, create goods and increase affluence.

These core tenants, have been at the mainstay of societal evolution, as examined within organisational theory, leading up to the nation-state of today. All three can be viewed as pivotal in the gradual evolution of human societies and civilisation as a whole. Based on their fulfilment, a functional and organisational structure is established within societies, which evolve to be more complex as the society in question expands and becomes more numerous. The overall “fulfilment” of these objectives, within organisations theory has been termed “*social fulfilment*” (Manev 2012, 120-122).

As social organisations have transitioned in their evolutionary stages based on the innate ability and precondition to *self-organise* (to achieve the above objectives) from initially the first-level social organisation of kin to the second-level kin-based union (*fratria*) and later tribe, to finally the third-level social organisation of the nation-state, their complexity has

grown in terms of their internal structures. These internal structures, functional and organisational in nature have the task of achieving “*social fulfilment*” (Manev 2012, 122-123). The optimal values for achieving them have naturally progressed as the nation-state has expanded over the centuries, growing in complexity and sophistication. As such the nation-state of today is a very complex social organisation where the nation-state possesses a diverse range of compound and interconnected web of subsystems, which must work in concert in order to ensure the stability of the complex social organisation of the nation-state. The pursuit of the objectives of the modern nation-state have led over the centuries to the current form of global societies, where they can be defined as becoming highly urbanised, non-self-sufficient, and highly interconnected with other nation-states for their survival, whilst also including an ever-expanding array of goods and services necessary for the functioning of the society itself in a level of sophistication that is incomparable to societies from even three decades ago.

However, the complexity and sophistication of the social organisation also ensures that the emergence of sudden major and unsurmountable challenges to its every subsystem will produce a far more severe impact.

In more illustrative terms, the elimination of much of the ability to produce food sustenance would be more impactful to the overall organisational level of a society of several million people, compared to a society of several hundred thousand. The same applies to every other matter of dependence that a more sophisticated and advanced society has come to include in its organisational structure.

Thus, a social organisation on the scale of the modern nation-state, can be stated to be exceptionally vulnerable, based on the fulfilment of the core objectives for its survival, to the mass and sudden effects precipitated by the contingency of a wider nuclear exchange. In such a scenario, the functional and organisational structures, built around maintaining its complexity and sophistication, will be placed under the conditions of a potential environment where such a higher-level social organisation may not be able to function at all.

3. The Effects of Nuclear War on the Nation-State

As demonstrated by the previous sections of the paper, large scale nuclear conflict could have devastating effects extending to the basic structures of contemporary civilisation. The nation-states that make up the international system of today will be faced with a vast array of immediate and incrementally increasing challenges to their systemic structure and the ability to maintain integrity. Within this final section of the paper, the described effects of a large-scale nuclear exchange will be further expanded in their direct impact on civilisation and juxtaposed with the modern social construct of the nation-state with the goal of defining the challenges to be faced in ensuring continued societal existence of the modern social organisation.

Within the short-term consequences of nuclear war, it is expected that societies will first undergo a significant initial depopulation event. Beyond initial casualties due to nuclear detonations themselves, the destruction of urban centres, would be the principal first point of reference in the transformation of society. In the contemporary constructs of nation-state, cities form the principal units of human cohesion and concentration. They are the human centres of highest dependence on the effective functionality of the nation-state, the highest producers and highest consumers of goods and wealth, and as such they are the most vulnerable to sudden and large-scale changes.

The destruction of major cities would greatly correspond in a lapse of capabilities to ensure further loss of life due to the collapse of emergency services and the ability to communicate and coordinate effectively in a nuclear environment. Such effects, especially in well-urbanised centres have been predicted and described since the Cold War. In a 1979 study

on the “The Effects of Nuclear War”, conclusions are made as to the ability to respond to casualties in a nuclear environment, namely that even without significant degradation to medical installations, the ability to effectively treat all casualties, which could number in the hundreds of thousands in major urban agglomerations, would quickly overwhelm health services (Office of Technology Assessment 1979, 32-34). A later 1986 study on the “Medical Implications of Nuclear War” makes similar conclusions as to the ability to effectively deal with the initial human impact of a nuclear scenario (Solomon and Marston 1986, 349-381). The authors of the 1979 paper go as far, as to make a bold, morally ambiguous, but nevertheless truthful and logically founded statement that any preparations made to lessen the immediate impact of a nuclear conflict on the population in cities is likely to be partially or completely irrelevant in alleviating the societal impacts that are to follow (Office of Technology Assessment 1979, 3-5).

The initial impact on cities, as well as other affected areas by either direct nuclear detonations or more importantly spreading nuclear fallout, would be further exacerbated by the need for surviving population to relocate. This process would create a wave of human displacement from affected areas to unaffected areas, with the displaced populations requiring shelter, uncontaminated food and water, specialized healthcare, whilst also bearing the aftermath of a collapsing society prone to violence for remaining resources (Bagshaw 2014, 1-5).

Regardless of the initial count of survivors in any given nation-state, the long-term prospects for ensuring their security and social cohesion are considered even grimmer based on the general assumption that a contemporary post-nuclear society would be unable to sustain itself in terms of even feeding large populations. Initial effects of radioactive contamination, as well as the destruction of food storage and distribution infrastructure, would imply the general lack of sentence in the immediate aftermath of a nuclear conflict. However, the long-term effects, previously described, of initial global cooling (nuclear winter) and later global heating (nuclear summer) for a period of up to two decades creates the context of what has been defined a “nuclear famine”. As such even relocated societies would be faced with a gradually diminishing and later greatly degraded available food sources of more than 40% compared to pre-nuclear yields for at least the first decade (if only taking into account the effects of a nuclear winter and not a potential later nuclear summer), especially in affected areas of the northern hemisphere (Mills and al. 2014, 14-24, Solomon and Marston 1986, 284-290).

In the period following a wider nuclear conflict, the capability of the nation-state to function would have been deeply degraded, not the least because the cornerstone for its functioning as a social organisation would have collapsed completely or would have been severely undermined. The principal objectives to ensure the availability of resources, in their most basic form, such as water and nutrients, would have been radically transformed to a level, which even considering initial great loss in life would be unable to sustain the remaining population. The vast complexity of modern nation-states would in turn act against the ability to introduce measures of effective control of the situation. In such a context, the ability for the social organisation and its subordinate structures of control allowing the ability to self-regulate and reorganise would have been hamstrung by the collapse of effective political control and communication, and the widening pressure of a society, which is quickly losing the ability to provide for itself. In the long term, the effects of nuclear conflict, have been projected to severely impact the ability (and general notion) of a society to ensure continued survival through procreation. The immunological and genetic impact of nuclear warfare, which could initially be perceived as trivial in comparison with the short-term catastrophic consequences, have been pointed out to over time accrue an ever-expanding complex of severe effects for not only the surviving population, but a generational heritage

among survivors and their offspring, which will additionally strain efforts at societal reconstruction (Solomon and Marston 1986, 314-349).

Without doubt, the effects on the nation-state and human societies in general would extend much further than the few examples provided above, and would also include unexpected variables that would manifest only once such a catastrophe has taken place.

Conclusion

The prospect of a nuclear conflict engulfing humanity is a terrifying one. The initial impact of nuclear weapons deployment upon the social structure of the modern nation-state would be severe.

Nuclear weapons, in their pure destructive, but more importantly in their collateral effects, would create a global environment radically different and hostile to the one currently inhabited and attuned to the needs and functioning of modern societies. As such, in the event of a wider nuclear conflict, the nation-state, which can be viewed as a social organisation, structured around the maintenance and survival of any given society, would undergo radical transformations, that would greatly degrade the ability to maintain cohesion and order. Thus, the social organisation of a post-nuclear world would potentially be very different from the social organisation of the modern-nation state, necessitating the further question as to how far back in terms of basic social structures and societal levels, would humanity be propelled in order to ensure some measure of renewed stability and future survival. Whilst, a nuclear crisis would be an event of near unparalleled impact upon humankind, it is also of note, that societies in the past have reformatted themselves based upon existential dangers, suffering through periods of great decline, but emerging in a new form to continue the existence of the species.

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THE IMPACT OF THE UKRAINIAN REFUGEE WAVE ON REGIONAL SECURITY. RISK ASSESSMENT AND EVOLVING SCENARIOS

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Abstract: *In today's society, instability and conflict are growing more prevalent, with citizens fearing for what is next, for what some state actor might do, and its impact on our lives and our children. The ongoing Russian-Ukrainian conflict presents a gloomy scenario in which all our beliefs, as European citizens, seem only to survive as glimpses of hope. The probability of such an impactful conflict, and the unlikely military conventionalism related to it makes every citizen of any European country to doubt the safety net in which we thought to be, so far. The most devastating effect, specific and real at this moment, of the near conflict in Europe is an economic one, since a new refugee wave threatens to destabilize all societal equilibrium. On the other side of the barricade, Russia's position is mainly due to the internal challenges it faces, as its economy is destabilized by United States sanctions. Low oil prices at the end of the second decade of the 21st century is causing serious economic problems in the Russian Federation. Thus, the state faces a rather weak demographic outlook in the future, which is why it is looking for solutions for expansion and evolution, both globally and as a major regional player.*

Keywords: *Russian-Ukrainian conflict; refugee wave; effects; society; sanctions; regional security.*

Introduction

Considering the Russian-Ukrainian conflict over time, this is a type of hybrid warfare. The essence of a hybrid war, like any other war, is to redistribute the roles of the subjects of the political process at a global or regional level. However, the current fighting is carried out mainly by military means. Information and communication technologies make it possible to transfer the country under external control with a minimum level of military violence, due to pressure concentrated in the financial, economic, information and psychological spheres and the use of cyberweapons.

Russia seizes several opportunities to ensure a favorable framework for the promotion of its interests in the region, and it is foreseeable that steps will be taken to create/multiply political, diplomatic and media support points (for espionage, influence, and the dissemination of propaganda elements, misinformation and fake news) in Ukraine and Europe.

The present paper presents a methodological approach towards underlying the risks generated by the aftermath of the Russian-Ukrainian conflict for the regional security in Europe. The current research objective is to anticipate a series of consequences after the emergence of the new refugee wave and their impact on regional security, in order to prevent and counteract the associated risks. Structural-wise, as well as presenting the context of this emerging phenomenon in the first chapter (*A new refugee wave*), this scientific paper offers an insight into the issue, through a thorough risk assessment in the second chapter (*Risk assessment on regional security*). The final aspects investigated are possible scenarios that could occur as an aftermath, in the third chapter (*Evolution scenarios of the phenomenon*).

A new refugee wave *Ukraine – a brief history of forced displacements*

Ukraine is an ex-soviet state (one of 15), that declared its independence in 1991. Concerning its humanitarian position, it is a signatory of the 1967 Protocol and the 1951 Convention since 2002. Its population was roughly 43 million in that time frame. Ukraine has many land borders, and naval ones as well, being a neighboring country of Belarus, Poland, Slovakia, Hungary, Romania, Russian Federation, and Moldova (Sandvik and Garnier 2022).

Ukraine has been a country of origin, a place of migration since the collapse of the Soviet Union, and a place where ethnic nationalists have returned after being exiled under communist rule.

Specialized authors research provides a deep understanding on forced displacement affecting European security, with Europe-Asia Studies being a key reference point, especially in the 72/3 issue (2020). Many authors have researched aspects of interest about internally displaced persons (IDPs) (Kuznetsova and Mikheieva 2020, 690-706). The correlation between migration and gender has also been explored (Kuznetsova 2021, 1-20) (Уварова and Ясеновська 2020, 1-30), in regions such as Donbas (Sasse și Lackne 2020, 354-382) (Sereda 2020, 404-431) and Crimea (Charron 2020, 432-454). Other studies have examined the correlation between migration and humanitarian crises (Уварова and Ясеновська 2020, 1-30), among others (Scrinic 2014, 77-88) (Quinn 2015, 27-33) (Bulakh 2017, 1-8). The portrayal of internally displaced people in mass media (Rimpiläinen 2020, 481-504) and how they are viewed and treated in everyday life as outsiders in host countries (Lazarenko 2021, 1-20) have also been topics of research.

There is widespread concern about Ukrainian economic crises, triggering a high migration count (Klokiw 2019, 757). Nevertheless, the US admitted only 30,000 refugees per year through the 2001 Patriot Act. A separate count was kept for all migrants coming from former Soviet Union countries in the following years. In 2004, however, restrictions were eliminated due to the US's acceptance of a more expansive quota in European countries (Vertovec 2011, 241–256).

On the other hand, between 2000 and 2011, Ukraine was a leading refugee host country (Capps, et al. 2015, 341-367). The aftermath of the Russian annexation of the Crimean Peninsula led to higher migration numbers of Ukrainian citizens. By 2018, the Ukrainian population made up the highest fragment of European refugees admissions in the last 10 years (Klokiw 2019, 757).



Figure no. 1. Ukrainian refugee situation
Source: (UNHCR 2022)

Currently living in Ukraine's neighboring countries, there is a significant number of migrants (3,821,049 people) who fled the war between 24.02.2022 - 26.03.2022, leaving behind the life they knew, some of them having to abandon parents, grandparents or other elderly people who could not cope with the move.

Table no. 2. Total refugee intake from Ukraine in neighboring countries

Country name	Refugees admitted
Poland	2,267,103
Romania	586,942
Republic of Moldova	381,395
Hungary	349,107
Slovakia	272,012
Russian Federation	271,254
Belarus	6,341

Source: (UNHCR 2022)

A total of over 50,000 additional Ukrainians left the Donetsk and Luhansk regions for the Russian Federation between 21 and 23 February, before the invasion began.

Ukrainian remittances and their economic importance

Given these data, it is critical to investigate remittances in relation to European refugee crises. Remittances are monetary funds sent back home by migrants to their families and friends. They are important for the growth of foreign funding in developing nations. Overall, remittances sent to some European countries are considered greater than private capital transfers or intergovernmental development funds (Anghelache, Niță and Badiu 2016, 79). Their economic impact is largely dependent on the destination in which they are used in the receiving countries. Research data regarding the connection of remittances to poverty, education, and development levels in countries have been compiled by many authors and organizations over the past decade.

Countries	2015	2016	2017	2018	2019	2020	2021 (Q1-Q3)
Poland	19.1%	26.4%	33.6%	32.8%	29.8%	27.5%	38.7%
United States	7.4%	7.6%	7.3%	7.8%	8.3%	10.2%	9.7%
United Kingdom	3.5%	3.4%	3.3%	3.5%	5.0%	8.5%	6.8%
Russian Federation	26.4%	18.5%	13.9%	9.8%	10.6%	7.2%	5.1%
Czech Republic	4.5%	5.0%	4.7%	7.6%	9.3%	7.0%	5.7%
Germany	3.9%	3.9%	3.4%	3.8%	3.9%	4.3%	4.0%
Italy	5.0%	5.5%	4.8%	4.4%	4.2%	4.0%	3.2%
Cyprus	3.5%	3.3%	3.1%	3.1%	3.3%	3.5%	2.8%
Israel	1.6%	2.3%	3.0%	3.0%	2.9%	3.0%	2.8%
Greece	2.7%	2.4%	1.9%	1.7%	1.6%	1.6%	1.4%
Netherlands	1.0%	0.9%	1.1%	1.1%	1.1%	1.6%	1.4%
United Arab Emirates	1.2%	1.2%	1.3%	1.4%	1.1%	1.2%	1.2%
Singapore	1.1%	1.0%	1.1%	1.2%	1.0%	1.1%	1.0%
Canada	1.4%	1.0%	0.9%	0.9%	0.8%	0.9%	0.7%
Spain	0.9%	0.9%	0.8%	0.8%	0.7%	0.8%	0.7%
Turkey	0.6%	0.8%	0.9%	1.0%	0.7%	0.7%	0.6%
Switzerland	0.9%	0.8%	0.8%	0.8%	0.7%	0.7%	0.6%
Portugal	0.6%	0.6%	0.6%	0.5%	0.5%	0.6%	0.5%
Norway	0.5%	0.6%	0.6%	0.5%	0.5%	0.4%	0.3%
Virgin Islands, British	0.5%	0.5%	0.6%	1.4%	1.5%	1.6%	0.4%
Others	13.7%	13.4%	12.2%	12.8%	12.3%	13.7%	12.5%

Figure no. 2. Sources of remittances to Ukraine

Source: (World Bank Group 2021)

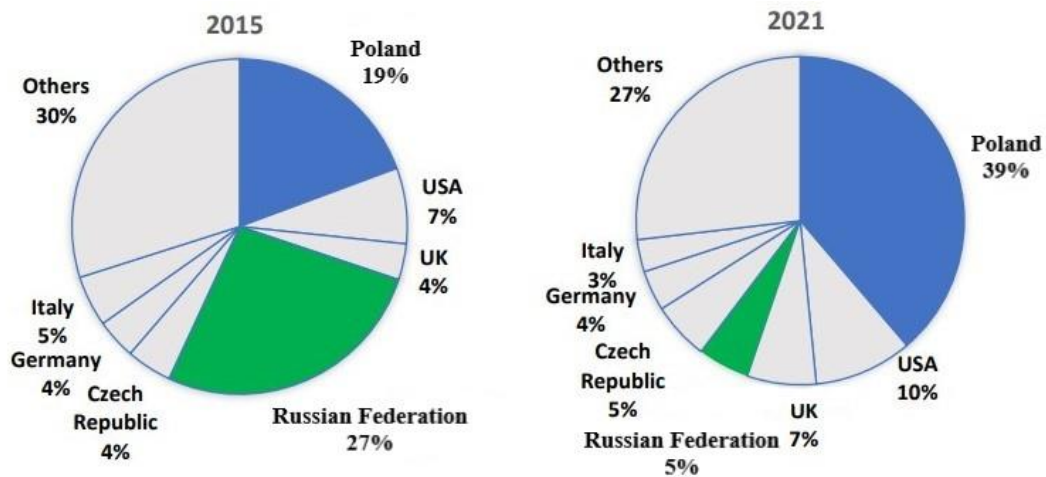


Figure no. 3 Remittances received by Ukraine in 2015 vs. in 2021

Source: (World Bank Group 2021)

Remittances are beneficial, because they can reduce poverty in underdeveloped countries and promote their evolution. As specialists describe “Remittances directly increase the income of the recipient's household. In addition to providing financial resources for underdeveloped families, they affect poverty and well-being through indirect multiplier effects as well as macroeconomic effects” (Ratha 2003, 157-175).

Study of macroeconomic models in specialized economic literature was conducted to delve deeper into the subject and the implications for refugee receiving countries. An example is a theoretical model developed by Vargas-Silva (2009, 1-37), which presents the relationship between remittances and macroeconomic conditions in the host and destination countries. Researchers found that remittances are often a major source of household consumption in the country of origin. However, migrant workers have a greater risk of poverty, because of their lack of financial experience, labor market discrimination, and low incomes (Anghelache, Niță and Badiu 2016, 84).

Brief review of the Russian-Ukrainian conflict

For an objective and factual analysis, this paper describes the military development of the Russian-Ukrainian conflict, since February 2014, when the Crimean Peninsula was annexed by the Russian forces.

Russian troops attacked Crimea amid the quick invasion and quickly took over vital key points, all without wearing any distinctive military emblems (Ministry of Defense of the Russian Federation 2018). Ukrainian laws and worldwide norms were abused when the imperialist state put together a speedy submission, which rendered Crimea its claim. The Russian press claimed that 97% of the voters were in favor of the border extension. Other than that, a report by the President of Russia's Board with respect to Human Rights and Respectful Society was discharged, which stated that merely one-third of them were present for the referendum, and of those who voted, just half of them concurred with the issue, despite the Russian press disinformation (Gregory 2014).

After the submission, the Russian Federation marked a settlement with the Republic of Crimea, to start the integration of the society. The view had been changed amid this brief extension, so much that the citizens were saying that they “went to rest in one nation and woke up in another” (Gregory 2014). After these events, a critical pro-Ukrainian share of the populace cleared out their previous homes. In this manner, the primary displacement wave started early on, sometime before the Russians were able to pick up control of the region.

The constrained relocations, which happened within the Crimea territory, were a coordinated result of the illegitimate attack of the Russian forces. Indeed, although this tragic invasion demonstrated to be troublesome to the everyday lives of Ukrainians within the Crimea region. This situation produced for Ukraine an unforeseen opportunity to reestablish the international conventions that the country is a signatory of, and the opportunity to recreate a stronger society bound (Uehling 2017, 62-77).

As a result, a new Ukrainian civil society was reborn from its own ashes, more resilient and stronger overall. This aspect could be observed in the current development of the conflict, where numerous examples can be given: from Ukrainians singing the national anthem and telling Russian soldiers to “go home”, to citizens refusing to show their passports to Russian occupants and even unarmed civilians forming human shields to stop tanks from invading their country (Stewart and Newman 2022).

3. Risk assessment on regional security

„When you take action, you need to consider the risks involved.”

Eugen Lovinescu

In establishing the risks and their evaluation, applied to the current migration issue, the stages of the risk analysis were used, according to the studied literature (Novac and Brezeanu 2020, 121-124) (IOSUD 2016, 14-15) (Romanian Government 2018, 1): Establishing the internal and external parameters; Risk identification and risk estimation; Risk analysis; Risk management.

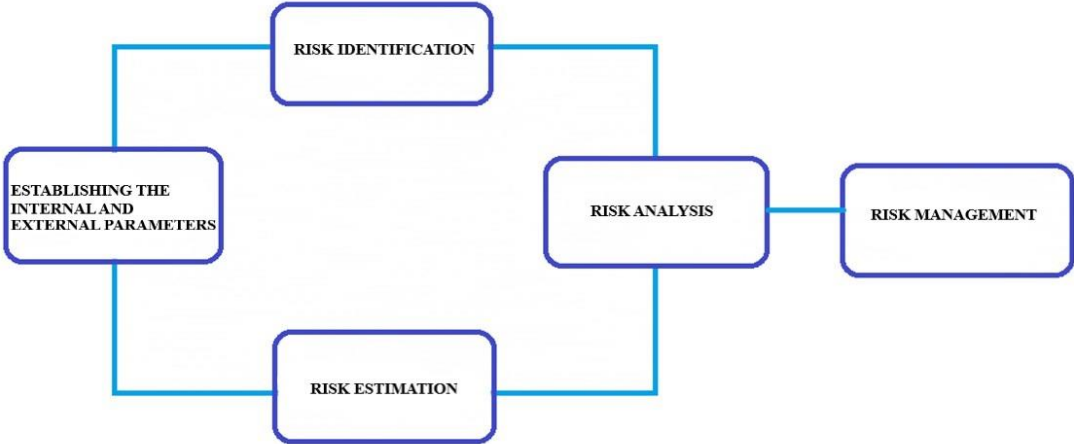


Figure no. 4. Risk assessment phases
Source: (Novac and Brezeanu 2020, 121-124)

An example of an institution that performs risk analysis is the National Institute for Intelligence Studies (INSI), which operates within the “Mihai Viteazul” National Intelligence Academy since November 1, 2010. INSI is a structure with responsibilities for organizing and conducting the scientific research component of the university. Through it, a series of publications have been developed, which involve current risk analysis (IOSUD 2016, 14-15).

Also, for the objective assessment of the observed risks, an algorithm has been established, visible in the table below: Overall assessment of the risk = (Likelihood + Impact)/2, where the two can range from 1 to 5, 5 being the most likely/the most threatening for the regional security.

Table no. 2. Risk Assessment Table

Risk	Short description	Likelihood	Impact	Overall assessment
Migration flow will be tiered, leading to chaos in border areas.	Non-Ukrainians will be discriminated against, such as Afghans who left their country due to the Taliban's return to power, making the immigration process difficult.	4	2	3
The emergence of protests in European countries due to Ukrainian immigrants being internally discriminated against.	Capable men who can fight will not be allowed to leave the country, in response to possible mass mobilization. Information regarding these actions have already been reported through mass media (Al Jazeera 2022).	5	2	3,5
The emergence of insurgent groups in European countries, due to separation and deaths inside separated Ukrainian families.	Separatist and extremist insurgent or terrorist organizations may emerge in European host countries, due to separation and death occurrences in already separated Ukrainian families.	5	4	4,5
Russian Federation gains regional influence and power, through the annexation of some Ukrainian regions.	The elaborated plan to annex Ukrainian regions such as Herson, Mîkolaiv, Odesa and Zaporojie (Gaidău 2022) may prove to be successful if the Russian Federation uses the same tactics as it did when it annexed the Crimean Peninsula, via a counterfeit referendum.	4	5	4,5

While all the risks presented are worth pondering on, of utmost importance is not allowing the more impactful ones to materialize in threats. Among these, the Russian annexation of Ukrainian regions and the emergence of insurgent groups in European countries stand out as possible future threats to the regional security.

4. Evolution scenarios of the phenomenon

To achieve the objectives of this research, I will describe the scenario, according to a public Disposition elaborated by the Romanian General Staff (Dispoziție privind planificarea, desfășurarea și analiza exercițiilor în Armata României. SMG-91. Unclassified 2011, Annex 7) cited in Petrescu Dan (Military Scenario, Fundamental Conceptual Framework For The Exercises Conducted At Tactical-Operational Level 2015, 215-218).

The term is defined as “a hypothetical conceptual framework that sets up a probable security crisis or other situation, of strategic, operational or tactical level, generated by military or non-military threats that affect the interests of Romania and its allies, endanger national security and the stability of certain areas at the regional level, the settlement of which requires the use of armed forces” (Petrescu 2015, 215-218). It is the product of a complex process, characterized by the realization of a judicious corroboration between military art, military science and the experience of planners. In this paper, I used a longitudinal scenario (Stiftung 2014, 7), in which I described the most relevant activities carried out by the Russian Federation to support the hypothesis which will be announced shortly.

From a geopolitical point of view, the anaconda policy is the theory that has underpinned the vision and actions of the Russian Federation since the beginning of the Cold War. In a broad sense, this policy is explained by a behavior similar to the giant reptile: wrapping itself around a state and strangulating it. Extrapolating, this would be achieved through a system of alliances oriented in the direction of encircling and leaving the enemy with no defense possibilities (Săgeată 2008, 66).

Nicholas Spykman, the scientific founder of this strategic doctrine, anticipated the domination of the Heartland by Russia and China, which would develop over time a potential for tension and even conflict with the states of Rimland. This conception was the basis of the strategic containment policy, applied by the United States of America during the Cold War (1945-1989), aimed at condemning the Union of Soviet Socialist Republics and the Communist Bloc states to isolation and economic stagnation by limiting access to the sea, developing a broad system of geostrategic alliances and encouraging local dissent (Săgeată 2008, 67).

For a better understanding of the Russian Federation's vision of their relationship with The North Atlantic Treaty Organization, we need to analyze the concepts promoted by their current strategic documents: Military Doctrine of 2014, the 2020 – 2024 National Security Strategy, the Conceptualization of Foreign Policy of 2016, the Foundations of the Russian Federation State Policy in the Arctic for the 2020-2035 Period, the 2020 Nuclear Deterrence Strategy. The Doctrine (Russian Government 2014), for example, states that nuclear weapons remain the most valuable guarantor of the country's defense and security. Other key points in the document are the modernization of Russian military equipment to deal with threats in a world of growing instability.

Based on this brief context of the relationship between NATO and the Russian Federation, we have developed a scenario regarding the developments and consequences of the wave of migrants caused by the Russian incursion into Europe.

In the next period, the Russian Federation, according to statements (DW News 2022), will use chemical weapons with a major impact on the Ukrainian population, managing to eliminate the local opposition of pro-active citizens. The reason for this is the fact that the opposition is worrisome for the Russian President because, in their acts of courage against the Russian army, they film the events and post them online, so that the killing of unarmed civilians, in an aggressive and groundless manner, will bring major military support from the European countries, according to present conventions and laws of war. In this context, there are already media sources depicting Russian soldiers surrendering and turning their weapons in front of civilian crowds, even though they are on board heavy armored vehicles (Hotnews 2022).

Thus, by using chemical weapons, most of the citizens left in the country to fight will leave the Ukrainian territory, heading to Western neighbors (Poland, Romania), accentuating the migration phenomenon and, at the same time, providing space for manoeuvre for the Russian forces. So far, Russia's leader, with the support of the government, has managed to

maintain a somewhat justifiable rhetoric for their actions, which creates uncertainty about challenging evidence of non-compliance with the laws of war.

The situation supported by the hypothesized scenario will have serious consequences both for the Ukrainian state, which will most likely fall into the hands of the Russian Federation, with the capture of Kyiv, but also for regional and European security, with the wave of refugees intensifying and creating a new crisis. This economic crisis will put the imperialist state on an equal footing with the European continent. The economic sanctions will prove null and void, allowing the Russian state an unrestricted development of military forces for a future attack.

Another dire situation, which seems to have a more direct impact on the economy of European countries, is the following scenario. Due to the shelling, it can be provisioned that economic support will be needed to help the Ukrainian people, especially for the reconstruction of houses and neighborhoods. Mariupol's officials declare that around 100 artillery shells bomb the local neighborhood every day and at least 30 percent of the houses are damaged beyond repair. Just between March 1 and March 24, the United Nations High Commissioner for Refugees (2022) reported that 3,369 families asked for emergency shelter assistance, to repair the damages dealt to their houses.

Another scenario, from an economical point of view, can be constructed, regarding the rise of Ukrainian remittances by at least 8 percent in 2022, as the funds received by Ukrainian families from Russia have declined significantly, from 27 percent in 2015 to only 5 percent in 2021. This confirms a long-time suspicion that Ukraine, unlike other ex-Soviet countries in Central Asia, is not dependent on remittances from Russia - for instance, the Kyrgyzstan Republic is highly dependent on remittances from Russia, with 83% of the total transfers in 2021 relying on the citizens currently living in the Russian Federation (UNHCR 2022).

Another likely scenario in the economical department is that the ruble will significantly weaken against the US dollar. According to UNHCR (2022), a decline of 33 percent is projected to occur, instead of an originally projected growth rate of 3 percent.

Conclusions

Regardless of the outcome of the Russian-Ukrainian conflict, the vulnerable families and refugees that had left their country, perhaps for a long time, need the support of neighbors and non-governmental organizations (NGOs) to survive and not lose hope. On the other hand, economically, the Ukrainian migration wave will have a worrisome aftermath for the majority of the European countries, therefore the European Union must analyze possible solutions towards avoiding economic crises and other similar situations. Despite not knowing how long the conflict will last, what kind of development might emerge from it, and what the civilian toll will be, we can do our best to presume future consequences and solutions, such as risk assessments and elaborating scenarios, towards transforming the European continent into a massive defense structure, prepared for the developments of the conflict.

The intervention offered by the present research, although an initial study in the reported issue, aims at developing a common understanding at a European level, of the Russian-Ukrainian conflict and its aftermath – for both scholarly purposes and to adapt to modern solutions, as united nations of the European Union.

If the presented hypotheses are to be confirmed, Europe will fit into the scenario of the ruined house, taking into account the impact of the increasing wave of migrants at European level and the probable resulting European economic crisis. These outcomes will put the Russian Federation on an equal footing with Europe and nullify the effects of economic sanctions, making it possible to invest huge sums of money in top military attack systems,

equipment and technologies, for a future military action toward the West, based on the Empire's desire to conquer Rimland.

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PARTICIPATION OF THE MILITARY SANITARY SERVICE AND BY DEFAULT, OF THE NATIONAL HEALTH SYSTEM, IN MULTI-DOMAIN OPERATIONS

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Abstract: *Multi-domain operation is an US military advanced concept of approaching future military action, superior to joint operation, able to optimize the way the military force adapts to the specifics of new risks and threats to the security of states and alliances. The participation of the Military Sanitary Service and implicitly of the National Health System, as well as other military and civilian components, in multi-domain operations is important for maintaining the combat capacity of the staff and Forces, for caring for the sick and wounded, for coordinating medical countermeasures in operational situations, thus contributing to the success of the operation by minimizing health losses. The National Health System (NHS) includes all national, regional, local and individual entities that aim to maintain health, regain it and prevent disease in the entire population, including the Armed Forces of that state. The NHS includes state and private organizations, all of which work together and co-operate as needed to address local or national health crisis situations or engage in international aid (e.g. Red Cross). Moreover, the field of Human Medicine is integrated, through the new and realistic “One health” concept, with Veterinary Medicine, Animal Husbandry, Agronomy and Environmental Protection.*

Keywords: *multi-domain operation; joint operation; modern warfare; National Health System; Military Sanitary Service; civil-military cooperation.*

Introduction

The new multi-domain operations (MDO) concept aims at preparing Armed Forces for the next conflicts wherein they need to operate in a rapidly changing future operating environment (FOE). Thus, there must be envisioned possible lessons learned from the multi-domain operations that will take place in the future (foreshadowed by the current military confrontation between Russia, which has all the means to initiate such operations, and Ukraine which has only forces for joint operations, with less naval capabilities but, being helped by NATO, has access to some means from this category of operations) it is necessary that the field of military scientific research be completed with medical-military scientific research that would benefit from this “situational experiment”. We must not neglect the fact that in the military everything is simulation, except war. In this context, also the sanitary services, medical facilities, personnel, units, and equipment to be used during these conflicts must be examined. This is the scope of our paper.

National Health System (NHS) is part of the national meta-system created to cover human needs in society, along with the education system, the military system, or the public pension system (Atanasiu 2021). In fact, health is one of the vital dimensions of security, along with the economy and education, as presented in the Romanian National Defence Strategy 2020-2024

Moreover, the sphere of relations of the NHS “includes all sectors of security: political (through public policies developed in the field of health), economic (by ensuring the good health of the working population), military (through the existing health subsystem in the Ministry of Defence), societal (through services provided to all individuals) and environmental (air pollution,

poor water quality, poor hygiene and hazardous chemicals affect the health of individuals).” (Atanasiu 2021)(56).

In any civilized country, including Romania, the NHS includes all national, regional, local and individual entities that aim to maintain health, and also to regain it and prevent disease in the entire population. This system includes state organizations (ministries, professional organizations, hospitals, health institutions, education and research in the field, pharmaceutical facilities, rescue stations, etc.), private organizations (professional organizations, hospitals, individual medical practices, pharmacies, pharmaceutical industry, paramedical offices, etc.), non-governmental organizations (Red Cross, Red Crescent, White-Yellow Cross, etc.). All such organizations shall collaborate and, where necessary, cooperate in resolving local or national health crisis situations or become involved at international level by providing assistance to other states or organizations, where necessary. Moreover, the domain of Human Medicine is integrated, through the new “One health”¹ concept, with Veterinary Medicine, Animal Husbandry, Agronomy and Environmental Protection.

The operational concept of the multi-domain operations is built on the premise that the joint force will not be able to assume uninterrupted superiority in any domain (land, sea, air, space and cyber) during future military operations (Fisher 2017). Thus, the multi-domain operation is an advanced concept of approaching military action, superior to the joint operation, able to optimize the way in which the military force must adapt to the specifics of new risks and threats to the security of states and alliances.

Regarding the possibilities of interconnecting the health system with future military operations in the Future Operating Environment, here are two different situations. Defensively, for the defence of the national territory or of an ally, one can collaborate and cooperate with the National Health System (of which the Military Sanitary Service is an integral part anyway) without restrictions, based on an integrative legislation. But in expeditionary operations, on the offensive in enemy territory, the medical support of the Host Country’s Health System cannot be fully relied upon, and this lack will have to be made up for by the remote support of own National or Allies’ Health Systems.

1. International security situation

The international security environment is suffering from increasing volatility. This fact is evident at present in the vicinity of Romania through the unfolding of the open military conflict in Ukraine following its invasion by the Russian military forces. The character of volatility does not stop here, but also extends to the way in which international law is perceived and applied, in fact what the aggressor calls a “special military operation”, and the aggressed calls “war”. Although none of the states has legally filed a declaration of war, considering von Clausewitz's definition, “War is the continuation of politics by other means” (Clausewitz 1982)(67) and given the geopolitical context of the onset of aggression, there is a *de facto* war between two states. The volatility of the international security situation is reinforced by the historical conclusion drawn from the conduct of previous conflicts, according to which it is known how a war begins, but it is not known how it will end. Therefore, all the governments of the states of the world must be prudent in their reaction and the way of reporting to this conflict, especially those in the regional environment of the battlefield, as Romania is at present.

¹ The concept refers to obtaining a collaborative, multisectoral and transdisciplinary approach – with expression at all levels, respectively local, regional, national and global – in order to achieve optimal results in health, recognizing the interconnection between humans, animals, plants and their common environment.

2. Possible types of warfare in the three classic combat environments

Classical warfare included battles on land, on water, and the air. *Modern warfare* can be waged through joint operations in the three domains: land, air and maritime, as in the two world wars and all that has followed so far, in which the three services are collaborating.

The current wars take place according to the US concept of “AirLand Battle”², and their component units collaborate or cooperate within the Expeditionary Force. However, practical experience has shown that this hierarchical subordination is not effective in all cases. Since the last world war, but also in times closer to us, there have been situations of poor coordination of military actions, excessive number of casualties compared to military gains, error bombardment of some units (fratricide) etc.

However, the ways of waging war are changing. Thus, new weapons systems, new technologies, as well as the “Total War” requirements have emerged by involving civil authorities and even “innocent” local population in the conflict. The lessons learned on the battlefield show that at present the battles fought in the joint operations, as small independent wars or carried out simultaneously or concomitantly, within a strategic plan, are already obsolete. Meanwhile, other categories of forces have emerged, like: Special Forces, Missile-Nuclear Forces, Space Forces, etc., which complicate the combat situation, and the level of the concept of AirLand Battle no longer corresponds to reality, a fact confirmed on the battlefields from Iraq, Libya, Syria, Afghanistan, etc.

In 1991 and 2003, Iraq applied the strategy of joint operations land-heavy, using Soviet weapons and tactics, and was defeated. Although it is premature to draw conclusions, it seems that Russia is currently pursuing the same strategy as the armed battles that took place in the military operation in Ukraine, simultaneously in three directions of attack - in the north (Kyiv) in the east (Donbas) and in the south (Crimea and Azov Sea) - but without obvious success, despite its international superiority in terms of its military forces and means.

3. Multi-domain operations in the Future Operating Environment

The paradigm of future wars, conceived by the US Army, is that of the integrated use of all military forces and civilian agencies, as well as all technical and scientific means, in the focused effort to defeat the adversary. This paradigm is, in fact, another modern variant of total warfare, which targets the armed forces, population, fighting technique, economy and finances of the opponent and, intentionally or unintentionally, of the neutrals. In this regard, the speech of the former US President George Bush Jr., who reiterated Stalin’s phrase “whoever is not with us is against us”, appears as pertinent.

Currently, the strongest armed forces have specific capabilities for land, maritime, air, space, information, electromagnetic and cyber operations, so in total there are seven components (five domains and two environments) with a multitude of subdivisions and which also require civilian support for their proper functionality. Or, the coherent functioning of these subdivisions requests a human, technical, material and other complexity, which should be integrated correctly and quickly in the chain of command, control, communication, computers and information (C4I) of an armed force. So, collaboration is no longer enough, but there is also a need for cooperation of those structures that, although different, have a common goal or a single mission. In order to achieve this functional goal, as conceptualized by US Army specialists, there is the need to exist a unique, temporary constituted, adapted and appropriate command function for that multi-domain

² Concept of the beginning of the 21st century, which involves the use of electronic weapons in operation and combat for all categories of forces, in the five environments of operations, as well as new concepts of conducting modern military actions.

operation (Cucinschi 2021) (140-151). But the command, although must be unique and hierarchical, based on logical and competent decisions (Tudorache 2021) (56-61)

The Defence Staffs of the military forces are task organised, including augmentation, according to the needs of the mission, and the human and technical forces are constituted in Task Forces of units and large units formed of pre-existing elements and equipped according to existing possibilities. This is what General Averescu did, *avant la lettre*, in the World War I, when he reorganized the Romanian Armed Forces and resumed the offensive.

Currently, the complexity of military capabilities requires different orders for battle (ORBATs) at a higher level, which should include or exclude additional means necessary for a Multi-Domain Operation's Task Force and, if necessary, immediately obtain inter-agencies support. This was always difficult to accomplish in practice. Military forces must include all participating arms and services, including the health service (with military doctors, paramedics, military pharmacists, military veterinarians, psychologists, etc.) to participate in the commander's decision process and to the organization of medical-pharmaceutical logistics.

Efficiency in multi-domain military operations is achieved with flexibility and creativity, but in the rigid context of the armed forces hierarchy. In fact, in the asymmetric conflicts, the guerrilla warfare and the partisan war were successful precisely because of the flexibility of tactics (hit-and-run) and the allocation of force, the principle being later taken over in the actions of the special forces.

We believe that it is also necessary to adapt the Allied concept of multi-domain operations to national specificity in order to successfully participate in the next war, which the current history and volatility of the security environment show us that the question is not whether but when it will happen.

4. Bio-medical involvements

War is won by imposing own will on the enemy, either morally by reducing its will to fight, or physically by human and material losses that nullify his combat power. For this, military equipment of all services are used: conventional (knives, firearms and explosives), unconventional (CBRNE, CIMIC, INFOOPS, PSYOPS) and modern (cosmic, informational, electromagnetic, cybernetic, etc.). All these types of weapons cause human and/or material losses of varying intensity, depending on the purpose and possibilities of the moment.

Overall, depending on the intensity of casualties, a minor war can be considered an epidemic of poly-trauma, and a major one a pandemic of poly-trauma. Depending on the situation, health damages can be various injuries in combat or out of it (accidents), acute or chronic diseases, infections, intoxications, irradiation, mental illness, etc., which in extreme cases can lead to the death of the affected military or civilians. By default, the war will lead directly or indirectly to total human losses (dead, wounded, shipwrecked, prisoners, missing), most of which will be of medical causes (recoverable or unrecoverable) that the health service must deal with. If the existing forces and means are insufficient for the implementation of medical countermeasures, other units, the higher echelon or the civil-military cooperation (CIMIC) element in the field of profile are used.

5. Bio-medical effects and organizational countermeasures

Attacks on the living force (humans and/or animals, or plants) will cause deaths, injuries, illness, famine, and social and economic disorganization, but the material means, including equipment, remain relatively functional. So the force preparing a multi-domain operation will attack properly, with appropriate medical countermeasures. As a result of this type of live force

attack, the opposing party will suffer massive losses and its sanitary service must be strengthened, both on the front line and in the depth of the military dispositive.

In principle, the group should have a medical trained soldier, a trained shooter equipped with a sanitary bag, the platoon has a medical graduate with a medical kit, the company has a sanitary non-commissioned officer, the battalion has a general practitioner and a medical team, the regiment has a medical formation (infirmary, medical shelter) with a military chief of staff plus a general practitioner and a dentist, the brigade has a field hospital, and the division has another field hospital and a healthcare company to transport the wounded and sick both ways, from the field to hospital.

In the event of multi-domain operations, in our opinion, ROL 1, 2 and 3 field hospitals will have to be prepared, as well as to have specialized means for evacuation (land, air or naval) in stages and destinations, as appropriate. Field hospitals that are basically designed as surgical hospitals (for the wounded) will need to be able to be quickly transformed into hospitals of other specialties, as appropriate: internal medicine, infectious diseases, particularly dangerous infectious diseases, intoxications, burnt, irradiation, ophthalmology, psychiatry, etc. The Medical Directorate will have to be prepared at least one such hospital, as a model of organization and endowment in case of need, with staff in covering the respective specialties (military or civilian hospitals). In extreme cases, hospitalization wards, hospital bases and inland hospitals may be re-established to treat and recover the wounded and sick from their own forces, but also allies or enemies (as prisoners). Otherwise, it would be, by absurd, to re-establish the Ottoman Army's patriarchal units, which after the battle killed all wounded personnel so that they would no longer suffer.

Lack of specialist doctors can cause serious problems with functionality. For example, at the deployment of the Romanian Campaign Hospital no. 100 in the 1991 Gulf War in Saudi Arabia, no toxicologist was available, as the Iraqi army had chemical weapons and the toxicologist was replaced by a civilian-trained chemist. Each field hospital needs two anaesthetists, but there are also civilian hospitals that have only one and when the person goes on leave or is ill, they no longer operate in that medical establishment. As an emergency formula, it has been proposed to classify dentists as anaesthetists, because they currently perform dental anaesthesia (!?). As an example, the nuclear submarines of the great powers, in case of surgical emergency, have an operating room, where the general practitioner of the ship operates "first hand", the non-commissioned officer "second hand" and the chief engineer of the ship is "anaesthetist" because he supervises the medical monitors (!?). The situation seems ridiculous and in real cases could become dramatic, but in medicine no patient should remain untreated, no matter what the situation, who is or what forces and means we have.

If all the medical countermeasures in the Theatre of Operations are adequate and timely, the medical losses are minimal. But here also counts how the plan of the joint or multi-domain operation is conceived, in order to avoid the possible unnecessary over-mortality, both in defence and in offense. The hospitalized wounded and sick must be recovered for combat (fit combatant), or at least for work (unfit combatant or unfit for military service), and if not possible for life (unfit military service with evidence or war invalidity).

6. Military epidemiology

In multi-domain operations, more than in any other combat action, there will be an "epidemic of poly-trauma" exacerbated "in waves" in accordance with their own and the enemy's combat actions, with the specifics of diseases through the weapon systems used: conventional, unconventional, modern or combined. Depending on the operational management of the multi-domain operation, the human losses, implicitly also the sanitary ones, will be more important or reduced.

Combat actions will cause, directly or indirectly, a large number of traumas, infectious diseases, intoxications, irradiation, associated lesions, combined lesions, which in extreme cases can be in epidemic form to own forces, to the forces of the opponent, to neutrals and/or in the civilian population, possibly also epizootic in domestic and/or wild animals. Characteristic of any epidemic is the epidemiological chain, with the three main links:

a) **The source**, which may be natural, namely the sick person or animal (case zero) from which the contagious pathogen spreads, or artificial (weapon/CBRNE agent or other, genetic weapons) from which the chemical, biological or radioactive cloud leaves;

b) **The route of transmission** may be natural, through sick or contaminated people or animals, contaminated environment (soil, water, air, food, water, objects), or artificial with aerosols, living vectors for biological agents, contaminated objects (food, water, objects including letters, parcels);

c) The receptor, namely **the receptive population**, may be composed of humans and/or animals (or plants) that do not have physical, chemical or biological protection against the pathogen.

Of **the total population** in the area, some are exposed to the nuisance or attack and, in the absence of physical protection (gas mask, CBRN protection equipment, fixed or mobile shelter with filter ventilation, makeshift shelter, or makeshift means of protection, as appropriate), many will be **contaminated** or damaged by biological, chemical or radiological agents.

It is very important to determine, quickly and accurately, if there was a CBRN attack and what kind of attack, which area is affected, with which vectors the harmful agent was transmitted, the number of exposed and to estimate the number of contaminants. Exposed and contaminated people/animals and plants will be immediately subjected to total, partial, sanitary decontamination treatment (as appropriate) in cooperation with CBRN units. In the case of civilians, the decontamination action will be carried out through the Inspectorates for Emergency Situations (which have Civil Protection units, Fire-fighters and Mobile Emergency Service for Resuscitation and Extrication – SMURD), and its own staff and patients in health units, through the care of the Anti-Epidemic Laboratory (if it has the strength and means).

The environmental samples are analysed by the CBRN fixed or mobile protection laboratory, and the samples from contaminated, sick, deceased, animals, drinking water, food and sanitary-pharmaceutical materials are analysed by the Preventive Medicine Laboratory. For biological agents of war or bioterrorism, the evidence identified in the field or in health facilities must be confirmed at the Microbiological Expertise Laboratory of the National Institute for Medical-Military Research-Development “Cantacuzino”, as there will be international legal implications.

It can be assumed that in total the losses will be higher than in the classic operations and the classic medical facilities (provided in the regulations) involved in the medical chain will not be able to cope with the peak needs. A new approach will probably be needed, with the strengthening of advanced medical facilities, with predominantly direct evacuation to destinations (with short-circuiting “evacuation stages”) to civilian and military hospital facilities inside, behind the front or even internationally. For this, it will be necessary to coordinate the Sanitary Services of the force categories and CIMIC through an integrated Sanitary Directorate, temporary during the operation. This structure, currently non-existent, should include at least one military physician from each force category as well as specialists for surgery, internal medicine, para-clinic, operational medicine, preventive medicine, dentist, veterinarian, pharmacist, medical lawyer, medical logistics, and medical-military scientific research.

7. Side effects of combat actions

Combat actions in the multi-domain operation can also have side effects on the civilian population in the area or even outside the area of operations. Some examples: the accidental bombing of a village in Belarus during the fighting in Ukraine (2022), a village in Bulgaria during the bombing in Yugoslavia (1999) or the bombing of the prison in Ploiesti (1944), to refer only to incidents in European theatres of operations.

The side effects are also manifested in the veterinary, zoo-technical, phyto-sanitary and agricultural fields. By reducing the source of food of animal and/or plant origin, economic losses and even famines occur, and contaminated beings will later become so-called “natural sources of disease”. Examples include the invasion of Colorado beetles in Romania (which attacks potato crops) or the “depleted” uranium from anti-tank piercing projectiles in Yugoslavia and Italy, which passes as a toxic substance in plants consumed by animals and humans.

Even hospitals or other health facilities, protected or unprotected by specific insignia, have been attacked by tactical error or with intent, which in international law applicable during military conflicts constitute war crimes. Sometimes the health objectives can be used by the belligerents to deceive the enemy, which is a “trick” and is not accepted as a legal method of war. But as French say: “*a la guerre comme a la guerre*” (in war is as in war), but international justice does not seem to have a predilection to punish the winners, but sometimes the losers, only.

The environment can be biologically, chemically and/or radioactively contaminated for a long time, and land decontamination measures involve significant forces and means, so high costs, which no one is willing to finance, so the former war zone is left to decontaminate naturally over time.

Obviously, if there is a component of geophysical warfare (precipitation, floods, drought, earthquakes, landslides, tsunamis, etc.), there will be other side effects that affect the entire population of the area, not just the troops of opposing forces.

8. Possible medical countermeasures in multi-domain operation

General medical prophylaxis countermeasures (pre-exposure):

- training of doctors and, in particular, military doctors to know the effects of weapons and CBRN agents;
- establishing an adequate concept of medical intervention within the multi-domain operation;
- staffing of units and major staffs with specialists in the medical field with medical-military training;
- writing appropriate manuals, instructions and regulations;
- health instruction of the staff involved for first aid and pre-exposure, intra-exposure and post-exposure prophylaxis;
- endowment with sanitary-pharmaceutical equipment and materials of the medical teams participating in the multi-domain operation;
- establishing the sanitary logistics, on variants, and of the sanitary-pharmaceutical supply and re-supply chain;
- the existence of reserve sanitary-pharmaceutical forces, means and stocks on the national territory;
- specific training of medical staff before leaving for the mission;
- vaccination, revaccination and/or administration of prophylactic drugs to staff in risk groups (health personnel, CBRN defence, scouts, staff, etc.);
- any other necessary measures depending on the situation.

Specific prophylactic medical countermeasures (post-exposure):

- active supervision of the staff, directly and through the medical staff from the subunits;
- permanent contact with commanders on a professional line;
- information from any source;
- collection of biological samples, primary processing and identification and assumption diagnosis for referral to the identification laboratory (laboratory diagnosis);
- estimating the exposed, contaminated and sick population for the application of post-exposure prophylaxis therapy (antibiotics, antidotes, etc.);
- medical supervision, isolation, quarantine or hospitalization of suspects and patients;
- specific diagnosis and treatment, outpatient or in field facilities or in hospitals;
- adequate evacuation of seriously ill patients, by destination;
- medical supervision of those healed for complete recovery;
- writing reports for knowledge of medical statistics and specific diseases;
- medical-military scientific research and dissemination of lessons learned, separately on the secret and non-secret chain.

Obviously, depending on the specific situation and the stage of exposure, other medical countermeasures can be taken, depending on the needs and possibilities.

The medical countermeasures applied in joint operations are provided in the specific regulations, but as regards MDOs there is also the need of medical and non-medical countermeasures applied for the prevention, limitation and recovery after cosmic, electromagnetic and/or cybernetic actions. As an example, medical and paramedical facilities must be protected, including from cyberattacks, which can disrupt their activity and cooperation between medical structures and microstructures.

9. Non-medical countermeasures in multi-domain operation

Due to the diversity and high volume of specific risks and injuries, the strengths and means of the pharmaceutical industry, including health logistics, may not be sufficient at some point. In this situation, an integrated action will be needed to support the health service with political, military, social, economic, legislative, coercive, etc. means. Therefore, collaboration and cooperation are key elements in the success of this type of action.

While the collaboration must be designed at national or international level and executed in a complex, multilateral, multidisciplinary manner, as the case may be, the cooperation is reflected in the joint action in the field of all existing forces and means, according to a pre-established algorithm and adapted to the existing situation and integration with the other forces involved: logistics, CBRN defence, special forces, transport, etc., both military and civilian.

The optimal functioning of the medical provision stages (pre-exposure, intra-exposure, post-exposure) implies the organization and reorganization of the military and civil service, the complementarities of the state National Health System (departmental and non-departmental) with the private one and NGOs. Also, the principle of civil-military cooperation (CIMIC) must ensure their integration (difficult to achieve in practice, see competition for SMURD), with integration and functional separation, according to the situation and the scheduling (prioritization) of activities.

In our opinion, the human resource must be expanded according to the concrete needs, with specialized and non-specialized forces, reservists and volunteers mobilized and incorporated during the critical period. In parallel, specific means must be provided: material and financial resources, stocks, sources of supply and replenishment, etc. including for health, which has been shown to be vital not only for conducting multi-domain operations, but also for public health in peacetime. Moreover, all these extensions of forces and means, reallocations and re-subordinations must comply with specific regulations (procedures, legislation, regulations, etc.),

which are flexible enough and which are exercised in time to be adaptable and effective in various possible situation.

Conclusions

For Romania, the multi-domain operations exceed the national strategic level. They can be carried out within the Alliance, respectively NATO or in a multinational coalition, only. Participation in this type of operation also involves risks for national forces through human and material losses, respectively health losses.

The Military Health Service has an important role to play in reducing loss of life, maintaining physiological fighting capacity, monitoring health, and also in the prevention, diagnosis and treatment of the sick and wounded, and in recovering the military strength and expertise of individual fitness aptitudes.

Therefore, the participation of the Military Health Service, and implicitly of the National Health System, as well as other military and civilian components, in multi-domain operations is important for maintaining the fighting capacity of the staff, for caring for the sick and wounded, for coordinating medical countermeasures in operational situations. It contributes to the success of the operation by minimizing health losses and ensuring a minimum of psychological comfort to the military involved, thus, to create favourable conditions for the human factor.

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STRENGTHENING ROMANIAS' RESILIENCE TO RUSSIAN DISINFORMATION

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Abstract: *The main purpose of this paper is to improve public awareness of the influence campaigns carried out in the Romanian public space, via traditional and internet media that are at odds with national interests. In the context of an ongoing Russian disinformation campaign that frequently spreads disinformation among civil society members and, more concerning, generates hostility between the Romanian citizens and their officials, the most common Russian narratives used in Romania are analyzed, and their misleading aspects are revealed. The paper also covers the resilience approach at national level, as well as at the EU and NATO levels, in order to better understand the instruments and procedures available for lowering risks and managing threats affecting the Romanian society. In light of the current situation in Ukraine, the study presents a series of conclusions regarding how the dissemination of misleading narratives influenced the information environment in Romania.*

Keywords: *Romania; resilience; fake news; disinformation; propaganda.*

Introduction

Resilience to disinformation is generally defined as the capacity of states, societies, and individuals to resist targeted pressure and misleading facts that are disseminated through a variety of media, including TV, radio, print, online, and social media. From the standpoint of national security, information resilience must be defined in terms of a state's ability to secure its information space.

While traditional conceptions of resilience rely on a society's ability to "quickly recover" to its pre-crisis condition, we are becoming increasingly conscious that returning to the previous condition is no longer conceivable because so much has changed. Based on our current state of vulnerability in the face of disinformation and fake news, rebounding back may not be beneficial. As a result, societal resilience must consider how to rebound and evolve in the face of several shocks (Dineen 2020)

For decades, Russia's strategic disinformation playbook has mostly concentrated on portraying itself as a victim and democracies as aggressors in order to justify wars on Georgia in 2008 and Ukraine in 2014, election meddling around the world, and its hostile position toward NATO and the European Union (Otis 2022). The armed conflict in Ukraine began in early 2014, when Russia occupied and annexed Crimea. There has been an ongoing battle between Ukraine and Russia for the past eight years, with daily shelling and skirmishes taking place the eastern border of Ukraine. Russia launched a full-scale military invasion of Ukraine on February 24, 2022, throwing the whole country into conflict. The Russian propaganda network in Romania grew over time and the topics delivered changed depending on the local environment. Initially, Russian propaganda in Romania was limited to a Romanian radio station that broadcast messages of the Russian Federation. It was shut down, and later, in 2015, Sputnik Moldova News and Radio Agency was launched, based in Chisinau rather than Romania. It was primarily designed for Romania, but the majority of the journalists were from Moldova. (Sputnik Moldova n.d.)

Several additional sites, directly associated with the Russian Federation's Embassy and official Kremlin propaganda, have appeared over time. Due to the current Ukraine crisis, propaganda has become more visible and active. Russia's officials perform an analysis of the Romanian environment, primarily through national opinion polls. Our society is hesitant of receiving messages from Moscow, and some sections of the population are even Russophobic (Arun 2022). The Russian Federation has a difficult time presenting itself directly in Romania, as

it does in the Republic of Moldova, where Putin was one of the most trusted international leaders until recently.

Russia's invasion of Ukraine highlights how much modern warfare is handled online – and how much democracy has learned in recent years how to counter it. Because lies and perception can affect the outcome on the battlefield, disinformation and deception have long been critical elements of warfighting. On the battlefield, Russian disinformation has emphasized weakening opponents' commitment and sowing doubt about Russian military activity, as well as concealing atrocities against civilians and blaming its adversaries (Otis 2022).

1. Russian Disinformation

1.1. Most Widely Disseminated Russian Foreign Policy Narratives

Disinformation is articulated on the same mechanisms despite of the subject, and there is a number of key narratives that can be identified regardless of the issues addressed. One of the consequences of manipulation through disinformation may be weakening public confidence in Romania's Euro-Atlantic strategic orientation. Russia understands the "advantages" of its disinformation campaign in accomplishing its own political objectives and considers "fake news" as a non-military tool; for example, the so called Gerasimov doctrine made it plain that disruptive propaganda is a valid and reliable instrument for Russia to achieve success. According to EU Security Commissioner Julian King, the Kremlin is attempting to disseminate the same disinformation narratives in as many languages as possible, using as many channels as possible (Jon 2018). Therefore, we need to review the main lines of the Russian propaganda that try to legitimize the Russian aggression.

By supporting the growth of a propaganda and misinformation eco-system, Russia has operationalized the idea of ongoing conflict in the information environment. The US State Department claimed that this ecosystem "generates and disseminates false narratives to strategically advance the policy objectives of the Kremlin." Using a variety of channels, a vast number of messages are quickly, frequently, and continuously disseminated without concern for accuracy or coherence. (Badea 2022)

An article published in *Security Insight* from the Marshall Center summarizes a project which evaluated the Russian foreign policy viewpoints by examining statements and interviews delivered by Russian government leaders. The research team tracked Russian and Western media for ten months, collecting both Russian and English-language statements, from September 2018 to June 2019. The study discovered a collection of eleven storylines that officials typically utilize when justifying Russian foreign policy (Gorenburg 2019).

Narrative	Frequency
Outside Intervention in "Sovereign" Affairs	95
"Whataboutism"	86
Promotion of International Structures in Which Russia Plays an Equal or Leading Role	69
Russophobia	59
Near Abroad	38
Unilateralism vs. Multipolarity	33
Stability vs. Destabilization	31
Soviet-Era Allies	8
European vs. Eurasian Russia	2
Russia as Bastion of Traditional Values	2

Figure no 1. Russian Main Foreign Policy Narratives

Source: <https://www.marshallcenter.org/en/publications/security-insights/russian-foreign-policy-narratives-0>

Outside intervention in sovereign affairs, whataboutism, the promotion of international structures in which Russia plays a leadership role, and Russophobia were among the most often utilized storylines (Gorenburg 2019).

Although Russian officials' foreign policy narratives are designed to distort reality in order to promote and defend foreign policy actions to domestic and international audiences, there is one common thread that runs through them all: they all contain an element of truth.

All of these narratives are connected to general conceptions of the world and the roles of Russia and the US in it. Russian officials are able to develop narratives that connect with the dominant frames through which their audiences perceive the world by starting with a key element of reality.

1.2. Common Russian Narratives Disseminated in Romania Concerning the Ukraine Crisis

Russia's propaganda does not function "as a machine, but as an ecosystem". An ecosystem requires the presence of actors acting in the same direction, whether they are firms, individuals, or parastatal entities. Expert Forum thinktank uses the example of Aleksandr Dughin, a Kremlin-connected ideologue who has created a network of influence in Romania among various politicians and opinion leaders that share Euro-skepticism or anti-Westernism (A. L. Popescu 2019)

Russia's main narrative for gaining Romanian sympathy for its invasion of Ukraine is that "*there are Romanian territories in Ukraine*" (Ion 2022). Northern Bukovina and the historical South of Bessarabia are indeed territories that were part of Romania, annexed by Tsarist Russia and re-annexed by the USSR, but through the 1997 Treaty with Ukraine, Romania agreed to respect Ukraine's territorial integrity.

A regular narrative is that "*Russia felt threatened after being provoked by Ukraine and NATO.*" One of the myths that allegedly justifies the invasion of Ukraine is that Russia felt threatened by Ukraine's intention to join NATO.

One of the main arguments used by the Russian Federation to justify the conflict is that it was launched to de-Nazify Ukraine. Also, Ukrainian President Volodymyr Zelensky and Ukrainian soldiers are frequently referred to as "banderovtsi" in relation to Stepan Bandera's¹ sympathizers, a narrative that was used in 2014 to address EuroMaidan supporters (Pleşca 2022). The only idea supported by the Ukrainians regarding Stepan Bandera is the proclamation of the independence of the Ukrainian state from Lviv, otherwise its other actions are blamed. However, supporting an independent state is not the same as supporting anti-Semitic violence (Pleşca 2022).

Also, a constant Russian narrative addresses the concept of the Russian world. "*Ruskiy mir is everywhere where are Russian speakers, and the Russian Federation has launched a 'special operation' to free the Russians from Ukraine.*" According to Vladimir Putin, "*human rights are being broken massively and systematically in Ukraine, and discrimination against the Russian speakers is being confirmed at the legislative level* (Pleşca 2022).

Another common subject in Russian propaganda is that *Romania is a Western colony with no sovereignty*. The themes of recovering sovereignty, as well as embracing neutrality, are being heavily promoted on social media and are part of the Kremlin's propaganda arsenal (L. Popescu 2022)

Last but not least, we must mention that, over the years, Russia has tried to weaken the ties between Romania and the Republic of Moldova, using different narratives, even claiming that the Romanian language is not spoken in the Republic of Moldova.

¹ A.N.: Stepan Bandera was a Ukrainian politician and theorist of the militant wing of the far-right Organization of Ukrainian Nationalists, responsible for ethnic cleansings also implicated in collaboration with Nazi Germany.

2. NATO and EU Approach to Information Resilience

In 2016, civilian resilience was added to military resilience during the NATO Summit in Warsaw by establishing seven essential requirements: government continuity, communications, energy, water and food resources, transportation, mass population movements, and incident management with numerous victims. (NATO 2018) After learning the lessons from the Covid-19 pandemic, the Allies understood the necessity for a more integrated and more coordinated approach in eliminating vulnerabilities and ensuring military operations in times of peace, crisis, or war. Strengthening situational awareness capabilities and increasing capabilities to counter hybrid threats, such as propaganda and misinformation, are some of the most prominent challenges after the sanitary crisis. (NATO 2020)

To implement the decision, NATO resilience targets will be regularly assessed, analyzed, and reviewed. The strategy enables the alignment of national resilience targets and strategies, while keeping each state free to decide how it wants to implement NATO directions in accordance with national legislation and in coordination with similar EU measures.

The Alliance's approach to resilience to misinformation focuses on two areas of action: *understanding* and *engagement*. Understanding is provided through Information Environment Assessments, which periodically identify, monitor and analyze information relevant to the NATO mission. This allows the Alliance to assess the effectiveness of its communications and to adapt its engagement in future strategic communications to adequately counteract misinformation. (NATO 2020)

NATO and the EU collaborate on many levels to ensure societal resilience to misinformation, including engagement of civil society, NGOs, think tanks, academics, the media (including fact-checkers), industry (social media platforms), and other relevant private sector actors.

Simultaneously, in 2015, the European External Action Service (EEAS) designed and executed practical methods for dismantling the malignant narratives circulating in the information environment at the European Union level. In order to better assess and counter informational aggression conducted by hostile actors, the East StratCom Task Force was established, and the Euvdisinfo.eu website was created. (EUvsDisinfo n.d.)

In recent years, the European Union has prioritized the information offensive, establishing new instruments to fight major issues about the Union's mission, purpose, and identity, such as the European Union's Disinformation Action Plan, which was announced on December 5, 2018. (European Commission 2018)

The European Commission released its first annual strategy report on September 9, 2020, with the goal of steering EU policies toward a more resilient Europe. The Strategic Foresight Report 2020 incorporates the first lessons learnt from the COVID-19 crisis and introduces resilience as a new compass in decision-making, while also considering the role of strategic forecasting in building the EU's resilience. (European Commission 2020)

The report examines resilience in the most prominent interconnected domains - socioeconomic, geopolitical, digital, climate change, and the environment - and explains how important it is for accomplishing long-term strategic goals in the context of the transition to a more digital, greener, and equitable society. Information aggression, defined as attacks by authoritarian regimes against democratic systems, is also discussed in the chapter on geopolitical vulnerabilities. (European Commission 2020)

The second Strategic Foresight Report was published in September 2021 and identifies as a major threat the *pressure on democratic models of governance and values*. According to the second report, zones of instability and war near and outside the EU are likely to continue, if not grow. State and non-state actors are likely to improve their hybrid tools,

which include the deployment of disruptive technologies, the dissemination of disinformation and misinformation, information operations, and military and non-military operations. (Commission, Strategic Foresight Report 2021). Large-scale disinformation, aided by new technologies and platforms, represents a growing threat to democratic regimes and fuel a new type of information warfare. These solutions are used by countries, organized crime groups, businesses, and people to propagate disinformation around the world or achieve competitive advantages. (Commission, Strategic Foresight Report 2021)

3. The Framework of Public Trust in Romania

In Romania, Russia takes advantage of the local circumstances, particularly populist nationalist discourse, to cast doubt on Romania's role in the EU and NATO, and to bet strongly on a potential reset of Russia-Romania relations. Indirect messages that spark a number of linked topics are employed more frequently than direct propagandistic messages. There are propaganda sub-themes that encourage Romanian people to distrust the authorities' messages or the credibility of the European Union. There are direct attacks on European ideals, and the narrative that the West is decaying culture is being highly promoted (Olaru 2022).

If we focus on the military aspects, Russian propaganda has made a point of criticizing Romania's membership in the North Atlantic Alliance, which it has depicted as a direct threat to Russian security. Attacks have also emerged and been reinterpreted multiple times in various circumstances, with the main target being Deveselu's shield and the understanding of his function.

When Russia began its military action in Ukraine, it has had a significant impact on Romanian news consumption. It reintroduced people to traditional media such as television and radio, where official government bulletins regarding the invasion were daily broadcasted. People became more hungry for information and more susceptible to disinformation as a result of the confusion and uncertainty surrounding Russia's invasion of Ukraine. Unconfirmed information and grey literature, on the other hand, found their way into the population via social media platforms and peer-to-peer sharing.

The news outlet chosen can have a considerable impact on public faith in the media. In the EU, radio and television are considered as more dependable than social media as a source of news. In the current climate of fake news and polarizing political events, young people are having difficulties trusting the media, but this attitude is also evident among older generations.

According to data from various INSCOP opinion polls conducted since the beginning of 2022, Romanians' trust in Russia has decreased, falling from 16-18% in 2021 to barely 7.5% in April 2022 (Anghelus 2022). The consumption of different online and offline news sources both globally and nationally was mapped based on existing survey data. However, there are still some blind spots. There is a poor knowledge of the growing share of peer-to-peer information distribution via messages (e.g., WhatsApp or Telegram) or emails. It's difficult to state how much Romanians rely on instant messaging for news. Emerging video content platforms like Tik Tok are likewise more difficult to track, making fact-checking more difficult to deploy.

The mechanisms by which disinformation impacts our society, as well as the defensive media strategies used by NGOs and academics in the context of "information disorder", the wide societal issues related to misinformation, disinformation, and malinformation, are generally out of synchronization (Wardle, Claire, Council of Europe report DGI(2017)09 n.d.).

Traditional media, such as television and radio, are more trusted in Romania than social media platforms. Official statistics and specialized websites are the most reliable sources of information, minimising the chances of disinformation. However, networking from family and friends is an equally vital source of information for Romanians, resulting in a high vulnerability to misleading. The decline of the role of experts in the public sphere is linked to relying on people you know and trust for knowledge.

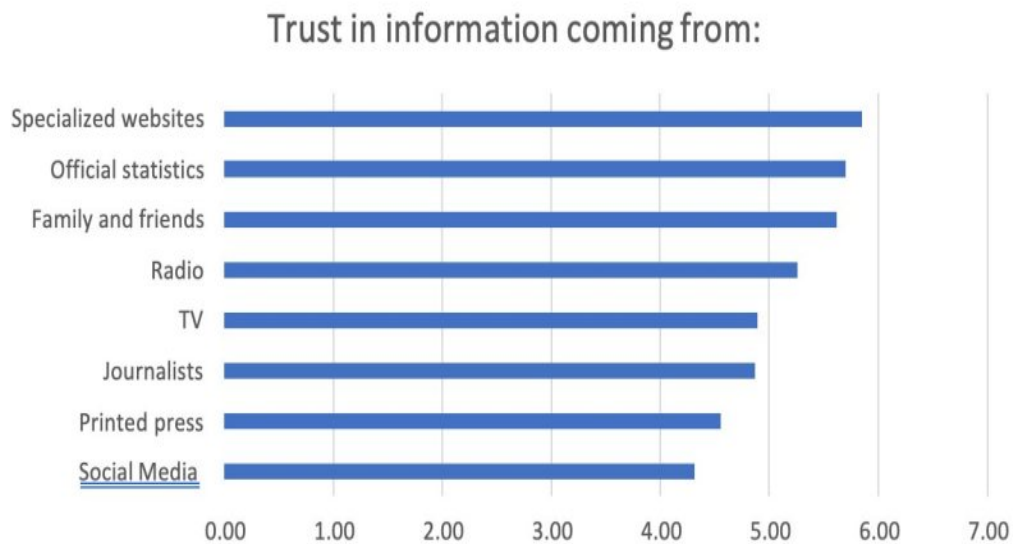


Figure no. 2. Trust of Sources of Information in Romania

Source: https://www.eurocomunicare.ro/wp-content/uploads/2022/04/Final_DISINFORMATION-SOCIETAL-RESILIENCE-AND-COVID19_Report-FINAL-1.pdf, p.7

The vulnerability of Romanian society in the context of disinformation is observed in a study conducted by the Eurocommunication Association in collaboration with the Aspen Institute Romania. The information was gathered through a representative survey conducted in Romania in December 2021. The findings led to the creation of a "Threat Matrix," which consists of three elements: disinformation, dilettantism, and distrust. (EuroComunicare 2021)

The study found that people currently engage with news and other information in three parts. From the perspective of the disinformation risk, each of these phases adds complexity (EuroComunicare 2021): *The first phase* is information input, which involves determining where people get their information. The quality and dependability of information sources are critical at this level. *The second level* is information processing, which entails how people evaluate the information they receive. At this point, social dynamics, personal opinions and ideals, or personal experience can all play a role in this level of information processing. *The third phase* is information dissemination, which refers to how people share and spread news and data in general. Official communication, as well as measures to reduce the artificial amplification of fraudulent content, can play a significant role in combating peer-to-peer disinformation propagation at this point.

On the other hand, according to a research evaluating perspectives on news media from 40 countries around the world, 42 % of the adult population in Romania trusts media sources in 2021. (Statista 2021) Strictly referring to the situation in Ukraine, a questionnaire completed at the beginning of 2022, shows that 40% of Romanians agree Ukraine should be defended in the event of a Russian invasion, while 38% consider Ukraine should not be defended and 22% are unsure (Statista 2022).

Regarding the role of national institutions, Romanians have traditionally viewed the Army and the Church as particularly trustworthy (see Figure no. 2 Trust in Institutions in Romania). In Romania, the public trust in the media seems to be average, while official institutions like the Parliament, the Presidency, and national parties currently have the lowest values.

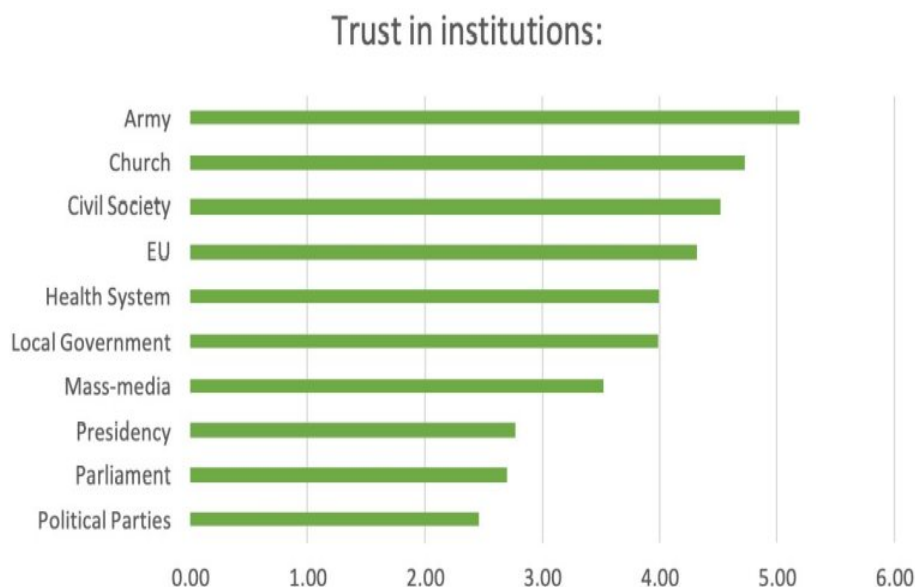


Figure no. 3. Citizens Trust in Romanian Institutions

Source: https://www.eurocomunicare.ro/wp-content/uploads/2022/04/Final_Disinformation-Societal-Resilience-and-Covid19_Report-Final-1.pdf, p. 8

4. Romanian Approaches to Information Resilience

According to the National Defence Strategy for the period 2020-2024, Romania's resilience is approached from two perspectives: "*the inherent capacity of entities - individuals, communities, regions, and states - to resist and adapt articulately to violent events, causing stress, shock, disaster, pandemics, or conflict, on the one hand, and the ability of these entities to quickly return to a functional state of normalcy, on the other*" (Administrația Prezidențială 2020, 11)." The Strategy recommends a flexible multidimensional approach and a comprehensive perspective on all systems in order to increase resilience and reduce vulnerabilities.

The National Defence Strategy places a strong emphasis on international collaboration and notes that it is crucial for Romania to implement the NATO-EU cooperation agenda, particularly in the areas of cyber defence, countering hybrid threats, thwarting terrorist threats, resilience, strategic communication, and military mobility. (Administrația Prezidențială 2020, 32)

The document also takes into account the following aspects, as part of consolidating resilience: *increasing public awareness of hostile/influential actions through traditional or online media or think tanks, which are challenging to manage when new security impact factors emerge such as fake news, the source of which is frequently impossible to identify and attribute; as well as encouraging the development of clear and easily accessible public tools for exposing disinformation's sources, its products, and its narratives.* (Administrația Prezidențială 2020, 11)

The legislative and institutional framework displays a small number of instruments that are not completely tuned to the current technological level. To begin with, neither the legislative requirements nor the organizations charged with reducing information

manipulation cover the entire spectrum of risks and do not allow for timely and effective countermeasures.

Despite the legislative and institutional structure still being in its early stages, the classification of sentences for the dissemination of false information in the category of crimes, with jail sentences, may be considered outdated.

In terms of legislative tools, we can refer to Article 404 of Law no. 286/2009 regarding the Criminal Code that states: "Communication or dissemination, by any means, of fake news, data, information, or forged documents, knowing their false character, if this endangers national security, shall be penalized by imprisonment for one to five years." The problem is that enforcing Article 404 is very difficult because people who disseminate false or malicious information are frequently unaware of it.

Building national resilience takes time and requires cooperation and integration between the government, the private sector, and the civil society. Without taking into account the resilience component, both in terms of critical infrastructures and in the sector of information, our state's modernization and adaptability to technological changes will not be sustainable.

Conclusions

Official Romanian policy now includes taking actions to resist Russian or other country-sponsored disinformation campaigns, after years of underreaction to Russian influence activities. To prevent polarizing society, limiting populist speech, and decreasing trust in government and media institutions, Romania must develop and strengthen its information resilience.

Some of the initiatives that Romania needs to take to improve its resilience should be: *enhancing access to and examining the practices of social media platforms; a deeper assessment of the information ecosystem and its interconnections*, as well as *helping to build trust*. This assumes: an examination of the difficulties the country faces in restoring and regaining trust in the institutions that people rely on to promote informed public dialogue and debate, as well as the significance that credible information and substance play in those discussions.

Regardless of the fact that the issue of foreign-led disinformation has been around for decades, there may not be a clear way to stop it, and there probably never will be. We should work to train the public, government, defence and security institutions, journalists, and others to be less vulnerable to such disinformation and to increase societal resilience.

Another step that can be taken to counter disinformation is to build partnerships with other states impacted by Russia's disinformation. Few attempts have been made in the bulk of the affected states in that region, including Romania, to forge an important international partnership on this issue.

As was highlighted by the examples provided in the paper, misinformation and disinformation can undermine public institutions' credibility and trust, cause financial harm and endanger democracy. For achieving a strong informational resilience it is necessary to develop a methodical management of all sorts of sensitive data throughout the whole information lifecycle which must include the secure cyber support, media organisations, nongovernmental organizations, and academics to support a culture of cooperation and trust-building.

Additionally, there is no denying that to assure resistance to disinformation, prevent power abuse, safeguard democratic norms and values, and foster trust between citizens and the government, Romania must create a healthy and independent media environment.

Last but not least, an effective approach of strategic communication serves as the foundation of information resilience.

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STRATEGIC AEROSPACE APPROACH IN THE CONTEXT OF SECURITY AND SPACE INDUSTRY

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Abstract: *The aerospace, defense, security and space industries are important strategic sectors for the EU, contributing to each country's national security and economic prosperity. These highly productive sectors provide thousands of jobs, delivering sustainable growth in every region and nation of the EU. Creating Romania's strengths in these sectors will help increase productivity across the country and ensure that Romania can become one of the best places in the world to innovate, do business and create jobs. This paper is the result of an analysis of the international literature and seeks to highlight the need to invest in space capabilities to meet national goals: military success and defense strategy, leadership and prestige, resource development and management, and economic growth and diversification. For this, the research method chosen for this study is a qualitative one that involved cross-sectional and longitudinal exploratory studies of the literature. The data collection and interpretation was done in the context in which most states are in the process of defining and / or consolidating aerospace strategies.*

Keywords: *space industry; strategy; strategic sectors; national security; economic prosperity.*

1. Introduction in the strategic context of the situation at European and international level

Space and the development of associated or derived technologies and services are today recognized as a powerful economic engine by several nations, with the global space economy amounting to € 309 billion in 2017 (*The Space Economy in Figures, 2019*). While government investment was the driving force in the twentieth century (eg the Apollo program, the International Space Station (ISS) and the Global Positioning System (GPS)), business is now setting the pace.

Nations invest in space capabilities to meet national goals, like: military success and defense strategy, leadership and prestige, resource development and management, and economic growth and diversification. Economic growth and diversification are becoming increasingly important. Capturing a larger share of the global space economy is a desirable goal for several reasons. Space is a growing, reliable industry that has proven resilient to economic recessions, including the 2008 global recession.

Based on these realities, several countries have developed or are in the process of developing / updating strategies for the exploitation and use of space for both civilian and military purposes, as follows:

- *Europe – the Space Strategy for Europe*, <https://ec.europa.eu/transparency/regdoc/rep/1/2016/EN/COM-2016-705-F1-EN-MAIN.PDF>

- *USA – Defence Space Strategy (2020)*, https://media.defense.gov/2020/jun/17/2002317391/-1/-1/1/2020_defense_space_strategy_summary.pdf

- *UAE – National Space Strategy 2030*, <https://space.gov.ae/Documents/PublicationPDFFiles/2030-National-Strategy-Summary-EN.pdf>

- *Ireland – National Space Strategy for Enterprise 2019-2025*, <https://enterprise.gov.ie/en/Publications/Publication-files/National-Space-Strategy-for-Enterprise-2019-2025.pdf>

- *France - Space defence strategy (2019)*, https://www.defense.gouv.fr/content/download/574375/9839912/Space%20Defence%20Strategy%202019_France.pdf
- *Denmark – Denmark's national space strategy (2016)*, <https://ufm.dk/en/publications/2016/denmarks-national-space-strategy>
- *Portugalia – Portugal space 2030*, <https://ptspace.pt/space-2030/>

Regarding the development of European space policy, there are two main actors: European Union (EU) represented by the European Commission (EC) and the European Space Agency (ESA). Alongside these two main bodies, there are intergovernmental organizations whose field of interest is more limited / specific, such as European Organization for the Exploitation of Meteorological Satellites (EUMETSAT), European Defense Agency (EDA) and the new European Union Agency for Space Programs (EUSPA), already started the work in January 2021. The strategic decision-making spectrum in the field of space policy in Europe is complemented by the EU and ESA Member States, which have the interest and opportunity to set their own objectives and strategies.

On 6th of June 2018, on the basis of the EU Commission's Communication on "A Space Strategy for Europe" (<https://www.consilium.europa.eu/en/policies/eu-space-programme/>), the European Commission presented the new space programme. It aims to ensure the continuity of investment in the EU space activities, to encourage scientific and technical progress and to support the competitiveness and innovation capacity of the European space industry. The new programme will bring together existing infrastructure and services and introduce new features, covering:

- ensuring the continuity and evolution of Galileo and EGNOS, the EU's global and regional satellite navigation systems, as well as Copernicus, the Earth observation program;
- development of new security components: Space Situational Awareness (SSA), government satellite communications (GOVSATCOM);
- encouraging a strong and innovative space industry, by improving access for start-ups and small and medium-sized enterprises (SMEs) to venture capital, testing, certification and standardization facilities;
- maintaining the EU autonomous access to space by aggregating the EU demand for launch services and investments in innovative technologies, such as reusable launchers;
- unification and simplification of the governance system by introducing a single regulation allowing for simplified ways of cooperation between all institutional actors.

In this context, the European Commission, as programme manager, sets priorities and operational decisions and ESA will remain the main partner in implementing the program, while the new EUSPA will support market development and security. As part of the Multiannual Financial Framework 2021-2027 (Horizon Europe), the new space programme will have 16 billion euros: 9.7 billion Galileo and EGNOS, 5.8 billion Copernicus and 0.5 billion for new security components (SA and GOVSATCOM). (EU budget: € 16 billion Space Program to boost EU space leadership beyond, https://ec.europa.eu/growth/index_en).

Thanks to the EU's Horizon 2020 programme, about 20% of the funds managed by ESA in recent years have come from the EU budget, while the rest is mostly provided by the contribution of ESA Member States. For example, ESA's 2020 budget was 6.68 billion Euros (European Space Agency's 2020 budget up 16.8% over 2019 including final past-due payment from France, <https://www.spaceintelreport.com/>), of which ESA Member States' contributions to mandatory and optional programmes accounted for 70% of funding, the EU contributed 23% and EUMETSAT revenues to 3%. The contributions of the ESA Member States shall, to a greater or lesser extent, be returned to the countries of origin in the form of research / development contracts for space applications and technologies.

2. National aerospace strategy of Romania in the new European context of research coordination in the fields of security and space industry

The security and space industry offers substantial potential for economic development through the use of space data and space services, artificial intelligence, satellite communications and cybersecurity in the development of new technologies, which could also have a crucial impact on the economic environment, outside the field of security and space industry.

Another important issue at the national level is the strengthening of national security and research and development for national military bodies. Digitization, the development of disruptive technologies and the implementation of 5G will change the approach to the development of industrial solutions, services and technologies and will require the realisation of strategic public-private partnerships for the implementation of development strategies in the field of IT, space and security. Space technologies, satellite communications and artificial intelligence could also help address global challenges, such as:

- climate change;
- environment protection;
- transport (road, rail and sea);
- health and logistics;
- security and protection of critical infrastructures.

The implementation of a research strategy in the fields of security and space industry can create a huge development potential not only for security and production organizations through the use of space data and artificial intelligence services, but also for:

- public authorities capable of optimizing their work processes;
- business environment, by streamlining the production and distribution process;
- environment, by reducing the ecological footprint of public authorities and the business environment;
- society as a whole.

In this sense, research in the fields of security and space industry is becoming an increasingly important catalyst for technological development and innovation in general. With regard to cyber security, should be mentioned recent security events, such as targeted attacks on various states, public and private institutions, and critical infrastructure. Recently, there have been countless cyber-attacks, initiated by groups of anonymous hackers who benefit from strong funding, on some states in which presidential elections were coming, on some public institutions (hospitals, airports, research institutes), on some institutions. Private (banks, large innovative companies), or on critical infrastructures (national energy distribution systems, transport, utilities). Cybercrime is on an upward trend, with more and more local groups specializing in illicit activities in this area – compromise of ATMs and POS; card cloning; unauthorized access to computer systems, illegal interception of computer data, posting fictitious ads on heavily accessed commercial sites, infecting computer systems with ransomware, taking control of computer resources for mining virtual currencies, but also the use or exploitation of cryptocurrencies for illicit operations in the economic area. According to the National Defence Strategy for the period 2020-2024, Romania is a promoter and actor involved in sustainable international partnerships, a pole of regional stability; being a member of NATO and the EU, our country is a state resilient to threats, which ensures security and prosperity for its citizens, but is also a pole of regional stability. The exponential trend of developing emerging technologies (5G, artificial intelligence, big data, Internet of Things, cloud and smart computing) generates, on one hand, the need to increase and improve communications that will support innovative digital services designed for citizens and the business environment and, on the other hand, the need to collect and secure the data and

information circulated in the respective systems. In order to increase cyber security, public-private partnerships have been concluded with the aim of increasing cyber defense and security incident response capabilities.

The aerospace, defense, security and space industries are important strategic sectors for the EU, contributing to each country's national security and economic prosperity. These highly productive sectors provide thousands of jobs, delivering sustainable growth in every region and nation of the EU. The strengthening of Romania's power in these sectors will contribute to the country's economic growth and to the increase of the national capacity to innovate, do business and create jobs. From the perspective of the author of this study, the National aerospace strategy of Romania in the new European context of research coordination in the fields of security and space industry should have as general objectives the following:

- Identifying national research priorities and competences in the fields of security and space industry related to European research policies in these fields (DG Defense Industry and Space; European Space Agency; DG Research and Innovation; DG Communications Networks, Content and Technology; European Defense Agency etc.);

- Elaboration of the national strategy in the fields of security and space industry for the new strategic planning cycle (2021-2027);

- Defining, promoting and supporting the implementation (identification of funding sources / instruments, expertise, etc.) of research topics of national interest;

- Integration of national policies and activities in the fields of security and space industry in the evolving international context.

Specific objectives:

- Identifying national research competencies in the fields of security and space industry;

- Defining national research priorities in the fields of security and space industry (objectives);

- Defining research topics of national interest;

- Promoting and supporting research topics of national interest (identifying funding sources / instruments, providing expertise, etc.).

3. Discussions and proposals regarding the scientific and technical implementation of the draft strategy

The research strategy in the fields of security and space industry should be prepared by an inter-agency working group involving academic, public and private partners with responsibilities related to security, space, artificial intelligence and cybersecurity. The security and space industry research strategy sets the short, medium and long-term direction for the security and space sector and aims to help academic researchers and research institutes, businesses and public authorities to harness the sector's potential.

The research strategy in the fields of security and space industry should take into account:

- exploiting and creating opportunities and applications for businesses, researchers and authorities;

- public in the security, space and space sector in the short, medium and long term;

- exploitation of the common European space infrastructure (Galileo and Copernicus), including through integration in the national infrastructure for data positioning;

- exploiting European cooperation in space (ESA and EUMETSAT);

- increasing the degree of cooperation and coordination between EU Member States and Romanian actors (bilateral cooperation);

- raising the level of awareness of the advantages, costs, dangers involved in adopting new technologies;
- analysis and development of the legislative framework in the field of security and space industry;
- identification of funding sources/instruments for the implementation of new solutions.

4.1. Proposal regarding the strategy implementation scheme:

ROSA has not yet officially presented its aerospace strategy. The scheme for implementing the national strategy in the new European context of research coordination in the fields of security and space industry can be outlined, from the author's point of view, in two stages, on three distinct work packages:

- Stage I: Identify national research priorities and competences in the fields of security and space industry related to European research policies in these fields (DG Defense Industry and Space; European Space Agency; DG Research and Innovation; DG Communications Networks, Content and Technology; European Defense Agency etc.
- Stage II: Development of strategy and priority research topics in the fields of security and space industry.
 - ✓ Elaboration of the national strategy in the fields of the security and space industry for the new strategic planning cycle;
 - ✓ Defining, promoting and supporting the implementation (identification of funding sources / tools, expertise, etc.) of research topics of national interest;
 - ✓ Integration of national policies and activities in the fields of security and space industry in the evolving international context.

4.2 Work packages

Work package no. 1: Analysis of the current situation Identify national research competencies in the fields of security and space industry in this activity:

- the Romanian institutions with research and development activities in the fields of security and space will be inventoried;
- scientific publications with Romanian authors in the fields of security and space will be analyzed;
- key players in the security and space sector in Romania will be identified, including through the use of specific databases, including EMITS and others;
- interviews will be conducted with representatives of the identified key actors, in order to collect from them additional information regarding the national research competences in the target field.

Identify specific tools to support and increase national research skills in the fields of security and space industry. This activity will analyze the legislative, financial and technological framework that provides specific tools to support and increase national competences in the target field.

It should be analyzed at least:

- National Plan for Research, Development, Innovation;
- Sectoral plans of public authorities;
- Structural funding programs (European);
- Funding programs of the European Commission and other European bodies, including the European Space Agency;
- Relevant technological and research infrastructures;

- Relevant private investment. Other specific tools to support and increase national skills in the target area will be inventoried and identified.

Work package no. 2: Establishing the vision Identifying / defining national research priorities in the fields of security and space industry related to European research policies in these fields.

The work should start by analyzing the reference documents on European policies in the target field, including: European Space Technology Master Plan, GovSatCom program, Galileo program, Copernicus program, SSA program and critical infrastructures. National research priorities in the target areas of other European or internationally relevant countries will also be analyzed.

The activity will continue by interviewing:

- representatives of relevant European actors, such as: DG Defense Industry and Space; European Space Agency; DG Research and Innovation; DG Communications Networks, Content and Technology; European Defense Agency etc...;
- some representatives of key actors in the security and space sector, which will include research organizations, companies and public authorities. Based on the information collected, national research priorities in the target area need to be identified and defined.

Work package no. 3: Research topics Defining research topics of national interest in the fields of security and space.

The activity should start with:

- inventory of the size of the security and space sector in Romania (research organizations, industry, public authorities) from the perspective of revenues and number of employees;
- inventory of current and future needs of public authorities and the private sector of products, services and data in the security and space sector;
- identification of the strengths of the Romanian industry in the security sector, space and similar fields;
- assessing the consequences of various scenarios of development or stagnation of national research and development and innovation capacity in various areas of the target area.

Conclusions

The impact of the results of the implementation of the strategy in the new European context of research coordination in the fields of security and space industry from an economic and social point of view in the medium and long term is estimated to increase the competitiveness of the Romanian economy through innovation in the field of space and security, to stimulate RDI activities in the field of space and security, both within research organizations and in the private sector, and to strengthen national security.

The results of the project activities can be the basis of security and aerospace defense solutions implemented at national and European level, which can generate a significant number of jobs in the field of defense industry mainly, but also in that of adjacent industries (information technology, communications infrastructure, various service providers, etc.);

Increasing security in the Pan-European area, as a synergistic effect of the project results and other activities with similar/complementary objectives carried out by third parties, will contribute to ensuring a stable economic and social climate, economic and social development and improving living standards of the population of European states.

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REFUGEES FROM UKRAINE. IS THERE A CASE FOR STRATEGIC ENGINEERED DISPLACEMENT?

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Abstract: *The purpose of this paper is to provide a framework for analyzing the current refugee flow from Ukraine in a manner that goes beyond statistics or humanitarian law towards intentionality and strategic games. The author will use Kelly M. Greenhill's model of strategic engineered migration to investigate the case of refugees from Ukraine in order to assess the potential intention of Russia to use large masses of displaced people, caused by the illegal and unprovoked war, to achieve some hidden goals apart from the stated ones. The paper is built, first of all, on analyzing the theoretical framework focused on the types of strategic engineered migration, the evolution of the refugee flow, the humanitarian crisis and the implications for transit and destination countries. Also, there will be comparisons with the Russian intervention in the Syrian civil war and the case of the crisis caused by Belarus on its borders with Latvia, Lithuania and Poland as illustrative for the use of refugees and migrants by a state actor in order to achieve specific political goals. In the last section, the author will investigate the opportunity to translate the case of war refugees into the model initially dedicated to the broader issue of migration, and, finally, will use it to the present case of refugees from Ukraine.*

Keywords: *refugees from Ukraine; strategic engineered migration; war; Russian Federation; Syria; European public opinion.*

Introduction

Year of 2021 brought into attention *the instrumentalization of migration* (European Council 2021) or, in other terms, *the strategic engineered migration* (Greenhill 2008). This paper aims at answering to answer the question if the 2022 case of refugees from Ukraine falls under this context¹. Even if the 2021 Belarusian case was the central and most visible element of this phenomenon, the strategic engineered migration is not new. Kelly M. Greenhill identified documented occurrences since 1953 when the June Uprising triggered over 300,000 persons to move from Eastern Germany to Western Germany and this massive displacement was seen by Western Chancellor, Konrad Adenauer, as both an attempt of the East and USSR to change the demographic composition of the Federal Germany and an opportunity to obtain American political and economic assistance (Greenhill, *Weapons of mass migration: forced displacement, coercion, and foreign policy* 2010, 285-286). In this case, both the challenger and the target were democracies and the outcome was a partial success, since Adenauer received some financial aid to deal with the so-called migration crisis and the desired political support (Greenhill 2010, 33, 286).

The last year crisis triggered by Belarusian leader, Aleksandr Lukashenko, could be another case of strategic engineered migration or, in EU terms, instrumentalization of migration. Throughout one year and a trimester, EU has adopted five packages of sanctions against Belarus in response to suspicions of fraud in the 2020 presidential elections and use of force against peaceful protesters, members of opposition and journalists (most of all the arrest of Roman Protasevich). Following the EU meeting in May 24, 2021, in Lisbon, aimed at

¹ This approach develops the analyzes elaborated by the author in the series Strategic Colloquium (No. 1, 3, 5, 7, 9/2022) and in the 2021 Strategic Evaluation (in process of publication) under auspices of the Center for Defence and Security Strategic Studies.

debating new sanctions against Belarus in response to the hijacking of Ryanair flight in which Roman Protasevich was, Lukashenko threatened to cease blocking the flow of migrants and drug trafficking to EU countries (Evans 2021). This statement is similar with those of Türkiye's President, Recep Tayyip Erdogan, who used the same rhetoric on migrants and refugees seeking to reach EU countries with the purpose to receive both funds for the management of refugee camps on Turkish territory, as well as Union support for its role in the conflict in Syria (Timur și Nordland 2016) (Mortimer 2019) (Deutsche Welle 2020). To materialize the threats, Lukashenko created artificial pressure on the borders with Latvia, Lithuania and Poland (second part of 2021) facilitating the transport of mainly Iraqis, Afghans, and Syrians to Belarus and further to the EU neighboring countries. According to K. M. Greenhill, this might be a classic case of transforming migrants and refugees in weapons by coercive engineering as Lukashenko probably aimed to persuade EU to drop sanctions and recognize him as the legitimate leader of Belarus, but also might be a case of exportive engineered migration which is aimed at placing the target actor in an embarrassing situation or to destabilize it in response to criticism and actions against the Lukashenko regime (Greenhill 2021).

The case of Ukrainian refugees is even more challenging to study since it could be a case of coercive, dispossessive, exportive, or even militarized engineered migration. In the following we will analyze each of these types of strategic engineered migration in order to determine whether or not what is happening now in Ukraine could be considered a case for transforming refugees into weapons. The premise of this paper is that Russia's *modus operandi* in recent conflicts (e.g. Syria) consists, among other, in its armed forces repeatedly targeting civilians and civilian infrastructure, causing significant human and material losses and forcing citizens to flee their homes, with the aim of affecting the morale of the local population and armed forces, and also the countries facing the massive influx of refugees.

To this end, there is a need to clarify the theoretical and methodological framework including the difference between refugees and migrants, and the model of K. M. Greenhill and other related concepts. The second objective of this paper will investigate the opportunity to include the case of refugees into a model initially dedicated to the broader issue of migration, as its author did, and, finally, to use the resulted model to the present case of Ukrainian refugees.

1. A model for analyzing the case of refugees

Even if K. M. Greenhill refers both to refugees and migrants in her model of strategic engineered migration, still there are some important differences in defining the two basic concepts – refugees and migrants/migration. First of all, through the lens of international law, refugees hold a particular status different from migrants and given by the 1951 Refugee Convention and its 1967 Protocol (UNHCR 2022a). They are defined as “persons outside their countries of origin who are in need of international protection because of feared persecution, or a serious threat to their life, physical integrity or freedom in their country of origin as a result of persecution, armed conflict, violence or serious public disorder” (UNHCR 2022b). Instead, the concept of migrant is not defined by the international law and has are many definitions based on various criteria, but the main characteristic is the fact that those people choose to move across international borders “exclusively for other reasons, such as to improve their conditions by pursuing work or education opportunities, or to reunite with family” (UNHCR 2022b).

Second, referring to refugees and migration from a sociological point of view, refugees are a demographic event while migration is a demographic phenomenon. A demographic event marks major transitions in the life course of a population and a mass of

demographic events in a short period of time create a demographic phenomenon. A classic example for the couple of demographic events – phenomena is immigration – migration (Rotariu 1998, 160), but adding the characteristic of forced displacement, that couple becomes refugees – global forced migration. Global forced migration is a phenomenon including both refugees and asylum seekers, but also another category of people who are internationally displaced due “to other situations of violence, severe climate-related events, trafficking, as well as a range of potentially overlapping causes” (US Senate 2020, 5).

Greenhill’s model of analysis suggests four types of engineered migration reunited under the name of strategic engineered migration (Greenhill 2008, 8). It is defined as “those in- or out-migrations that are deliberately induced or manipulated by state or non-state actors, in ways designed to augment, reduce, or change the composition of the population residing within a particular territory, for political or military ends” (Greenhill 2008, 7). The instruments used in this type of migration vary from opening the otherwise closed borders to threats with or without the use of military force. Strategic engineered migration includes four distinct and non-mutually exclusive types: coercive engineered migration, dispossessive engineered migration, exportive engineered migration, and militarized engineered migration (Greenhill 2008, 8).

Coercive engineered migration starts from the premise that a state or non-state actor that lacks traditional means of influencing is willing to use human beings as weapons instead of bullets (Greenhill 2010, 2-3). Such a model includes three actors: the challenger or the coercer actor, the target, and the migrant or refugee group. Thus, coercive engineered migration represents “those cross-border population movements that are deliberately created or manipulated in order to induce political, military and/or economic concessions from a target state or states” (Greenhill 2010, 13). Since it is a displacement across the border that is deliberately created by a third party, the case of refugees can also be taken into account, not only migration as defined above. Greenhill includes coercive engineered migration into the phenomenon called strategic engineered migration because it is considered a subset of a larger class of events that are based on creating and exploiting such crises with political and military purposes (Greenhill 2010, 14).

Each of the four types/subsets of strategic engineered migration has to respond to a specific list of criteria in order to classify a migration as such, but there must be noted that coercive engineered migration is often incorporated in the other three types of strategic engineered migration.

Coercive engineered migration must be largely orchestrated, not to be caused by exogenous causes and not to be controlled by the respective refugees or migrants. It must be strategic, meaning that even if the flow is controlled by a challenging actor, it must not be driven by non-strategic motivations, such as anger or revenge. Also, even if the migratory flow is strategic, it must be created to induce concessions from the target actor, in other words it must be coercive. (Greenhill 2010, 21)

The *dispossessive engineered migration* has as main objective the appropriation of the territory or property of another group/groups or its/their elimination because it/they is/are represented as a threat to the ethnopolitical or economic domination of those who cause migration. An example provided by Greenhill is ethnic cleansing. (Greenhill 2010, 14)

The *exportive engineered migration* has as main objective strengthening a domestic political position, by eliminating political opponents, or destabilizing targeted foreign government (Greenhill 2010, 14).

The *militarized engineered migration* is the one conducted during an armed conflict in order to gain a military advantage against a specific opponent by disrupting or destroying its command and control, logistic or transport capabilities. Also, its goal could be the

enhancement of challenger's force structure by acquiring new personnel or resources. (Greenhill 2010, 14)

One important point that must be highlighted is the fact that most of the targeted states are liberal democracies. In a later work, K. M. Greenhill argues that democratic countries are vulnerable to this type of coercion because they are caught between conflicting imperatives due to the conflicting imperatives between they are caught: on the one hand, the state has rules to protect people who run from persecutions and violence, and, on the other hand, parts of democratic policies are sometimes against accepting internationally displaced persons for a number of reasons that vary from economic to cultural ones (Greenhill 2016, 79).

In line with Greenhill's theory, the British political scientist Mark Leonard proposes the term "*connectivity wars*" based on the premise that in the 21st Century, the most important battleground will not be air or land, but the global economy's interconnected infrastructure: disruption of trade and investment, of the rules of international law, of the Internet, of transportation and the movement of people (Leonard 2016, 13). If until now interdependence was represented as a barrier to conflict, Leonard says that the perspective has been changed by countries trying to exploit existing asymmetries in relations with other countries (Leonard 2016, 15). From this point of view, he brings in a typology of superpowers that could form a new G7, depending on the field in which they excel: the financial superpower (USA), the regulatory superpower (EU), the construction superpower (China), the migration superpower (Turkey), the spoiler superpower (the Russian Federation), the energy superpower (Saudi Arabia), the peoples' power (imagined majorities grouped on the WWW) (Leonard 2016, 22-25). Leonard paraphrases Clausewitz saying that "global politics had to be continued by still other means" (connectivity conflicts) and since war is "often an unfathomable option", governments are manipulating the things linking countries together (Leonard 2021a). Globalization's connections do not eliminate the tensions between countries, but offer new means to compete or to engage in a conflict (Leonard 2021b, 9).

Unfortunately, these year's events prove that war is still an option, but it seems that there is no hindrance in using large masses of people or other means, such as supply chains, to achieve perpetrator's officially undeclared goals.

In order to analyze the issue of refugees from Ukraine using the above conceptual framework, it is necessary a brief presentation of this issue, including a comparison with the situation in Syria.

2. Refugees from Ukraine: a matter of both statistics and humanitarian crisis

Until the beginning of 2022, Ukraine used to be both a destination (13th place in the world) and an origin country for international migrants (8th place in the world), according to the 2022 edition of *World Migration Report* (McAuliffe and Triandafyllidou 2022, 25). At the same time, the common history of Ukraine and Russia has configured two of the most important bilateral corridors in the world (Russian Federation – Ukraine and Ukraine – Russian Federation) meaning that around 3 million people born in Russian Federation moved to Ukraine and almost the same number of persons have moved to Russia from Ukraine (McAuliffe and Triandafyllidou 2022, 27). Moreover, since the illegal occupation of Crimea by Russia and the fighting in Donbas until the end of 2021, OCHA registered a total number of almost 1 million internally displaced persons (IDPs) (Internal Displacement Monitoring Centre 2022), leaving the Eastern part of Ukraine in the hands of the pro-Russian authorities of the so-called Donetsk and Luhansk People's Republics.

The 2022 war of Russia against Ukraine has triggered a huge flow of IDPs and refugees towards neighboring countries that is overlapping the 2014 humanitarian crisis² and the dramatic effects of COVID-19 pandemic³. The number of border crossings from Ukraine in the first week of the war exceeded by far the one recorded annually in the period 2014-2015 (Figure no. 1).

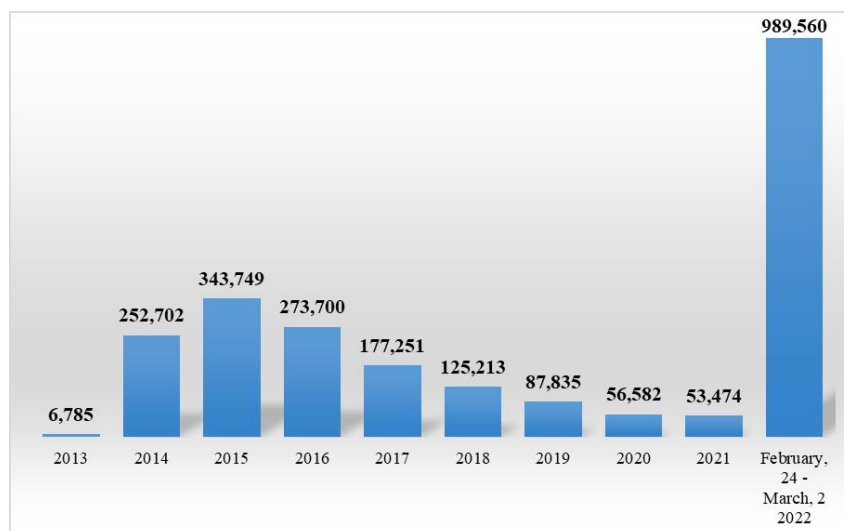


Figure no 1. The evolution of the annual number of border crossings from Ukraine since 2013 and in the first week of the war, according to UNHCR statistics (UNHCR 2022c)

After three months of war, the total number of border crossings from Ukraine was almost 6.6 million (February, 24 – May, 24 2022) (UNHCR 2022c). Also, at the end of May 2022, over 2.2 million persons had already returned to this country (UNHCR 2022c). Still, the number of people from Ukraine abroad is still high. Even if the number of border crossings in each neighboring country is significant⁴, only a part was recorded individually in Poland (1,152,364 persons), Republic of Moldova (86,266 persons), Romania (82,334 persons), Hungary (24,091 persons), Belarus (8,027 persons), and Russian Federation (1,152,364 persons, but here are allegations made by the Ukrainian side of illegal deportations). Most of them continued their journey to and were recorded in Germany (780,000 persons), Czech Republic (366,632 persons), Italy (125,907 persons), Spain (118,199 persons), Türkiye (85,000 persons), Bulgaria (78,291 persons), Austria (70,153 persons), etc. (UNHCR 2022c).

The context of people fleeing Ukraine might be compared with the one of Russian intervention in Syria (September 2015 – beginning of the withdrawal in May 2022). There are many similarities in the approach to civilian targets. Even if the international humanitarian

² The World Health Organization (WHO) has been closely following the humanitarian crisis in Ukraine since the beginning of the conflict in 2014. Its statistics show a large number of deaths (over 10.000), injured and internally displaced persons. Also, since 2014, about 3.4 million people are in need of health-related humanitarian assistance. (World Health Organization 2022a)

³ According to WHO statistics, Ukraine ranks 22nd in the world in terms of total COVID-19 cases and 16th in terms of deaths (cumulative total). Moreover, less than 35% of the population is completely vaccinated against Covid-19 (World Health Organization 2022b).

⁴ According to UNHCR estimation, as of June, 7 2022, over 3.8 million persons from Ukraine crossed the border to Poland, 1.1 million the border with Russian Federation, more than 731 thousand the border with Hungary, 613.4 thousand the border with Romania, 491 thousand the border with Republic of Moldova, 484.6 thousand the border with Slovakia, and 16.6 thousand the border with Belarus (UNHCR 2022c).

law protects civilians against effects of hostilities⁵, Russia has not taken the necessary measures, but has instead turned them into targets in order to deter resistance, to produce economic damage, and to cause massive displacements of people.

According to the Action on Armed Violence database, a British NGO, as of June 08, 2022, 3,951 civilian casualties were reported as a result of the use of explosive weapons by enemy forces: 1,945 civilians killed and 2,006 wounded civilians, of which at least 142 children (Action on Armed Violence 2022a). Most civilian casualties were in the cities of Donetsk (1,450), Kharkiv (721) and Mykolaiv (486), as well as in locations as residential urban areas (991), multiple urban areas (742), entertainment venues (600), villages (389), schools (186), and hospitals (115) (Action on Armed Violence 2022a). Such actions are also acknowledged by UN General Assembly Resolution A/RES/ES-11/1, which states the existence of reports “on attacks on civilian facilities, for instance residences, schools and hospitals, and on civilian casualties, including women, the elderly, people with disabilities and children” (UN 2022a).

In the case of the intervention in Syria, the same database centralizes 997 incidents in which Russia used explosive weapons against civilian targets, for a period of about six and a half years (September 30, 2015 - March 16, 2022), with catastrophic results from a humanitarian point of view: 3,750 civilians killed, 4,666 wounded civilians, 388 villages bombed, 313 attacks in residential urban areas and 40 on camps for internally displaced persons, 22 hospitals and 14 schools destroyed, etc. (Action on Armed Violence 2022b). The attacks have displaced a large number of people, both internally (6.2 million people, including 2.5 million children (UNHCR 2022d)) and externally (more than 5.6 million Syrians in neighboring countries: Turkey, Lebanon, Jordan, Iraq, Egypt and other African countries) (UNHCR 2022e). Moreover, in 2016, now retired U.S. Air Force General Philip Breedlove, the former Supreme Allied Commander in Europe, argued in front of the U.S. Senate Armed Services Committee that Russia and Syria were working together trying to undermine European security by “deliberately weaponizing migration in an attempt to overwhelm European structures and break European resolve” (Ellyatt 2016).

In the case of the war in Ukraine, data on the number of IDPs indicate over 8 million by the middle of May 2022, while about 13 million people are stranded in the affected areas due to increased security risks, destruction of road infrastructure, lack of travel resources or information on safe accommodation. (World Health Organization 2022c). Moreover, the decision of the UN International Court of Justice following the trial on the allegations of genocide under the Convention on the Prevention and Punishment of the Crime of Genocide (Ukraine vs. Russian Federation) underlines the extent of the “human tragedy” in Ukraine and the need for both parties to respect international humanitarian law (ICJ 2022).

As the war continues, in addition to the increase in the number of casualties and refugees, other problems may arise that will increase the complexity of the crisis, such as cases of epidemic diseases due to the impossibility to continue the Ukrainian vaccination campaign, the poor sanitation conditions of living, and lack of access to overall health services. Those vulnerabilities are to be exploited by the parties supporting Russia to create and consolidate unfavorable currents of opinion and social unrest in the transit and destination countries.

⁵ The Fourth Geneva Convention and its Additional Protocols introduce and clarify the term *protected persons* and establish the basic rule and field of application for civilian protection. Also, the First Protocol clearly states that “The civilian population as such, as well as individual civilians, shall not be the object of attack. Acts or threats of violence the primary purpose of which is to spread terror among the civilian population are prohibited” (Article 51.2) and “Civilian objects shall not be the object of attack or of reprisals. Civilian objects are all objects which are not military objectives as defined in paragraph 2” (Article 52.1). (The Secretary General’s Annual Report 2016 n.d.).

Although at European level, public opinion proves solidarity with the Ukrainian people (Ipsos European Public Affairs 2022, 27), there are countries (Hungary, Bulgaria, Slovakia, the Czech Republic and Poland) where the media reports that nationalist and far-right parties compare the situation of Ukrainian refugees with the illegal migrants and refugee crisis of 2015 and emphasizes the so-called “privileges” granted to the former (EURACTIV Network 2022). There is, in fact, a different social representation on the issue of Ukrainian and non-Ukrainian refugees, but it is explainable by the different cultural and geographic coordinates that define them. The pro-Ukrainian sentiments are determined by the perception of cultural similarities with the rest of the European population, the geographic proximity, and the constant exposure to the information flow during war.

However, in the near future, Europeans’ support for measures taken in support of Ukrainian refugees could decline due to the volatility of the images created by the media, as well as cross-cutting factors such as social ones (the number of refugees, the potential for outbreaks of infectious diseases due to the above mentioned factors, the psychological exhaustion affecting not only the population in the conflict area and refugees, but also those who regularly follow the flow of information about the war), political ones (anti-refugee and anti-involvement discourses of nationalist parties) or economic ones (sanctions imposed on Russia with repercussions on the European economy already affected by the Covid-19 pandemic).

Moreover, the UN reports on global impact of war in Ukraine on issues such as food, energy and finance systems shows that billions of people face the greatest cost-of-living crisis in a generation (UN 2022b). Especially the countries of Africa and Asia are severely exposed to at least one of the three transmission channels of the crisis, some of them even to all three: rising food prices, rising energy prices and tightening finances (UN 2022b, 16). For instance, the UN Economic Commission on Africa argue that 58 million people from those living above poverty line in Africa are heading to poverty due to the complex effects of both Covid-19 pandemic and war in Ukraine (UN 2022b, 6). In this context, the American Professor Timothy D. Snyder is accusing Russia to have “a hunger plan”, starving “much of the developing world as the next stage in his war in Europe” (Snyder 2022), since the Russian naval blockade stops Ukraine, one of the most important providers of agricultural raw materials (Food and Agriculture Organization of the UN 2022), to exports its goods. In his posts, Snyder lists the steps of Vladimir Putin’s strategy: first, this is an attempt to destroy the Ukrainian state by cutting its exports; second, it is meant to trigger new refugee flows from MENA (countries that are supplied with food by Ukraine) and, therefore, instability in EU; finally, to generate world hunger that will provide the necessary framework for a Russian propaganda campaign against Ukraine, asking the latter to accept the territorial losses and the world to lift sanctions against Russia (Snyder 2022). Snyder’s assertions are sustained by UN above mentioned reports and the Secretary UNCTAD, Rebeca Grynspan, who warned that “another vicious cycle starts; the cycle of social unrest leading to political instability as a result of the weakened ability of countries and families to cope with yet another global crisis, on top of Covid-19 and the climate crisis” (UNCTAD 2022).

In this framework, the question on the deliberative creation or manipulation of cross-border population movement appears to be a clear dimension of Russian strategy in the illegal war in Ukraine. Still, even if the events indicate the existence of a certain type of coercion, it is necessary to apply Greenhill’s model in order to be able to conclude whether or not it is a case for strategic engineered migration. The above brief presentation of the situation in Ukraine and over its borders, as well as the comparison with Syria help to apply the analysis model in detail without further expanding the explanations.

3. Conclusions: Is there a case for strategic engineered displacement?

The use of Greenhill’s model requires first of all to link the demographic event of refugees to the larger demographic phenomenon of migration, even if the acknowledged couple is immigration – migration, and refugees are a distinct category, as stated in the first section of this paper.

Second, there must be analyzed the extent to which the recent events fall within the definition of strategic engineered migration.

If there are indeed one or more forms of strategic engineered migration, we must point out from the outset that, given the fact that the war is still ongoing, we cannot conclude on the output of challenger’s actions in terms of success, failure, or, even, indetermination.

The first requirement is met since Greenhill herself identified more than 50 cases of strategic engineered migration since the signing of the 1951 UN Refugee Convention to the completion of her book (Greenhill 2010), in which both migrant and refugee groups are studied together. Thus, the temporal and thematic extension of the subject of the analysis of 2022 refugees from Ukraine is not considered to be an error of method.

The second requires to place the issue of refugees under the definitions of the four types of strategic engineered migration. The subsequent analysis must start with establishing the elements to be examined, such as in Table no. 1.

Table no. 1. Items of analysis, according to strategic engineered migration model⁶

Item of analysis	Identification
Challenger	Russian Federation
Is the challenger a democracy?	No Authoritarian regime (The Economist 2021)
Principal target(s)	NATO/EU countries and partners
Is the target a democracy?	Yes, in various degrees (The Economist 2021)
Power distribution favors target or challenger?	Target
Migrant/Refugee group	People from Ukraine
Expected size of migration	Very large
Principal objective(s)	Lifting international sanctions against Russia Depopulating the war zones for easy takeover Destabilizing European countries and creating social unrest
Outcome	Indeterminate, since the war is ongoing

It is important to emphasize some of the declarations of Russian officials which can provide clues regarding the intentionality of Russia’s actions⁷, outside the stated purpose of the so-called “special military operation”. For instance, in the Address by the President of the Russian Federation on 24th of February, 2022, in which V. Putin has decided to carry out the

⁶ The items are taken from Kelly M. Greenhill’s model of strategic engineered migration (Greenhill 2010, 24-69) as described in the second section of this paper.

⁷ More of this type of declarations are to be found on the websites of the President of Russia (<http://en.kremlin.ru/>), the Government of Russia (<http://government.ru/en/>), and their social media accounts, including those of the Security Council.

operation/war in Ukraine, he declared as follows: “I would now like to say something very important for those who may be tempted to interfere in these developments from the outside. No matter who tries to stand in our way or all the more to create threats for our country and our people, they must know that Russia will respond immediately, and the consequences will be such as you have never seen in your entire history.” (President of Russia 2022a). Moreover, in a speech on 12th of April, 2022, he warns on “new waves of migration, including those heading to European countries” as the result of Western actions against Russia (President of Russia 2022b). Even if Putin is blaming the West for the refugee flow and the future migration waves, his declarations show a strong correlation between the warnings on “consequences as never seen” and massive displacement of people.

If there is a case of coercive engineered migration, then the answer to the next three questions should be positive (Greenhill 2010, 21):

- a. Was it (largely) orchestrated?
- b. The displacement of people is clearly driven by the Russian Armed Forces who deliberately bomb civilians and civilian targets, triggering a refugee flow in the neighboring countries, as above official statistics, reports and declarations indicate. The answer is thereby YES, and the analysis moves on to the next question.
- c. Was it strategic?

Also, the answer to this question could be considered to be YES if there are taken into account Russian President’s and other officials’ declarations on the consequences that will emerge if other actors will intervene in the developments triggered by Russia.

- a. Was it coercive?

At the moment, there is no clear evidence that the coercer designed the refugee flow to induce concessions from the target, the West. The most obvious demand, lifting sanctions against Russia, was not a purpose from the beginning due to the fact that sanctions became more and more numerous and harsher after the declaration of the so-called “special military operation” (Bown 2022). Moreover, the targeted actors (Western countries and their population) do not perceive yet the refugees as instruments of coercion, but, contrariwise, still show support towards them (see the previous section). Indeed, the displacement is strategic, but since the actions are not completed yet, there are aspects to be studied further. So, the answer to this question is still open.

Another case that could be explored is the one of dispossessive engineered migration. As Kelly Greenhill argues, one dimension of the purpose of this type of strategic engineered migration is mainly to appropriate the territory of a specific group. Although speeches by Russian officials emphasize that the Russians and Ukrainians are one people (President of Russia 2021), actions during the Donbas war, as well as the bombing of civilian targets in recent months, provides clues of a potential intention to remove the Ukrainian population from the region. Apart from the current war, by January 2020, Ukraine recorded over 1.4 million IDPs from Donbas and Crimea (Sasse, War and Displacement: The Case of Ukraine 2020, 348), most of them living in the Kyiv-controlled territory (Interfax Ukraine 2016). According to Centre for East European and International Studies, two opinion polls carried out in 2016 and 2019 in Donbas revealed that, even if the results of the 2014 separatist referendums were supposedly in favor of independence (Scout 2014), a majority of the population surveyed in areas not controlled by the Ukrainian government (55%) would prefer to be part of the Ukrainian state (Sasse 2019). The same poll showed that self-identification as “ethnic Ukrainian” increased from 2016 to 2019 (Sasse 2019) which probably might give some clues to pro-Russian and Russian authorities about the reaction of the population in the separatist regions to the future escalation of the conflict. This is why a logical step in

“liberating” the people from the separatist regions could consist in the elimination of those who declare themselves “ethnic Ukrainian”.

Expulsive engineered migration is usually used in order to transform one country’s social structure and to undermine or embarrass foreign governments (Greenhill 2008, 9). In this case, if Russia’s goal is to destroy European cooperation on migration and asylum, it has failed with the EU consolidating its legislation (the activation of the Temporary Protection Directive), and most member states showing solidarity both with Ukraine and to each other. According to Greenhill, an occurrence of expulsive engineered migration is the 2021 attempt of Belarusian President, Aleksander Lukashenko, to create a massive illegal migrants and refugee flow towards three EU countries (Latvia, Lithuania and Poland) (Greenhill 2021). Also, this example could be a coercive engineered migration, if Lukashenko’s purpose was to force the EU to drop the sanctions against Belarus (Greenhill 2021).

Finally, militarized engineered migration is mainly conducted to gain a military advantage as presented in the previous section, but since the displaced people are especially women, children and elderly (The Guardian 2022), there is no public evidence that Russia is trying to disrupt the Ukraine’s command and control capabilities, to deprive Ukraine of the support basis for its forces or guerillas, or to enhance its own forces structure acquiring additional manpower by triggering and maintaining the refugee flow (according to UN, by 16th of June, 2022 over 1.2 million border crossings from Ukraine were registered in Russia (UNHCR 2022c)). Furthermore, over 2.5 million of people returned to Ukraine since 28th of February, 2022 (UNHCR 2022c).

There could be multiple overlapping motivations and objectives driving Russia towards the case of refugees: from the attempt to determine the lift of international sanctions against it, to depopulate the war zones for easy takeover, and to destabilize European countries. Each of them is correlated with the other, but none of them is answering the officially declared goals of the so-called “special military operation”: “demilitarize and de-Nazify Ukraine”, protect people against “the eight years of genocide by Ukraine’s government” and ensuring Ukraine’s neutral status.

Moreover, even if the present paper is dedicated to the refugees from Ukraine, the issue of the repercussions of the war on other countries cannot be excluded. This is about the potential intention of Russia to create a flow of illegal migrants and refugees from Africa and Asia to Europe, by disturbing and denying the food supply chains from Ukraine, in order to destabilize it and to force the lifting of sanctions. Still, this is an issue to be further analyzed as events unfold.

Analyzing the four types of strategic engineered migration and having in mind the basic statement of Greenhill’s model that the variants are not mutually exclusive and many outflows comprises multiple motivations and objectives, the conclusion of this paper is that the case of refugees from Ukraine meets some of the basic conditions for coercive engineered migration, remaining that the specific concessions pursued by Russia to be revealed as the war develops, as well as for dispossessive engineered migration. Also, there could be discussed the example of expulsive engineered migration, but, until now, Russia failed to provoke a strong negative reaction against refugees from Ukraine, nor did adversely affected the EU migration and asylum system.

In conclusion, it can be stated that the massive displacement of the population both inside and outside Ukraine is not controlled exclusively by refugees, but is deliberately induced by a state actor in order to achieve political and military ends. Therefore, the case of Ukrainian refugees could be a case of strategic engineered migration.

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RECONSIDERING THE CONCEPT OF CHOKEPOINTS FOR THE 21st CENTURY

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Abstract: *Chokepoints can be best described as areas where the ability to transport or deploy assets or goods can be severely denied or restricted, due to their limited spatial characteristics. As such, a potential party to an armed conflict can deploy a relatively small detachment of assets in order to interdict the aforementioned actions, with considerable results, especially during a conventional, large scale war, representing, from a certain perspective, a method of conventional asymmetric warfare against a numerically superior force. During history, chokepoints have been mainly considered to be areas of water or land, where the ability to maneuver of the deployed forces have been severely hindered, although, with the emergence of new warfighting domains, such as cyber and space, the definition of the chokepoint, as well as the perception of using them during warfare, can be expanded. The purpose of this paper is to analyze the different types of non-traditional chokepoints (space and information centered), their origins and vulnerabilities, as well as presenting a series of recommendations with the purpose of increasing their level of security. The methodology of research used in this paper is the historical analysis of the concept of chokepoint, the observation of technical measures that could create to the establishment of new types of chokepoints, as well as that of possible ways of mitigating these security threats.*

Keywords: *Chokepoint; Space launch vehicle; Space vehicle launch facility; Space warfare; Submarine cables; Manned- unmanned teaming.*

Introduction

Chokepoints are generally defined by their geographical characteristics. The maritime chokepoints have as particularity the fact that they are areas through which a combatant has to pass in order to deploy its maritime assets from one body of water to another, areas which are defined by the constraints they pose to maritime navigation, such as shallow or narrow waters.

From a military standpoint, chokepoints can also be described as areas that can be used by a numerically inferior combatant to inflict a disproportionate amount of damage in human lives and resources to a stronger foe, being, thus, a form of asymmetric warfare. Even though most of the chokepoints are usually interpreted as static points that could be used to hamper or neutralize naval activities, the evolution of human societies have led to the development of alternative warfighting domains, most notably space and information warfare, domains which could create new, prospective chokepoints with effects on the course of actions of future combatants.

1. Space domain-related chokepoints

The development of space technologies from the 1940s have been one centered both on exploration and on military purposes. Although, in the last decades, technologies like the Global Positioning System or solar panels, developed for spacefaring purposes and adapted to terrestrial usage (NASA 2019) (Hsu 2008) have become more common, influencing the daily lives of billions of people, the next generation of space technologies, like reusable launch systems or directed energy systems can prove to have an even bigger impact on defense issues.

The reestablishment of the United States Space Command (Erwin 2019), the creation of the United States Space Force (David 2019), the emergence of similar structures in the military structures of the other permanent members of the United Nations Security Council (Chuter 2020)

(Ni and Gill 2019) (Weitering 2019) (Bodner 2018) and the signing by President Trump of the Executive Order on Encouraging International Support for the Recovery and Use of Space (United States, Executive Office of the President [Donald J. Trump] 2020), can lead to the conclusion that the present great power competition has moved beyond Earth's boundaries.

The economic resources held by the outer space are substantial and could overly change the global balance of power and therefore, as a consequence of this existent possibility, multiple nations started programs for the exploration and, most importantly, the exploitation of this type of resources. For example, a single asteroid is projected to contain more metals than the entire global reserve of metal (Ruiz Leotaud 2021) and the moon Titan being projected of having larger reserves of hydrocarbons than those on Earth (Agency 2008) triggering countries in taking mainly two courses of action, either in favor of developing space exploitation programs (such as the United States) (Ji, Cerny and Piliero 2020) or space warfare programs (such as Russia) (Palkowsky 2021).

The prospective evolution of the industry, in areas such as spacecraft, manned or unmanned, or reusable launch vehicles, leads to little doubt about the fact that these systems can and be used in a dual-purpose capacity in a future conflict in or above Earth's orbit. However, for these vehicles to reach space, they still must be launched from Earth, fact that generates a vulnerability in the entire space system, a very real „chokepoint“. Most of the present day launching facilities are defined by two geographical coordinates, the first being their proximity to large bodies of water and the second being their tendency to be near Earth's Equator. The former characteristic is generated by two requirements:

- Launches need to be aborted in a safe manner, locations near bodies of water being ideal for the low probability of re-entry in populated areas;
- A great level of transportability has to be achieved in order to deliver the components of the launch systems.

The latter requirement is defined by physics, as an object being launched nearer to the Equator can use Earth's rotational speed in order to achieve escape velocity quicker and with less fuel, thus increasing the payload delivered in orbit (Doocy 2011). It should be mentioned that the majority of US-aligned countries operate facilities with geographical characteristics like those described before, whilst the Russian and Chinese space agencies or contractors use space-launch inland facilities. The positioning on the map of the main space launch facilities (Greshko 2018) presents the fact that they are modern-day chokepoints, the main national space agencies having to conduct their launches in these places in order to benefit from the above-mentioned advantages for their space delivery systems. In the same time, the locations of these centers illustrate a clear vulnerability to naval or air strikes, or to amphibious operations.

The usage of platform ships for recovering space delivery systems by two of the main commercial space-oriented organizations in the United States, Blue Origin and SpaceX only slightly ameliorates the situation through the advantage that they are mobile, this solution still presenting all of the above-mentioned vulnerabilities. Through their military and commercial relevance, space related infrastructure will tend to grow in importance and become even more of a potential target for future hostile military or paramilitary organizations.

2. Information domain-related chokepoints

The enabling element which led to the increased efficiency regarding the conduct of both military operations and commercial development since the end of the Cold War was the development of the domain of information technologies, the requirements of ever-increasing processing power and speed of data transmission representing constants of the current global security and economy systems. In any industry, while the processing infrastructure is important, the transport and delivery infrastructure represents the element that enables it to have far-reaching

and permanent effects, in this case being represented mainly by space-based communications and underwater sea cables.

Whilst the former can very easily be neutralized with anti-satellite missiles (in the case of the systems already deployed in orbit) or through the above-mentioned elimination of the systems required for the delivery of replacement satellites, the latter can be destroyed only through the action of maritime forces.

Even though destroying underwater sea cables could lead to the loss of more than 90% of Internet data used daily worldwide (Gray 2016), thus leading to substantial economic losses both to the aggressors and to the target country/countries, this fact could be overlooked by a military-centric government because the temporary, global loss of communications can be interpreted as a window of opportunity to be used by the aggressor states in creating a new status-quo on a global scale.

One of the states that could use this method of warfare is the Russian Federation, the Russian Navy developing or having in inventory a substantial number of both underwater and surface vessels that could be used for this kind of missions, such as the Project 22010 class intelligence ships (Peter 2018) or the Klavesin (NavalDrones n.d.), and Status-6 (NAVALTODAY.COM 2018) classes of Unmanned Underwater Vehicles.

Also to be taken into account, there are the Russian attempts to build and maintain a national internet network (Wakefield 2019), reducing the level of connectivity of this country with the outside world, and thus preparing itself for such a scenario, action which could be imitated by China (Kharpaol 2019).

However, the geostrategic implications of such an undertaking would be considerable, even for a country such as the Russian Federation, its standing army lacking the servicemen required to be deployed in such large numbers simultaneously in multiple parts of the globe.

This fact could be addressed by the involvement of other countries interested in changing the current global system, with the same or greater access to resources for this kind of action, countries like China, Pakistan, Venezuela or even Turkey representing potential candidates for the scale of this kind of operation.

Also, the substantial number of cables to be cut might simply prove overwhelming even for the considerable human resources like those countries' maritime services have at their disposal, this fact leading to the conclusion that such an action would, most likely, have to involve a large number of underwater unmanned vehicles. This action might take place with an autonomous control system, which would have as objective the successive or simultaneous cutting of the sea cables or self-destructing near the objectives in order to achieve the required level of coordination for maintaining the element of surprise.

An additional element that would have to be addressed in the planning of this kind of operation would be the destruction of the cable-laying vessels and, additionally, the supporting infrastructure for this kind of network. Locating the underwater sea cables on a map (TeleGeography n.d.) could lead to the conclusion that most of them are grouped relatively together, these groupings representing chokepoints, each with a high degree of vulnerability to an attack such as the one presented above.

3. Recommendations

Both types of infrastructure described (space and information) are vulnerable to attack by maritime assets, mainly by underwater vehicles, through the usage of cruise missile or unmanned vehicle swarms.

At this moment, the best course of action is represented by the development of systems based on the Manned-Unmanned Teaming (Iriarte 2016) principle, particular emphasis being

placed on the introduction of elements of true Artificial Swarm Intelligence that would serve as the primary control system of the drones with a secondary human control element as a fail-safe.

Thus, the primary control system would be used for Intelligence, Surveillance, Reconnaissance (ISR) tasks due to the wide swaths of water or land to be monitored, whilst the human element would be involved in the approval of using weapon systems against possible attackers.

At the same time, an increased level of attention should be granted to the issues of encrypted underwater communications and machine learning. This last issue could be addressed through the development of bio-inspired solutions (Hunt 2019).

Conclusion

Both of the cases mentioned above show clear levels of structural weaknesses in both the military and civilian infrastructure of a number of countries, such the US or a number of its allies, these weaknesses representing the creation of modern-day chokepoints that can have a considerable impact on a country's national security and war-fighting capabilities.

While the first type of operation (space) can achieve its' objectives in an efficient manner only through the usage of state-supported, joint forces, the second one (information) could be accomplished by using maritime assets, possibly international forces.

Even though both of these scenarios could be executed in a stand-alone manner, the effects of the combined usage of the actions mentioned above could outweigh the massive costs of such an undertaking, the main international actors that could direct and execute this kind of operation. Also, the evidence shows that mainly the Russian Federation and the People's Republic of China are initiating steps in order to reduce their vulnerabilities to the above-mentioned types of attacks, whilst enhancing their (possibly joint) arsenal in order to enact this types of actions.

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SECTION IV

TECHNOLOGIES, MILITARY APPLICATIONS,
SIMULATIONS AND CYBERSPACE

THE NEW PARADIGM OF COMMUNICATION. INFLUENCING THE ALGORITHM THAT CONTROLS THE SPREAD OF INFORMATION

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Abstract: *The media channel's audience was determined by the circulation or the coverage of radio and TV stations. The digital age has changed these milestones. The news reaches readers mainly through digital platforms, and media institutions are no longer broadcasters but content generators. We will analyze how specific technical parameters influence the audience. Some technical parameters affect the spread of information more than its quality. Some algorithms decide the spread of the news, and those are secret due to commercial laws. The algorithms that determine what information will be viral are the property of the companies operating the digital platforms that are ruling at this moment information industry. They seek profit, and the rules of the algorithms are profit-oriented. We will try to see what parameters are essential and how they influence the spreading of the news. We will take a closer look at the metrics of the most influential newspaper in Romania and the UK to find a relation between some technical facts and the news audience. The central fact analyzed in this research is the backlinks connecting a specific website to the worldwide web. This parameter remains one of the most crucial factors that influence the spreading of an article's news and newspaper audience.*

Keywords: *social media; fake news; algorithm; journalism; information.*

Introduction

Some studies show which news performs better on social networks. Monika Bednarek and Helen Caple showed that on Facebook and Twitter, information about personalities (33%), events near the reader (29%), and those that personalize (29%) perform best (Bednarek, Monika; Caple, Helen 2017).

The same study indicated negativity as having a share of 26% in the analyzed news. Tony Harcup and Deirdre O'Neill, included 711 posts from ten UK publications in their analysis (Harcup, Tony; O'Neill, Deirdre 2017).

As Kasper Welbers pointed out in 2015 (Welbers, Kasper; Atteveldt, Wouter van; Kleinnijenhuis, Jan; Ruigrok, Nel; Schaper, Joep 2016), journalists are beginning to choose their information and write their texts based on how the news performs online. A 2019 (Chakraborty, Abhijnan; Ghosh; Saptarshi; Ganguly, Niloy; Gummadi, Krishna P. 2019) study indicates that readers have different opinions than publishers because the news reaches them through social media. Thus, news considered unimportant to publishers is much more read by the public and vice versa. One reason is that many people read news through digital platforms (Shearer, Elisa; Matsu, Katerina Eva 2018).

Basically, in addition to subscribers, circulation, or coverage of the broadcast, the number of followers on social networks is an essential factor of performance (Rajapaksha, Praboda; Farahbakhsh, Reza; Crespi, Noël 2019).

1. Distribution of news by digital platforms

The way in which digital platforms deliver certain news to a particular audience is determined by an algorithm that tries to provide the consumer with precisely that type of information for which he has shown interest at some point (Perra, Nicola; Rocha, Luis 2019). The study also shows that algorithms can distort public perception of specific topics.

A search engine uses a crawler to gather data about each page, and based on that data, the customer search also provides individual results. At the beginning of the digital age, algorithms placed a page higher or lower in the search results of an engine depending on the number of links that referred to it (Brin, Sergey; Page, Lawrence 1998). This parameter remained important, according to a study conducted in 2017 (Krrabaj, Samedin; Baxhaku, Fesal; Sadrijaj, Dukagjin 2017). Researchers point out that the algorithm used by search engines is not public, and assumptions are made based on codes of good practice published by corporations (Yuniarthe 2017).

The importance of reference links has remained with time and the introduction of several parameters in the algorithms that underlie the search and distribution of news on digital platforms (Sharma, Dilip and Sharma, Ashok 2010). Sharma describes the most important criteria that underlie the digital hierarchy: the links that link to a particular page, the length of the title, the user's behavior, and the time a user spends on one. Accurate knowledge of an algorithm causes certain pages to be designed specifically to meet the demands of search engines. Thus, by stimulating the search engines, you get a better position in the hierarchy and, implicitly, higher traffic.

2. Case study – audience vs. reference links

As we have seen, the number of backlinks is essential for the growth of the search engine hierarchy. We will analyze the relationship between the number of backlinks and the traffic made by the prominent publications in Romania to identify a correlation between them. Backlinks are links from other pages to a particular page. They naturally appear when an author wants to quote certain information from a specific newspaper to emphasize an opinion they support. The nature and the number of backlinks are also related to the age of one particular site.

Table no. 1. Audience of Romanian newspapers – May 2021

SITE	IMPRESSIONS	VISITS	UNIQUE VISITORS	BACKLINKS	DOMAINS
www.libertatea.ro	33452668	18980702	7406012	50.160.884	41.652
www.adevarul.ro	35789953	17629072	6342317	68.243.439	39.745
www.hotnews.ro	34052330	17522912	5672828	41.163.122	37.994
www.fanatik.ro	24884045	16648365	4266989	27.641.528	27.752
www.stiripesurse.ro	40640849	15471488	3764430	23.547.777	5.186
www.ziare.com	24931315	10521994	3453727	18.906.962	13.233
www.mediafax.ro	14348526	8609347	3548952	18.896.712	13.952
www.impact.ro	13035400	7066479	2473229	13.629.203	20.861
www.g4media.ro	11756277	7040413	2755686	2.296.900	14.597
www.gandul.ro	6923313	4381085	2276598	2.294.710	9.609
www.newsweek.ro	5638916	4222095	2092096	756.189	3.610
www.ziaristii.com	1323361	998850	427284	41.157	1.726

(Source: Romanian Circulation Audit Office - www.brat.ro/sati/rezultate)

Table no. 1 shows the number of impressions, the number of visits, and the number of unique customers for May 2021, as reported by the Romanian Circulation Audit Bureau.

The number of backlinks and domains that generate these referral links is determined using Ahrefs' Backlink Checker, an application with 25.4 trillion links from 170 million domains. It updates the database by scanning 6.21 billion pages every day. The order of the table depends on the visits made during May 2021. We can observe from the table that the number of visits recorded by each site is very closely correlated with the number of backlinks and the number of visits.

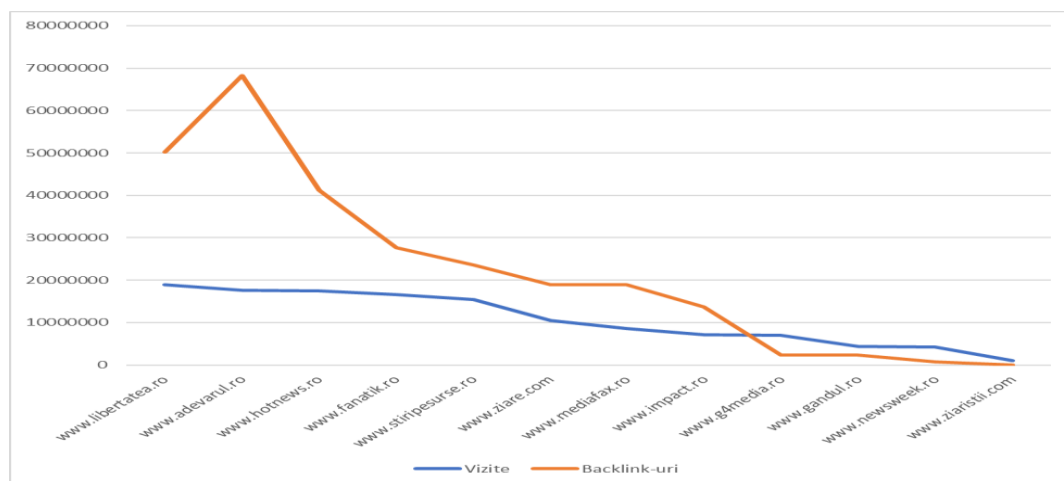


Figure no. 1. Correlation between visits and backlinks for Romanian newspapers
(Source: Table no. 1)

There is an irregularity between the number of backlinks registered by Adevărul and the number of visits by the same publication. The peculiarity is that the number of referral links is much higher than that of other sites, and the audience does not notice a similar difference. This can also be explained by the fact that traffic is influenced by factors other than referral links. In general, search terms, and topics, have a small share, given that all current publications news that is generally the same every day, they represent the majority of articles. The correlation between the number of links that refer to a particular site and the number of visits is also evident in the graph. The order of visits or the number of backlinks is almost identical.

Table no. 2. Top of Romanian newspapers by visits and by backlinks – May 2021

SITE	VISITS	SITE	BACKLINKS
www.libertatea.ro	18980702	www.adevarul.ro	68.243.439
www.adevarul.ro	17629072	www.libertatea.ro	50.160.884
www.hotnews.ro	17522912	www.hotnews.ro	41.163.122
www.fanatik.ro	16648365	www.fanatik.ro	27.641.528
www.stiripesurse.ro	15471488	www.stiripesurse.ro	23.547.777
www.ziare.com	10521994	www.ziare.com	18.906.962
www.mediafax.ro	8609347	www.mediafax.ro	18.896.712
www.impact.ro	7066479	www.impact.ro	13.629.203
www.g4media.ro	7040413	www.g4media.ro	2.296.900
www.gandul.ro	4381085	www.gandul.ro	2.294.710
www.newsweek.ro	4222095	www.newsweek.ro	756.189
www.ziaristii.com	998850	www.ziaristii.com	41.157

(Source: Romanian Circulation Audit Office - www.brat.ro/sati/rezultate)

We can consider the difference between the position one occupied by Libertatea in the ranking after visits and the exchange of places with Adevărul in the ranking after Back-Links because the number of domains referring to Adevărul is lower (39,745) compared to the number of internet domains leading to Libertatea (41,652).

We notice that g4media.ro, impact.ro and newsweek.ro are at the top of the audience. The three publications are relatively recent. G4Media - March 2018, December 2019 - Newsweek, and January 2019 - Impact.

Impact.ro has achieved 13 million backlinks in two years, six times as many as G4Media.ro in an almost similar period. The same site has 17 times more backlinks than Newsweek in the same period.

It is quite possible that this website achieved such performance through the techniques described above. These techniques use software robots that automatically enter programmed texts on specific websites containing links to the website that has to be promoted.

Backlink profile for impact.ro
Domain including subdomains

【70歳でも恋はする】おじいちゃんおばあちゃんの初々しいカップルが素敵過ぎた！東京から逃走中 takahashikanichiro.tokyo.jp/old-couple JA BLOGS	2	22	29	0	UGC, NOFOLLOW viagra impact.ro
Explainer 'Circulatieplan Gent' - Sabouge www.sabouge.be/explainer-circulatieplan-gent/ NL BLOGS	13	22	27	0	UGC, NOFOLLOW levitra impact.ro
Obrácená jablečná roláda www.varimesvendy.cz/recepty/item/292-obracena-jablecna-rolada CS	10	22	27	0	NOFOLLOW Review mmy webpage ... viagra impact.ro
Y empece a despertar... - Siendo.eu siendo.eu/y-empece-a-despertar/ ES BLOGS	0	22	29	0	NOFOLLOW viagra impact.ro
blog afiliat blogafiliat.blogspot.com EN	0	21	25	0	113 www.impact.ro/pro-tv-lanseaza-o-noua-emisiune-a-furat-o-super-vedeta-la-anten-a-1-un-cantaret-celebru-revine-in-prim-plan-186299.html
Viorica Dancila - Cum arata Viorica Dăncilă în tinerețe, când a intrat în PSD! Ce coafură avea. FOTO - Stiri Mondene: Viorica dăncilă a dat din casă! - tren ds now minhafamiliaehminhvida.blogspot.com/2021/05/viorica-dancila-cum-arata-viorica.html RO	0	21	9	0	IMAGE Cele mai noi știri despre viorica dancila. VIDEO Ce a făcut Viorica Dăncilă, cu câteva ore înainte ca Iohannis să numească noul premier ... www.impact.ro/wp-content/uploads/2019/10/Viorica-dancila.jpg

Figure no 2. Random links to the impact.ro site
(Source: Ahrefs' Backlink Checker)

We randomly chose six of the backlinks that refer to the Impact.ro site, and we can see, in Figure 2, a site from Japan, a publication from Belgium, a page of poems from Spain, and two blogs that present self-generated content. Such a practice can lead to severe disturbances in public perception. Automatic back-link generation can influence search engine rankings for specific individual articles.

Thus, when searching for the name of a politician or a company, most of the results generated by the search engine algorithm may have a negative connotation. Conversely, a politician or company who has to hide certain negative aspects can influence search engine algorithms to show positive results between the first articles.

3. Algorithm anomalies

We analyze the verification by analyzing the top online publications in the United Kingdom to verify the reasoning. We used data published by IPSOS Mori, the institute that collects this data about British publications. We considered the data from July 2021 for news sites or applications based on a traditional newspaper.

Table no. 3. Audience of British newspapers – July 2021

	READERS million	BACKLINKS million	DOMAINS million
Mail Online	4,1	160,4	0,67
The Sun	3,7	72,1	0,61
The Guardian	3,5	370,7	1,23
Mirror	3,1	41,6	0,26
Metro	1,6	39,3	0,47
Daily Express	1,6	32,1	0,21

(Source: IPSOS Mori - <https://www.ipsos.com>)

It can be seen that the direct link between the number of readers and the number of backlinks can be easily observed in the six publications analyzed. Basically, multi-linked publications get more readers.

There is the exception of The Guardian, which has an impressive number of links, 370 million. The number is more than double the number of links to Mail Online. However, the number of readers is higher for Mail Online. The same goes for The Guardian and The Sun. The first has 370 million backlinks, and the second five times less. However, The Sun is read by 3.7 million readers, and 3.5 million readers read the Guardian.

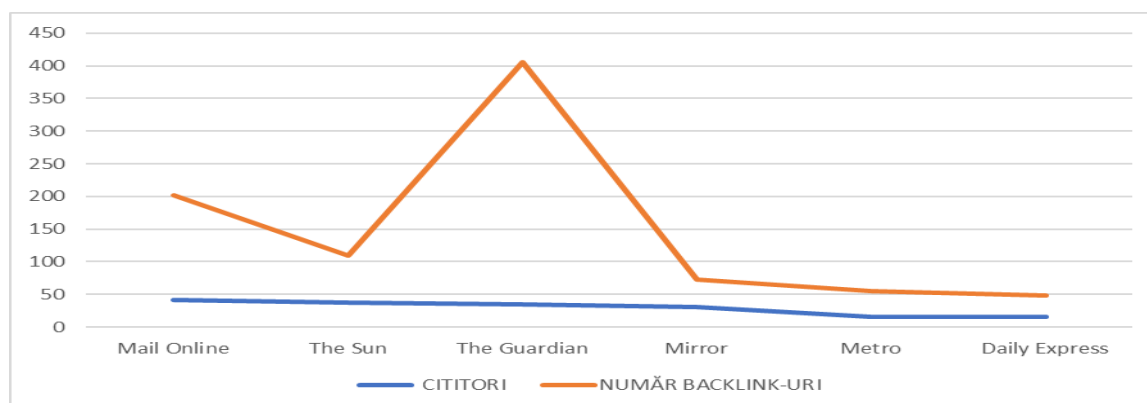


Figure no. 3. Correlation between visits and backlinks for british newspapers

(Source: Ahrefs' Backlink Checker)

The number of readers of a publication does not come only from the digital platform Google. However, studies conducted in 2021 (UK Online Measurement Company 2021) show that Alphabet (Google, Gmail, YouTube, etc.) and Meta (Facebook, Instagram, etc.) reach 99.5%, respectively 97.5% of the UK market and are in the first two places and the number of minutes spent by British online users. For this reason, we considered it worthwhile to analyze the performance of the six British sites on Facebook, Meta's leading digital platform. Using the digital tool provided by the digital platform, we entered the six accounts in a database. We obtained data on the total number of subscribers, the number of posts in a week, and user interactions with those posts.

Table no. 4. Subscribers vs. interactions –Facebook -UK publications

	Subscribers (million)	Interactions (million)
Mail Online	21,1	29,5
The Guardian	8,6	5
Mirror	3,8	20,1
The Sun	3,3	14,4
Metro	3,2	9,4
Daily Express	2,4	9,2

(Source: Facebook.com)

In five publications analyzed, the ratio between the number of subscribers and the number of interactions is approximately logical. The publication with a significant number of subscribers gets a higher number of reactions. There are minor inaccuracies in comparison between The Sun and Metro. Both have an equal number of 3.3 million subscribers. However, The Sun recorded 14.4 million reactions in the week under review, while Metro received only 9.4 million reactions.

We can interpret these differences because of the content or the emotional load of the materials published by the two newspapers on their Facebook pages. The same cannot be said of The Guardian, which has a considerable number of subscribers compared to The Sun or Metro but received only 5 million reactions. With 8.6 million subscribers, The Guardian exceeds four of the publications analyzed, but all this surpasses the number of reactions recorded in one week by The Guardian. Practically, the materials published by The Guardian did not reach the 8.6 million subscribers insofar as the materials of the other publications reached their subscribers.

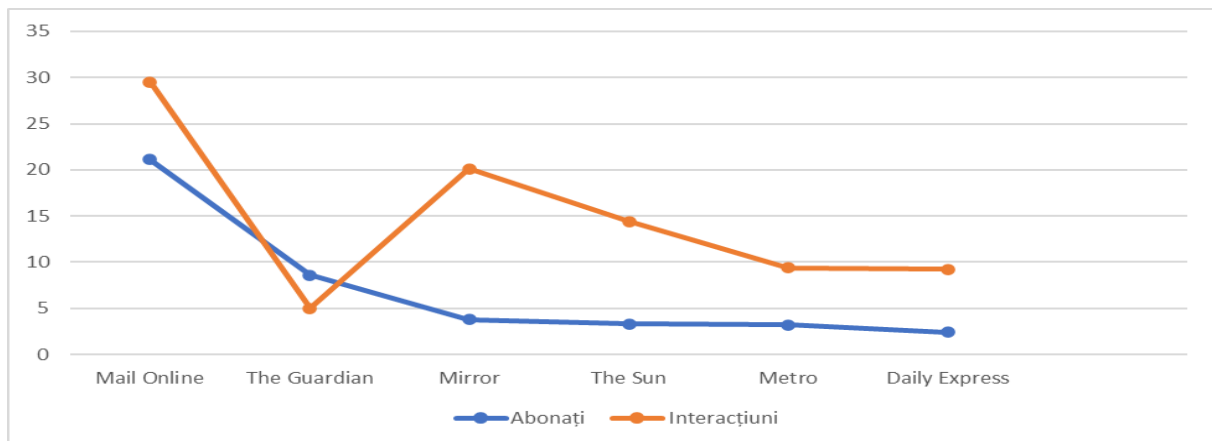


Figure no 4. Comparison between the number of subscribers and the number of interactions – UK publications – Facebook

(Source: Table 4)

Meta does not make the impact of a post available to the public. The impact is the number of people who saw that post. The number of interactions of a publication, which appears in public, is made up of the number of people who opened the article for reading, opened the article's picture, expressed emotions about the article, commented on the post, and distributed the post.

It can be seen from the graph that there are significant differences between the ratio between the number of subscribers to the channel of a publication on the Facebook platform and the number of reactions obtained.

The last four publications in the Mirror, The Sun, Metro, and Daily Express subscriber rankings have between 2.4 million and 3.8 million subscribers. These publications received between 9.2 million and 20 million reactions in the analyzed week. We calculated the average reactions for each subscriber to these four publications, and the average was 4.1 reactions for one subscriber.

Table no. 5. Subscriber interaction analysis - facebook - UK publications

	Subscribers	Interactions	Interaction/subscriber
Mail Online	21,1	29,5	1,4
The Guardian	8,6	5	0,6
Mirror	3,8	20,1	5,3
The Sun	3,3	14,4	4,4
Metro	3,2	9,4	2,9
Daily Express	2,4	9,2	3,8

(Source: Facebook.com)

An anomaly can generate the significant differences between the last four publications and the first two in the algorithm used by the digital platform to present the information to the users and implicitly to the subscribers. There is also the possibility that the first two publications were the target of online attacks that artificially increased the number of subscribers with fake users.

There is a significant disadvantage for the two publications and the readers from the UK in the booth situation. We can somehow calculate the economic damage suffered by the two publications because the circulation is disturbed. We cannot compute the collateral damage created because a vast potential public is not informed.

If it had kept the average response of 4.1/Mail Online subscribers and The Guardian would have reached the number of interactions recorded with 7.1 million subscribers in the case of Mail Online and 1.2 million subscribers in the case of The Guardian.

Conclusions

There are a growing number of technical parameters that influence how information reaches readers. More people read the news through digital platforms, and the information considered necessary by these platforms reaches the population. Algorithms are not known, but codes of good practice give clues about important parameters. Backlinks seem to have the most decisive influence on the audience of publications.

On the one hand, multiple backlinks to an article may cause the algorithm to present that article in the article suggestions in the "News" section of the search engine or may cause the algorithm to submit that article among the first when a user searches for a specific term on the search engine.

By manipulating backlinks, a greedy businessperson can promote certain types of information, or certain types of data can be hidden by a corrupt politician. The domains that generate those backlinks also matter, but their number influences the most the search algorithms.

The activity on social networks also influences the audience, but this aspect must be studied separately. At the same time, keywords, technology, and user behavior are parameters that have an unknown weight in the algorithms used by digital platforms.

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MILITARY APPLICATIONS OF COGNITIVE SCIENCES: COGNITIVE WARFARE, A MATTER OF PERCEPTION AND MISPERCEPTION

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Abstract: *The concept of cognitive warfare is steadily gaining more and more attention in security and defense discourse. By employing a cognitive psychology perspective, the article is examining how perception and/or misperception factor into cognitive mapping of strategic and operational concepts. The central aim of the paper is to outline that the approach to the human domain is deeply rooted in nationally conditioned perception. The article is looking to achieve this academic goal by comparing the NATO conceptualization of cognitive warfare to the Russian Federations'. The structure is as follows: first there is a brief review of the cognitive psychology paradigm, especially key concepts as they relate to the scope of the paper. The subsequent sections compare the NATO cognitive warfare approach to the opposing view, namely the one of the Russian security and defense apparatus. The "special military operation" in Ukraine initiated by the Kremlin in 2022 confirmed that in the event of a territorial aggression against a NATO member state, the alliance as a whole remains the basis of European security and defense posture. It is for this very reason that the alliance ought to objectively analyze how Russian decision makers perceive Western perspective in the cognitive realm.*

Keywords: *cognitive psychology; cognitive warfare; joint operations; military art; NATO; Russian Federation.*

Introduction

“A dangerous gap has emerged between the realities of the nuclear age and the understanding of the challenges facing the world” declared Communist Party of the Soviet Union (CPSU) Secretary-General Mikhail Gorbachev at the 27th Party Congress in 1986 (Rand Corporation, 1986). The article starts from this particular acknowledgment that there is indeed a severe gap between how the Euro-Atlantic security community sees the current European security architecture and how the Russian Federation (RF) perceives said structure. The different world views are colliding and one theater where this takes place in is the European continent. The same report by then Secretary-General Gorbachev continued to assert that a “fundamental revision and a decisive rejection of outdated philosophies and obsolete doctrines” were of utmost importance primary and “vital necessity”. Current Russian leadership presented similar views, only now they morphed into concrete demands. Just like at the end of the 80s when the world was unaware that the USSR will soon dismantle, that the Berlin Wall will fall and the Cold War will end, today we are at the auspice of major structural changes within the world order. Secretary-General Gorbachev concluded by also pointing out that new “economic, scientific and technological factors are forming an integral interdependent world, in which reality imposes more stringent demands on the leaders of each state and requires utmost responsibility in behavior and decision-making”(Rand Corporation , 1986). At present, the Russian Federation is engaged in direct military confrontation with Ukraine and indirect security competition with the West. It is in this overarching context that the North Atlantic Treaty Organization (NATO) is considering the concept of cognitive warfare as a means to engage more effectively and to ensure preparedness and in doing so maintaining credibility and deterrence capability against adversaries across the spectrum. The article proposes an analysis of how NATO conceptualizes cognitive warfare and in turn, it discusses the Russian perception of it. NATO was chosen for the analysis because the Alliance remains the foundation of European security, without the alliance and especially

without the US security guarantee/nuclear umbrella, Europe would be most vulnerable to Russian direct, military aggression. Furthermore, because of its role in the European security architecture, NATO is mentioned by the Kremlin as one of the reasons for Russian aggression, or as it is framed by the Kremlin: military special operation in Ukraine. The entire analysis is filtered through a cognitive psychology lens. The motivation behind said approach is the fundamental contention of the author that at the center of all military operations and strategic-political decision making are people. It is in the human domain that these decisions are reached and therefore it necessary to analyze the concept in this paradigm.

The Cognitive Approach

The overarching argumentation is constructed in the framework of cognitive psychology in general, with a focus on perception and information in particular. What this means is that effectively, the context within which we place and evaluate the NATO construct of cognitive warfare as well as the Russian interpretation, the umbrella under which we group the two, is the cognitive psychology paradigm.

At the most basic level, cognitive psychology could be looked at as the science of how humans think. Cognitive psychology is defined as the study of individual-level mental processes such as information processing, attention, language use, memory, perception, problem solving, decision-making, and thinking (Gerrig, Richard J.; Zimbardo, Philip G. 2002). As a discipline it became more predominant between the 1950s and 1970s. Prior to this time, behaviorism had been the main perspective in psychology. The advent of cognitive psychology is in large part due to the fact that researchers became more interested in the internal processes that affect behavior instead of just the behavior itself. Specifically, in 1967, professor Ulric Richard Gustav Neisser introduced the term cognitive psychology to scientific literature, which he defined as the study of the processes behind the perception, transformation, storage, and recovery of information. Neisser also introduced two fundamental features of the cognitive paradigm: information processing and constructive processing (Neisser 1976) (Neisser, 1986; Neisser, 1988). As previously stated, the defining change was contained in taking the focus away from the stimuli and placing it on the actual flow of information. In this paradigm, cognitive researchers follow information through the human processing systems, seeing the human mind as “a complex type of computer engaged in a set of processes that could be specified and modeled” (Neisser&Hyman 2014, xvi). For the article, this means that focus will be placed on how perception influences both how NATO is building the cognitive warfare approach and, conversely, how the Russian Federation perceives this. Essentially, the article discusses how both sides translate information into a cognitive map, actions relating to the security and defense posture and military applications.

The cognitive psychology approach pivots the discussion around the human mind, the brain and human nature in itself. In order to understand human nature, one has to understand, or at the very least try to understand mental processes such as perception, attention, memory, thinking, decision-making, problem solving, or language. The foundation of this approach lies in the assumption “every psychological phenomenon is a cognitive phenomenon” (Neisser &Hyman, 2014). Professor Neisser organized his approach in terms of visual information processing and then auditory information processing. The present article focuses on perception: “the process or result of becoming aware of objects, relationships, and events by means of the senses, which includes such activities as recognizing, observing, and discriminating. These activities enable organisms to organize and interpret the stimuli received into meaningful knowledge and to act in a coordinated manner”(APA, 2015). Perception in itself can be visual or auditory, and in the article perception will include both.

Due to its security studies focus, perception shall be understood as the strategic choice made by NATO, respectively the Russian Federation.

The human processing systems essentially receives stimuli from the environment it exists in and processes it. One major stimuli is information. When referencing information, the present article employs the definition put forth by Claude E. Shannon and Warren Weaver in 1948. Information, in the sense first clearly defined by Shannon (1948), is in-essence choice, the narrowing down of alternatives. They developed the mathematical theory of communication in order to deal quantitatively with the transmission of messages over “channels” (Shannon, Claude E. and Weaver, Warren 1998). A channel, similarly to a telephone line, transmits information to the extent that the choices made at one end determine those made at the other. The same way, the human processing system, the decision maker, transmits information as it perceives it: NATO defines cognitive warfare as a particular concept, the Russian Federation perceives it filtered through its own decision makers’ choices. Finally, the way that the stimuli are perceived and interpreted, the human mind draws a cognitive map, a strategic response that will deal with the stimuli. A cognitive map is “a mental understanding of an environment, formed through trial and error as well as observation. The concept is based on the assumption that an individual seeks and collects contextual clues, such as environmental relationships, rather than acting as a passive receptor of information needed to achieve a goal” (APA, 2015). In the context of the article, the conceptualization of cognitive warfare is the cognitive map, the construct built with western perception of threats and vulnerabilities.

To sum up, the article is looking to unpack the NATO cognitive warfare concept and to analyze the Russian perception of said concept through a cognitive psychology lens. It is important to not only understand a concept, but also to understand how competitors and adversaries perceive it. In military applications this enables for more accurate operational concepts and at the strategic level this translates into more informed decision making. Even at the tactical level, being familiar with the perception of the adversary can aid in decisions made by military leaders in theaters of operations or in preparing the battlefield. The framework used is limited to perception and information, nonetheless, cognitive psychology and cognitive sciences in general are very complex disciplines. To this point, for example, neuroscientists have estimated that the areas of our brain responsible for visual processing occupy up to half of the total cortex space (Tarr, M. J. and Gauthier, I. 2000). The article is very limited in scope and therefore narrow in its observations. Nevertheless, the ideas brought forth herein contribute to a very contemporary discussion with deep strategic implications.

The Frame of Reference: Cognitive Warfare, the Concept

“Cognitive warfare” the concept means different things to NATO and different things to the Russian Security and Defense specialist community. Within the frame of cognitive psychology, naturally, emphasis will be placed on information and perception. How does NATO conceptualize “cognitive warfare” and how is this perceived by Russia? In order to build a scientific answer, the article reviewed both NATO literature and Russian military scientific journals, as well as Russian public opinions voiced by specialists. The limited scope of the article as well as the very targeted thesis, did not permit the analysis of media and social media.

NATO literature defines cognitive warfare as an operational space where the human mind becomes the battlefield (NATO, 2021). The aim of cognitive warfare as understood by the Alliance is to change not only what people think, but how they think and act. Cognitive warfare is often considered “the New Third Operational Dimension” in addition to the physical and the cyber one, “its own domain in modern warfare” (Claverie, Bernard; du

Cluzel, François 2022)(1). Cognitive warfare could also be defined as “maneuvers in the cognitive domain to establish a predetermined perception among a target audience in order to gain advantage over another party. (Ottewell 2020)”. Another declared definition of cognitive warfare is “the art of using technological tools to alter the cognition of human targets, who are often unaware of any such attempt – as are those entrusted with countering, minimizing, or managing its consequences, whose institutional and bureaucratic reactions are too slow or inadequate” (Claverie, du Cluzel, 2022, 2). The same report equates it to “psychological-social-technical warfare” on the one hand and of a form of “influence warfare” on the other, and this by “using cyber means. In the military context specifically, it involves the use of a strategy intended to carry out a combat, surveillance and/or security actions” (Claverie, du Cluzel, 2022, 2). In NATO literature, the relation between the concept of cyber warfare and cognitive warfare are very closely linked, if not interchangeable. Similarly, in the reviewed Russian literature, cognitive warfare and cyber operations are linked, however, the major difference is that in Russian military art per se, cognitive warfare does not exist as a concept. As it happened with the now infamous Gerasimov Doctrine (Adamsky 2015) (Galeotti 2018) (Gerasimov 2013), cognitive warfare is a Western term. This is not to say that in Russia cognitive sciences are not applied in security and defense, quite the contrary.

Indeed modern wars are waged in several “spaces” simultaneously and are conceptualized differently by each combatant. In Russian analysis, modern wars waged by the West are accompanied by unconventional weapons such as support for political/civil protests, and economic coercion. NATO is “credited” as inventor of the cognitive warfare concept, NATO in turn being considered the US tool for threatening/destroying the Russian Federation. (интерфакс, 2022) Afghanistan is quite often presented as an example as it is considered a failed cognitive campaign where “NATO has failed in the struggle for the minds of Afghans” and Ukraine as an example of indoctrination with Western values (Институт РУССТРАТ, 2021). Several Russian academics and experts consider “the introduction of new educational standards and technologies” a key area of modern cognitive warfare, or the war of knowledge and meaning. In April 2013, President Barack Obama announced the launch of the BRAIN (Brain Research through Advancing Innovative Neurotechnologies) Initiative. The initiative focused on “revolutionizing our understanding of the human brain” and represented one of the Administration’s “Grand Challenges”: “ambitious but achievable goals that require advances in science and technology”(Obama White House Archives, 2013). What was intended to be built upon innovation and research, was in fact perceived by Russian specialists and commentators as an endeavor to “hack the human brain” at the highest levels of US government, respectively, the office of the president.

Another Russian article mentions a 2021 report released by the NATO Innovation Center as saying: “When the entire civilian population is under NATO's gun, Western armed forces should work more closely with academia to use social sciences and humanities as weapons and help the alliance develop its cognitive warfare potential.”(Независимой газеты, 2021) Naturally, this is inconsistent with what the actual report says, nevertheless, for the Russian audience it reads as a threat, it amplifies insecurity and it exacerbates feelings of anger and resentment towards the West, the US, NATO. In military scientific circles close to NATO, mechanisms and tools for organizing Cognitive Warfare are actively discussed. In this concept, experts include methods of influencing a person's consciousness without forceful intervention.

In line with the same theme, head of the Department of Information and Mass Communications of the Russian Ministry of Defense, Major General Igor Konashenkov, reported at one of the forums of the military department back in 2015, the establishment of NATO Center of Excellence in Strategic Communications. In his presentation, which we cannot confirm or deny if it merely intended to manipulate Russian audiences or if it was

indeed Russian official position, general Konashenkov portrayed the NATO center as a hub which performs the “task of forming anti-Russian sentiments among the population of NATO member states and partners”(Независимой газеты, 2021).

After careful review of numerous articles in Russian military science journals published over a period of over a decade, a few things stand out from an operational/tactical perspective. Many practitioners name the war in Iraq in the 90s as the first time a country fought “new generation warfare”(“война нового поколения”). What caught the attention of the Russian military establishment was the way the US conducted joint force operations and how they prepared the battlefield for the ground forces by means of electronic warfare, electromagnetic, information, infrasound weapons and use of Sig Int, especially permanent intelligence collection through satellites and space based systems. Another point that is often mentioned is the targeted attacks on military and civilian critical infrastructure. The difference worth noting is that the US and the Russian Federation arsenal of prediction weapons are nowhere near similar. This is in fact a narrative that keeps getting promoted, and eventually, with carefully targeted cognitive campaigns, it materialized in the “whataboutist” narrative of “we are only doing what the US did before us” (Gorenburg 2019) (TASS 2019). A narrative that resurfaced with a vengeance during the Russian intervention in Syria and later in Ukraine. In Russian public discourse by leadership, practitioners of security or academics it is often mentioned that there is no coincidence that in the United States: the National Institutes of Health (NIH), the National Science Foundation (NSF), the Defense Advanced Research Projects Agency (DARPA) of the Pentagon, as well as the Advanced Research Projects Agency in the field of intelligence (IARPA) are subordinates of the Director of National Intelligence (DNI). In an article published in Security and Safety, authors point out that the “most active neuroscience research and development for military purposes is carried out by the US Department of Defense, the Defense Advanced Research Projects Agency (DARPA) and the Intelligence Advanced Research Projects Agency (IARPA)”(Охрана и безопасность, 2022). Nonetheless, the central point for cognitive research with military applications is once again deemed the “NATO-sponsored and controlled Innovation Center (iHub), created in 2013 in Norfolk, Virginia, USA, which deals with the transition from information to cognitive warfare” described as a facility task to find “ways to harm the brain.”(Охрана и безопасность, 2022).

To sum up, NATO has increasingly focused on defining and developing an approach to cognitive warfare and in response, the Russian perception has been fundamentally through a negative vantage point. In Russian conception, NATO is a US tool to influence allies and partners and cognitive warfare a means to achieve this goal. Such perceptions could easily lead to escalations, especially in the age of internet.

Rise of the Internet, Ultimate Force Multiplier

One major turning point in the human domain was the birth of the internet. For intelligence, information warfare, cognitive and psychological operations this meant that the speed and efficiency of one single operation/campaign could increase exponentially while significantly decreasing costs. The internet was the ultimate force multiplier in cognitive warfare. For most people the internet meant information readily available at all times, interconnectivity across the world, being in touch with friends, making new ones, reading articles or books which normally would only be available at the library, just to name a few advantages. For Russian President Vladimir Putin the internet was an American intelligence operation originated as a CIA project (The Guardian; NBC News; Time Magazine 2014) one that he believes, remains under the agency's influence to this day, the gold standard surveillance meta-project. This meant that the Russian Security Apparatus would deal with

the internet as such. Of course, at the dawn of the internet, nobody except maybe the PRC, nevertheless, this is another conversation all on its own, have properly “managed” the emergence of the world wide web. For the Russian security establishment, it was a progressive evolution in building a blueprint for how to leverage and simultaneously protect from the perceived dangers of the internet. The 2007 attack on Estonia was probably one of the first times the international community realized how complex the situation could become, yet for the alleged perpetrators, this was nothing new. In 2000 during the Chechen War, a group of patriot cyber warriors, students in the Siberian city of Tomsk, had taken it upon themselves to defend what they perceived their information homeland (US Government Publishing House, 2018). Russian Security apparatus observed and learned from this occurrence, filtered the facts through its own perception, consequently concentrated on outsourcing hacking and trolling. Even before the Siberian cyber patriots, there was Hunter, a hacker who attempted to conduct a cyber espionage operation engineered by Moscow in cooperation with East Germany, against the US military in order to extract information about the Redstone Rocket test site for US missiles of President Ronald Reagan’s flagship Strategic Defense Initiative, Star Wars (European Union Institute for Security Studies, 2018). The Siberian students hack is different in that it was not initiated by state agents, but a civil response triggered by feelings of patriotism, carefully cultivated emotional responses. This perfectly illustrated the effectiveness of long term cognitive operations. It turned out the students were members of Nashi, a youth organization sponsored by the Russian government (Guardian 2014). The cognitive dimension is obvious: the internet is the technological advance that altered our day to day lives for the better, but to the Russian power structures, the perception was that it is a CIA meta project meant, to survey, control and subvert. By “managing perceptions” and maximizing cognitive biases and historical memory, the Russian leadership managed to motivate non state actors to conduct irregular warfare on their behalf. Furthermore, historical traumas such as the 1998 economic crisis in Russia, which many Russians blame on the West, the abrupt dismantling of the USSR, the bloody attempted coups in the early 90s, the trauma of the Great Patriotic War or of the Stalin purges, all inflamed feelings that were used in said perception management and eventually influencing the decision making process.

Military Applications: “New Domain” or “Multi-Domain”

How do cognitive sciences in the current global and/or regional(European) strategic contexts translate to military applications that can increase alliance operational reach, so much so that it effectively counters provocations and neutralize threats coming from strategic adversities, in this case, the Russian Federation? This is a very important question and the answer is too complex to be given within one single article. Nonetheless, the thesis of the article and the arguments discussed thus far allow for a few possible and plausible avenues.

First, NATO must achieve more clarity as to what cognitive warfare, the concept, means for military applications. Calling for a 6th war-fighting domain might not be ideal, instead the “human/cognitive dimension of the information environment, termed the cognitive domain” is far better applicable (Ottewell, *The Disinformation Age: Toward a Net Assessment of the United Kingdom’s Cognitive Domain* 2022). At the core of every single strategic decisions or military operation are people, it is people who are the target population regardless if it is military or civilian, therefore, all military operations, conventional as well as special are cognitive by excellence. The two prong priority for NATO ought to be clarifying the cognitive warfare concept as well as understanding it through an adversarial perspective.

Second, multi domain operations and special operations already address a portion of the NATO conception of cognitive space. NATO literature tends to move towards cognitive

warfare being addressed as a new domain, yet the Russian perception and the Russian approach to military art would be better engaged through targeted multi-domain operations, special operations prepared and conducted through “means of the superior command, control, communications, intelligence, surveillance, and reconnaissance systems, that is, C4ISR” (Diaz de Leon 2021) (92). In order for military operations to render effective, information must be filtered through an objective assessment of how adversaries view the world: the strategic and inherently its information environment “comprises and aggregates numerous social, cultural, cognitive, technical, and physical attributes that act upon and impact knowledge, understanding, beliefs, world views, and, ultimately, actions of an individual, group, system, community, or organization.” (Ehlers, Robert S. and Blannin, Patrick 2020).

Finally, in cognitive warfare terms any approach will render effective or ineffective, we do not know because it is contingent on many variables that are not factored into the construct. NATO has the technological advantage over Russia, yet, in the human domain there are virtually no one size fits all solutions for the white noise produced by years of trauma based perception management and bias leveraging (Chiriac 2022). The situation in Ukraine is a very good example: innocent civilians have been killed. The satellite imagery is tangible proof that in this conflict, children, non military human targets have paid the ultimate price, yet there are elements of society, both in Russia and outside of Russia, who believe there is a justification for this, or worse, that these things are deep fakes. Instead of critical thinking, the decision making was driven to the emotional level, where cognitive biases fuel narratives such as “NATO expansion was a betrayal” or “NATO is an aggressive alliance” or “the US has been conducting wars of aggression for decades and the West just went along”. The fact is that one sovereign nation state violated the borders of another sovereign nation state, international law was broken and intelligence produced irrefutable evidence that civilians have been killed. Nonetheless, in spite of hard evidence, there are people who choose to believe the Kremlin. In addition to fighting to defend the territorial integrity and sovereignty of Ukraine, the Ukrainians conduct a very nimble information war: the information operations are effective in that they rally the world behind the Ukrainian forces and this materialized in military support and volunteer fighters. Another result is the magnifying lens it sheds on allies who hesitate to help. This is important in warfare, one has to know who will fight alongside and who will hesitate. It also adds to prestige and a sense of unity. At long last, information operations with cognitive affinity target the adversaries prestige and this in turn affects their deterrence credibility. For example when Ukraine announced it will register the Moskva shipwreck as “underwater cultural heritage” it succeeded in a maneuver to troll the attacker. Long term this affects the mind and opinion of the Ukrainians as well as of the international community, regardless of whether there is true legal basis for this move or not. Trolls have been a weapon of choice in great power cognitive warfare, Ukrainian leadership elevated the cognitive game to the official level, they pass on the information to the target audiences: Ukrainian people the nation rallies behind them and fights. Cognitive warfare is about morale and without high morale, there can be no victory: “cognitive superiority among forces stems from the morale of the fighters; the fighting spirit; the confidence in commanders, their strength, and their ability; and belief in the justness of the cause.” (Kuperwasser, Yossi and Siman-TovInss, David 2019) (13). Finally, thanks to the internet, the “attribution problem” is no longer as important due to cognitive operations: it is no longer necessary for state actors to actively “manage perceptions” because the cognitive chatter automatically produces a segment of society who will promote conspiracy theories, distribute disinformation and misinformation and even take matters into their own hands, as it happened for instance January 6 in the United States.

Conclusions

The central aim of the article was to ask pertinent questions as to how the cognitive sciences are and can be further applied to military applications. In order to achieve answers, the paper employed a cognitive psychology framework focused on perception and information and compared the NATO conceptualization, and respectively, how the Russian perception of cognitive warfare. Conclusions are many and the academic discussion is certainly only at its start, yet, one central conclusion is that perceptions and misperceptions do play a significant role in strategy building. NATO is actively looking to consolidate an approach to what it deems cognitive warfare, meanwhile, the Russian Federation perceives this endeavor as an affront, even an attack.

The Western focus on Russian influence campaigns and Russian approach to information operations in general is valid, however, all policies and doctrinal documents ought to be built from a realistic starting point which acknowledges that the Russian leadership and a large portion of the population simply conceptualize/perceive the world in a fundamentally different way than the “collective west”. Instead of viewing Russian influence/information operations exclusively as tools of great power competition, they need to be approached as ways and means for a different kind, mostly incompatible, strategic end. In this, the cognitive dimension is key, arguably a game changer in any conflict, especially in near peer strategic competition where nuclear powers engage each other in a quest for global influence and military advantage. This assertion changes everything because strategic great power competition and great power conflict are two very different realities.

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CYBER DOCTRINARY APPROACHES CASE STUDY – FRENCH REPUBLIC, FEDERAL REPUBLIC OF GERMANY AND THE KINGDOM OF SPAIN

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***Abstract:** In this paper, we aim to highlight the national efforts that representative countries of the European Union (EU) have made to harmonize national goals, with those of the NATO, in the field of cybernetics. This study also focuses exclusively on the approach of the French Republic, the Federal Republic of Germany and the Kingdom of Spain, in the field of cyber defense developments, while analyzing evolutionary concepts and phases in the field, at Allied and European levels.*

***Keywords:** the French Republic; the Federal Republic of Germany; the Kingdom of Spain.*

Introduction

The entry into the third year of the Covid-19 Pandemic, finds the world facing the goal of "learning to live with the SARS CoV-2 virus". Global health crisis management (COVID-19) is affected by the difficulty of reaching the vaccine in poor countries, as well as completely unbalanced vaccination rates between underdeveloped and rich countries.

The economic recovery forecast for 2022 is under the auspices of the global energy crisis, logistical bottlenecks and increasingly difficult financial lending conditions.

The transition from a world centered on US influence and US geopolitical and geostrategic lines to one marked by the economic influence of the People's Republic of China (PRC) is increasingly present. Also, the aspirations of reaffirmation as an actor with global influence manifested by the military pressures of the Russian Federation especially in Ukraine, but also in Kazakhstan, Syria, Mali (Africa), the Republic of Moldova, Belarus make that, the planet, in 2022, to be a land of extreme challenges. But, as we all know, any crisis, be it of an economic, security, health, or political nature, together with the characteristic elements of instability and uncertainty, paves the way for multidimensional aspects of opportunity (economic, security, etc.) from which it can benefit those (actor/actors) who manage (quickly and completely) to identify opportunities and manage them in their favor.

Contextual delimitations – 2022

Also, the Huygensian waves of the political and economic "earthquakes" of 2021, such as: political-security tensions between Washington and Beijing, the Kremlin's strategic politico-military game in Ukraine, redefining EU-US and EU-UK relations, the emergence of the AUKUS agreement, the rapid and debatable withdrawal of allied troops from Afghanistan, the redefinition of the foreign policy lines of Turkey, India, Australia and Brazil, the harmonization of strategic interests between the Chinese PR and FRUS, are part of the hypothesis of the security equation of the beginning of 2022.

Characteristic of any equation with many variables and unknowns the solutions can be multiple, and the way to solve it (equation) depends on the "established formulas" applied, the degree of complexity of the proposed situation to solve, but especially the will, skill, experience and at the same time the interests, the person in charge, the person, entity, organization, or state actor in "finding" the solutions.

We cannot say that the global security environment, at the beginning of 2022, differs radically from previous years, but it is unanimously accepted that the degree of security instability is following an increasing trend, which peaked on February 24 (date at which the Russian Federation invaded Ukraine).

The war in Ukraine and the lessons learned from this tragedy, as well as the technological evolution and transformation of the battlefields, call for a profound change in military thinking at the strategic level.

Thus, politico-military strategies are called to reconceptualize the planning of military actions, simultaneously and integrated, in all new areas - land, air, sea, space and cybernetics (<https://formiche.net/2022/01/all-domain-presentazione-airpress/> n.d.).

In this paper, we aim to highlight the national efforts that representative countries of the European Union (EU)¹ have made to harmonize national provisions, with those of the North Atlantic Treaty Organization (NATO), in the field of cybernetics. This study also focuses exclusively on the approach of the French Republic (France), the Federal Republic of Germany (Germany) and the Kingdom of Spain (Spain) in the field of cyber defense development, while analyzing evolutionary concepts and phases in this fields, at Allied and European levels.

NATO Allied Cyber Approaches

Regarding NATO's cyber defense approach, it can be said that in the last 20 years, the field has received significant attention and developments.

The cyber domain first appeared on the agenda of the NATO talks at the Prague Summit (2002), and later, at the Riga Summit (2006), cyber defense was confirmed as priority for the politico-military alliance. In 2008, in Bucharest, during the Summit of Heads of State and Government, the first Cyber Defense Policy was approved², and in 2010, in the context of the Lisbon Summit, because of the intensification of cyber-attacks and the rapid evolution due to their complexity, the NATO Strategic Concept states that cyber threats can affect the security of vital national infrastructures and also the stability of the Euro-Atlantic (nato.mae.ro n.d.).

At the 2014 Summit in Wales, improvements were made to NATO's Cyber Defense Policy and at the same time agreed on the opportunity to extend the application of the solidarity clause in Article 5 of the North Atlantic Treaty to cyber (www.analisidifesa.it n.d.).

Two years later, at the Warsaw Summit, member states reaffirmed NATO's purely defensive mission in cyberspace³ and at the same time declared cyberspace an operational domain (www.nato.int n.d.).

Following these political decisions, the first concrete step of the Alliance was the establishment, in 2018, of the Center of Excellence for Cyber Defense (CCDCOE), a NATO affiliate⁴, based in Estonia (Tallinn). The centre's mission is to provide NATO member states

¹ EU member countries and members of the North Atlantic Treaty Organization

² The Bucharest Summit not only formalized NATO's first cyber defense policy, but also laid the groundwork for an allied cyber protection ecosystem designed to strengthen existing defense capabilities and facilitate development.

³ It was agreed to strengthen and improve, as a matter of priority, the cyber defense of national networks and infrastructures. It was also acknowledged that the continued adaptation of national and NATO cyber defense capabilities will strengthen the Alliance's cyber defense and overall resilience.

⁴ CCDCOE is staffed and funded by the Republic of Austria, the Kingdom of Belgium, the Republic of Bulgaria, Canada, the Republic of Croatia, the Czech Republic, the Kingdom of Denmark, the Republic of Estonia, the Republic of Finland, France, Germany, the Hellenic Republic, Hungary, Ireland, the Italian Republic, Japan, Republic of Latvia, Republic of Lithuania, Grand Duchy of Luxembourg, Montenegro, Kingdom of the Netherlands, Kingdom of Norway, Republic of Poland, Portuguese Republic, Romania, Slovak Republic,

with interdisciplinary expertise in cyber defense research, training, and exercises (cdcoe.org n.d.). Romania officially joined the CCDCOE on June 13, 2019 (www.mae.ro n.d.), and in the same year, NATO drafted the Guide to Strengthen the Alliance's Response to Cyber Activities, which includes a set of tools for responding to malicious, significant cyber activities (www.nato.int, www.nato.int n.d.).

With regard to bilateral cooperation between NATO and the EU, in the Joint NATO-EU Declaration (2016), the cyber domain is presented as a priority, focusing on the specific dimensions of cyber security and defense, including in the context of missions, operations, exercises and joint trainings (European Commission and the Secretary General of the North Atlantic Treaty Organization n.d.). Also, in 2016⁵, NATO and the EU signed a Technical Agreement in the field of Cyber Defense regulating the methodology for conducting the exchange of cyber information between the EU IT Emergency Response Team (CERT-EU) and NATO Computer Incident Response Capability (NCIRC) (EU CYBER DEFENSE POLICY FRAMEWORK n.d.).

Also, the bilateral cooperation between the two organizations in the field of cyber defense is continuously developed by holding regular meetings, both at the level of politico-military decision makers, and especially at the level of experts.

The national approach of the French Republic

The field of cyber defense enjoys a special focus on the responsible factors in the field in France. On 12 February 2018, under the coordination of the General Secretariat for Defense and Security (Le Secretariat Général de la Défense et de la Sécurité National Strategy for Combating Cyber Threats (Revue Strategic cyber defense)(General Secretariat for Defense and Security Strategy of France). Within the Strategy, the 4 threats to which French cyber defense structures must respond are: computer espionage, cybercrime, institutional destabilization and cyber sabotage⁶.

According to the document in use, computer espionage (computer science) is characteristic of developed intelligence services, which have designed and adapted their communications interception systems for economic, technological or political purposes.

Thus, computer espionage is only a transposition of traditional information activities (collection, processing, dissemination) in the digital world. This activity is not exclusively the prerogative of the intelligence services assigned to some state actors, but can also be carried out by elements, individual or organizational, with non-state organizational correspondence.

At the end of the last century, cybercrime was perceived as a combination of specialized actions of isolated persons with technical skills (hackers), without a political or financial motivation, carried out to fulfill an "individual" purpose⁷. The emergence of BITCOIN⁸ and virtual currencies, associated with the idea of "anonymizing" the concept, created the premises for the emergence of cybercrime, based on financial motivation.

Currently, cybercriminals, using basic methods, are able to get large sums of money. Direct theft of information considered sensitive or important, or money, using the Internet, from companies' computer networks⁹ or their accounts¹⁰, is considered the most common

Republic of Slovenia, Republic of Korea, Spain, Kingdom of Sweden, Swiss Confederation, Republic of Turkey, Kingdom United Kingdom of Great Britain and Northern Ireland and the United States of America.

⁵ Modified in 2028, by EU CYBER DEFENSE POLICY FRAMEWORK.

⁶ *Ibidem*, p.11.

⁷ *Ibidem*, p.12.

⁸ The first Bitcoin transaction for a good appeared on May 21, 2010, when a Bitcoin user named Laszlo bought a \$ 25 pizza worth 10,000 Bitcoin, <https://bitcoinromania.ro/blog/istoria-bitcoin/>, accessed on 30.04.2022.

⁹ Exfiltration and then resale of information.

¹⁰ In case of fraudulent money transfers.

method used by cybercriminals. The second, ex-filtering the information and then recontacting the injured party for redemption, involves time and associated risks.

The strategy to combat cyber threats underlies the drafting of the White Paper on Combating Cyber Threat, a document with inter-ministerial responsibilities that projects a clear picture of the French national cyber risk and outlines the actions needed to strengthen the country's technological infrastructure of the capacities to respond to a possible cyber-attack, to the address of the institutional security – cyber¹¹.

At the same time, the White Paper on Defense laid the foundations for the establishment of the National Agency for the Management of Cyber Attacks and the Protection of the State Information System (www.legifrance.gouv.fr n.d.), which allowed for better cyber coordination at the inter-ministerial level (www.penseemiliterre.fr/ n.d.).

Thus, in case of a hostile cyber incident affecting the security of the state (www.senat.fr) the Cyber Crisis Coordination Center (C4) which brings together the responsible ministries (www.liberation.fr/france/ 2020) will provide decision-making power, the Ministry of Defense, which will act through the Cyber Defense Command (Comcyber – established in 2017).

Subsequently, as a result of the development of new technologies, but especially due to the increase in the number of cyber-attacks suffered by the Ministry of Defense, under the Military Planning Law (2019-2025 – Programming Law Militaire, Lpm) proposed: making investments in the cyber field, worth 1.6 billion euros and increasing the specialized staff by approx. 1000 people (to be distributed within the structures of Comcyber, Directorate-General for External Security) general security extérieure (DGSE)) and within the General Emergency Directorate (Direction general alarm system (DGA)), so that by 2025 a total of 4500 specialists will be reached, half of whom will provide protection to information systems, a quarter of the staff will be dedicated to cyber defense and the rest will be specialized for actions cyber offensive (www.ifri.org n.d.). Of the planned budget allocation, € 200 million will be invested in the construction of a training center – cyber experts (Temple de la cyber defenses) in Saint-Jacques de la Lande.

French Defense Minister, Florence Parly, reiterated that France would not hesitate to use the cyber weapon in military operations and that operators in the sector would enjoy the same protections and rights as soldiers engaged in operations abroad in the performance of their duties.

In terms of Allied engagement, France supports the 2018 NATO Strategy, and stressed the importance of increasing Allied engagement and integrating cyber defense capabilities (www.cicde.defense.gouv.fr n.d.) into NATO operational scenarios and missions (www.sgdsn.gouv.fr 2018).

Conceptualization of the field (cyber) in the Federal Republic of Germany

In 2011, the National Cyber Security Council was established in Berlin, which includes representatives from various ministries (Ministry of the Interior, Foreign Affairs, Defense, Justice, Economic and Energy Affairs and Consumer Protection, Education and Research, Finance, Transportation and digital infrastructure, as well as private sector representatives), in order to propose the necessary updates for the new National Cyber Strategy (www.enisa.europa.eu n.d.).

Also in 2016, the Federal Republic of Germany updated its Cyber Security Strategy (the drafting of the programmatic document was initiated in 2011) using an inter-ministerial approach¹², which provides for action by both the federal government and the Länder/regions.

¹¹ *Ibidem*, p. 137.

¹² *Idem*.

In the programmatic document, special attention is paid to the need to have a National Cyber Response Center that provides a coordinated and integrated response and within the limits of relevant national and international legislation in the field.

Another element of novelty, introduced in 2016 (with the revision of the Strategy) is the provision on the ability to conduct cyber offensive operations in response to an attack. The Military Counterintelligence Service is responsible for managing responses to malicious, organized, and cyber events. The contribution of the Armed Forces is also foreseen (part regulated by the German Constitution and at the same time by the international legislation in the field). This fact is also mentioned in the White Paper on Defense (published, 2016)(www.researchgate.net) and which provides for a link between the cyber defense capabilities of the Armed Forces and the response capabilities of civilian cyber security structures, indicating the former as complementary in shaping the national cyber security architecture (although they are managed in separately).

Germany is involved in a process of consolidating previously developed infrastructure at the Army level. The purpose of developing response capabilities is to successfully create a single structure, consisting of military operational units¹³, that is prepared, as equipment upgrades, to use in the future, artificial intelligence and other methods of big-data analysis, to formulate answer hypotheses as complete and complex as possible¹⁴.

From a military point of view, the German Armed Forces have limited responsibilities and possibilities for action and/or collaboration with other state bodies, due to constitutional limitations, which clearly delimit the responsibilities of the Armed Forces in carrying out operations defined as "administrative assistance"¹⁵.

In the case of an external cyber-attack, the extent of which requires the involvement of the Armed Forces¹⁶, they must obtain parliamentary approval (which could take too long in the event of a rapid cyber-attack). However, in the context of the conduct of domestic cyber defense operations, the approval of the Bundestag is sufficient to allow the use of the cyber defense capabilities of the Armed Forces.

According to the White Paper on Defense, Berlin has created the Computer and Cyberspace Command, which is responsible for conducting network operations.

The structure provides for approximately 14,000 specialists to ensure a full operational capacity, planned to have been achieved by 2021 (www.difesaonline.it).

Given the fact that it is not always possible to define the perpetrator of a cyber-attack from the outset and considering the need to coordinate the various authorities involved for a coordinated and integrated response (www.researchgate.net), the Federal Government has set up the National Cyber Defense Center coordination of the various crisis response entities¹⁷.

At national and international level, Germany emphasized the need for the most comprehensive regulatory framework and the establishment of partnerships and cooperation plans to achieve high levels of security and operational readiness, even in the event of a response to complex cyber-attacks¹⁸. At present, active defense operations are not explicitly regulated from a legal point of view, which is why there is a national debate on the appropriateness of providing hack - back actions (www.deutschlandfunk.de).

¹³ <https://doi.org/10.11610/Connections.19.1.02>, p. 25, accessed on 01.05.2022.

¹⁴ <https://doi.org/10.11610/Connections.19.1.02>, accessed on 01.05.2022.

¹⁵ https://doi.org/10.1007/978-3-319-90014-8_4, p. 36, accessed on 01.05.2022.

¹⁶ For the use of the Bundeswehr in the national territory, the attack must be carried out by a state actor.

¹⁷ *Ibidem*, p.39.

¹⁸ *Ibidem*, p.21.

Cyber domain in the Kingdom of Spain

In a top of the number of cyber-attacks directed against some member states of the European Union, Spain occupies an undesirable place, the leader in the ranking (www.enigmasoftware.com). Although some cyberattacks are targeted at sectors considered strategically irrelevant, others have serious implications, such as the one against 2019, directed against the Spanish Ministry of Defense, which sought to take over sensitive information from the defense industry (elpais.com/politica).

Thus, Spain's National Cyber Security Strategy was updated in 2019 (www.ccn.cni.es) to include the new provisions of the National Security Strategy, developed in 2017. Also in Spain, the Covid-19 Pandemic, brought into attention the necessity to update the strategic document, for to prevent the possible consequences of the cyber domain because of the global health crisis.

Royal Decree no. 521/2020 (www.boe.es) on the basic organization of the Armed Forces emphasizes the need for trained personnel and the existence of adequate structures/facilities and defense systems and advanced technology to enable the digitization of the Spanish Army, considering the growing trend of cyber threats.

Cyber defense is part of the broader field of cyber security which includes but is not limited to activities related to the Armed Forces. In order to implement this, Spain has set up an Emergency Response Team which is responsible for formulating a rapid response to cyber-attacks against citizens, businesses and other interest groups and an Emergency Response Team which is focused on responding to attacks on government institutions (cybernews.com).

Regarding the management of the situation at the level of the Spanish Armed Forces, the Joint Cyber Defense Command, a structure directly subordinated to the General Staff of the Spanish Defense, is the military organization responsible for conducting cyber defense actions, IT infrastructures within the Armed Forces. This Joint Command established seeks to implement the necessary actions to ensure the integrity of Spanish military capabilities.

The command (Legislative Collection of the Ministry of Defense 2013) is also the structure responsible for managing an appropriate response in the event of a cyber-attack at the national level.

The Spanish Ministry of Defense also has an emergency response team in the military sector, which is cooperating with other civilian structures. The structure has OPCOM at the head of defense and thus, cyber operations, more or less defensive, are integrated into the chain of command even in the situation of participation of the armed forces in a multinational context, either under the auspices of the UN, NATO or EU.

In this context, in the absence of a declared armed confrontation, there is currently no provision for the possibility of conducting cyber-offensive operations (Center Superior de Estudios de la Defensa Nacional 2012).

Conclusions

In the last twenty years, the number of cyber-attacks is constantly increasing, and the cyber threat is shaping up to represent a real threat to the defense of the rule of law. In order to limit the undesirable effects of the realization of the cyber threat, at the international level, multiple cooperation plans are being developed that aim at the legal regulation of the cyber domain. However, the results obtained are limited, the main cause being the differences in the conceptualization and approach of cyberspace, in particular, by certain international actors.

The issue of achieving a standardization of the field is amplified by 2 other variables. First of all, the difficulty of identifying the affiliation of a cyber-attack in the hypothetical situation in which there is an attack is committed, concentrated, by state actors, terrorist

groups, thus constituting an aggressor group difficult to define. Secondly, massive investments and the creation of standardized normative elements are needed to create specialized threat response capabilities (highly specialized technical staff, standardized regulations, intervention procedures, etc.).

The declaration of cyberspace as an operational domain has led to a significant qualitative leap in the approach to cyber threats at the Allied level. The conflict in Ukraine is increasingly debating the types of attacks that could trigger the collective defense clause in accordance with Article 5 of the North Atlantic Treaty. We also notice that the cyber domain has quickly become an integral part of both unconventional and conventional conflicts.

The analysis carried out at the level of the 3 European states, led to the identification of different approaches to the way of achieving cyber defense, which demonstrates the need to continue the idea of standardization and harmonization of national doctrines and procedures in the field. Thus, we noticed that within the programmatic documents of the analyzed states there are substantial differences in terms of the possibility and manner of carrying out both defensive actions and especially in terms of ability and legality to carry out offensive operations.

Thus, Germany and Spain are among the countries that believe that cyber deterrence can also be achieved through the state's ability to respond in a timely and proportionate manner to a cyber-attack, by assuming operations defined as hack -back.

On the other hand, Paris has a different understanding of the possibilities that arise from the active use of cyber defense. Thus, cyber defense and deterrence are equivalent to ensuring the ability to respond to cyber, but also to the possibility of active prevention against possible adversaries, consisting of either state actors or terrorist groups or organizations.

The analysis performed may indicate, a series of common needs and recommendations, at the Allied level and possible guidance that Romanian specialists can consider at the national level, as follows:

- the imperiousness of having a unitary doctrinal framework at the allied level.
- the existence of a better integration of the cyber domain within the allied command structures, which is also valid at national level.
- stepping up cooperation between research-focused private companies and government institutions.
- increase investment for up-continuous upgrading of existing cyber capabilities at allied and/or national level.
- intensification of training programs for specialized military personnel working in the field of cyber operations.
- and last but not least, the awareness of state officials, but also of the population regarding the threats in cyberspace and the possible future implications.

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THE IMPACT OF AI ON NATO MEMBER STATES' STRATEGIC THINKING

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Abstract: *The incorporation of Artificial Intelligence (AI) into military capabilities creates various challenges for NATO. Since AI will impact the full spectrum of military capabilities, different militaries will have various reactions for these challenges. This article asks how might these reactions impact NATO member states' strategic thinking around AI? To answer this question the article analyzes member state-specific data published by the NATO Cooperative Cyber Defence Center of Excellence (CCDCOE) and cross referencing it with specific operator countries. On the strategic level, the article compares the United States' and France's AI defense strategies, highlighting their similarities and differences with regards to their assessments on the strategic environment; emerging threats; as well as objectives and capabilities. The analysis shows diverging development paths among NATO members, thus pointing towards the emergence of different AI-enabled technology clusters in the alliance. The integration of AI-enabled systems into allied military forces shows not only striking disparities but a deep level of fragmentation. The article also identifies a new form of capability gap among those member states, which have more capabilities. In this context, policies pursued by AI great powers are deepening intra-alliance fragmentations, while AI middle powers, like Poland or the Netherlands, are becoming more interoperable with other member states.*

Keywords: *Artificial intelligence; NATO; alliance; capability; cooperation; autonomous weapons.*

Introduction

The rapid spread of new, AI-enabled technologies across the full spectrum of military capabilities poses several unforeseen challenges for the defense sector. AI impacts decision-making processes, the nature of deterrence, but also the use and character of individual capabilities and hence, the modes of warfare. Each militaries have different reactions for these new developments, while they try to cope with the dynamically changing technological landscape. How might these different reactions impact NATO member states' strategic thinking around AI? This article argues that the spread of AI-enabled technologies will enhance already existing strategic divergences within NATO, while creating a new form of capability gap among member states.

The article departs from the implications of AI on military affairs. For this purpose, the article relies on the quickly expanding AI and military affairs literature. The analysis identifies decision-making processes; the enhancement of military capabilities; and the global arms race as three major areas within military affairs, where AI-enabled technologies can have a transformative impact. Whereas these all have important implications for NATO as an alliance, the primary goal is to move beyond theoretical discussions and provide empirical data analysis for the study of intra-alliance capability dynamics. The article does so by relying on the analysis of the member state-specific data published by the NATO Cooperative Cyber Defence Center of Excellence (CCDCOE) and cross referencing it with specific operator countries. The article highlights diverging development paths among NATO members, thus pointing towards the emergence of different AI-enabled technology clusters in the alliance. The analysis also demonstrates a diverse spectrum of country-specific AI-enabled programmes leading towards intra-alliance capability fragmentations and a limited level of interoperability. In this context, policies pursued by AI great powers are deepening intra-

alliance fragmentations, while AI middle powers, like Poland or the Netherlands, are more likely to procure AI-enabled technologies from other member states.

Following this endeavor, the article focuses on the strategic level and compares France's and the United States' AI defense strategies, while highlighting their similarities and differences with regards to their assessments on the strategic environment; emerging threats; as well as objectives and capabilities. This will highlight how the use of AI in the armed forces have already manifested itself into diverging strategic thinking in these two influential member states. Finally, the article discusses how these emerging capability fragmentations and strategic divergences within NATO might impact intra-alliance dynamics. Thus, it sheds light on a new form of capability gap in NATO not just among member states who have and have no significant AI-enabled military systems but also among technologically more advanced member states, causing future interoperability and operational problems.

The rest of this article is constructed as follows. The first section provides a survey of the literature concerning the transformative impact of AI on defense and military affairs. The second section turns towards the analysis of AI-enabled technologies in NATO member states' militaries and utilizes the member state-specific data. Following this endeavor, the article compares the United States' and France's AI defense strategies. Finally, the article discusses how these emerging capability fragmentations and strategic divergences within NATO might impact intra-alliance dynamics.

Artificial intelligence in military affairs

Before highlighting the impact of AI on NATO, we need to contextualize how AI can influence military affairs in general. Although the definitions of emerging and disruptive technologies, artificial intelligence and autonomous weapon systems remain contested, a quick survey of the literature around these topics reveals three major areas within military affairs where they can have a transformative impact. These include military decision-making processes; the enhancement of military capabilities; and the global arms race. Whereas this selection is necessarily arbitrary, almost all recent advances within the AI and military affairs literature fall under the umbrella of these three areas.

Concerning the role of AI in military decision-making processes, the most often debated aspect arises from the general discussion on human-machine collaboration, and its consequences on the nature of warfare. For example, Ekelhof highlights that AI and autonomy has an impact on the whole military targeting process, affecting primarily the intelligence branches of the military, and while they speed up the process of targeting, they also influence critical targeting decisions, and can shift responsibilities within the decision-making structure. (Ekelhof 2018 , 81-83) Verbruggen argues that military AI will drastically reduce the time of various operations, thus providing less time for decision-making and, consequently, less room for consideration (Verbruggen 2020, 14). Since AI accelerates the course of military events, it increases the pressure on decision-makers, which enhances psychological challenges for them (Verbruggen 2020, 14). Johnson introduces how AI threatens strategic stability, through compressing decision-making frames, and how perceptions linked to the irresistible advantages of military AI increases the chances of inadvertent escalation (Johnson 2020, 17). Similarly, the RAND Corporation's 2020 wargaming exercise also confirmed that the speed of autonomous systems might lead to inadvertent escalation (Wong, et al. 2020, xi). On the other hand, Boulanin notes that military AI might also provide flexibility for decision-makers, as the recoverability of these systems (e.g. Unmanned Aerial Vehicles and Unmanned Underwater Vehicles) makes potential de-escalation dynamics also easier (Boulanin 2019, 57).

The literature on the enhancement of offensive and defensive military capabilities is also rapidly expanding as technology advances. Boulanin identifies five general capability areas, in

which autonomy can have a variety of functions: mobility; health management; interoperability; battlefield intelligence; and the use of force (Boulainin 2016, 7-8). Each of these areas incorporate various tasks from navigation, through data collection, to fire control (Boulainin 2016, 7-8). Whereas the discussion on autonomous weapons is usually focusing on the use of force (e.g.: loitering munitions; unmanned aerial/ground/underwater vehicles; missile and rocket defense; guided missiles; anti-personnel sentry weapons; active vehicle protection; sensor-fueled munitions; encapsulated torpedoes and mines etc.) AI and autonomy affect military capabilities in a much broader spectrum (Boulainin 2016, 7-8). At the end, they enhance speed, precision, lethality, data-processing, detection, and C4ISR (command, control, communications, computers, intelligence, surveillance and reconnaissance) capabilities.

The general advantage of AI enabled military technologies points towards the third area: the global arms race. For example, Verbruggen highlights a possible scenario, in which conventional weapons are no longer capable to maintain the pace of operations conducted with autonomous weapons, which therefore creates new incentives for states to develop and acquire autonomous weapons more extensively (Verbruggen 2020, 14). Abaimov and Martellini provide empirical data for the emerging AI arms race, highlighting the rapidly expanding military AI-industry and R&D expenditures on the field (Abaimov and Martellini 2020, 161-165). Whereas Horowitz links the issue of autonomous decision-making to the emerging arms race, arguing that a state, which is more insecure about its own conventional and second-strike nuclear capabilities might be more encouraged to automate nuclear early-warning systems and delivery platforms, hence increasing the chances of inadvertent escalation (Horowitz 2019, 93).

In sum, while there are other areas where AI will be relevant in military affairs, the rapidly expanding AI literature is mainly centered on the observations on military decision-making processes; the enhancement of military capabilities; and the global arms race. The following chapters will aim to answer how might these AI-related changes impact NATO member states' capabilities and strategic thinking?

Artificial intelligence in NATO

The 2010 Lisbon Strategic Concept *Active Engagement, Modern Defense* defines three core tasks for NATO: collective defense, crisis management and cooperative security. Each of these require the alliance to maintain its credibility and its competitive technological edge in military affairs. The publicly released summary of the NATO 2021 Artificial Intelligence Strategy points out that AI is “changing the global defense and security environment” and “will affect the full spectrum of activities undertaken by the Alliance.” (NATO 2021) The NATO AI strategy has four main aims, which include encouraging the development and use of AI in a responsible manner; accelerating AI adoption in capability development and delivery; protecting and monitoring AI technologies and ability to innovate; and identifying and safeguarding against the threats from malicious use of AI. (NATO 2021) As such, NATO aims to “integrate AI in an interoperable way to support its three core tasks.” (NATO 2021) Though the incorporation of AI enabled technologies into member states' strategic thinking and military capabilities is necessary if NATO aims to fulfil the alliance's core tasks, the state of play concerning military AI on member states' level shows several shortcomings.

AI-enabled programmes in NATO member states

So far, the NATO Cooperative Cyber Defense Center of Excellence (CCDCOE) 2021 report provides the most comprehensive survey of AI-enabled systems in NATO member states' armed forces. It identifies a capability gap and fragmentation within the alliance due to the differentiated implementation of and access to AI-enabled technologies (Gray and Ertan

2021, 6). The report also points out that AI-related NATO-wide collaborative projects remain limited and highlights four main reasons behind this tendency (Gray and Ertan 2021, 17-18). First, diverging views on military AI within the alliance makes collaborations with only a few preferred partners easier. Second, bilateral tensions can limit the sharing of information and technology even among allies. Third, several countries lack the necessary resources and capabilities for any meaningful contribution, which might push capable partners towards non-NATO collaborations. Fourth, public opposition in various countries towards AI-enabled military technologies hinders a number of NATO countries to move forward on the field.

The CCDCOE identifies altogether 84 different AI-enabled programmes within 25 member states. These include already existing and operating military capabilities (e.g. F-35 Next Generation Aircraft; Mistral 2 missile; RQ-11 Raven UAV etc.) but also capabilities that are in their development phase (e.g. Future Combat Air System). Each system is put into one of the four categories (Autonomous Vehicles; Autonomous Air and Missile Defense Systems, Autonomous Missiles, and AI-Enabled Aircraft; Data Analytics; Logistics and Personnel Management) and for each of them the CCDCOE lists the developer and the operator countries as well. While these are valuable primary insights concerning the spread of AI-enabled systems within the alliance, the data provided by the report invites further analysis.

Interrogating this data further and cross-referencing AI-enabled capabilities with specific operator countries helps to demonstrate several intra-alliance dynamics. Figure 1. shows the number of AI-enabled programmes in each member state based on the CCDCOE report. This highlights an emerging capability gap within the alliance, in which 9 member states are operating at least 10 AI-enabled programmes, while 14 member states are operating less than 5. These 14 countries include Iceland, Luxemburg and 12 member states that have joined the alliance after the end of the Cold War, which points towards a major East-West imbalance.

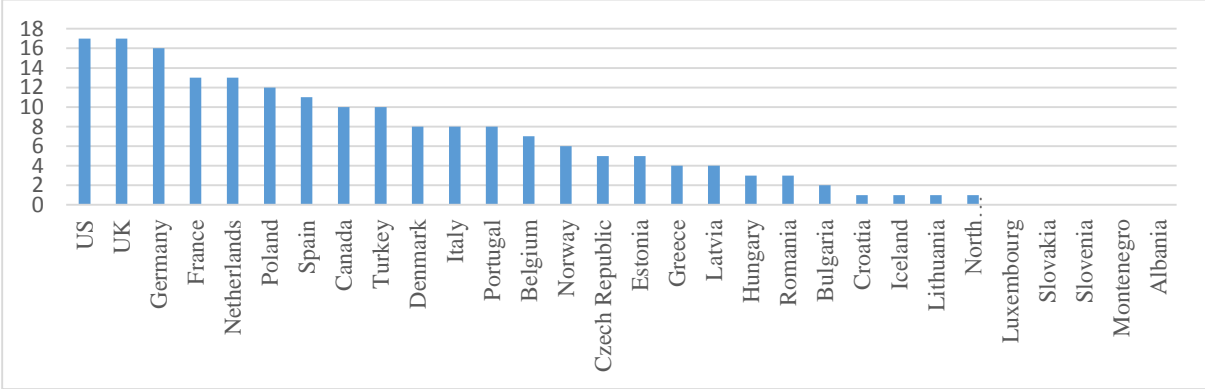


Figure no 1. The number of AI-enabled programmes by member states. The analysis was conducted by the author based on the data published by (Gray and Ertan 2021, 24-29)
The figure was prepared by the author.

Even though the US and Western/Southern Europe are incorporating AI-enabled systems more quickly into their armed forces, the use of different programmes show an extremely fragmented distribution. 61% of all AI-enabled programmes within the alliance are used by only 1 member state, and 26% by 2-4 member states. Only 12% of all programmes have at least 5 operators, and only the RQ-11 Raven is employed by more than 10 member states. (Table 1.) The level of collaboration is limited or simply non-existent when it comes to the use of AI-enabled systems. This leads to the emergence of parallel capability structures, thus limiting the prospects of future interoperability.

Table no 1. The number of operator countries for each AI-enabled programmes in NATO.
The analysis was conducted by the author based on the data published by
(Gray and Ertan 2021, 24-29).

Number of operator countries	Programmes
More than 10 member states	1 program (RQ-11 Raven)
5-10 member states	9 programmes (Harpoon Block II; F-35; ScanEagle; Patriot; Gavia; Puma 3; Remus 100; THEMIS; MU90 Impact)
2-4 member states	22 programmes (AMRAAM, nEUROn; Skeldar V-200; Aegis; CRAI; Duble Eagle Sarov; FCAS; Iver; Phalanx; Sabuvis; SAMP/T; SWORD; A-18M; A27-M; Barracuda; BlueScan; Goalkeeper; Mistral 2; Naval Strike Missile; SeaRAM; Skylar I-LEX; Tempest)
1 member state	52 programmes (A9-M; ADATS; AKINCI; Albatros-K; Alpagu; Anka S; AR-4; ARCHANGE; Automatic Imaging Target Acquisition; AWISS; B-Hunter; Boatswain's Mate; Brimstone; C-DAEM; Dardo; F4 Rafale Predictive Maintenance; Harop; HUGIN; Husky; Joint Strike Missile; Kalaetron Attack; Kargu; LIMS IV; Luna; Manta; MANTIS; Mast-13; Mast-9; Mission Master; Mixed Reality Remote Assistant Support System; MQ-9 Reaper; NASAM; Nerva; Perun; Project Maven; Pulat; RQ-4 Global Hawk; SeaCon; SeaHunter; Soprene Project; Spyder; SWIM; Swordfish; Talios; Taranis; TB2; TF-X; TOGAN; Viking 6x6; Warmate; Watchkeeper)

The table was prepared by the author.

Although bigger and more capable member states tend to use more AI-enabled programmes, several of these programmes are only used by 1 member state within the whole alliance. For example, Turkey has 10 different programmes but 9 of these are only used by Turkey (Figure 2.). The situation is similar, although less dramatic in the case of France (5 out of 13 programmes used by only France), Germany (6 out of 16 used by only Germany), the UK (7 out of 17 used by only the UK) and the US (6 out of 17 used by only the US).

Table no 2. The number of AI-enabled programmes that are only used by 1 member state.
The analysis was conducted by the author based on the data published by
(Gray and Ertan 2021, 24-29).

Member State	Number of programmes used by only this member state	Programmes
Turkey	9	Kargu; Anka-S; Pulat; TB2; Albatros-K; AKINCI; TF-X; TOGAN; Alpagu
UK	7	Watchkeeper; MAST-13; Taranis; Viking 6x6; Brimstone; MAST-9; Manta
Germany	6	Harop; SWIM; Kalaetron Attack; AWISS; Luna; Mantis
US	6	C-DAEM; SeaHunter; Project Maven; LIMS IV; Project Salus; MQ-9 Reaper
France	5	Talios; F4 Rafale Predictive Maintenance; ARCHANGE; Nerva; Automatic Imaging Target Acquisition
Canada	3	Mixed Reality Remote Assistant Support System; Boatswain's Mate; ADATS
Portugal	3	SeaCon; AR-4; Swordfish

Member State	Number of programmes used by only this member state	Programmes
Poland	2	Warmate; Perun
Latvia	2	A9-M; Husky
Netherlands	2	HUGIN; Mission Master
Lithuania	1	NASAM
Italy	1	Dardo
Norway	1	Joint Strike Missile
Czech Republic	1	Spider
Belgium	1	B-Hunter
Estonia	1	RQ-4 Global Hawk
Spain	1	Soprene Project

The table was prepared by the author.

Therefore, the level of interoperability and the number of AI-enabled systems used by multiple member states remain limited. Figure 2 demonstrates intra-alliance network established by these capabilities. Arrows symbolize the AI-enabled programmes that are used by both countries. The thicker the arrow the higher the number of these systems. The level of interoperability is the highest between the UK and the US (6 programmes used by both countries). The connections around the center are stronger with having multiple systems used by several countries. Although member states with a higher number of AI-enabled programmes naturally tend to gravitate closer towards the center, this is not a necessity. For example, countries with only a moderate level of AI-enabled capabilities (e.g. Denmark or Belgium) have stronger intra-alliance relations than countries with more capabilities (e.g. Turkey or France). Meanwhile, connections between these countries and the periphery remain weak and are even weaker within the periphery (see the external circle on Figure 2).

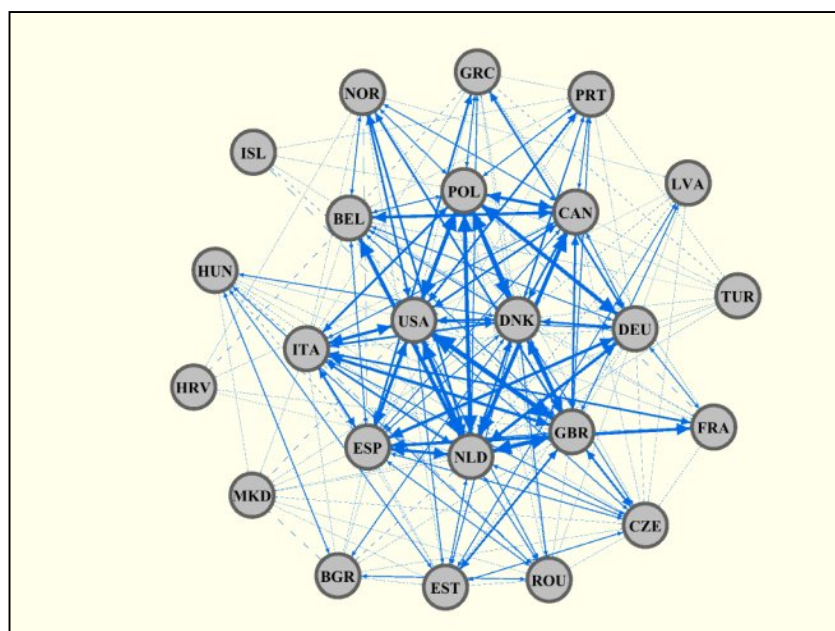


Figure no 2. The intra-alliance network of AI-enabled capability connections. The analysis was conducted by the author based on the data published by (Gray and Ertan 2021, 24-29). Countries with 0 connection are not represented

The figure was prepared by the author.

This becomes even more striking when we focus our attention on those strong connections that are featuring at least four programmes used by both countries (Figure 3.). Only 11 member states have any connections in this category and even their network is fragmented. The US, Poland and the Netherlands maintain the most diverse and interoperable network with each of them featuring 5 strong connections. Spain and the UK equally have 4 strong connections, while Germany and Canada have 3, Denmark, Belgium, Italy have 2 and France has only 1. This is especially a notable achievement in the case of middle-powers including Poland and the Netherlands, but also Canada Denmark and Belgium, whose military capabilities are relatively limited compared to the European great powers. Their level of interoperability with regards to AI-enabled programmes tend to outperform the traditionally biggest European military spenders like Germany, the UK, France, Italy, Turkey or Spain that have weaker intra-alliance connections. Once again, this is especially notable in the case of France and Turkey whose level of interoperability falls short of their relatively high number of AI-enabled programmes.

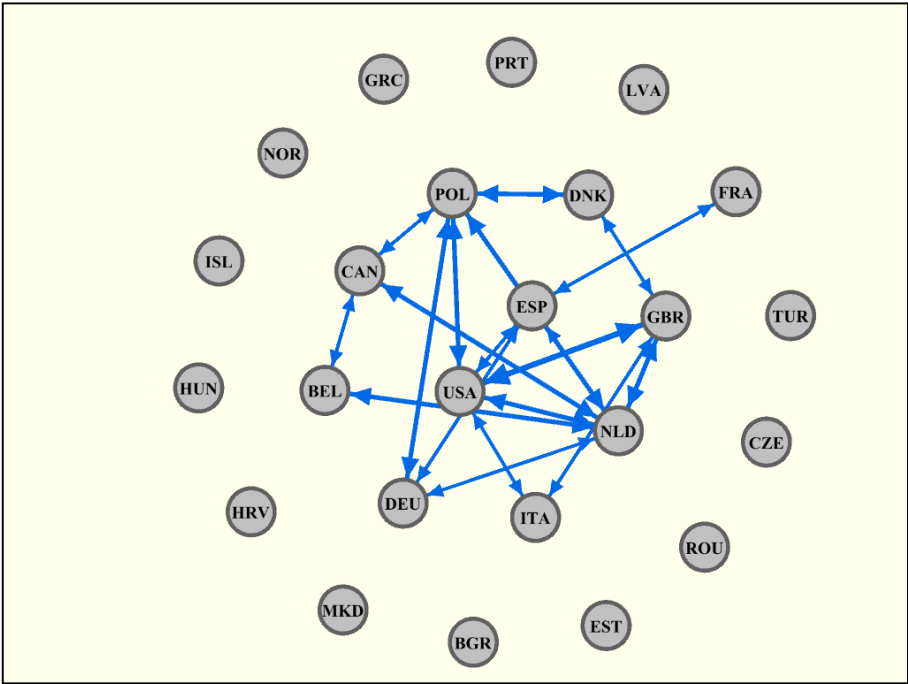


Figure no 3. The *strong* intra-alliance connections of AI-enabled capabilities (at least four programmes used by both countries). The analysis was conducted by the author based on the data published by (Gray and Ertan 2021, 24-29)
The figure was prepared by the author.

Defense AI strategies in NATO

How NATO member states’ strategic thinking converge and diverge around AI? Although NATO prepared its own Artificial Intelligence strategy, and AI-related programmes are emerging within the alliance’s armed forces, defense and military AI strategic documents on member states level are lagging far behind this process. Several NATO members refer to the role of AI and/or emerging and disruptive technologies in their national security/defense strategies, albeit these are usually lacking any details concerning their impact on strategic affairs. Similarly, the already published country-specific, general AI strategies tend to avoid the field of security and defense, making it even more difficult to deduce any meaningful conclusion with regards to the strategic thinking of member states (Gray and Ertan 2021, 17).

The two major exceptions are so far the United States and France, which have prepared their own AI defense strategy in 2018 and in 2019 respectively. The documents are different in their style and characteristics, which makes their comparison methodologically difficult, however, they can still provide an important point of reference, when analyzing the strategic thinking and directions of these countries. Reading the documents of France and the United States in parallel, key differences become apparent concerning their strategic thinking on AI, showing patterns of divergence within the alliance. The areas where these differences are present, include the transformation of the strategic environment; the newly emerging threats; as well as objectives and capabilities. (Table 3).

Table no 3. The comparison of the United States’ and France’s defence AI strategies

	United States	France
Document	Summary of the 2018 Department of Defense Artificial Intelligence Strategy	Artificial Intelligence in Support of Defense
Year	2018	2019
Strategic Environment	Comprehensive AI-related transformation, impacts every corner of the DoD, catalysing power competition across the globe.	Pivotal moment is yet to come, AI is still limited. Differentiating between AI superpowers (US and China); aspiring intermediate powers (EU); and a second circle of countries (e.g. France).
Threats	Chinese and Russian investments in AI are eroding the technological advantage and destabilizing the global status quo.	Three major categories: 1) Threats posed by adverse AI (e.g. predicting modes of action). 2) Emerging global arms race creates new threats by state and non-state actors. 3) Threats posed by the use of AI (e.g. technology dependence).
Objectives and Capabilities	Protecting US service members and civilians, citizens and critical infrastructures. Reducing organizational inefficiencies, scaling AI with partners. Priority areas include situation-awareness and decision making; increasing safety; predictive maintenance; and the use of AI technologies for highly manual, repetitive tasks.	Keep freedom of action and interoperability with allies; the assurance of trustworthy, controlled, and responsible AI; the resilience and upgradability of systems; preserve sovereignty concerning AI technologies. Priority areas include decision and planning support; collaborative combat; logistics; intelligence; robotics and autonomy; and the use of AI in support services.

The table was prepared by the author.

Strategic environment

Both countries tend to emphasize that the emergence of AI brings forth global competition and fundamental technological shifts. The US expects that AI-related transformation will “impact every corner” of the DoD (Department of Defense 2018, 5). This not only means technological or organizational changes but also that the very “character of the future battlefield” will undergo such a transformation, making the harnessing of AI a necessity (Department of Defense 2018, 4). Thus, the strategic environment is a pivotal moment that catalyzes power competition and provides an opportunity for adversaries of the US, to disrupt the country’s military-technological edge. France, however, tends to argue that this pivotal moment is not yet around the corner, since in the current state of affairs, AI applications remain limited and defense AI technologies still require fundamental progress,

before they “can be used in a controlled way” (Ministère des Armées 2019, 4). For France, the application of AI in the military aims foremost at maintaining operational superiority, or a mean (and not an end) to “continue to perform their missions” (Ministère des Armées 2019, 3). Whereas the US specifically names its adversaries (China and Russia), the French perspective provides a more elaborate world view: differentiating between AI superpowers (US and China); aspiring intermediate powers (EU); and a second circle of countries (France, Germany, UK, Japan, South Korea, Singapore, Israel and Canada), noting that the latter group’s autonomy depends on their cooperation and their niche strategies (Ministère des Armées 2019, 7). It is interesting though that France does not mention the role of Russia on the field, which creates a significantly different strategic assessment compared to the United States’ analysis.

Emerging threats

The US is also more explicit in its strategy concerning the perceived threats caused by Chinese and Russian AI-related technologies, emphasizing that the two’s investments in the field raise various questions regarding international norms and human rights (Department of Defense 2018, 5). From the US perspective these investments generate a destabilizing effect, while threatening to erode technological and operational advantage. As such, the US primarily links the issue of AI and defense to the maintenance of the global status quo, in which Washington’s advantage can be disrupted by rapid technological developments. Thus, the strategy puts the emphasis on the quickest possible adaptation of AI technologies to counter these efforts (Department of Defense 2018, 5).

France sees four areas of particular concerns on this field, including the possibility that adverse AI will predict modes of action; the paralysis of command capabilities as a result of the neutralization, deception or diversion; influence operations; and proliferation of high frequency hostile actions in the cyber sphere (Ministère des Armées 2019, 6). Apart from these, the French strategy reflects to a resuming arms race on the field. Although, France follows a more cautious policy than the US and does not link threats directly to China or Russia, the strategy still notes that the spread of AI will lead to an emerging arms race, in which several countries might try to alter the “established hierarchy of military power” (Ministère des Armées 2019, 6). This arms race also provides more room for non-state actors to achieve strategic objectives, while the technological changes also create new imbalances and encourage escalation, due to the fear of being on the wrong side of technological surprise; the advantage of pre-emptive use; and the rapidity of technological progress, that reduces time for political cooperation (Ministère des Armées 2019, 7). In contrast to the US, France also highlights threats posed by the use of AI, including the deception of human perception; risks arising from AI learning techniques; and technology dependence (and the potential loss of human skills) (Ministère des Armées 2019, 7).

Objectives and capabilities

The US and France are all interested in maintaining the global status quo, and the primary underlying objective behind their strategies is to invest into their AI capabilities as much as needed to maintain their perceived technological edge. This investment tackles a wide range of action in both cases, including not only the investment into technological development projects but also into workforce, civilian sector, companies, academia and allies as well.

Besides this underlying principle, the US DoD follows four broadly defined goals: it aims to protect US service members and civilians affected by military operations, through the reduction of risks and increase of precision; it aims to use AI to protect US citizens and critical infrastructures through enhanced prediction and identification of threats; it wants to

significantly reduce organizational inefficiencies; while it aims to become a pioneer in scaling AI with interagency, allied and coalition partners (Department of Defense 2018, 6). The strategy also provides a few examples, where the emphasis will be put in capability development projects (Department of Defense 2018, 11). These are not concretely defined projects but rather priority areas, in which AI-related technologies can play a major role, including situation-awareness and decision making (e.g. imagery analysis or exploration of new courses of action); increasing safety of operating equipment (e.g. in complex and rapidly changing situations); predictive maintenance and supply (e.g. predicting failure, automating diagnostics, data-driven maintenance and optimizing inventory levels); and the use of AI technologies for highly manual, repetitive and frequent tasks (to optimize DoD resources to higher-value activities).

Similarly, the French strategy builds on four major guidelines for a controlled defense AI. First, to keep freedom of action and interoperability with allies, which reflects on the capacity to counter adversary AI, but also on the increasing capability gap within the alliance that makes maintaining interoperability standards more difficult (Ministère des Armées 2019, 9). Second, the assurance of trustworthy, controlled and responsible AI, referring to the use of secure, transparent and human controlled systems in the military (Ministère des Armées 2019, 9). Third, the resilience and upgradability of systems, emphasizing the long term upgradability of systems, but also preserving the knowledge to conduct operations with AI systems in a degraded mode (Ministère des Armées 2019, 9). And fourth, the French strategy consequently emphasizes the notion of sovereignty concerning AI technologies, especially in the case of the military and the need to maintain a French controlled core of technologies to avoid dependence on foreign countries – including allied countries, like the United States (Ministère des Armées 2019, 9). In this context, France identifies seven priorities for AI-related capability development, and compared to its US counterpart, these are more concretely defined areas (Ministère des Armées 2019, 14-17): Decision and planning support (e.g.: synchronized detection of the tactical situation); Collaborative combat (e.g. management of radiofrequencies in coalition); Cyber security (e.g.: cyber-attack detection); Logistics and operational readiness (e.g.: predictive alerts, differentiated maintenance cycle); Intelligence (e.g: smart data mining); Robotics and autonomy (e.g.: multi-robot cooperation, drone swarms, automatically coordinated mobile robots, sentry robots); AI in support services (e.g.: decision support; automation of repetitive tasks, connected sensors; augmented agents or users; new recruitment methods).

Implications for intra-alliance dynamics

How might these capability and strategic fragmentations influence intra-alliance dynamics within NATO? Recently published works highlighted several challenges caused by the rapid spread of AI-enabled technologies across the alliance. For instance, Lin-Greenberg identifies the following obstacles on the operational level (Lin-Greenberg 2020, 62-67): new burden-sharing problems, due to the different capabilities among member states, creating new divisions between those countries that have and that have not significant AI capabilities; data sharing and standardization problems among allies; and vulnerability issues concerning the application of AI, making it more exploitable for adversary manipulation. Besides, the use of AI in alliances might hamper allied decision-making because it is compressing the timeline of decision-making processes on both political and military levels, and because of the uncertainty associated with AI technologies across the alliance, which again creates diverging national perceptions and policies concerning the use of AI (Lin-Greenberg 2020, 68-70).

Indeed, the analysis above demonstrates that many of these obstacles are already present in NATO. Capability gaps were always visible in the alliance (Fiott 2017, 418-423)

but the use of AI-enabled military technologies might easily lead to the emergence of a new form of capability gap. At this point, the integration of AI-enabled systems into allied military forces shows not only striking disparities but a deep level of fragmentation. This creates a broad variety of different capabilities, which however are employed by only a small number of countries. Hence, the AI-enabled capability gap creates a new division of intra-alliance labor as well. Evidently, countries with more programmes will become more capable for future modes of warfare, while others with less resources will have only limited capabilities to contribute to allied operations.

But today, it is no longer only about having or not having various advanced capabilities as it was often the case in the past. Of course, this remains and will remain a significant factor in the alliance, since there will be always member states, which have more resources and are militarily more capable than others. However, the current state of affairs is not solely influenced by the question of resources, and gaps are emerging among those members of the alliance, which have more capabilities.

This poses several questions for the future of NATO. On the one hand, the spread of different AI-enabled programmes creates future interoperability problems for future allied operations. On the other hand, their implications also weaken the internal cohesion among member states, since the most AI-capable member states are becoming each other's competitors. This has industrial and political motives as well, since member states, which are capable to develop their own capabilities tend to be reluctant to procure AI-enabled technologies from other sources. Besides, many of them are also cautious to share their most sensitive technological innovations, due to the broadly varying level of trust among member states. Hence, policies pursued by AI great powers are deepening intra-alliance fragmentations, while AI middle powers, like Poland or the Netherlands, are more likely to procure AI-enabled technologies from other member states. In the long run, they might become even more interoperable with other allies than AI great powers like the US, the UK, Germany, France or Turkey. Of course, the use of different systems requires different training, logistics and doctrines, which in the long run can lead to longstanding organizational impacts as well, hence generating a cascading effect and further widening the gaps among allies. Moreover, as the examples of France and the United States demonstrate, these differences are already transforming into diverging strategic paths among these two AI great powers. These differences are affecting their basic assessments on the strategic environment, threats as well as objectives and capabilities. Although NATO member states are still in the early process of adjusting their strategic thinking to the emerging technological developments, these early strategic divergences show that the spread of AI-enabled systems will pose new and unforeseen challenges for the alliance on various levels.

Conclusions

This article sought to answer how the spread of AI-enabled technologies across the full spectrum of the militaries transforms NATO member states' strategic thinking. The article argued that the spread of AI-enabled technologies will enhance already existing strategic divergences within NATO, while creating new forms of capability gaps among member states.

For this purpose, the article highlighted the transformative impact of AI-enabled technologies on armed forces based on the rapidly spreading AI military literature. After that, the article focused on the empirical level to highlight intra-alliance capability and strategic fragmentations. It analyzed the member state-specific data of NATO CCDCOE and cross referenced it with operators and analyzed France's and the United States' AI defense strategies with regards to their assessments on the strategic environment; emerging threats; as

well as objectives and capabilities. Based on these results, the article also discussed how these capability and strategic fragmentations might affect intra-alliance dynamics, while creating new forms of interoperability problems and fragmentations among member states. The analysis demonstrated that NATO is facing an emerging gap not just between those who have and have not AI-enabled capabilities but also among member states with more AI-enabled systems. In this process, AI-capable great powers are becoming each other's competitors, while AI middle powers are more likely to become more interoperable with other allies. Differences among AI great powers are also appearing on the strategic level, as the assessment of France's and the United States' AI defense strategies highlight diverging strategic paths in several respects between these two influential member states.

It is important to note that the integration of AI-enabled systems into NATO member states' militaries is still in its early phase, although this process will rapidly accelerate during the next decade as AI will spread more quickly across the technology spectrum. Therefore, the fact that NATO is showing the signs of significant capability and strategic fragmentations already in this early stage is posing a serious risk for the future interoperability among member states and the internal cohesion of the alliance in the long run.

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TRANSFORMATIONS DETERMINED BY THE EMERGENCE OF NEW TECHNOLOGIES IN THE MILITARY FIELD

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Abstract: *Rivalries between the great powers of the world have always been the main cause of the outbreak of world wars. Industrial-technological revolutions have constantly influenced the life of society and implicitly the military power of each nation. The emergence of new military technologies determines radical and complex changes in the structure, principles and fighting methods used in the Romanian Army. New technologies have been, are and will be the key to maintaining the Romanian Army in international military structures as well as the basis for the gradual development of its own military industry. The investments in high technologies, national infrastructure but also in National Defense domain can be the engine of economical growth of our country and by consequence, increasing global credibility upon Romania`s capabilities. The evolution of the informational domain convinced us that always the operational environment is constantly changing, which determines the adaptation of military technologies based on scientific discoveries and everyday realities. Technological superiority represented by artificial intelligence, quantum physics, 5 G technology, can be used as a Trojan horse to act violently on a military power that does not keep up with the development of technology. Technological progress means life improvement, but it can also bring new challenges or problems. Therefore, political goals must support the country`s national defense strategy to limit and overcome potential enemies.*

Keywords: *state-of-the-art technologies; technological and industrial revolution; information; robotics; operational environment.*

Introduction

The topic is debated in various books, magazines, publications, doctoral theses, representing a challenge for the new generation of soldiers who question the very existence of a revolutionary technological process in the contemporary era.

The research objectives are represented by identifying and highlighting the ways in which new technologies make their mark on the specific activities of the Roumanian National Defense System, on doctrines, manuals, operating procedures and last but not least on the field of military scientific research in the perspective of the development and endowment of military structures with more and more advanced equipment but also why not, on the development of its own military industry. In this regard, the article aims is to present, in a synthetic and integrated way, the problem of technological revolutions and the impact they have had and have in the National Defense System and in society, as well as aspects regarding the importance or significance of the development processes of technologies in the field of computer science, defense, artificial intelligence and emotional.

The historiographical research of weapons and military technologies from the earliest times to the present day, together with the skill of the people who use them, are means by which the Romanian people remained in the Carpatho-Danubian-Pontic space for more than two millennia and gave birth to a series of questions such as: What did the industrial or technological revolutions represent for the Romanian military system? Is there a rapid and

profound change in technology in the age we live in? What are the effects of cutting-edge technology on the development of the military system? Is it possible to revitalize the Romanian military industry and is it worth the effort?

The answers to these questions focus the research effort on studying the theoretical and practical implications they have and which could lead to some changes in the direction of investing funds for the acquisition of military equipment and last but not least, investment in human resources, which must use sophisticated equipment skillfully and use it to achieve the proposed goals faster and smarter.

The transformations brought about by the emergence of technologies in the military field are radical and complex, adapted to the ever-changing security environment. The political factor decisively influences the acquisitions of combat equipment, superior weapons and what results from this fact: changes in the forms and procedures of combat, structural changes in the armed forces, the elaboration of new military doctrines and theories. At the same time, the transformations of the military field determined by technological development, make science one of the most important factors for holding military power in a coalition and for the development and outcome of military conflicts.

The Romanian Army transformation is carried out with the evolution of society and concerns all the component elements of the military system: command, organizational structure, use of forces, endowment with technique, materials and equipment. Given the issues presented, we will try to answer the question: What are the relations between politics and military strategy in the current conditions and how does technological development influence the military system?

Conceptual approaches to technological-industrial revolutions and their impact on the military field

Living in such a turbulent and explosive age, in a life of permanent and profound change in all areas of life, it is necessary to clarify many enigmas and burning issues, without caring for humanity will not be able to step on a path that to carry at the desired end. Starting from the idea that “industrial and computer technology revolutions have had profoundly disruptive and creative effects at the same time” (Ullman 2021) we will analyze the main known events and their implications for humanity.

Until the eighteenth century, inventors were not scientists but people who worked directly in the production process and discovered ways to make work more efficient. We can say that this is how the first ships or siege weapons were built, which were not based on engineering calculations.

The first technological-industrial revolution could be considered the one of the end of the 18th century, the beginning of the 19th century, period in which the man's hand was replaced with the machine-tool, his power with the steam-based machine, when cities and industry were born, implicitly the armies of the world benefited from more and more advanced weapons (Orange 2022). The development of modern society has led to a considerable increase in military power, both through the formation of thought and especially through the development of the combative military capability of combat weapons. Thus appeared the first military specialties such as infantry, cavalry, artillery and combat engineers, endowed with combat techniques specific to the times: bullets, pistols, cannons, etc.

The essence of the second revolution at the end of the 19th century consisted in the scientific and technical development, in the appearance of electronics, informatics, in the conditions of increasing the number of the population and the correlations between them (Orange 2022).

The scientific, technical and electronic development made it possible to create electricity which led to the advent of the telegraph, the telephone, and later the discovery of the automobile. The computer revolution took a special place, in a priority way, in that period, because information became a power, as well as physical force or weapons. The technique of faster transmission of an increasing amount of information has given the society an indisputable superiority. Information has played an extremely important role in the development of society, which has been amplified throughout historical evolution.

Population growth has had and still has an overwhelming role in the development of all fields of activity, both through the larger workforce and through the increase in the number of those endowed with a scientific capacity channeled to the development of social life.

The multitude of these revolutionary processes determined major changes regarding the relationship between man and nature, the military field being implicitly experiencing a great development through the appearance of cars equipped with internal combustion engines, tanks, planes at the beginning of the twentieth century. The advent of electricity led to the creation of the means of transmission and electronic technology made it possible to automate troop management and troop supply activities. Thus the army developed an organizational framework with distinct units and large units, with well-defined functions and objectives, the endowment of the troops being brought to a modern level, which inevitably led to the greatest world conflagrations: the First and Second World Wars.

In the second half of the twentieth century, a third revolutionary wave culminated in the emergence of a new source of energy, namely nuclear (Orange 2022). Electronic products appeared with the invention of transistors and then the microprocessor (1970) and, last but not least, the development of the telecommunications and computer industry. The development of new technologies has given rise to new areas of research, especially space and biotechnology domain. A new era has emerged that has led to the automation of production processes and the emergence of industrial robots. The population continued to play a leading role in the manufacture and development of all goods and found the solution to quality assurance by achieving cutting-edge technologies in the field of electronics, computer science, robotics and bionics. Thus physical force gradually began to be replaced by an increasing number of intellectual operations.

The armies of the whole world have developed tremendously through the judicious organization of military categories and specialties, through the use of modern forms and procedures of combat, through the provision of automated materials, weapons and technologies, but also through the creation of an exceptional military education system. The atomonuclear technique determines the taking of strict national defense measures and the informatics one knows a great development during this period and constitutes the means through which the troops are led, performing the navigation, observing the battlefield, keeping in touch by means of transmissions and last but not least armament accuracy.

Thus the electronic means have led to the increase of the efficiency of the classical armament and to the change of the physiognomy of the military technique. Information technology and electronic components have gradually led to the development of complex automation systems that have increasingly developed the combat capability of armies. The quality and performance obtained have uses in ensuring the accuracy of missiles, radio-electronic combat systems, warning and control, troop leadership, etc.

The fourth revolution considered to have appeared with the invention of the Internet, at the beginning of the 3rd millennium, is based on the latest technological phenomenon – digitalization (Orange 2022). We are currently talking about autonomous vehicles and drones, virtual assistants, which has made possible new products and services that support our daily work. The military is invaded by sophisticated technologies that require significant human and material resources to keep up with industrial development.

So, we believe that the technological-industrial revolutions that led to automation based on electronics and microelectronics, later digitalization, are undoubtedly a new stage in human history and bring with its important changes in the use of human resources. At present, human does nothing but communicate to modern machines, by means of all kinds of computer means, what exactly they are to perform. An increasing number of people can become manipulators of information in various forms. The intellectualization of social activities leads to the gradual disappearance of the differences between physical and intellectual work. It is a true information culture that causes a radical change in our previous relationships with the natural environment, material and social, creating new values, a new style of approach to actions, new human relationships, a new way of seeing society and the world.

Information is becoming more and more an important factor of power than material resources and energy, and its lack decisively influences social development. Digital computer tools are used in economics, education, communications, public administration, culture, research, army, in everyday life. It is very clear that the leap of the transition to the information age, to artificial intelligence programs, is important and even fundamental for the entire population of the planet.

The current technological development is truly extraordinary, but it can be seen that the conventional war has not ended, with a present conflict such as that between Ukraine and Russia. Although there are technologies such as drones, computer-controlled weapons, near-instantaneous transmissions, turnkey combat techniques and a permanently known geographical positioning, today Russia – one of the most powerful armies in the world, uses in combat, the conventional tank and cannon, the usual firearms and combat procedures that no longer seem to be in line with the expected modern visions. Probably the transition of all armies from conventional to modern, digital technology will take place in a much longer period than we would have imagined. In view of historical developments, in its analysis and decision-making, society must take into account new realities, and decision-makers and scientists must pave the way for the development of society.

For less developed countries, the problem of introducing new technologies is not possible and there is a gap that causes a certain military inferiority. Analyzing the structural changes due to the transition to new technologies, we conclude that it is necessary to ensure that technological development does not lead to disruptions and undesirable consequences on the harmonious development of economic, technological, social-human, ecological and last but not least military power. The decisive character of science and technology in relation to the development of military power is imprinted, first of all, by their role in increasing the country's defense capacity. Given this role, the modernization of military technology by introducing microprocessors, robots, cyber leadership involves major transformations in the military field.

At the same time, “developments generate a diversified and increased complexity of the security risks and threats, such as cyber-attacks, information-related activities (hostile/influence actions carried out in the public space, disinformation, spread of fake or false news, etc.), as well as potential harmful and destabilising effects triggered by bringing in some civilian used technologies within asymmetric and hybrid actions, thus entailing new security challenges” (Strategia Națională de Apărare a Țării pentru perioada 2020-2024 2020).

The historical analysis of technological revolutions shows us the speed with which science and technology are advancing, shows us that human evolution is irreversible and leads us to think that in the not too distant future the artificial intelligence used in everyday life is not a dream.

We believe that the analysis of technological revolutions is directly related to the evolution of the security operational environment, which is constantly changing, so it is interesting to analyze how cutting-edge technologies have positive or negative consequences on the military environment and society in general. The application of quality high technologies and the new doctrines implicitly adapted, determines a revolution in military affairs. The physiognomy of future armed conflicts includes generations of smart weapons, C4I systems, electronic reconnaissance, surveillance and strike systems, information and psychological warfare techniques.

Analysis of the current operational environment from the perspective of introducing cutting-edge technologies in the military field

The evolution of the COVID-19 pandemic, the reconfiguration of Europe's security architecture, instability and strategic shocks, show that “technological trends related to the new weapons design are influenced by the evolving nature of threats but also to evolutions of dual-use technologies within civilian sector which could be used in asymmetric and hybrid actions” (Strategia Națională de Apărare a Țării pentru perioada 2020-2024 2020).

The modern joint operating environment is constantly changing and now includes the ground, sea, physical / air, information, cybernetic and cosmic space from the point of view of the opponent, neutral or other actors. It is interesting to address how certain factors such as infrastructure elements, weather, terrain, electromagnetic spectrum, chemical, biological, radiological and nuclear threats and dangers, politics, local culture and resources in the area, influence the operational environment and determine new technologies to adapt to these challenges.

In the future, “terrestrial, air, sea, and space will use the most relevant security technologies such as hypersonic vectors, 5G technology, quantum communications infrastructure, laser and electromagnetic applications, air and submarine space monitoring equipment, artificial intelligence, autonomous platforms” (Strategia Națională de Apărare a Țării pentru perioada 2020-2024 2020). The command-control component of the military system has established clear directions of action to understand the truly overwhelming importance of the new technological revolution, the great and profound changes taking place before our eyes in the development of science, technology, human resources and implicitly the military.

The opponent and the neutral or other actors influence the development of their own technologies through the necessary composition and the required characteristics. Different reservations about the new are always expressed, observed in the training fields when new technologies fail, or in theaters of operations where the operational environment is full of unprecedented challenges. However, these findings should not discourage those who use the technology, nor should they stop production and procurement procedures that have begun.

The infrastructure elements, weather, terrain are very important in defining the operational environment and have a decisive influence in establishing the characteristics of manufacturing and use of military equipment and technologies.

The relationship between politics and military strategy greatly influences the technology of weapons systems by making decisions to launch research, design and experimentation programs. In today's security environment, politics, strategy and technology are interpreted in terms of the complex relationships between them. Politics always has different orientations and trends, the strategy must take into account the characteristics of new technologies, and they must be constantly evolving. If in the past armament influenced fighting tactics and not strategy, nowadays it is the art of having the best possible means.

Thus we can say that the strategy will remain subordinate to politics and will have the role of scientific discipline and field of practice.

New problems can only be solved with ingenious methods, through cutting-edge technologies, moving in the right direction and at a steady pace. The new technological revolution, digital informatics, is taking place at a time when we already have a high degree of development of science and technology. “Quantum computers could, for example, make networks impossible for hackers to penetrate, making cyber and social media more secure” (H. K. Ullman 2021). It is possible that this development will lead to finding solutions to overcoming diseases and pandemics without a cure today, bringing the possibility of living in space or solving problems related to borders, ethnic and religious differences.

The military system was, is and will be the field that ensures security, sovereignty and understanding among the world's civilizations. The state-of-the-art technologies developed by science are somewhat oriented towards the defense of national interests, and research by military engineers develops extremely important defense systems in extreme situations during the current military conflicts.

According to the objectives of the military strategy, the army is the instrument that, in order to win the battle “is based on technological progress and its inclusion in the development of capabilities” (Strategia Militară a României 2021). Although, in the Romanian Army, most of the military infrastructure and technology remains at the conventional level, we can appreciate the interest of the leading factors for the rapid implementation of modern acquisition programs, for the elaboration of action concepts based on present realities and for participation in international conferences for knowledge of smart technologies that ensure the elimination of physical effort and ensure the quality and accuracy of objectives. In this moment we are bent for to discover how we can produce intelligent technologies, how we can create our new softwares, all-important in order to simplify the making decision military process and how to have the best programmes of maintaining and assuming tasks which means more intellectual effort.

Although it is easier to make direct acquisitions of advanced technologies, we have the advantage of human resources highly trained and focused on knowledge, self-development and interest to create on their own. Robotics and artificial intelligence are already areas of national interest that are intended to be studied since the training period of young military personnel.

It is expected that military leaders and the new generation of military personnel will show a greater interest in the development of the field of robotics starting from "playing" on the computer and developing as the results and positive assessments are obtained. Artificial intelligence is not a sufficiently addressed field in Romania, but through the conferences and working groups we participate in with military and civilian personnel, we have begun to realize the need to replace the human factor in certain areas of military activity and we can hope that robotics will reduce the number of casualties on the battlefield.

In the context of contemporary reality, the information, if we think about the ever-evolving technology, the artificial intelligence based on algorithms, already applied in countries like the USA and China, military conflicts seem to become a nightmare for those without political and economic power.

In any case, human intelligence is one of the most important factors in winning wars and technological advances in the military field. Commanders play an extremely important role in making decisions. These are taken both on the basis of previous experience and knowledge and especially on the basis of intelligence and momentary brilliance. Romania's integration into almost all existing security structures in the world, NATO, EU, UN, OSCE was possible primarily due to the ability of the military to adopt its own procedures, working principles used around the world and to adapt quickly to the use of new technologies. The

Romanian intelligence and military skill perfected by participating with the first confrontation in Bosnia and Herzegovina, at IFOR missions (Implementation Force), SFOR (Security Force), ALTHEA, later the war in Iraq and Afghanistan, under NATO command, lead us quickly towards development in order to remain in the select club of the countries that decide the fate of the world.

So, the new technologies gradually introduced in the military field and the quality personnel who use them bring fast and profound changes in the planning and decision-making process, in the way of conducting military conflicts and extraordinary benefits to the life we live in peace and quiet. A rapid and effective solution could even be the development of the Romanian military research-scientific sector, which can become the key to the success of the assertion on the world market.

Implementation of state-of-the-art technologies through the development of the military scientific research sector

In the context of the terrorist threat or factors of political, economic, scientific, ethnic, geographical, military, geopolitical and other origins, the great powers of the world reserve the right to intervene militarily in any country in the world, ensuring, among other things, and access to strategic energy resources, drivers of increasing the capacity to impose new global power cores. In this regard, NATO's latest strategic concept states that “the conventional threat cannot be ignored. Many regions and countries around the world have embarked on the acquisition of important modern military capabilities, with unpredictable consequences for international stability and Euro-Atlantic security” (Conceptual strategic al NATO n.d.). Even if the natural evolution of the society implies the development on the economic, informatics, social levels, both at state, regional and global level, it would be a mistake to neglect the historical reality of total exclusion of the possibility of outbreak of interstate military confrontations, both in the near future as well as in the distant one.

The unpredictability of the operational environment characterized by a series of political, economic, geopolitical factors directs our attention to new technologies that will make a difference over time. Keeping up with NATO member countries is possible by „planning and conducting scientific research in accordance with the needs of conceptual and technological development of the Romanian Army structures” (Carta albă a apărării 2021).

The political decisions, accompanied by large-scale organizational measures and supported by the necessary financial funds, materialized in the field of scientific research in the Romanian Army by setting up new scientific research institutions or by developing existing ones, which had and have as main objective research, design and participation in the realization of the military equipment of Romanian origin. At the moment, the Military Equipment and Technologies Research Agency coordinates research and innovation centers, equipped with modern equipment, well-equipped workshops, pilot stations, special warehouses that ensure the best conditions for innovation, modernization, extremely useful in the field of information and communication technologies, NRBC defense and ecology, military technology and technology, weapons systems, flight and naval forces.

In order to modernize the technique of fighting through innovation, it is necessary the collaboration between the scientific research institutions from the army and the special structures from the Ministry of National Economy, the profile economic units and the institutions of higher technical education from all over the country. The analysis of the solutions obtained in the laboratories of the research centers, the contacting of the companies or factories of profile for the transposition in practice of the military inventions are important steps that are currently being carried out for the development of the country's defense capacity.

Romanian military researchers are part of the process of assimilating new prototypes of military equipment and materials by consulting them by those who make acquisitions. The diversity of research areas, the number of projects funded and developed in stages based on existing legislation, as well as the large number of specific equipment included in the endowment place us at a high level in the hierarchy of European countries that invest and obtain research products.

Leading the research activity is a growing theoretical interest in leading the National Defense System, which is why symposia, planning conferences and scientific evaluation are organized at national and international level. The activity of military research must lead to the superior capitalization of the available resources, to the technological development based on the new conquests of science and technology. In particular, scientific research must thoroughly study the structure of materials, physicochemical, biochemical, genetic processes and develop materials, equipment and technology with superior properties, new technologies that meet the requirements of the modern battlefield.

The Romanian Army has obtained excellent results as a result of the titanic work in the field of scientific research, a fact materialized by the realization in the national economy, with the exception of some imported minor components, of the whole range of equipment and chemical materials. Research Center for Ecology and CBRN subordinated to the Research Agency for Military Technology and Technologies has teams of leading scientific researchers, chemists, physicists, electronicians, pharmacists, doctors, biologists, biochemists, mechanics, armaments, motorists, military and civilians, together with assistants, technicians, laboratory workers, specialized personnel, logistically supported by the staff from the administrative sector, they made specific equipment with a high degree of originality, a situation that positively influenced the prestige of Romanians nationally and internationally. Bilateral technical collaborations with scientific research institutions from other armies or on the Warsaw Pact line have also played an important role in evaluating the performance of developed equipment.

Given the need for brief presentation of ideas, it is interesting to approach the field of military chemistry research which has remarkable achievements that have lasted for a long time and are excellent even today in the field of personal protective equipment: gas mask (1974) and gas mask with liquid supply device and sound amplifier device (1985).

From the field of military dosimetry and nuclear control equipment were realized: thermoluminescent dosimetric equipment AD-23 (1978), roentgenometer with display of the numbers R.B.A.C. (1985), the thermoluminescent dosimetric equipment AD-24 (1985) and the R.A.B. alpha-beta radiometer (1986).

For the execution of radioactive and chemical decontamination, engineers and technicians have designed, made and proposed for approval a wide range of prototypes: the unique liquid in the decontamination package, P.A.I.-80 (1980), ADTT-3M and ADTT-44 decontamination trucks, ATT-1 heat treatment truck and ADE-84 (1981) decontamination equipment truck. The chemical control equipment patented as inventions was: the automatic warning device for organophosphorus compounds ASTN-1 (1980), the automatic warning device for toxic neuromuscular substances ASTN-2 (1986), as well as other types of indicator tubes.

Also, the performance of nuclear and chemical control equipment on aircraft and on river and sea vessels has been improved. The decontamination packages have been modernized and their multifunctionality has been achieved (decontamination of equipment, weapons, land, personnel and transfer of liquids), being also equipped with water heating units and decontamination liquid and multi-purpose liquid for chemical and radioactive decontamination have been developed.

It can be seen that after 1990, there is a decline in military chemistry due to lower budget allocations and lower forecasts for the use of chemical weapons. However, the following were made: protection suit for all branches, single-use protective cape, individual dosimeter with DIAC digital display and DET-2 family of dosimeters. Other notable achievements were: the first ballistic protection vest level III-A, the ballistic helmet, the 99 mm. caliber grenade launcher, the cumulative load for fast metal cutting, the kinetic bolt of disintegrant material for the breaker.

Therefore, all these remarkable achievements are appreciated as the label of the Romanian military institutions of scientific research and the more and more frequent visits of the foreign delegations show us the special interest and the uniqueness of the accomplished things. Also, the participation in the national research, development and innovation programs by winning the competition and awarding some very interesting projects, having as beneficiary the army and other organization with attributions in the field of national security prove the importance of science in the military environment and not only.

Conclusions

The current state of knowledge of world and national cutting-edge technologies is constantly increasing due to the participation with elite personnel from the military system in the working groups organized at the level of the alliances we are part of as well as nationally through knowledgeable military engineers and eager to create new things nationally. Continuous research in this regard will implicitly determine the finding of solutions to simplify the planning process, reduce the time allocated to each phase and make an optimal decision in order to carry out a military operation.

From our point of view, the current technological revolution, which involves artificial intelligence, digitization, cannot replace human reason, the feelings and experience of military personnel, so it is necessary that the development of technology and its use in armed conflict be done with great thrift.

At present, the groups for planning, conducting, executing and evaluating military operations are made up of experienced military personnel with advanced knowledge in the fields of operations, human and material resources, communications and informatics, which leads us to the planned objectives quickly, depending on material resources and allocated financial funds.

In the future, it is expected that regardless of costs, the introduction of artificial intelligence algorithms will lead to the resizing of military structures, the training of personnel in real conflict conditions through intelligent technologies and equipment to minimize human losses. It is necessary to pay special attention to human resources, which must be selected, prepared and trained in conditions that will later allow the use of high technology. The introduction of extremely complex technical categories in the military endowment determines the corps of military instructors and professors to find methods of research and learning of the new generation of soldiers for measuring short time intervals, establishing the coordinates of targets he cannot see with the naked eye, acquiring abstract knowledge on the basis of which laser equipment or smart weapons operate.

Given the fast development of technology, it is necessary for military leaders to be elected so that they understand the modernization phenomenon and lead the human force not to exhaust it physically but to develop it intellectually.

A first direction to follow is the obligation of commanders at all levels to study the need and importance that artificial intelligence has had and has in modern technology used in the planning of peace and war operations, on the process of decision-making as well as on the technology used directly in conducting military operations.

A second direction to be pursued is to influence decision-making power, on the need to maintain the balance of forces and means, by giving scientists confidence in the development of technologies, to bring Romanian military structures to NATO standards and requirements.

The third direction of analysis proposed would be the exponential increase of the scientific character of the research by enrolling a larger number of students in the Military Technical Academy, by increasing the quality of materials and equipment necessary for the creation of inventions, by establishing clear objectives to be achieved for the beneficiaries of the resulting products and by planning the research activity according to the resources of possible enemies. It is possible that the pace of technical and scientific development will become slower due to the huge volume of information that has invaded the world, but the elimination of limiting factors such as: reduced human and material resources, the impossibility of having the entire flow of technical-scientific information, the increase of schooling periods due to the necessary volume of knowledge, can lead to progress.

Technological-industrial revolutions demonstrate that technology changes mindsets, creates the possibility for human resources to surround themselves with high-quality people, and provides time for intellectual development outside of the service that provides them with a livelihood. Undoubtedly, their impact on the military is felt especially in the production of weapons and ammunition, which produces important changes in leadership, organization, methods and procedures.

Each of us is aware that modern technology involves exorbitant costs, but step by step, over time, it can create unexpected benefits for the entire society in which we live.

By promoting modern ideas and the ability to influence the direction of funds towards technical-scientific research for the development of military equipment and techniques, by using the human military and civilian elites, as well as the material resources existing in the Romanian institutions, we could discover the key to the success of the modern Romanian industrial revolution.

Simultaneously with the development of the means of fighting, the correlation between the types of weapons and the categories of armed forces changes. As the armor troops and automobiles developed a lot after the Second World War, the number of infantry was reduced, the artillery was resized, new research units appeared, battlefield observation, combat engineers, special forces, ensuring the maintenance of modern technology. Thus, the Romanian Army, under the impulse of the technical-scientific progress, first of all of informatics, cybernetics, electronics, has become a modern structure with a smaller number of direct fighters, but able to handle the present technique, with extremely effective effects in contemporary combat. The military structures develop over time according to the social-historical context, registering shortcomings, re-evaluations and successive improvements.

Analyzing the evolution of the military structures as a result of the development process of the society, a continuous reconfiguration of them is necessary due to the acquisitions of high-performance equipment. The transformation process is not an easy one and involves sacrifices from both human resources and substantial material and financial resources.

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MODELLING AND SIMULATION AS A SERVICE (MSaaS) - EVOLUTION OF THE ALLIED FRAMEWORK WITHIN NATO

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Abstract: NATO Modelling and Simulation Group (NMSG), the Alliance's modelling and simulation body, has focused its efforts in recent years on developing the concept of Modelling and Simulation as a Service (MSaaS), which aims to solve the difficulties in terms of cost and interoperability between existing modelling and simulation systems within Member States. The concept is based on cloud computing and Service Oriented Architecture (SOA) and its main objective is to assure improved flexibility, better accessibility and scalability, with lower costs for modelling and simulation applications. Advances in service-oriented architecture (SOA) and cloud computing are an opportunity to improve the use of modelling and simulation capabilities within NATO. MSaaS is based on the idea of being able to use a computer product without a major investment in hardware, software, staff and infrastructure. Thus, the military user can be situated in a central location, while the services offered can be available through the network. The research and development activities of MSaaS within NATO were undertaken by the NATO Modelling and Simulation Group (NMSG) on the basis of a multi-stage structured strategy, which started in 2013. At present, the implementation strategy is in MSaaS Specification and Validation phase, to be completed in 2022.

Keywords: modelling; simulation; service; interoperability; network; architecture.

Introduction

Modelling and simulation is a major element of military interest because, given the characteristics of the current operational environment: high complexity, uncertainty, massive technology, hybrid threats, large number of non-state actors, correlated with the unprecedented technological advance of the last period, it has provided states with a fast, flexible way, with minimal risks and costs, to adapt to the environment and deal with threats.

Modelling and simulation in the military field has as main areas of applicability individual and collective training, operational planning, assessment of conflict situations, acquisition of equipment, development of tactics, doctrines and alternative force structures.

At national level, the importance of modelling and simulation in the training process is recognized in the Romanian Military Strategy: The training of the force structure will be carried out by conducting training activities in conditions as close as possible to those of the modern combat space and the hybrid environment, with the integration of simulation-modelling capabilities, at all hierarchical levels (Strategia Militară A României 2021)

The use of modelling and simulation has a number of advantages, but it also has limitations. A problem facing the field of modelling and simulation in the military environment is generated by the increased time and costs required to develop models for all elements that will be part of the simulation, a problem that stems from the complexity of the current operational environment and how quickly it changes. Also, another shortcoming is the problem of compatibility and accessibility between the modelling-simulation tools of different states, which represents a major impediment in the case of multinational exercises and operations.

Within NATO, the field of modelling and simulation is managed by NATO Science and Technology Organization (STO) through NATO Modelling and Simulation Group (NMSG) whose mission “is to promote co-operation among Alliance bodies, NATO member nations and partner nations to maximise the effective utilisation of M&S.” (NATO Science and Technology Organization n.d.)

NATO's modelling and simulation objectives are set out in the *NATO Modelling and Simulation Master Plan* (NATO Modelling and Simulation Master Plan 2012): establishing a common technical architecture to ensure interoperability and reuse, coordination and joint services to increase cost-effectiveness, develop models and simulations, use simulations to increase the effectiveness of NATO missions and integration of new technologies.

NATO's response to the problems of cost and accessibility in the field of military modelling and simulation is the introduction of a new concept - Modelling and Simulation as a Service (MSaaS).

1. Modelling and Simulation as a Service – defining the concept

A variety of hardware, software components, and skilled personnel are required to implement the models and simulations, which in most case can be expensive and difficult to deploy. The solution is the concept of cloud computing which is based on the idea of being able to use a computer product without a major investment in hardware, software, staff and infrastructure. Thus, they can be located in a central location, while the services offered can be available through the network.

Through cloud computing you get improved flexibility, better accessibility and scalability, increased trust in the services provided that will benefit both the user and the provider. By pooling resources, costs will be reduced, allowing providers to ensure services to multiple customers at the same time. Another advantage “is that individual services can be easily combined to efficiently form new, more complex services (proper design of the service landscape provided), leading to a reduction in development cost and time.” (TR-MSG-131 2015)

Advances in service-oriented architecture (SOA) and cloud computing are an opportunity to improve the use of modelling and simulation capabilities within NATO. Modelling and Simulation as a Service (MSaaS) is a concept that is based on service orientation and the use of cloud computing in order to provide simulation environments and simulation elements that can be implemented and executed on demand.

“The MSaaS paradigm supports stand-alone use as well as integration of multiple simulated and real systems into a unified cloud-based simulation environment whenever the need arises.” (TR-MSG-136-Part-VI 2019)

The concept of Modelling and Simulation as a Service is defined in the final report of the MSG-131 team of specialists entitled *Modelling and Simulation as a Service: New Concepts and Service-Oriented Architectures* as follows: “M&S as a Service (MSaaS) is a means of delivering value to customers to enable or support modelling and simulation (M&S) user applications and capabilities as well as to provide associated data on demand without the ownership of specific costs and risks.” (TR-MSG-131 2015) The value is determined by the customers, in the case of a service it is correlated with what allows the user to achieve. Thus, MSaaS is an organizational and architectural approach that is based on abstraction, reuse and discovery of new modelling-simulation services. The main objective of MSaaS is to assure the fulfillment of operational requirements and to improve the development, operation and maintenance of modelling and simulation applications.

2. Advantages and disadvantages of MSaaS

NATO specialists have identified a number of advantages and disadvantages, general or specific to the military environment, of MSaaS. (TR-MSG-131 2015)

The general advantages identified are:

- Self-Service- users can have automatic access to a database or applications without the need for interaction with an operator;
- Capabilities can be found on the network and can be accessed through client platforms (phones, laptops, workstations);
- Resources are allocated dynamically at the request of the consumer and can be used by a large number of customers simultaneously;
- Resource utilization can be monitored and reported;
- The supplier can perform the updates automatically, the updated version being made available to the customer in real time;
- Services can be used as components in other more complex services;
- The services can be reused;

The advantages of MSaaS in the military are that it eliminates the need to use large hardware components, the end user does not have to perform complex maintenance activities, resources are accessible from anywhere, can be used by more people and provide flexible solutions to suit needs.

The disadvantages of MSaaS are:

- Security, confidentiality, accountability and risk management are more difficult in a distributed and heterogeneous environment with a large number of users;
- Dependence on network connections increases vulnerability;
- Adapting existing M&S applications to be used as services and uploaded to the cloud can be difficult and costly;
- Resources are managed by the provider which reduces the degree to which the user can modify them;
- Updates to the components of a complex service will require it to go again through the validation phase;
- The network infrastructure provided to the military user is often precarious, which will make it difficult to use M&S services in certain situations;
- Human interaction is reduced.

3. The stage of MSaaS development within NATO

NATO has found that it is necessary to undertake MSaaS research by NATO Modelling and Simulation Group (NMSG) specialists to better understand the concept. The strategy for implementing MSaaS at NATO level is presented in Figure no. 1.

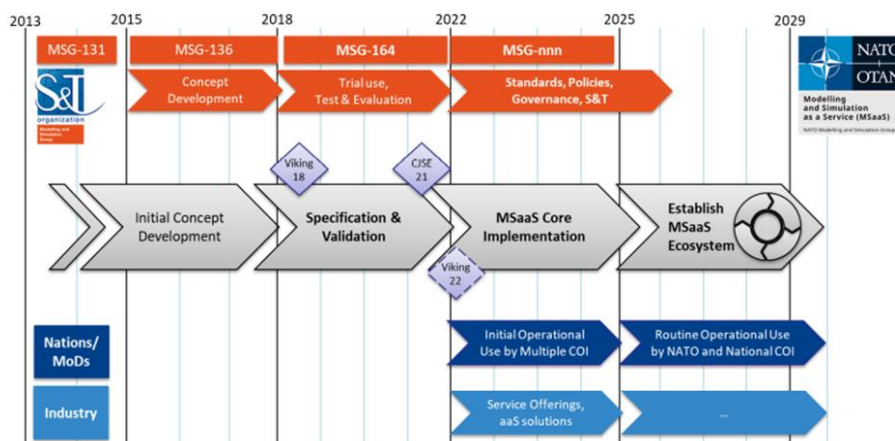


Figure no. 1. MSaaS implementation strategy within NATO
(Source: Siegfried n.d.)

The first working group in the field of MSaaS was MSG-131 which carried out its activity in the period 2013-2015 resulting in the elaboration of *TR-MSG-131: Modelling and Simulation as a Service: New Concepts and Service-Oriented Architectures*. The main focus of the working group was to gather and integrate Member States experiences and expertise in the use of cloud computing and service-based architecture in modelling and simulation, concluding that MSaaS will provide a number of benefits.

The conclusions brought by MSG-131 triggered the development stage of the initial concept which took place in the period 2015-2018 led by the MSG-136 working group. NATO's STO-TR-MSG-136 activity in the field of MSaaS had the following subgroups and research directions:

- “a. R-MSG-136-Part-I (MSaaS – Rapid Deployment of Interoperable and Credible Simulation Environments);
- b. TR-MSG-136-Part-II (MSaaS Concept and Reference Architecture Evaluation Report);
- c. TR-MSG-136-Part-III (Operational Concept Document/OCD for the Allied Framework for MSaaS);
- d. TR-MSG-136-Part-IV (MSaaS, Volume 1: MSaaS Technical Reference Architecture);
- e. TR-MSG-136-Part-V (MSaaS, Volume 2: MSaaS Discovery Service and Metadata);
- f. TR-MSG-136-Part-VI (MSaaS, Volume 3: MSaaS Engineering Process);
- g. TR-MSG-136-Part-VII (MSaaS, Volume 4: Experimentation Report).” (Coman, Bârsan și Piele 2021)

The MSG-136 efforts laid the technical and organizational foundations of the common MSaaS framework in NATO, providing technical instructions, standards and architectural models. During the MSG-136 activity, a series of experiments were carried out with the aim of demonstrating that MSaaS is a viable solution to solve the cost and interoperability problems of modelling and simulation.

The development of the Allied Framework for M&S as a Service is the main focus of NATO's efforts to ensure the efficient and timely implementation of the MSaaS within the Alliance.

The Operational Concept of the Allied Framework for M&S as a Service is presented in Figure no. 2. “The Allied Framework for MSaaS defines the user facing capabilities (Front-end) and underlying technical infrastructure (Back-end). The Front-end provides access to a large variety of M&S capabilities from which the users are able to select the services that best suit their requirements, and track the experiences and lessons learned of other users.” (TR-MSG-136-Part-III 2019)

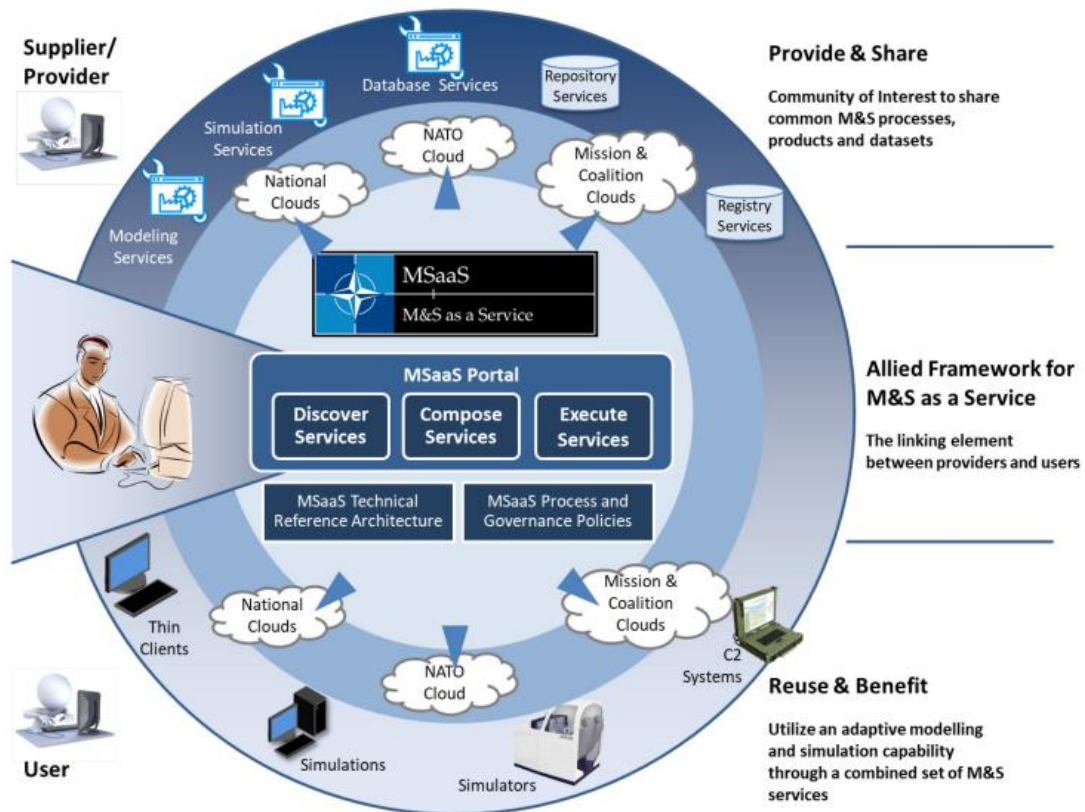


Figure no. 2. Operational Concept of the Allied Framework for M&S as a Service
 (Source: TR-MSG-136-Part-III 2019)

Within the Allied Framework the user has the possibility to discover the modelling and simulation services and resources, to compose complex simulation applications based on the discovered services and to execute the resulting simulation.

The Allied Framework for M&S as a Service is composed of:

“• Operational Concept Document (OCD): The OCD describes the intended use, key capabilities and desired effects of the Allied Framework for M&S as a Service from a user’s perspective.

• Technical Reference Architecture and Associated Volumes: The Technical Reference Architecture describes the architectural building blocks and patterns for realizing MSaaS capabilities.

• Governance Policies: The MSaaS Governance Policies identify MSaaS stakeholders, their relationships and provide guidance for implementing and maintaining the Allied Framework for M&S as a Service as a persistent capability.” (TR-MSG-136-Part-III 2019)

The Allied Framework for Modelling and Simulation as a Service will provide Member States with the opportunity to improve their modelling and simulation capabilities through the efficient use of resources and time resulting from the incorporation of individual requirements into the Alliance's common modelling and simulation applications. The Allied Framework will provide new opportunities for NATO member states in terms of joint training and joint operations, while also facilitating their access to modelling and simulation service providers.

The Specification and Validation phase is carried out by the MSG-164 working group in the period 2018-2022 and has as main objectives: “1. To advance and to promote the operational readiness of M&S as a Service; 2. To align national efforts and to share national experiences in establishing MSaaS capabilities; 3. To investigate critical research and

development topics to further enhance MSaaS benefits.” (Modelling and Simulation as a Service - Phase 2 fãrã an)

The MSG-164 working group aims to demonstrate the operational relevance of MSaaS applications by conducting experiments based on the integration of these applications in multinational exercises and in the process of developing new simulations. The group is also responsible for implementing MSaaS governing bodies within NATO and increasing the number of members of the MSaaS community of interest, both among Member States and stakeholders.

This activity will develop and test an appropriate MSaaS infrastructure to be used in relevant operational environments and to support ongoing MSaaS testing and evaluation efforts. At the end of the MSG-164, it is expected that the MSaaS will move from the prototype stage to a well-defined operational system, the activity ending with the preparation of a technical report and recommendations regarding the operational perspective of integrating MSaaS within NATO and the member states.

In the period 2022-2025, the basic implementation of MSaaS will be carried out, which involves the acquisition of the initial operational capability by adapting a large number of existing simulation systems to the reference architecture of MSaaS.

Conclusions

The dynamism of the current operational environment and the emergence of new threats to states and international organizations have led the latter to focus their efforts on developing new capabilities that will allow them to adapt quickly and achieve their goals. Thus, one of the areas that has attracted the attention of international actors is modelling and simulation.

The field of modelling and simulation has developed considerably due to the unprecedented technological advancement, and the analyzes performed on it revealed two major shortcomings: the increased cost and time required for model development and interoperability issues between existing modelling-simulation systems. Thus, NATO has focused its efforts on developing the Modelling and Simulation as a Service (MSaaS) concept to address the identified shortcomings and to improve the Alliance's modelling and simulation efforts.

The research and development activities of MSaaS within NATO were undertaken by the NATO Modelling and Simulation Group (NMSG) on the basis of a multi-stage structured strategy, which started in 2013. At present, the implementation strategy is in MSaaS Specification and Validation phase to be completed in 2022.

The stage of development of MSaaS within NATO is defined by the fulfillment of the following objectives: development of the initial concept, defining specifications, development of experiments to demonstrate the usefulness and applicability of MSaaS, development of a technical reference architecture and MSaaS infrastructure to introduce it into the Alliance.

The next step is to achieve the basic implementation of MSaaS within NATO by developing the initial operational capability and adapting the existing modelling-simulation capabilities to MSaaS. Standards and reference documents will also be developed to facilitate the implementation of MSaaS and emphasis will be placed on creating infrastructures to support MSaaS in areas of interest.

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TRANSHUMANISM, EMERGING TECHNOLOGIES AND THE SECURITY ENVIRONMENT OF THE FUTURE

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Abstract: *Half a century ago, the idea of biological perfection of the human race through genetic manipulation or the creation of human-machine hybrids was automatically labelled as a dangerous fable, reminiscent of the Nazi ideology of Super - Man. Today, after several decades of research into transhumanism, the question is no longer 'if' the supermen will become a reality, but 'when' and 'how' hybrid humans will look like. It is therefore only a matter of time before the supremacy of man born of the random play of genes will be overthrown by “hybrid man”, “improved man”, “superman”. A “superman” in symbiosis with artificial intelligence. What might the world look like, then? Will it still be structured according to the same criteria of power? What could be the security impact of the emergence of cyborgs capable of processing information in billionths of a second? This article aims to bring research into transhumanism and emerging technologies to the fore and to examine the potential impact of their materialization on the international security environment.*

Keywords: *transhumanism, security, emerging technologies, superman, cryonics, virtual reality, artificial intelligence, gene therapy, brain-machine interface.*

Motto: “I have come to announce the Superman. Man is something to be overcome.”

Friedrich Nietzsche,
“Thus Said Zarathustra”

Whether in the public domain in the news, in debates among medical ethicists or in science-fiction essays, research into transhumanism has a decades-long history. It was born out of a series of very human needs for growth and survival. Ever since man realized that his life is nothing more than a period of time between two implacable events, birth and death, he has sought to extend this period of his earthly existence. On the other hand, selfishness and greed for power, born of the need for survival and growth, dominated his behavior and transferred it to human society, more or less structured in state formations, which predisposed it to anarchy. Under these conditions, the need for hierarchy came naturally, because it brought with it stability and relative prosperity. Hierarchy imposed discipline and rules, created the state and power structures, and later state ambitions, expansionism, imperialism and the need for military supremacy, humanity's most important instrument of power. If it took millennia to discover gunpowder and another few hundred years to build the first steam engine, in today's technological age, it has taken man only a few decades to move from the processor to the microprocessor, from technologies to nanotechnologies, from being an observer of weather phenomena to a creator of such phenomena.

The basic sciences respond to these needs. Biology can act on the human genome and remove or amplify those gene sequences that program its cell apoptosis. Biochemistry can identify the biochemical mechanisms responsible for homeostasis. Pharmaceutical chemistry studies new and novel categories of active substances designed to improve the health of the human subject. Medicine corroborates information from all these sciences and uses them to prolong the life of the human individual. And mathematics, physics and engineering sciences bring technological progress and put it at the service of man and his desires. In the

technological age of artificial intelligence and emerging strategic technologies such as biotechnology, genomics, nanotechnology, materials science, computational logic, cognitive neuroscience, transhumanism research is the synthesis of all these concerns. Or, in other words, transhumanism research is about to generate that "superman" in symbiosis with artificial intelligence. *The question therefore arises, what might the world look like when the 'new man' emerges? Will it still be structured according to the same criteria of power? What could be the security impact of the emergence of brain-machine interfaces and related emerging technologies?*

What is transhumanism?

The idea of the "superman" is not a recent one. It was a constant of the Romantic, Enlightenment Era. Philosophically, it was theorized by great thinkers such as the German Friedrich Nietzsche (1844-1900), who announced that "*God is dead*" and that the world would belong to "Superman" and his will to power. In literature, the British Mary Shelley (1797-1851) wrote of "*Frankenstein or the Modern Prometheus*", the doctor with the idea of creating life from dead matter, resulting in a giant monster with exceptional powers. Transhumanism is therefore not an isolated school of thought, a niche phenomenon destined to become extinct as soon as the world loses interest in it, but it is already a constant of human concern which, in the current technological age, has a chance of materializing.

Encyclopedia Britannica defines transhumanism as a "*social and philosophical movement devoted to promoting the research and development of robust human-enhancement technologies. Such technologies would augment or increase human sensory reception, emotive ability, or cognitive capacity as well as radically improve human health and extend human life spans. Such modifications resulting from the addition of biological or physical technologies would be more or less permanent and integrated into the human body*" (Hays n.d.).

Transhumanism emerged as a concept in 1957, in an essay of the same name (Huxley 1957) by the English biologist and philosopher Sir Julian Huxley (1887-1975), brother of the writer Aldous Huxley (1894-1963)¹. An advocate of social Darwinism² and representative of scientific and cultural globalism as the first Director-General of the United Nations Educational, Scientific and Cultural Organization (UNESCO) from 1946 to 1948 (Bibby n.d.), Julian Huxley was mainly concerned with improving the human condition through social and cultural change. In his view, social institutions, through specific mechanisms of social engineering, would have the potential to interfere with the evolution of humanity by refining and improving the species. Huxley's essay is considered to be the founding document of the Transhumanist Movement, which believes that humanity could be improved not so much through social engineering as through technology.

Self-described as libertarian³, the Movement has brought together scientists, researchers and thinkers such as American computer scientist and futurist Ray Kurzweil, Canadian computer scientist and roboticist Hans Moravec, American nanotechnology

¹ Author, among others, of the novel *Wonderful New World*, published in 1932, in which he talks about a dictatorial dystopian society in which citizens are controlled by genetic manipulation and false information.

² Sociological theory, founded by Herbert Spencer (1820-1903), which explains the evolution of society based on Charles Darwin's theory of natural selection. It was very popular at the end of the 19th century and in the first half of the 20th century.

³ „Philosophical concept according to which actions are not causally determined, but neither do they occur randomly, without any rational, responsible intervention. Integral political and economic liberalism, which involves maximising the right of the individual and minimising the role of the state.” – see: Marcel D. Popa si colab, *Dicționar enciclopedic*, Editura Enciclopedică, 1993-2009, <https://dexonline.ro/sursa/de>, accessed at 09.01.2022.

researcher Eric Drexler, American philosopher James Hughes, Swedish philosopher Nick Bostrom (Hays, Transhumanism: social and philosophical movement, op. cit. n.d.) and many others. The principle that governs the entire discourse of the Movement is “extropianism”, a philosophy dedicated to transcending human limits.

Over time, two major views of what they call “post-humanity” have emerged within the Movement. One believes that technological and genetic improvements can create a distinct species of radically improved humans. The other believes that in the future an artificial intelligence superior to human intelligence will be created. Some believe that social and cultural institutions, national and international, such as religion, the family, the system of individual freedoms will be largely irrelevant to the trajectory of technological development - dependent solely on market forces and the nature of technological progress. A trajectory that aims at an end point, where artificial intelligence will merge with human intelligence. An end point where the new man will be born, the perfected man, with enhanced physical and mental attributes, improved general health and a much longer life span. Others believe that social institutions can influence the trajectory of technological development. In 1998, the *World Transhumanist Association* (Transhumanism n.d.) was founded to promote the development of human enhancement technologies and to combat social forces that might oppose technological progress.

A now-classic presentation of the goals and concerns of the transhumanists comes from the British philosopher Max More, one of the Movement's best-known theorists. He describes transhumanism as “*a blanket term given to the school of thought that refuses to accept traditional human limitations such as death, disease and other biological frailties. Transhumans are typically interested in a variety of futurist topics, including space migration, mind uploading and cryonic suspension. Transhumans are also extremely interested in more immediate subjects such as bio- and nanotechnology, computers and neurology. Transhumans deplore the standard paradigms that attempt to render our world comfortable at the sake of human fulfilment*” (McNamee 2005-2006).

Research directions in transhumanism

Sarwant Singh, one of today's leading technocrats, said in a 2017 article in “Forbes” magazine that “*the coming years will usher in a number of body augmentation capabilities that will enable humans to be smarter, stronger, and more capable than we are today*” (Singh 2017).

These augmentation goals are to be achieved through several major directions of scientific research in transhumanism such as:

1. Cryogenic suspension through body or brain freezing;
2. Mind – Uploading to a computer or the cloud;
3. Superintelligence through the rise of artificial intelligence;
4. Creation of Robots and Cyborgs (computerized organisms) no longer dependent on biological bodies;
5. The “hive mind” by connecting human brains into a swarm of brain-machine interfaces (Transhumanism Technology n.d.).

Within these research directions, a number of applied research projects are emerging as outlined in a special report by the *Lifeboat Foundation Safeguarding Humanity* (Anissimov n.d.), one of the Movement's flagship organizations:

- **Cryonics**, described as “*high-fidelity preservation of the human body, and particularly the brain, after what we would call death, in anticipation of possible future revival. [...] In vitrification, the brain is not frozen in the conventional manner but with a cryoprotectant (antifreeze) mixture, which effectively prevents the formation of crystals,*

causing the water to freeze smoothly, like glass” (Anissimov n.d.). Research in the field dates back to the 1970s, when the Michigan Cryonics Institute (Cryonics Institute n.d.), for example, was founded. The field is gaining support after previously frozen frogs were shown to come back to life. But, say transhumanists, a success of the technology can only be reported after the development of molecular nanotechnology (MNT) techniques, when intracellular ice crystals can slowly melt and metabolism can be restarted by triggering the appropriate chemical reactions inside cells.

- **Virtual reality (VR)**, which will gradually replace reality. Thus, say proponents of this technology, “simulations will become the preferred environments for work and play. Pretty soon the main obstacle to truly immersive VR will not be the visuals but the haptics — our sense of touch. To fool our senses into believing haptic technologies (Lindeman n.d.) are conveying the real thing, the “frame rate” needs to be significantly higher than for visual technologies, a few hundred updates per second rather than a few dozen — which is why development could take another decade or two. But many millions of dollars are currently going into efforts to develop advanced VR” (Anissimov n.d.). Virtual reality became a very real topic during the SARS-COV II pandemic, when major cultural institutions offered virtual tours of art collections and museums, or computer game platforms like *World of Warcraft* or *Second Life* surpassed 13 million subscribers.

- **Gene therapy with adenoviral vector**, whereby 'bad' genes are replaced by 'good' genes, or with messenger RNA vector that can selectively change protein production in mitochondria. In this respect there is already the SENS (SENS Research Foundation n.d.) (Strategies for Engineered Negligible Senescence) anti-ageing research program, which aims to achieve the so-called “longevity escape velocity”, which could lead to indefinite lifespans and, of course, messenger RNA-based anti-COVID vaccine production technologies. But the spectrum of this technology could be much broader, from cancer therapies to the treatment of morbid obesity, autoimmune or congenital diseases.

- **Outer space colonization** by building space colonies in the asteroid belt area of the Earth-Moon system, especially near stable *Lagrange Points*⁴, designed to host billions of individuals to be born in the future. These space colonies would be created in habitats like those described in 1977 by American physicist Gerard K. O'Neill in his book, *The High Frontier: Human Colonies in Space* (O'Neill 1977). O'Neill proposed three rotating habitat models to generate artificial gravity: “*Island one*” – a modified Bernal sphere⁵, “*Island two*” – a Stanford torus⁶, and “*Island 3*” – two counter-rotating O'Neill cylinders⁷. The building materials for these habitats would be extracted from the Moon and asteroids. The habitats would be lit by the Sun and powered by solar panels. The theories of O'Neill and his

⁴ „The Lagrange points, named after the Italian mathematician and astronomer Joseph-Louis Lagrange (1736-1813), are places of gravitational equilibrium in the solar system. Objects that are placed at these locations tend to stay there because the forces are in equilibrium. In other words, Lagrange points are locations in the solar system where objects can orbit the Sun at the same speed as a planet, standing in the same place relative to both celestial bodies (Sun and planet).” – See: Iosif A., *Ce sunt punctele Lagrange?*, SCIENTIA, <https://www.scientia.ro/blogurile-scientia/blogul-scientia/8481-ce-sunt-punctele-lagrange.html>, accessed at 09.01.2022.

⁵ Permanent space habitat concept proposed in 1929 by John Desmond Bernal (1901-1971), consisting of a hollow, non-rotating spherical shell 16 km in diameter, filled with air. See: John Desmond Bernal, *The World, the Flesh and the Devil: An Enquiry into the Future of the Three Enemies of the Rational Soul*, 1929.

⁶ The Stanford Torus is a proposed NASA project for a permanent space habitat. The project aims to build a ring-shaped rotating space station, a concept originally theorised by German engineer Wernher von Braun (1916-1977) and Slovenian engineer Herman Potočnik (1892-1929). See: Richard D. Johnson, Charles Holbrow, *Space Settlements: A Design Study*, National Aeronautics and Space Administration, 1977.

⁷ An O'Neill cylinder would consist of two counter-rotating cylinders, each 8.0 km in diameter and 32 km long, connected at each end by a rod mobilised by a bearing system. See: Gerard K. O'Neill, *op.cit.* p. 148.

predecessors were later developed by Marshall T. Savage, author of *The Millennial Project: Colonizing the Galaxy in Eight Easy Steps* (Savage 1993), published in 1993.

- **Cybernetic systems** designed to make up for deficiencies in human organs. Take the wireless implantable device of Neuralink, a company run by US tycoon Elon Musk. "Wires" smaller than human hair are implanted into the brain by robots and can then detect the activity of neurons. In the immediate term, this holds great medical promise for treating serious neurological conditions such as Parkinson's disease and other forms of neuronal degeneration (A brief exploration into Transhuman Tech 2019). 'Mind-reading' is also an increasingly visible concern for big companies. In 2019, US tycoon Mark Zuckerberg announced Facebook's plans to build a "non-invasive wearable device is meant to one day allow users to type by simply imagining themselves talking" (Tangermann 2019) and acquired a start-up that aims to develop a brain-machine interface (Tangermann 2019). The project will help people with tetraplegia to "express" their thoughts, and in the long term everyone will be able to control their electronic devices using brain signals. In China, a study has been published of students wearing "*Focus headbands*" produced by BrainCo, which are devices that measure their brain activity and light up in different colors to show their concentration levels (Tangermann 2019). And, the American company Microsoft announced the launch of Microsoft Surface, a desktop computer without a mouse and keyboard that takes information from fingerprints and hand gestures (Anissimov n.d.). And the list goes on.

- **Autonomous self-replicating robotics**, considered the "**Holy Grail of robotics**". A discovery dating back to the 1980s, when NASA's landmark study *Advanced Automation for Space Missions* (Freitas și Gilbreath 1982) was published, found that robotic self-replicating is just a matter of engineering and no fundamental theoretical breakthroughs are needed. Thus, the study cited by the Lifeboat Foundation report recalled, "*the design was based on electric carts running on rails within the factory, 'paving machines' that direct sunlight to melt lunar regolith, robotic strip miners for obtaining raw materials, and a solar cell 'canopy' for powering it all. After 10 years, over 100,000 tons of lunar factory could be produced autonomously. The factory's functions could then be hijacked for the benefit of human colonists, used to produce housing, products, and provide large quantities of solar power*" (Anissimov n.d.). This project could be applied on Earth, building self-replicating factories that could turn arid and unlivable spaces in Australia, the Arctic or abiotic regions of the planetary ocean floor into giant platforms for human colonization.

- **Molecular manufacturing through molecular nanotechnology** (MNT), considered to be the "**Holy Grail of manufacturing**". Produced in atomically precise nano-factories, molecular devices are expected to develop medical applications in non-surgical organ repair, targeted cell therapy or the creation of so-called '*utility fogs*' – a hypothetical collection of tiny nanobots that can replicate a structure, useful in restoring biological structures permanently compromised by necrosis. These devices could also be used outside medicine, including for criminal purposes, if such products, hardly visible to the naked eye, were loaded with poison and introduced into enclosed spaces or used as military vectors to destroy the environment.

- **Megascale engineering**, i.e. building structures at least 1,000 km long in one dimension, such as a space elevator as a planet-to-space transport system, the *Globus Cassus*⁸ or the *Dyson sphere*⁹. With the help of self-replicating robotic systems, the Lifeboat Foundation report states, "*the production of such large structures could be done largely by*

⁸ Globus Cassus is an art project and book designed by a group of architects and artists led by Christian Waldvogel. It presents a conceptual transformation of planet Earth into a much larger artificial world with an ecosphere on its inner surface. See: Christian Waldvogel și colab., *Globus Cassus*, Lars Müller Publishers, 03.09.2004.

⁹ Hypothetical megastructure that completely surrounds a star and captures much of its energy.

*autonomous drones, with intelligent agents only managing the highest top-level functions and architecture*¹⁰.

- **Mind uploading**, also called **non-biological intelligence**, is based on the idea that cognitive processing can be implemented on substrates other than neurons. Neurophysiology research and the recent construction of the world's first brain prosthesis - an artificial copy of the hippocampal gyrus (Gonzales n.d.) – argue in favor of this. According to this research, it seems that our minds are defined more by the pattern of information they embody than by the type of 'hardware' they are implemented on. Of course, this line of research is aimed at a complete synthetic 'prosthetic' human brain. A synthetic brain will no longer be affected by degenerative diseases, although it will face other types of dysfunctions, and, very importantly, the carriers of such brain devices will be able to join together in computer networks, in global clouds. Moreover, clones of such individuals will be given a biological body and a brain loaded with networked memories.

- **General Artificial Intelligence (GA)**, an extended super-intelligence capable of running the world. Currently, the world's fastest supercomputer, the *Fugaku*, produced in Japan, reaches a speed of 415.5 petaFLOPS, a petaflop representing one million billion operations per second. It is followed by the American-made *Summit* and *Sierra* with 148.6 petaFLOPS and 94.6 petaFLOPS respectively, and the Chinese-made supercomputer *Sunway TaihuLight* with 93.01 petaFLOPS (Top 500: The List 2021). And the research continues.

As Michael Anissimov, author of the Lifeboat Foundation's special report concludes, “*if raw materials such as sand can be converted into computer chips and then into intelligent minds, eventually the majority of material in the solar system could be made intelligent and conscious. The result would be a ‘noetic Renaissance’: the expansion of intelligence and experience beyond our wildest dreams*” (Anissimov n.d.).

The potential security impact of transhumanism

American geopolitologist Francis Fukuyama has labelled transhumanism “*the most dangerous idea in the world*” (Fukuyama 2004). A statement that has sparked controversy between supporters and critics of these research directions.

We are in a period of convergence, of interdisciplinary, revolutionizing fields such as information technology and electronics, energy and the environment, medicine and health care, biotechnology and agriculture, global and national security. On the one hand, technological convergence has the potential to meet basic human needs and improve the quality of human life and, on the other hand, it raises serious security concerns. Of course, we all want incurable, oncological and debilitating diseases, whether congenital or acquired, to be eradicated. Of course, we all want to live longer and better, to be more beautiful, healthier, more energetic, more intelligent. And, all these technologies that are revolutionizing medicine are bringing much-desired life-saving solutions to people in distress or meeting the aspirations of those dissatisfied with their biological appearance and performance to achieve perfection. And that's not all. 'Perfected' people will be more intellectually and economically productive. The human-artificial intelligence symbiosis will reshape the macro-economic picture, something already visible during the current pandemic, when online activities flourished and the informal economy led to a reshaping of the way we do business, for example.

The question is whether and how can we maintain control of this research process in the long term? What will happen when research moves to the other level, of improving the biological functions of healthy humans? When will neuroscience, neuropharmacology, cognitive prosthetics and brain-machine interfaces move beyond the current early stages of

¹⁰ *Ibidem.*

development and offer the possibility of uploading brain cognition, memory, affect, volition and other neurological processes onto a computer, generating the post-human cloud computing? What will happen when an outside force will virus this cyborg-like system or when the technology provider intervenes on the human biotech product, erasing its affect or other components of its personality? Where is the free will of the post-human individual? What 'rights' of the human and the post-human will be next? And what might be the outcome of such "programming"?

But until we will find the answers for all these questions, a few things are certain. Today, the Transhumanist Movement is more active than ever, and a few countries hold supremacy in its fields of research. It is no coincidence that these countries are also the biggest technological powers. Japan, the US, China, Germany and Italy have distinguished themselves in the development of artificial intelligence. The US and China have developed research programs in human-machine interface, cybernetic systems and molecular manufacturing. The US and Russia already have decades of cryonics research. Israel stands out in gene therapies. Russia, the US and China are developing research in space, space colonization and space weapon systems. It is becoming increasingly clear that we are moving towards a global race of 'human enhancement' and emerging strategic technologies. But, a 'race' of 'good intentions' that needs extremely rigorously controlled internationally, through very strict rules and cross-checking mechanisms. A 'last' global competition that will make the difference between the future winners and losers.

What might be the security impact of the 'human enhancement' and emerging strategic technologies race?

First, the world might be reconfigured along technological lines. State power might no longer be able to relate only to the classic dimensions theorized by political scientists but, above all, might be expressed by technological capacity and the degree of participation in global technological research. In this case, research that will have a massive impact on the military, both in terms of weapons systems and the way in which warfare will be conducted. A modern war of space platforms, unmanned vehicles, cyber and electronic warfare, android robots, nanobots and quite possibly cyborgs. The future poles of hegemonic power might therefore belong to the technological powers, which might form military and technological alliances with states of interest in terms of sectoral research, geostrategic position and the raw materials of the future – strategic minerals (including silicon in the sand). As a result, there might be an intensification of geopolitical competition for control of sea coasts and continental shelves (rich in sand), as well as subsoils rich in strategic minerals. States with no technological ambitions and less to offer in terms of resources and geostrategic position might make up the underdeveloped, colonizable marginality, subject to the geopolitical game. The technological split might be deeper and more radical than any other division of the world. Emerging technology' hegemons might accumulate more power than ever before. The alignment and structuring of the international system might be more rigorous. States dependent on the security "umbrella" of the technological hegemon might be even more aligned. The more technological hegemons will be, the lower the major risk of a technological unipolarity.

The technology race might bring with it a new security dilemma and a new arms spiral. The new security dilemma might raise the question of '*what kind of technological research can be developed by a state so as not to arouse suspicion about its intentions?*' *How can a state without technological ambitions ensure its security, how can it build alliances? Or, in other words, who might allocate resources to protect a technological ballast?*

Last but not least, there is the risk of a global economic 'overheating' in the context of the technological sprint, especially in the military field. An overheating that could generate a massive economic crisis of a structural nature that could throw the poorer and underdeveloped

regions of the world into chaos. A crisis that could result in the restructuring of the global economic system.

So how will it be possible to strike a balance between cutting-edge technological research, which comes up with new developments every year, and the economic capacity of countries to renew their defense capabilities? How much security can state with technologically outdated weapons systems still have? How should they reconfigure their defense and security strategies? How should they design their defenses? Is a medium-term projection still valid? Or should five-year adjustments be made?

Obviously, the answers to these questions depend on many factors (state power, scientific research strategy, grand strategy of transformation into technological power, etc.). But they also have a point of convergence - the need for system restructuring. The technological future requires major adjustments, starting with educational curricula, the development of technical education, strategic and critical thinking, investment in basic and applied research, research platforms and ending with re-industrialization, in line with the targeted research areas. On the military side, the technological sprint is the most worrying, as alignment with the latest weapon system designs will make the difference between survival and annihilation. Such an alignment is only possible within military and technological alliances, the only formats that can ease the economic strain of such an alignment.

The future will belong to those alliances in which the technological sprint will be provided in a 'Pooling and Sharing' format, in which the research sectors will be distributed among the allies and the technological endowment of the member states will be seen as a common defensive objective and not just an individual, national one. Consequently, the future will belong to those states that will design a Grand Strategy of transformation into technological power, because only this future will ensure their place in technological alliances and maximize their security.

All these questions and possible answers must, however, be seen in the broader context of transhumanism research. Emerging technologies and transhumanism are transforming the world. It depends on each people how aware they will be of these transformations and how prepared they will be for them.

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RUSSIA'S APPROACH TO CYBERSPACE

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Abstract: *In recent years there have been important changes in the approach to conflict, leading to a paradigm shift in the future warfare. Cyberspace has become a serious challenge for all states. Being easy to connect and cheap to operate, it has become a preferred battlespace for many actors. It is used to disrupt networks, destroy and steal data, block or slow down critical infrastructure or spread false information. The development and innovation of military technologies and the professionalization of soldiers are not enough to fight in information warfare. Revising and improving old doctrines, and strategies is a clear form of supporting new techniques, tactics, and procedures of the Russian fight in cyberspace. The improvement of conventional tactics of warfare in conjunction with the introduction of new unconventional tactics of warfare has predictably led to the strengthening of internal, regional, and global security and resilience. The new vision of Russian warfare is that kinetic actions are supported by non-kinetic ones. As a result, Russia's cyber activity has recently intensified amid the invasion of Ukraine, putting the whole world on alert. Malicious activity in cyberspace is creating large-scale disruption in all areas. In this context, the activation of Article 5 for attacking a Member State in cyberspace is becoming increasingly discussed.*

Keywords: *cyberspace; information space; security; strategy; doctrine; Russian Federation; Ukraine.*

Introduction

In recent decades, the rapid development of modern information and communication technologies has had a major impact on modern society, irreversibly transforming the way the economy, culture, politics, industry, conflict, and the everyday life of the individual operates. Whereas at the end of the 20th-century people could more easily access personal computers at ever-lower prices, the beginning of the 21st century is characterized by increasing connectivity, i.e., the integration of computers into local networks. They have evolved from a purely administrative tool supporting the optimization of bureaucratic processes to a strategic tool widely used in all areas, critical and less critical. Today, easy access through the globalization of communications and access to information from anywhere in the world can be one of the principles for the development and proper functioning of modern society. The information society represents a new stage in the development of human society, in which knowledge and information play a key role.

In the information society, the main resource of power is information, as valuable as material, financial or human resources. Information is also an important factor in determining a state or non-state actor's power as well as the driving force behind the modern knowledge-based society development.

Intelligence is reflected in a state's military, economic, or financial power, but the ability to obtain, store, and process specific information can provide a distinct advantage over adversaries. In the context of specific missions, mastery of intelligence can be critical in achieving success, decisively influencing the physiognomy of military actions during the decision-making process of planning and organizing actions.

The term *cyberspace* was first used by American-Canadian author William Gibson in 1982 in a story published in *Omni* magazine and later in his book *Neuromancer*. In that science fiction novel, Gibson described cyberspace as "*the product of a computer network full of artificially intelligent entities*". (Bussell 2013)

The U.S. Department of Defense defines cyberspace as "*an overarching domain in the information environment consisting of interdependent networks of information technology infrastructure and user data, including the Internet, telecommunications networks, computer systems, and embedded processors and controllers*". (Government 2018, GL-4) Cyberspace encompasses the identities and objects that exist in computer networks used by human individuals for various purposes.

Cyberspace is limitless, characterized by dynamism and anonymity, with the potential to generate opportunities for the development of the information society, but at the same time, it can also lead to a number of risks. Highly digitized states, which depend heavily on computers, can become very vulnerable, and ensuring the security of cyberspace must be a main concern. "*Attacks on these computers can be as damaging as traditional military attacks. Cyberwarfare has several goals: exploiting others' information for their own purposes (espionage); misleading adversaries; disrupting enemy computer systems or temporarily disabling their use, and destroying those systems.*" (Robinson 2010, 164)

The expansion of cyberspace led NATO to acknowledge it in 2016, through the Warsaw Summit Official Declaration, as an operational environment, joining the other operational environments: land, sea, air, and space: "*... we recognize cyberspace as an area of operations in which NATO must defend itself as effectively as in the air, on the ground or at sea.*" (North Atlantic Treaty Organisation 2017)

The cyber domain has undergone major changes in a short-term period of time, providing exceptional opportunities, as well as risks for cyberspace users. The sources of risk are represented by some of the actors that populate it, speculating, in the interest of a state/organization or individually, on vulnerabilities specific to the domain.

Today, companies, state and non-state actors, and international organizations are concerned by countering risks, threats, and vulnerabilities addressing the security of the virtual world.

A powerful cyber-society is a one in which computerized data transfer and processing are omnipresent and in which individuals, groups or individuals, or even states, seek to exploit the increased complexity and connectivity of networks of critical infrastructure systems, with the potential to cause significant material damage and financial loss and thus to endanger the "*military, political, economic, cultural or environmental*" (ecological) *security* of the targeted state. (Barry, Ole and Jaap 1997, 22)

Security is the state in which individuals, groups of people organized along different criteria, nation-states, can develop freely under the condition of respecting a system of adopted and recognized (internal and international) rules.

Cybersecurity has become an important matter within countries, leading them to take a series of initiatives in this direction. Currently, most countries in the world have adopted and implemented national cybersecurity strategies, some of which are in the process of being legislated. Implicit in this is the creation of cybersecurity bodies, action lines, inter-institutional cooperation and dialogue plans, and many others.

The purpose of the article is to understand and analyze cyberspace from the Russian Federation's perspective. It also presents a brief comparison of the legislative framework regulating actions in the cyber environment with similar regulations used by Western countries. In order to achieve this goal, I suggest 3 other objectives:

- analysis of concepts such as cyberspace and information space;
- identifying and analyzing the documents that regulate activities in the information space;
- Russia's important activities and *modus operandi* in the information space, with an accent on actions against Ukraine.

1. National Russian Federation framework documents governing the cyberspace

Cyberspace is becoming a complex battlefield of the future, and advanced countries are becoming more concerned about possible negative consequences locally and internationally, focusing on developing and implementing coherent cyber policies to reduce risks, vulnerabilities, and threats, while at the same time seeking global cooperation.

The Russian Federation has always used intelligence and disinformation in its military actions. As a continuation of the Soviet Union, it has used propaganda within the territories to strengthen the population's perception of the leaders and the state. It has also used information operations outside its territories to spread panic among its opponents and to create favorable conditions for combat. (Timur Chabuk 2018)

As cyber threats know no state or organizational boundaries, Russia adopts its own strategies and doctrines to strengthen its national security taking into account its strategic interests.

In the cyber security domain, the dialogue between Russia and international partners is characterized by intransigence and discord, primarily because there is no common vocabulary in reports of the terms used. Secondly, these disagreements are due to the different rules that Moscow follows, which Russian Communications Minister Igor Shchegolev said: "*for the time being, in the West not everybody always understands what rules we are following*". (Giles 2012, 64)

However, the most important divergence is the term "*cyber warfare*", or the Russian equivalent "*information-technological warfare*", which is only part of the concept of "*informational confrontation*". The Russian Ministry of Defense describes informational confrontation as "*the clash of national interests and ideas, where superiority is sought by targeting the adversary's information infrastructure while protecting its own objects from similar influence*". (Kukkola 2020)

Moreover, this claim is also supported by Kier Giles, one of Chatham House's most distinguished consultants, he argues "*that any research on Russian capabilities and intentions which includes the word "cyber" risks providing fundamentally misleading results*"; instead of "*cyber*", the Russians use the term "*informational*". (Kukkola 2020, 101)

Russians consider information to be *artificial* form (i.e. cybernetic) seen as the technical representation of information and *natural information*, which includes thoughts and information from books and documents. In terms of security, the closest Russian word in meaning to the English language is "*protection*". The Russian perspective on information security (INFOSEC) includes several dimensions: human, social, spiritual, and technical (cyber). In addition, an essential aspect of "*information security*" is considered the protection of the population against terrorism and censorship. (Godwin, et al. 2014, 11)

Russian military researchers use the term *cyber* when referring to threats and hostile actions coming from the West but are reluctant to use the term to describe their own activities. Moreover, some authors argue that this choice of terms has a negative meaning since the Soviet Union and that is why the term *information security* is used. The terms *information space* or *information sphere* are used when talking about the *operational environment*, which is much broader than the term used by Western countries to define *cyberspace* or *cyber domain*.

The 2016 "Russian Doctrine of Information Security" defines the information sphere as: "*a combination of information, informatization objects, information systems and websites within the information and telecommunications network of the Internet [...], communications networks, information technologies, entities involved in generating and processing information, developing and using the above technologies, and ensuring information security,*

as well as a set of mechanisms regulating social relations in the sphere". (Hakala and Melnychuk 2021, 6)

Information space is a sphere of activity related to the formation, creation, transformation, transmission, use, and storage of information, which has an impact on individual and public consciousness, information infrastructure and information itself. (Defence 2011, 5)

The Russian concept of information-technological warfare is very similar to the Western concept on cyber warfare. However, cyber-attacks represent only one part of information-technological warfare, namely electronic warfare. The theory of ideas and systems in the cyber domain gives the Russian approach to cyber warfare a distinct character, as does the distinction between geopolitical informational confrontation and operational-tactical warfare. However, the intentional use of different terms should not obscure the fact that the reality of cyberspace is the same for all who operate in it. (Kukkola 2020, 258)

Russia's desire to return to its great power status leads to obsessive competitiveness with the US and its allies or partners in all areas: political, economic, military, social, technological, and informational, in order to tip the balance of power in its favor. Cyberspace operations have become an important aspect of this competition.

These Russian cyber operations are primarily concerned with cyber laws so that their actions are not followed by repercussions from the aggressor. They also use technical methods and means to avoid accusations of a violation of international law by the state or organization harmed. This accusation may mean determining the identity or location of the attacker. Moreover, the aim of malicious actors is not only to avoid prosecution but also to maintain their anonymity for as long as possible during the cyber operation. Thus, anonymity implies not only the inability to identify an individual, group, or state actor but also *"the inability to recognize that an attack is taking place and the inability to isolate the target or objective of the attack"*. (Jasper 2020, 8-9)

According to Russian cyber researchers, the informational confrontation is ongoing, with Russia using every tactic, technique, and procedure to gain informational superiority in this competition. The tools most commonly used in the cyber environment include psychological operations, electronic warfare (EW), and kinetic actions. In practice, cyberspace can be used for both physical attacks on infrastructure and cognitive attacks such as disinformation. However, the center of gravity in 'informational confrontation' is in people's minds and perceptions of events, both domestically and internationally. (Hakala and Melnychuk 2021, 4)

Russian President Vladimir Putin's regime applies censorship in the cyber environment and methods of controlling people through the internet, publications, and television. He also wants to set up his own RUNET internet to be controlled and used only within the country. Furthermore, he wants to reduce access to the international internet while introducing and using the local one. Moreover, as a security measure, it will be used only in Russian language.

On the other hand, Western countries, democratic and respecting international law, do not consider that the protection of information should be done by censoring information or using any method of misleading the population. The reasoning behind this is the belief that the most aware and educated population is best able to defend itself against harmful information. Finally, the US believes that a government would be acting improperly if it used psychological operations to influence the opinions and perceptions of its citizens. (Godwin, et al. 2014, 12)

In order to understand how the Russian Federation acts in the information domain, I will analyze the most significant strategies and doctrines governing it.

Like most active countries in the cyber environment, the Russian Federation has developed legislation in this area, including a number of strategies, doctrines, and other documents governing the cyber environment. These are developed in line with geopolitical aspirations at the strategic level, the institutional culture of the political, military, and intelligence leadership, and the eternal competition between Russia and the major world powers.

Until the invasion of Ukraine in early 2022, the perception of Russia's war strategy consisted of non-military, non-kinetic actions being able to operate effectively from cyberspace without the use of military force and a significantly lower cost. But even Russian thinkers have written intensively about general and doctrinal strategies for offensive hybrid warfare, resulting in the fact that the future of warfare will be bound to cyberspace and non-kinetic actions that will be a potentiating factor for classical warfare actions.

Between the 1990s and 2000s, a number of articles by military specialists appeared dealing with non-military measures in conflicts. Despite this, it was not until after 2000 that a working group of military theorists and senior military officials was formed who admitted that the line between war and peace had become blurred and nonviolent actions could be so effective that they could be considered violent, turning them into an instrument of war. (Lilly and Cheravitch 2020, 132)

"The Russian National Security Concept" appears in 2000, a Russian Federation vision of the individual, civil society, and nation-state security against internal and external threats from all aspects of life, political, economic, scientific, technological, social, environmental, and informational. Also in the same year, "The Information Security Doctrine of the Russian Federation" was published before the first official US document on cyberspace. This publication deals with the goals, objectives, principles, and basic directions of Russia's information security policy. Moreover, the doctrine, in the Russian sense of *national policy*, is the fundamental document governing Russia's approach to information security and cyberspace concerns. As this document states, it ensures the rights and freedoms of the citizen to "*freely seek, receive, transmit, produce, and disseminate information by any lawful means*". (Article I, Part 1) Further, the doctrine stipulates "*the development of methods for increasing the effectiveness of state involvement in the formation of public information policy of broadcasting organizations and other public media*". (Article I, Part 4) General Colonel Vladislav Serstyuk, then First Deputy Secretary of the Security Council of the Russian Federation, responsible for information security and one of the authors of the document, explained that the doctrine would not be used to restrict independent media, but that all media, government or private organization, should be under state supervision. (Giles 2012, 74) This would reduce freedom of expression and lead to veiled censorship by the authorities. This document is also aimed at counter-propaganda activities in order to avoid the negative effects of spreading false information about Russian government policies as well as the implementation of state mechanisms to prevent the psychological effect of the influence of information in the common consciousness of society. These ways of preventing negative effects were tested during the online organization of the 2011 Russian parliamentary elections. (Giles 2012, 75)

After the waves of cyber-attacks on Estonia in 2007, which were reportedly triggered by actors from the Russian territory, the European Union and the North Atlantic Treaty Organization (NATO) have not officially blamed Russia even though Internet addresses including those of Russian state institutions have been identified. In response to these cyber-attacks NATO has established its Cyber Security Centre in Estonia in Tallinn. In the absence of an official indictment, the complicity of the federation remained uncertain. This led in 2008 to the publication of a document signed by President Putin called "The Strategy of

Information Society Development in Russia". This developed Russia's first cyber and information strategy to be used later in cyberspace conflicts.

Subsequently, the Ministry of Defense publishes in 2011 "Conceptual Views on the Activities of the Armed Forces in the Information Space", a document that refers to the "Information Security Doctrine of the Russian Federation" from 2000. This document deals with political threats in information space and the widespread use of electronic systems in the command and control of troops and weapons, based on a set of principles: legality, cooperation with friendly states and international organizations, and limitation and prevention of military conflicts in information space. (Lilly and Cheravitch 2020, 136)

"The Military Doctrine of the Russian Federation" approved by the Russian Federation presidential edict no. 5 in 2010 replaced the previous "Military Doctrine of the Russian Federation" from 2000. According to it, the aim was to develop and improve forces and resources in the field of information space and to implement information warfare measures in advance in order to achieve political goals without using military force. The doctrine also states that operations in the information environment are also used in peacetime and not only in wartime. (Jasper 2020, 72) It also uses the information environment alongside the political, diplomatic, legislative, economic, military, and surrounding environments to protect the national interests and critical infrastructure of Russia and its partners.

"The Military Doctrine of the Russian Federation" updated in 2014 highlights measures on the use of military force to protect its national interests only after political, diplomatic, legal, economic, informational, and other non-violent tools have been exhausted. It is a known fact that informational confrontation is becoming more powerful and its potential is being developed. Military dangers and threats are moving into the information space and the use of information and communication technology is becoming a destabilizing factor on the sovereignty, political independence, and territorial integrity of the state, critical infrastructures, and people. (Kukkola 2020, 181)

Regarding Russia's foreign policy, "The Foreign Policy Concept of The Russian Federation" appears in 2008 according to which Russia will strengthen its international position and establish some equal and mutually beneficial partnerships with all countries. It will further develop its own effective means of influencing public opinion abroad in the information environment and strengthen its role in the media by taking the necessary measures to repel informational threats to its sovereignty and security. In the 2013 updated version, the term soft power appears (Latukhinamaxim and Makarychev 2013) which will inherently lead to more effective use of information space. In order to achieve Russia's foreign policy goals, this tool has become an important asset as presented in the latest 2016 version. Moreover, Russia is trying to ensure that the world has an objective image of the country, and is developing its own effective ways to influence foreign audiences, promote Russian mass-media and Russian-language in the global information space, providing them with the necessary government support. It is proactive in international intelligence cooperation and takes the necessary measures to counter threats to its information security. New information and communication technologies are used for this purpose. Russia intends to promote a series of legal and ethical rules on the safe use of these technologies. The Federation ensures the right of everyone to have access to impartial information. (Russian Federation 2016)

The most important document governing the information space of the Russian Federation is Russia's new "Information Security Doctrine" of 2016, which replaces the "Information Security Doctrine" published in 2000. It continues the direction taken in previous strategic documents, in which Russia is perceived as a besieged fortress identifying a number of external threats to Russia's information space and calls for intensified monitoring of Russia's internet segment, RUNET. (Pynnöniemi and Kari 2016) This strategic planning

document recognizes the role of the information domain in technological progress and national security but also calls for an increased role for the internet, information security, and the development and production of information domain technology. Also, the increase in cyber-attacks by foreign countries for military purposes will be seen as a major negative factor. A major risk identified in this doctrine is Russia's dependence on foreign information, and communication technologies. One mitigation of these risks would be domestic production of software and hardware, but this could take many years, so Russia has decided to strengthen its own RUNET (Pynnöniemi and Kari 2016) Doctrine suggests that a balance should be struck between the rights of citizens to free access to information and limiting the rights arising from the need for national security in relation to the information. The text also highlights the need for continuous monitoring of information security threats and increased control over the Russian segment of the internet by security authorities as part of the response to internal and external threats in the information sphere. A number of amendments to the laws on counter-terrorism require mobile network operators and internet service providers to retain and store data on users, user activity, and their conversations on Russian territory for one year. They are also required to retain and store the content of all users' conversations on Russian territory for up to six months from July 2018 and allow Russian security agencies to decrypt correspondence. (Pynnöniemi and Kari 2016)

President Vladimir Putin has signed a decree on a new strategy for the development of Russia's information society from 2017 to 2030. This document was published on the country's official website and replaces a previous strategy that had been in effect since 2008. "The Strategy of information society development in Russia until 2030" is the fundamental resource for the preparation of doctrinal, conceptual, and other documents defining the objectives and directions of the activities of public authorities, as well as the principles and mechanisms of their interaction with organizations and citizens in the development of the information society in the Russian Federation. The new strategy prioritizes traditional Russian spiritual and moral values and observance of behavioral norms in the use of information and communication technologies. The document also details the concept of *critical information infrastructure* and the need to protect that infrastructure using state anti-hacking resources. In addition, the strategy calls for the use of encryption in all federal electronic mail and the replacement of imported software and hardware with domestic products in all government institutions. (information 2017) The aim of the strategy is to *"improve the quality of life of citizens, ensure Russia's competitiveness, develop the economic, socio-political, cultural, and spiritual spheres of society, improve the system of public administration based on the use of information and telecommunications technologies"*. (Putin 2018)

In addition to these documents, a variety of rules and regulations governing operations in Russian cyberspace have been passed, including the 2019 "Sovereign Internet of Russia" law, which effectively permits the government to disconnect from the world internet at any time. By 2024, the Kremlin hopes that only 10% of Russian internet traffic would be routed through foreign servers. It also sees control over its internal cyberspace as essential to its security. Any threat to cyberspace could be perceived as a threat to state sovereignty. This will lead to the implementation of the concept of "digital sovereignty" by taking steps to secure Russia's internal cyberspace. Digital sovereignty is used in this context primarily as a political term and can be understood as the ability and right of a government to determine its fate within its own information space. (Hakala and Melnychuk 2021, 12)

Looking at Russia's framework documents governing information space, we can recognize the Russian's state desire to maintain a clean, secure, and resilient information space. We also notice the rapid development of information technology and the imbalance between Russia's desire to develop its own communications and information technologies and the use of foreign technologies. Moreover, there is a desire to awaken the nationalist spirit and

for the state to cooperate with organizations and citizens, just as in Western countries. The strategies set out elements that enable citizens to navigate and have free access to information. Compared to other democratic states, where people are truly free and equal in cyberspace, here some laws regulating terrorism or regulating the sovereign Internet intervene and under the pretext of security of information space, citizens are restricted. In Western countries, citizens have the right to respect personal data, and the use of such data without personal consent becomes a crime, while the Kremlin has given the law to record and store data, information, including conversations of citizens on Russian territory. The government is restricting information in the media and on the Internet under the same security pretext. It is astonishing that the government has thought of implementing a national, Russian-language Internet in order to isolate the state from the rest of the world, with the consequence of limiting access to and control of information.

2. Russian Federation activities in cyberspace

After the fall of the Soviet Union, Russia tried to regain its superpower status. In the unregulated Russian internet space after this period, the FSB (Federal Security Service) developed cyber activities with the help of individuals or non-state actors whom it has convinced or coerced to work for some government security agencies and helped to develop offensive cyber operations.

The Russians took advantage of the information environment during the second Chechen war in 1999, launching systematic government-coordinated disinformation tactics that helped mobilize the ethnic Russian community and isolate the insurgents in order to frame the war as an anti-terrorist campaign. (Blank 2017, 83) The effective isolation of the Russian media space demonstrates the importance of media control as a strategy for winning a war.

Amid historical disagreements between the Russian Federation and Estonia, culminating in the Estonian government's decision to relocate the statue of a bronze soldier from the center of the capital to a more peripheral location. This statue of the Russian soldier had important historical and cultural significance for Russians, as it represented the Soviet liberation of Estonia from Nazi Germany. Following the relocation of the statue, the Russian government expressed its dissatisfaction. The Russian response came in the form of a series of cyber-operations against various Estonian targets, including political parties, ministries, Estonian government banks, media outlets and other targets, which were not critical but still resulted in the disruption of services, operations and communications. Some experts divided the cyber-attacks into three waves, while others divided them into four, and these included DDoS assaults and SQL injections that caused websites to go down entirely or partially. However, Russia did not achieve its desired goals, despite extending its cyber-attacks over several weeks. The allies and international community offered support to Estonia while Russia refused to cooperate in the investigation and vehemently denied any state-level implication. The cyber-attacks in the spring of 2007 were something of a turning point. Russia showed that it was willing and able to carry out hybrid actions, while Estonia became the first country to face a massive and surprising cyber-attack. Its capital Tallinn soon became the destination for NATO's Cooperative Cyber Defense Centre of Excellence (CCD CoE). (Polyakova, et al. 2020, 21)

In the 2008 Russo-Georgian War, both sides resorted to kinetic (conventional military strikes and troop movements) and non-kinetic offensive means (cyber-attacks, propaganda, denial and deception). This is the first real-world battle in which cyber-attacks and military operations have been combined. Such attacks have included website defamation, and distributed denial of service attacks against the Georgian government, Georgian media and financial institutions. The attacks succeeded in denying citizens access to 54 websites related

to communications, finance and government. Russia has also engaged in intelligence-espionage operations including propaganda, information control and disinformation campaigns with varying results, particularly in contrast to Georgia's efforts in the same areas. Using television footage and daily interviews with a military spokesman, Russia controlled the international flow of information and attempted to influence local populations by dictating news, sharing the progress of Russian troops protecting Russian citizens, and highlighting Georgian atrocities. (Iasiello 2017, 2) Many of the techniques used against Estonia were used a year later against Georgia. If one looks at all aspects of the geopolitical situation, the timing of the attack and the relationship between the government and the youth groups that helped with the attacks, it is easy to conclude that Moscow was behind them. (Smith 2014)

The later protests in 2011-2013 over Russia's controversial elections demonstrated how the media can be used to generate waves of public discontent. These and the Arab Spring uprising already demonstrate the effectiveness of social media in regime change. What's more, they helped the Kremlin government develop information campaign capabilities that facilitated the annexation of Crimea in 2014.

Although there is no evidence of cyber actors within the Russian military who may have been involved in cyberspace activities, the insinuations indicate that Russia has learned from past mistakes. For example, the timing of cyber-attacks was considered the first strike for maximum effectiveness, especially on important targets such as critical infrastructure. Cyber-attacks against Crimea shut down telecommunications, disabled major Ukrainian websites and blocked the mobile phones of key Ukrainian officials before Russian forces entered the peninsula. (Iasiello 2017, 54) Many military experts said the cyber-attacks were undoubtedly executed to isolate Crimea and facilitate kinetic operations. The strategy on which the non-kinetic operations were based was propaganda, disinformation, denial, and deception to influence the domestic, regional and global situation.

The Kremlin's involvement in the ensuing elections for a referendum in which the Crimean parliament voted to join Russia was obvious. In general, elections are particularly vulnerable because they provide an opportunity for external actors not only to support a favorable candidate but also to sow doubts about the freedom and fairness of the elections. They can raise questions about the stability of the country and erode confidence in the democratic process. Russian interference has been identified in elections in several countries. The interference in the 2016 US presidential election is the most documented case showing Russia's *modus operandi* in using both information-technical and information-psychological tools. This took the form of acquiring and subsequently disclosing information on party documents, as well as personal data along with emails of candidates. However, targeted information and cyber operations were also observed in connection with elections in Ukraine, France, Sweden, the European Parliament and other countries. These are characterized by spear-phishing campaigns to access data, hacking operations and information leaks, disruptive attacks on electoral infrastructure and the use of the online environment for manipulation and spreading disinformation. (Hakala and Melnychuk 2021, 26)

Russia was involved or attempted to be involved including in the 2020 election, targeting more than 200 organizations including political parties and consultancies, according to Microsoft. The US National Intelligence Council declassified a document on the 2020 election showing that it would have been difficult for an outside actor to compromise the election, but that actions to compromise local and government networks were identified. Foreign actors such as Russia and Iran spread false or distorted information about the voting system to undermine public confidence in the electoral process. (Assesment 2021, 1-2) According to the same report, President Putin also allegedly authorized operations against the presidential election to denigrate Joe Biden and his party and to support President Trump by

undermining public confidence in the voting process. Unlike the 2016 election, no sustained Russian cyber efforts to compromise the election infrastructure have been detected.

In the meantime, Russia's cyber infrastructure has been steadily developing, and so have the actors who specialize in cyber actions, so they have put together a broad hybrid action launched in February 2022 against Ukraine. A series of DDoS attacks against Ukrainian banking, government and defense websites were launched at the beginning of February and were allegedly launched by the Russian military intelligence agency (GRU). The attacks came amid heightened tensions between Ukraine and Russia. Despite the fact that many outside observers had expected a massive Russian cyber-attack before the conflict, it happened on a significantly lower scale. Moreover, Ukraine's strategy of mobilizing cyber specialists to defend itself and take offensive action against the Russians has had an effect. We can state, however, that the non-kinetic support of the military special operation was visible. Cyber-attacks from Russia continued to intensify in late March, mostly through attempts to gather intelligence and spread malware to Ukrainian critical infrastructure, according to a Ukrainian cyber official. Victor Zhora, deputy head of Ukraine's State Service for Special Communications and Information Protection, said the same group of Russian-linked hackers that targeted local Ukrainian government agencies with compromised emails also sent malicious emails to Latvian authorities. Between 23 and 29 March, 65 cyber-attacks took place on Ukraine's critical infrastructure, five times more than the previous week, targeting state and local authorities, Ukraine's security and defense sector, financial, telecoms and energy companies. (Stupp 2022)

Russian officials have said that countries that help Ukraine in this confrontation will face consequences. Indeed, a number of European countries have faced a series of threats from the cyber environment. Romania, a neighboring country of Ukraine, has faced a wave of DDoS cyber-attacks targeting several institutions, including the government, the Ministry of National Defense, the Border Police and the Romanian Railways website. The attacks were claimed by pro-Russian Killnet hackers. Apart from the fact that the websites of these agencies were down for a short period of time, there was no significant damage.

Such cyber-attacks on NATO member states should bring member countries together for consultations. By recognizing cyberspace as an operational area in 2016, NATO accepted its approach as a confrontational environment and prompted member states to reassess the cybersecurity domain, to make efforts in technological development to at least deter attempted cyber-attacks. Given the defensive nature of the Alliance and the need to deter cyber-attack attempts, the adoption of a coherent and adapted legislative framework at the international and local level could enable states that espouse defensive military doctrines to build reactive cyber defense strategies. Moreover, now is the time for the alliance to set the conditions for activating Article 5 NATO response: *"An attack on one ally will trigger a response from the whole alliance"*.

Conclusions

The lack of international harmonization of cyber terms can create misunderstandings. One state's interpretation of cyber warfare terms may differ from another state's interpretation due to cultural or organizational differences.

It has a significant number of strategies, doctrines, laws, and regulations that are harmonized and updated frequently, which leads us to believe that it is very interested in the information phenomenon. It is no coincidence that Russia was one of the first countries to develop an information environment strategy.

In order to understand the purpose, directions, techniques, and procedures that the Russian Federation applies in the cyber environment, we have briefly reviewed some of the rules governing this area. In order to comprehensively edify the strategies and techniques used, we

analyzed a number of activities attributed to or recognized by the Kremlin government. The first conclusion is that in fact, exactly these rules written by the Russian information think tank have been put into practice.

From the presentation of a number of cyber activities in the information environment for which Russia has been responsible, we learn that Russia has been very active since peacetime. Moreover, it takes the cyber offensive in international relations very seriously.

Another conclusion that emerges from what has been presented is the synergistic use of conventional and non-conventional actions in Russian hybrid warfare, with actions in the information environment supporting conventional military operations. It is no coincidence that Russia has a relatively large amount of government agencies responsible for the information space and controls a number of non-state actors.

Like any country, it finds it difficult to keep up with new technological challenges. The lack of communications and information technology and the desire to remain a secure and resilient state has led to the idea of abandoning the global internet and developing its own internet network. Moreover, even though the rules governing the information space mention free and equal access to information as a matter of fact, in reality, the sources of information are controlled by the state and personal data, information about the individual and conversations are stored for a period of time by telecommunications service providers. However, recent conflicts show that Russia does not hesitate to pursue its strategic goals whether internal, regional or global, and does not give up its aspiration to maintain its great power status.

Russia's most significant and recent cyber actions are those against Ukraine executed in support of its ongoing special military operation. The fact that a number of other states either in the region or NATO members have been targeted by some cyber-attacks is concerning. Against this backdrop, it is inherent to strengthen the international community's cyber defense and security against such operations, and through effective and credible diplomatic means to deter cyber. It is also an opportunity to show that NATO is a strong alliance and that it could activate Article 5 even in the event of a cyber-attack against a member country.

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SITUATIONAL AWARENESS IN THE MILITARY ACTIONS MANAGEMENT FOR INTEGRATED SIMULATION SYSTEMS

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Abstract: *Preparing for a hypothetical crisis situation is perhaps one of the biggest challenges for decision makers, regardless of the societal field. The situation of military conflict on the territory of Ukraine with loss of life and considerable material damage requires a rethinking of awareness of the situation in the management of military actions. Adopting proactive behavior is the solution to identifying those possible solutions to various crisis situations. Integrated simulation systems applied in the management of military actions are the bridge for the development of solutions in a combined context of several societal areas, such as the protection of critical infrastructure. Integrated simulation systems make it possible to obtain partial results in the simulation of crisis situations, which determines the dynamic correction of military actions to achieve the objectives. The integration of the actions of the actors involved in a crisis situation, such as the one in Ukraine, allows us to obtain solutions for solving problems based on the formulated scenarios. Thus, based on a single scenario, it is possible to develop appropriate intervention reasoning for each aggression factor. The results of the repeated simulations are compared and a perspective can be obtained on the behavior of each actor involved in the crisis situation according to the situational changes. At the end of the simulations, databases are obtained that can be used in the subsequent real situations.*

Keywords: *Situational awareness, integrated simulation systems, military actions management, conflict in Ukraine.*

Relating Societal Domains in Understanding a Hypothetical Crisis Situation

The purpose of the military actions management is to direct the efforts in such a way as to achieve victory in a confrontation with an opponent. Starting from this statement, we aim to determine the essential but also the critical elements that need to be identified and used to build *a reference model in the problem of obtaining victory*. Exhausting the diplomatic means of negotiation between states often generates situations of military conflict with loss of lives and considerable material damage, as in the situation in UKRAINE 2022. Depending on the military means employed, there are a series of damage and destruction on all domains of society in the space of the military conflict. From this perspective, now more than ever, the contemporary societal environment is strongly characterized by the presence of a wide range of threats to all domains of society (political/ diplomatic, military, economic, social, critical infrastructure, information and environment). In this context, for each domain, the safety and security specialists seek to formulate solutions to avoid the materialization of the identified risks (NATO, NATO's military concept for defence against terrorism 2016). If we were to refer to one of the threat forms, namely terrorism, according to NATO: "Awareness is an essential factor for the planning, preparation and execution of all counter-terrorism activities" risks (NATO, NATO's military concept for defence against terrorism 2016). This is reflected in the provision and sharing of information and assessments related to terrorism in a specific area of responsibility, as well as in the identification and monitoring of a system of indicators for early detection of risks.

Due to the typical problems that arise from the specificity of each societal domain, they are somewhat isolated in terms of the way of managing the risks to which they are exposed. Operational isolation in this case can be seen as a potential source of other new risks posed by the inability to disseminate the implementation of solutions. Therefore, such a

conflict situation affecting the operational environment by applying solutions separately, on societal domains, can be avoided through a connected approach between the societal domains. In this way, a continuous and unitary analysis of the common societal operational environment can be obtained, which assesses the real effects and consequences of the military actions but also of those of the other actors. Such a combined approach contributes to the implementation of the whole process of counteracting the effects of a hypothetical crisis or an ongoing crisis.

Thus, a first step towards obtaining *that reference model in achieving victory* in a crisis of the societal domains consists in *the way they relate*, as it results from the NATO concept on the issue of terrorism. Societal connection is not limited to signing collaboration agreements on the sectors of common interest, but it is rather closer to the action planning process based on the model of planning military operations. This approach refers to the description of the structures involved in the safety and security of the functioning of each economic operator in order to identify the influencing factors involved or potentially participating in this common complex framework. In order to solve the situation, the lessons learned from the case studies will be disseminated to each structure in the cascading effects chain. Assuming that a structure in a societal domain can never be prepared for the moment of surprise, contingency plans will be identified. To be able to take over the shocks of a major impact negative event, the decision-makers take into account several options for solving negative situations by ensuring a sufficient number of resources in this regard. Identifying the reference model for achieving victory becomes a major issue that consists mainly in formulating the goal of not controlling everything in advance, but rather making available those procedures which can be applied to situations arising by surprise, called "Contingency plans" in military slang, as previously mentioned.

The second step in determining the reference model is to substantiate the relationship between the societal domains. This is done through understanding and being awareness of the abnormal situations or of any other fact that may lead to a crisis situation. In order to solve the context expressed above, one needs to answer the following questions: "How do we know that an abnormal situation can lead to a crisis situation and thus activate the contingency plans?", "What are these contingency plans?", "Who develops them?" and "Who takes responsibility for activating them?" In this context the tendency can be towards capitalizing on the alert categories of the warning indicators. In order to achieve real results, the unitary approach of action planning according to collaboration plans is applied, focusing the efforts on the situational awareness based on the exchange of information and the development of a common data base on understanding it, as a result of the lessons learning from the previously conducted case studies.

Another step of the process, without a chronological classification compared to those expressed above, may be to capitalize on the experience of the case studies based on threat scenarios. The advantage of exploiting the results obtained from the case studies is the possibility of identifying rules and measures that can be adapted to avoid the occurrence of the negative events and also of the identified risks; in other words, it is possible to show a PROACTIVE BEHAVIOR. This type of behavior is well known as a form of individual commitment when faced with a danger by directing the resources to the area of the incident, an area belonging to the operator's area of responsibility. Things change fundamentally when it comes to joint action in the event of a common threat, a situation in which it is no longer possible to direct the resources due to the lack of coherence regarding the unitary approach of the negative event with a major societal impact. This context leads to understanding the importance of relating the societal domains in order to unitarily understand a hypothetical crisis situation and moreover, of directing of resources towards the epicenter of the crisis.

This type of problem requires a common awareness of the situations, especially of the abnormal ones, so that an effective proactive behavior can be achieved.

After the occurrence of the negative event with major societal impact, when the monitored warning indicators have activated in an overdue response time, the affected societal domain enters the situation of activating the specific procedures for each case, respectively a reorganization of the remaining available resources by activating the resilience capabilities. The unitary approach, from a societal point of view, in case of a materialization of the negative event with a major impact is one of the tender challenges of managing emergency situations. Although in the literature "emergency management" includes a limited number of institutions, all societal sectors are or will be affected by the degree and the quality of the decisions made individually and less by consensus. From this context, it can be concluded that an emergency situation, which expresses a state of abnormality, depending on how it is managed, can degenerate into a situation of deep crisis or military conflict, as in the situation in Ukraine 2022.

Situational Awareness in the Military Actions Management

In most hypothetical situations, we can talk about a societal crisis when at least two societal domains or their sectors are affected by the influencing factors, mainly coming from the external environment. Managing such a situation in current practice consists in dividing the problem into several branches of management such as: risk management, consequence management, emergency management or other forms of management for situations of abnormality in the societal domains. Regardless of which branch of management deals with a crisis situation, in order to initiate the process it is necessary to know or to be aware of the situation of abnormality.

In retrospect, the concept of situation awareness was first formulated during the First World War by Oswald Boelcke (R.G.Head 2016). The former understood that it was a fundamental condition "to gain awareness of the enemy before he gains a similar awareness of the confrontation." Such a concept develops the possibility of inquiring the crisis situation from the perspective of making a distinction between how the status of the analyzed system is understood by the decision-maker and the actual status of the system which is constantly changing and tending towards a series of abnormal or crisis situations. Thus, the concept of combat is seen as a crisis situation through "Auftragstaktik" which comes from "Auftrag und Taktik", a concept later known as "mission command". This theoretical approach promotes a form of military action described by emphasizing the outcome of the mission in relation to the specific means of achieving it (a concept updated in the Bundeswehr as "Führen mit Auftrag"). The military conflict seen as a crisis situation is essentially achieving the victory or defeat of the enemy. The path to the desired end state – the victory! - can be considered as a succession of events that take place in space and time, after which the fulfillment of the objectives formulated in the action planning process is analyzed. The way of expressing and pursuing the achievement of the objectives in the path to victory is the fundamental expression of the management of military actions. In this context, we notice that the events planned to achieve the stated objectives may get out of control due to the complexity of the operational environment in which a number of known or unknown actors operate.

The combat space or the confrontation with an enemy can be interpreted as a complex system of systems. Such a system can be known by identifying those situation descriptive indicators based on which adjustments can be made through the specific mechanisms of the management of military actions. Throughout a military operation, the control and adjustment actions resulting from a misunderstanding of the situation could lead to the materialization of those negative incidents with a major impact. A direct result of the concept of "situation

awareness" is the change in the behavior of the decision-maker in which the predominant concern is to know how the system works, which is based on the descriptive vision in terms of decision making. Thus, we can infer that any task that requires the achievement of an objective involves observing, identifying and recording the events with direct implications on the situational assessment. In order to build a reference model in this regard, we recommend following the logical chain of working and information processing on three distinct stages: PERCEPTION – COMPREHENSION – PROJECTION (Endsley 1995).

In other words, it is understandable that the decision-maker is at the heart of the context of the interaction between himself and the operational environment and that the human factor is what defines the situation awareness. Therefore, the achievement of an objective and more, the achievement of success, are conditioned by the way of accomplishing this logical chain: PERCEPTION – COMPREHENSION – PROJECTION according to the model in figure 1.

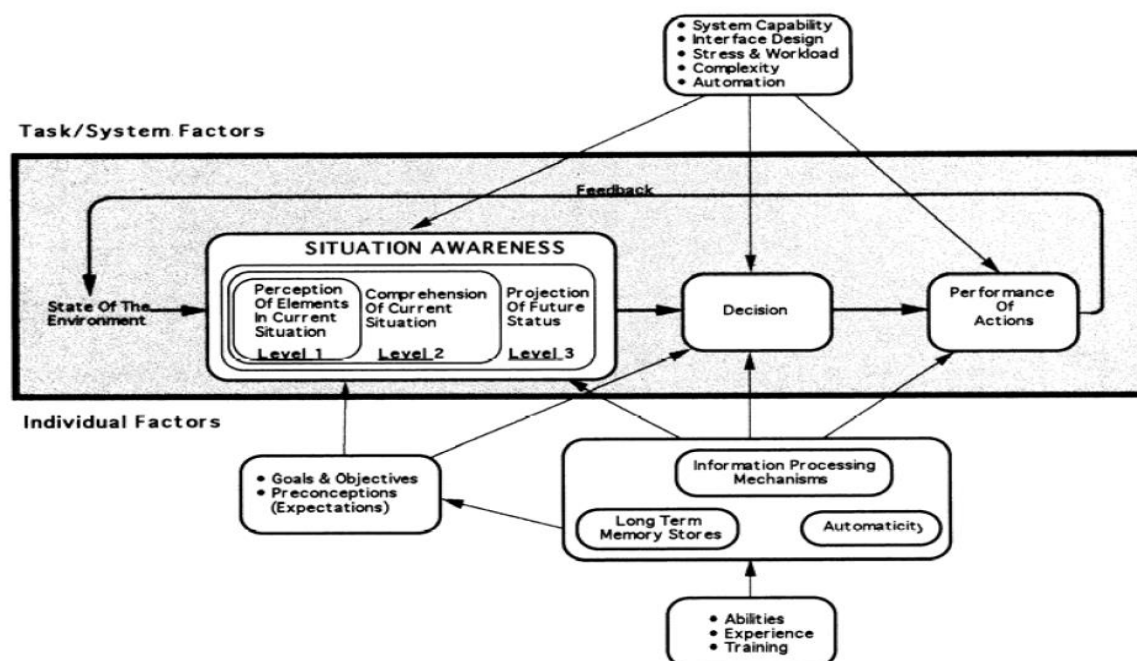


Figure no 1. Model of situation awareness in a dynamic decision making process (Endsley 1995)

Achieving the objectives formulated in the process of planning military actions is conditioned, as previously mentioned, by the situation awareness. Identifying the factors or the actors that contribute to the conduct of the events (as mandatory steps in the path to victory) is an injunctive component of the intelligence preparation of the battlefield. Defining the combat environment and describing the effects result from interacting with the actors and the influencing factors of the combat environment. In this sense, we identify two distinct and mandatory steps for assessing the enemy, namely interpreting and formulating predictions concerning his intentions and behavior during the events. The three-level model of the Situation Awareness: Level 1 – Perception of elements in current situation, Level 2 – Comprehension of current situation and Level 3 – Projection of future status is the basis for decision making. In other words, not only the condition of "making informed decisions" is met, but rather there is an opportunity to maintain contact with the target – the enemy and to anticipate his actions. Following the study of the relationship between the components of the situation awareness model, it results that the conduct of actions is conditioned not only by the

quality of the decisions but rather by the way the feedback is achieved, namely knowing the "State of the environment".

At the core of the management of military actions is the informational support on which the concept of the operation is built and the variants of solving the operational problem are developed, so that the solutions lead to the achievement of the desired end state. Obtaining joint work patterns of planning teams in military actions is the test that the commanders who are ultimately responsible for the success or failure of a real confrontation with an enemy have to pass. A crisis situation can be interpreted as a possible development of an abnormal state. Moreover, taking the steps established for management of such a situation may be subject to the field of modeling and simulation, so that, through repetitive assessments, they are able to support the development of the contingency plans, which are necessary to be built and prepared especially for hypothetical crisis situations in work teams, leading to a result like the one shown in Figure 2.

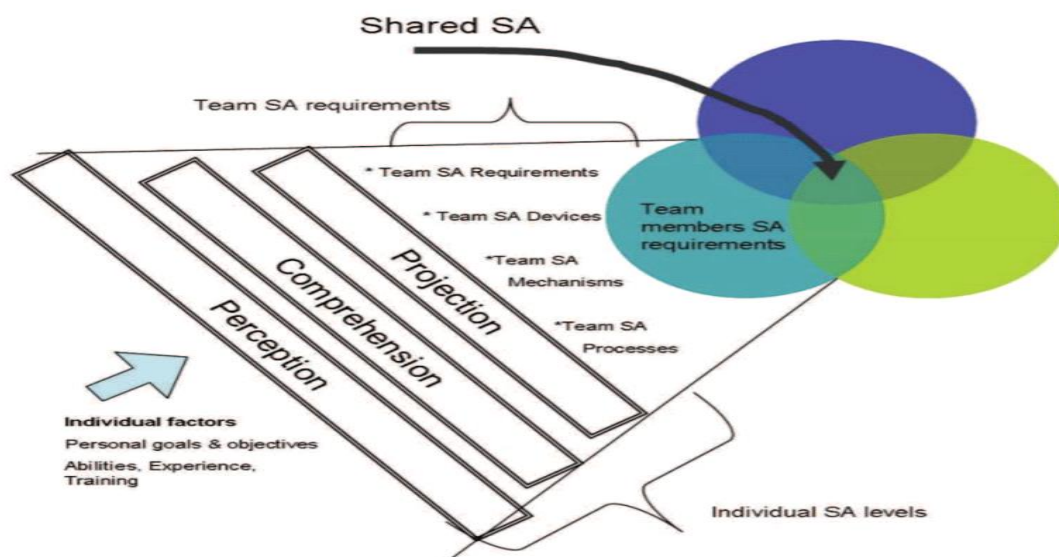


Figure no 2. Situational Awareness (SA) Model combining all the SA elements needed to be taken into account at the organizational level to support decision making in collaboration (Koskinen-Kannisto 2013)

The analysis of the multidimensionality of the operational environment in the management of military actions is performed by decomposing the confrontation environments on the criteria of space and time, which combined with the operational criteria result in the perception and the awareness of the situation. What we can observe at this moment is that the two components PERCEPTION and SITUATION AWARENESS are approached separately in the sense that awareness of the situation is the higher form of work in the process of planning military actions. The peculiarities of the results from the analyses are given by the quality of the individual factors that contribute to the perception and awareness of the situation. As shown in Figure 2, the individual results of the logical chain PERCEPTION – COMPREHENSION – PROJECTION are convergent towards fulfilling team tasks without resolving the classification of their importance and namely prioritizing them by assigning weight to making the final decision. In order to solve such a situation, we resorted to deconstructing the Desired End State in two directions so as to result in the importance of the decomposed work and respectively the differentiated role of the work teams within the joint project. In this way, the management of military actions differs on hierarchical levels depending on the role of the work teams in the two directions of effort (figure 3). While performance indicators measure the execution of tasks, the efficiency indicators measure or help to design the effects by which objectives are met. Figure 3 shows the tactical assessment of engaging the targets through the three components: “Battle Damage Assessment”, “Munitions Effectiveness Assessment” and “Re-attack or Future Targeting”.

Achieving the desired end state or obtaining victory are conditioned throughout the events, which is why, as we argued at the beginning of this scientific approach, it is necessary to establish very clearly the reference indicators against which we gain perception and awareness of the situation. By differentiating the two components of the management of military actions (perception and awareness of the situation), it is possible to obtain the list of risks identified and associated with the measures and rules applicable to the contingency plans. If the perception of the situation represents the passive form of the management of the military actions, the awareness of the situation represents the active form in this context of the planning the military actions. We therefore conclude that a new perspective of the military confrontation has been obtained on four dimensions: ANALYSIS OF THE SITUATION, PLANNING OF THE OBTAINED SOLUTIONS, EXECUTION OF THE OPERATIONAL PLANS and THE ACTUAL CONFRONTATION WITH THE ENEMY. The first pertinent question might be, "Why did we differentiate between the EXECUTION phase and the CONFRONTATION phase?" The answer lies in the concept of "situation awareness" because of the fact that the identified solutions are a theoretical result of the management of military actions while the confrontation is the only means of validating the obtained solutions to solve a crisis or military conflict.

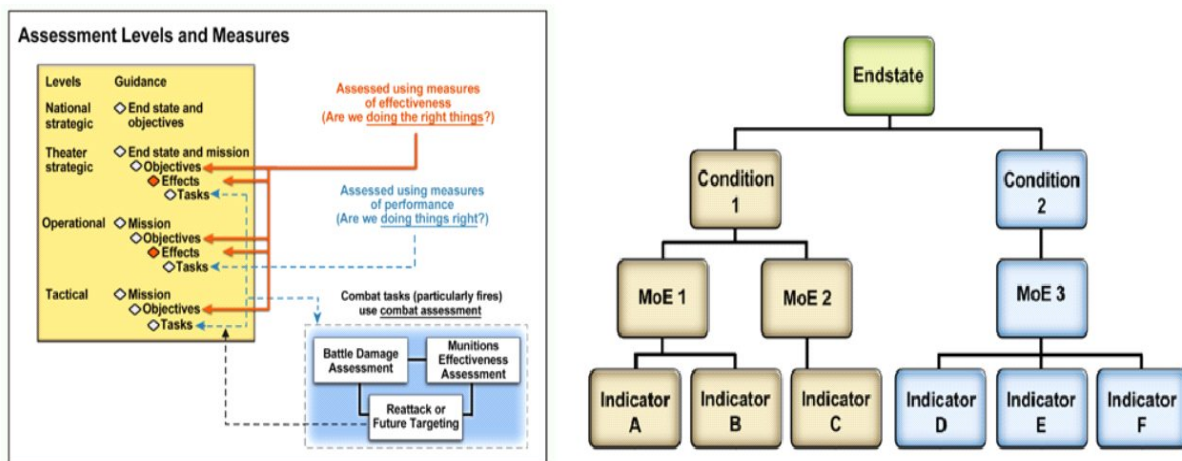


Figure no 3. Schematic representation of the role of the Measures of effectiveness (MoEs) in the situation awareness cycle (Westphal 2014)

The distinct contribution of the two sets of indicators (of performance and effectiveness) make the feedback loop shown in figure 1 possible, so that at least the perception of the situation is achieved as a preliminary step for the awareness of the situation and implicitly for the possibility to formulate predictions. From the above, it is possible to foresee the enemy's courses of action as a result of the predictions made based on situation estimates (made by the work teams according to the situation awareness on the three progressive levels). This can add value in terms of the possibility of obtaining effective solutions to the problem that defines a state of crisis or military conflict.

Instead of Conclusion – The Importance of Integrating the Modeling/Simulation Systems into the Situation Awareness Process

Due to the multitude of the influence factors and actors involved in planning and conducting an event (in the context of the modern battlefield) it is difficult to develop and manage the status indicators (performance and effectiveness). In solving this, a very important role is played by the modeling-simulation systems, developed for the management, respectively the planning of operations processes. Starting from the prerequisite that the

decisions may be the result of models for designing the operational reality, a series of simulation systems were built in which, based on real-life data, various experiments and case studies could be performed. The modeling method is a tool of scientific knowledge that allows the elaboration of the solutions to solve the societal problems, which based on knowing the essential characteristics of the influencing factors, respectively the behavior values of the potential actors involved in the development of the potential negative events, make it possible to identify certain risks and the solutions to deal with them. In the perspective of defining the modern battlefield as a system of multidimensional systems that have specific features and intuitive behavior, it was possible to virtually transform the components of the operational environment.

Another conclusion is to capitalize on the defining features of the influence factors and of the actors involved in a hypothetical military conflict with direct implications on all the societal domains, which allows us to be aware of the current situation and, even more, to make predictions about several possible futures. Describing the future or making predictions about what a situation will look like in an acceptable time horizon allows the military planners to manage actions aimed at achieving the goals that lead to the achievement of objectives and ultimately to the desired end state. In other words, the modeling-simulation systems allow a sufficient number of case studies to be carried out. These are obtained by changing the status parameters and implicitly the behavior of the actors, which have important results following the interactions between them and the common operational environment.

From the context presented throughout this article, it is worth mentioning that all the simulation systems are based on the theory of the behavior of each known actor and that this behavior may change depending on their own awareness of the situation in which they may be at a given time. This opens new perspectives for research on the field of situational awareness in the sense that each analyzed subject has its own personality and therefore unpredictable reactions to the action of the external stimuli. Therefore, it is safe to say about the simulation systems that they are limited in terms of the unpredictable behavior of the actors involved in a possible negative event and they are implicitly a distortion of the reality in the virtual environment. However, the simulation systems remain tools for analyzing and planning military actions, the results of which can be combined with observations from lessons learned from the study of recent military conflicts, the conflict in Ukraine or the solved crisis situations.

The catastrophic damage to all societal domains, significant material destruction and loss of life on the territory of Ukraine questions the predictability of the military behavior in relation to the other societal domains. Identifying the effects according to the statistical reports on the minutes, hours, days and months of war in Ukraine and knowing the normal functioning of societal domains, by applying the three-level method of situational awareness, may be possible by reversing the process of analysis to gain new perspectives on the aggressor's behavior. Knowing the aggressor's behavior as the military conflict correlated with the sanctions on different societal segments at the international level allows the decision-makers to direct their efforts towards obtaining advantageous negotiating conditions for the cessation of hostilities.

Last but not least, we must point out that, no matter how advanced a simulation system may be, it will not be able to keep up with the dynamic behavior of the large masses of people who are part of the societal domains. The major advantage of applying the situational awareness method is the possibility to decode the contemporary operational environment and to extrapolate on how the actors will manifest a certain behavior by altering the conditions of the situation. In other words, there is a change in the importance in assessing the type of operations by purpose: decisive, modeling and supporting operations, so that the role of the modeling operations becomes a priority and the decisive operations become a natural result of

the modeling ones. Certainly, in the not so distant future, the artificial intelligence will intervene and change the expectations of the modeling – simulation systems in the sense that perception will merge with situation awareness.

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THE FUNDING UNDER IN THE NORTH ATLANTIC ALLIANCE

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Abstract: *In this article, I set out to present the importance of allocating financial resources within the North Atlantic Alliance, as well as the costs of operating and implementing Alliance policies, which are funded by direct and indirect contributions from Member States. Thus, direct financial contributions to NATO are common funding and joint funding and indirect financial contributions come in different forms. Indirect financial contributions are by far the largest type of contribution and include Allied participation in NATO-led operations and missions. The North Atlantic Alliance regularly collects data on Allied defense spending and presents aggregates and subsets of this information. The Ministry of Defense of each Ally reports the estimated current and future defense expenditures according to an agreed definition of defense expenditures. Allocated amounts are payments currently made by allied nations or to be made during the fiscal year. The essence of the article consists that NATO funding is found in the defense budgets of Alliance member countries. Of these, the majority are national expenditures, which are practically a form of indirect contribution to NATO funding. At the same time, it can be seen that NATO is an intergovernmental organization. The Member States allocate the necessary financial resources for day-to-day operations. The Member States shall provide the necessary and available facilities for consultation, decision-making, and implementation of policies established by consensus. NATO is a political alliance backed by a military structure. It provides for the common defense of member countries, cooperation with partner countries, and the implementation of Alliance policies, mainly for peacekeeping. Therefore, the novelty of this approach lies in the fact that it highlights the problems facing NATO funding today, the funding mechanism, and the construction of the common budgets of the Alliance.*

Keywords: *military budget; civilian budget; direct and indirect contributions; joint funding.*

Introduction

Through this article, I intend to draw attention to one of the important chapters in the construction of the North Atlantic Alliance, namely the budget of the Alliance. The budget is for any organization that something that usually does not appear in the first line, does not enjoy applause in case of success being considered the background component. The budget, however, is vital to the functioning of the organization, has the right of life and death over the North Atlantic Alliance, and each time, is shown to be responsible for any failure, if not the sole culprit.

Thus, I consider that the issue of the NATO budget is inextricably linked to the sources and methods of financing. We also found that the phrase *NATO budget* itself should be treated extensively, given that there is no actual NATO budget, but a sum of financial resources, of which only a minor part is made directly available to NATO, the rest, indirectly, forming a financial capability that serves NATO interests. Consequently, I structured the article on a much more general framework, bringing to attention the issue of NATO funding, in order to outline an overview that reflects the reality, doctrinal landmark and vein of development of constructive ideas on the issue. If on the strict side of the figures, there is in the open sources, a sufficient transparency of the money that irrigates the body of the Alliance and how they are spent, as the details of the formation of the financial resources made available to NATO penetrate, information becomes increasingly scarce. If the amounts in NATO's joint budgets are easy to find, how these budgets work, the reasons behind the formulas that set out the responsibilities of the various contributors, are often unclear. They are sometimes hidden under arguments that cannot be further dissected, such as ability to pay, one of the criteria for setting quotas for participation in NATO joint budgets, or other political reasons another criterion for participation fees.

The topicality of the research topic is given by the problems facing NATO funding today and by the funding mechanism and the construction of NATO joint budgets.

The purpose of the article is to arouse interest in this issue, to highlight certain aspects that may be relevant to the problems facing NATO today on the funding pillar and to call for more in-depth research.

1. The sources of funding

The North Atlantic Treaty Organization (NATO) is one of the world's leading international organizations. This is a political and military alliance of 30 member countries in Europe and North America, in which they contribute directly and indirectly to the costs of the Alliance, to the operation and implementation of its policies, and to various other activities.

The costs of operating and implementing the Alliance's policies shall be financed by direct and indirect contributions from the Member States (NATO WEB SITE, 2022).

From the observation of the sources, it can be pointed out that most of the contributions are indirect contributions. These materialize through participation in NATO-led operations and missions. The main concern of the Member States is that the participating armed forces be interoperable with those of the other Member States. With few exceptions, member countries pay for their own military strength and capabilities.

The direct contributions are payments from the national budgets of the Alliance member countries, in the common budgets at the exclusive disposal of the NATO organisms. Unlike indirect contributions, where the power to decide on their expenditure rests entirely with the government of the country, in the case of direct contributions, from the moment they are paid, they are "depersonalized" and the decision on their use rests with NATO, organisms where all countries have representation, and decisions are made by consensus.

Direct contributions to NATO budgets are made by member countries in accordance with a cost-sharing formula agreed by all members and based on GDP. It is generally to be affirmed that these contributions do not in fact exceed 0.5% of Member States' military expenditure.

Therefore, direct contributions are made to fund the requirements of the Alliance that serve the interests of all 30 members - and are not the responsibility of any member - such as air defense or NATO command and control systems. Costs are borne collectively, often using the principle of joint financing.

Within the principle of common funding, all 30 members contribute according to an agreed cost-share formula, based on Gross National Income, which represents a small percentage of each member's defence budget. "Common funding arrangements are used to finance NATO's principal budgets: the civil budget (NATO HQ running costs), the military budget (costs of the integrated Command Structure) and the NATO Security Investment Programme (military capabilities). Projects can also be jointly funded, which means that the participating countries can identify the requirements, the priorities and the funding arrangements, but NATO provides political and financial oversight. The funding process is overseen by the North Atlantic Council, managed by the Resource Policy and Planning Board, and implemented by the Budget Committee and the Investment Committee." (NATO WEB SITE, 2022)

"The civil and military budgets are annual, coinciding with the calendar year. Each budget is prepared under the authority of the head of the respective NATO body and is reviewed by the Budget Committee composed of representatives of contributing member countries, and approved for execution by the North Atlantic Council (NAC)." (NATO WEB SITE, 2022)

These are the main features of NATO's budget, so the details of each of the alliance's sources of revenue will be followed.

2. Indirect funding of NATO

Indirect – or national – contributions are the largest and are made, for example, when a member voluntarily sends equipment or troops to carry out a military operation for the benefit of the Alliance and bears the costs of supporting these capabilities in theaters of operations.

Thus, when the North Atlantic Council (NAC) decides to engage in an operation, there is no obligation for each member to contribute to the operation. The exception consists of the Article 5 collective defence operation. In all cases, contributions are voluntary and vary in form and scale.

The contribution consists of troops, vehicles, naval vessels, or air capabilities to all forms of equipment or support. These voluntary contributions are offered by individual members. All in all, the contributions are taken from their overall defence capability to form a combined NATO capability. (NATO WEB SITE, 2022)

In 2006, NATO Defence Ministers agreed to commit a minimum of two per cent of their Gross Domestic Product (GDP) to spending on defence. "This guideline principally serves as an indicator of a country's political will to contribute to the Alliance's common defence efforts. Some Allies may need to spend more than this to develop the capabilities that the Alliance asks of them. Additionally, the defence capacity of each member country has an important impact on the overall perception of the Alliance's credibility as a politico-military organisation." (NATO WEB SITE, 2022)

At the 2014 Wales Summit, NATO leaders agreed to halt declining trend in defense budgets and decided to:

- The Allies who currently meet the condition to allocate for 2% for defense spending they will maintain this process in continuation,even if desired for this percentage to increase;
- The Allies whose share of GDP for defense spending is below 2%: they will stop this decline; i follow to groth defense spending in real terms as GDP grows; and aim to move towards the 2% target in a decade, in order to fulfill objectives capabilityss NATO and for to complete capabilityss deficiencies NATO.

Also it was agreed that in tha last 10 years, "allies spending less than 20% of their annual defense budgets on major equipment will aim to increase their annual investment to 20% or more total of defense spending." (NATO WEB SITE, 2022) In my opion it is a important step in NATO financial stability.

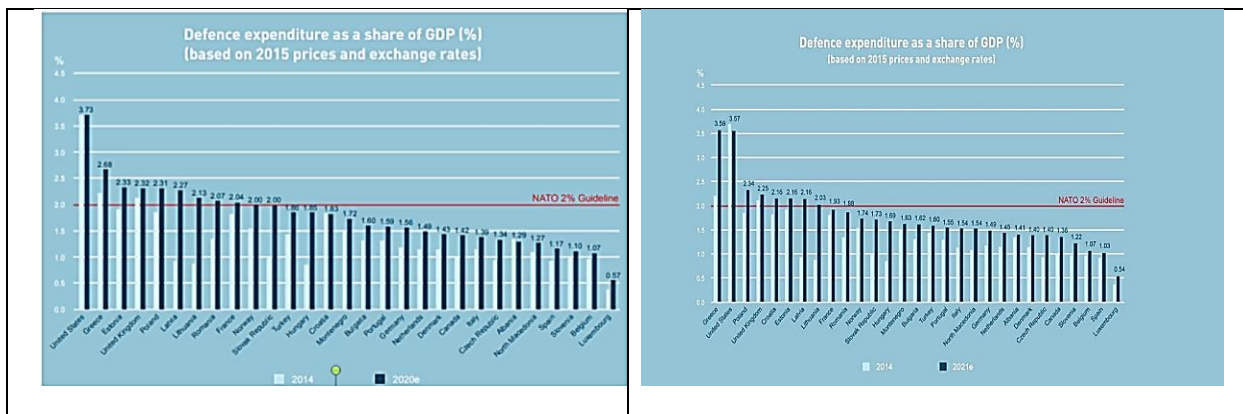


Figure no 1. The GDP for Member States' defense spending for 2014, 2020 and 2021 (Matthijs, 2021)

According to this chart, it can be seen that Romania is on the tenth position, with 1.88%, after France (1.93%), the first country below the 2% threshold. Belgium (1.07%) and Denmark (1.40%) recently decided to significantly increase military spending. Italy (1.54%) wants to reach 2% in 2028, said Prime Minister Mario Draghi, considering that the 2024 horizon is understood by member countries more "as like a indication, than as a purpose". And Germany, which has allocated only 1.49% of GDP in defense in 2021, has announced record investments for its military since 2022, with the ambition of reaching 2% of GDP "in the years coming " (G4Media).

Thus, in 2021, the eight countries that have reached or exceeded the 2% target are: Greece (3.59%), USA (3.57%), Poland (2.34%), United Kingdom (2.25 %), Croatia, Estonia, Latvia (2.16% each) and Lithuania (2.03%).

The United States, which were represente for 51 percent of Allied GDP in 2021, accounted for 69 percent of NATO's military spending. NATO's total military spending was estimated last year at more than 1.000 billions of dollars (898 million euros).

Thus, national defence budgets cover three categories of expenditures: personnel expenses and pensions; research, development and procurement of defence equipment; and, lastly, operations, exercises and maintenance, but the budget allocation is a national decision.

Forwards is presented the graph with the situation of the Alliance member countries, with the allocated expenditures for military equipment. World defense spending has pased for the first time in history 2.000 billions in 2021, and is set to continue to rise as European states expand their military in response to Russia's invading of Ukraine.

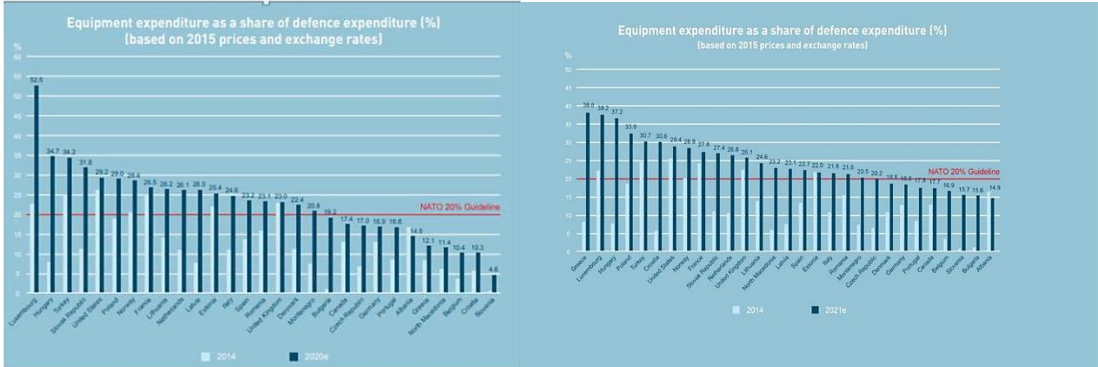


Figure no 2. Equipment expenditure for Member States' for 2014, 2020 and 2021 (Matthijs, 2021)

It can be seen that there are states that have spent and invested in defense equipment, which gives them a status in the common security equation, such as Greece, Luxembourg, Romania is on the 19th place in this ranking.

In 2021, countries around the world spent a total of \$ 2.113 billion on defense, 0.7% more than in 2020. However, defense spending accounted for 2.2% of the mondial's Gross Domestic Product, 0.1 percentage points less than in 2020, grace to the rapid recovery of the world economy from the pandemic. (DIGI-24)

Therefore, the NATO Members will ensure that their land, air and maritime forces meet NATO-agreed guidelines for deployability and sustainability. The NATO Members will ensure that Allied armed forces can operate together. Even though all Allies may not contribute to an operation, they have agreed that the joint operation would be commonly funded.

3. Direct funding of NATO

”Direct financial contributions to NATO come principally in two different forms: common funding and joint funding. They can also come in the form of trust funds, contributions in kind, ad hoc sharing arrangements and donations. Several factors influence the choice of funding source to address a given priority. These include the required level of integration or interoperability, affordability at the national level, the complexity of the system involved, and the potential for economies of scale. Often, a combination of funding sources is used.” (NATO WEB SITE, 2022)

Thus, when a need for expenditure has been identified, the countries in the Resource Policy and Planning Council discuss whether the principle of common funding should be applied.

The Common Funding Criteria are constantly being reviewed and changes may be made as a result of changing circumstances.

One example is the need to support the critical demands of the Alliance's operations and missions.

Co-financing arrangements include both NATO civilian and military budgets.

Co-financing arrangements also include the NATO Security Investment Program (NSIP). These are NATO funds that support the Alliance's overall objectives and priorities.

Therefore the civil budget provides funds for personnel expenses, operating costs, and capital and programme expenditure of the International Staff at NATO Headquarters. It is financed from national foreign ministry budgets (in most countries), supervised by the Budget Committee and implemented by the International Staff.

The civil budget for 2022 is € 289,1 million (NATO WEB SITE) is ”formulated on an objective-based framework, which establishes clear links between NATO’s strategic objectives and the resources required to achieve them. There are four frontline objectives and four support objectives. The frontline objectives comprise support for: active operations; Alliance capabilities; consultation and cooperation with partners; and public relations.” (NATO WEB SITE, 2022)

The four support objectives consist in: ”providing support to the consultation process with Allies; maintaining the facilities and site of NATO Headquarters (Headquarters operational environment); governance and regulation through the monitoring of business policies, processes and procedures; and Headquarters security.” (NATO WEB SITE, 2022)

The military budget for 2022 is € 1.56 billion (NATO WEB SITE) provides funds for ”the International Military Staff, the Strategic Commanders, the NATO Airborne Early Warning and Control (NAEW&C) Force, the common-funded portions of the Alliance’s operations and missions.” (NATO WEB SITE, 2022)

NATO Security Investment Programme (NSIP) is a long-term program designed ”to build new infrastructure assets or improve existing infrastructure elements on member states or partner countries territory and is jointly funded by all member states. Since its establishment until now, this program has been a symbol for member countries for the effective sharing of obligations and benefits, and for those outside the Alliance a demonstration of the permanent involvement of its members in the joint defense of NATO populations and territories.” (COTIGA, 2019, pp. 72-76)

”The NATO Security Investment Programme (NSIP), covers major construction and command and control system investments, which are beyond the national defence requirements of individual member countries. It supports the roles of the NATO Strategic Commands by providing installations and facilities such as air defence communication and information systems, military headquarters for the integrated structure and for deployed operations, and critical airfield, fuel systems and harbour facilities needed in support of

deployed forces. The NSIP is financed by the ministries of defence of each member country and is supervised by the Investment Committee. Projects are implemented either by individual host countries or by different NATO agencies and Strategic Commands, according to their area of expertise.” (COTIGA, 2019)

The 2022 ceiling for the NSIP is € 790 million. (COTIGA, 2019) ”In the spirit of transparency, each year NATO publishes the civilian and military budget totals, as well as the NATO Security Investment Programme (NSIP) budget. It also publishes an annual compendium of financial, personnel and economic data for all member countries. Since 1963, the latter has formed a consistent basis of comparison of the defence effort of Alliance members based on a common definition of defence expenditure.” (NATO WEB SITE, 2021)

NATO’s civilian budget (running costs for NATO Headquarters), ”military budget (costs of the integrated Command Structure) and NSIP (military capabilities) are commonly funded, i.e., they cover requirements which are not the responsibility of any single member, such as NATO-wide air defence or the command structure.” (NATO WEB SITE, 2021)

All 30 members contribute according to an agreed cost-share formula, based on Gross National Income. This contribution represents a small percentage of each country’s military defence budget. This cost-share formula is published every year. ”Projects can also be jointly funded, which means that the participating countries can identify the requirements, the priorities and the funding arrangements, but NATO provides political and financial oversight. In September 2014, NATO leaders decided to, inter alia, reform governance, transparency and accountability, especially in the management of NATO’s financial resources. This new drive for transparency and accountability aims to improve insight into how NATO manages, spends and reports on the use of taxpayer funds.” (NATO WEB SITE, 2021)

Joint (partnership) financings are structural forms of international financing. ”Some multinational activities cooperation related to research, development, production and logistical support do not involve all members, in some cases they could involve only a small number of member countries.” (ALBU, 2011) Also there are projects that do not offer benefits all members of the Alliance or are not considered necessary by all members, in which case they may have joint funding only from the some members side. They also establish the common funding formula. In this case, NATO is only politically and financially overseeing. Usually, the management of joint funding is entrusted to a NATO agency. NATO agency activities range from the development and production of fighter aircraft or helicopters to the provision of logistics support or air defence communication and information systems.

Conclusions

The Member States contribute directly and indirectly to covering the expenditure generated by functioning of NATO's common policies and activities. Direct contributions to the NATO joint budget are made by Member States according to a cost-sharing formula that takes into account national GDP.

NATO members make direct and indirect contributions to the costs of running Allies operations. It can be seen that funding for the functioning and implementation of the Alliance's policies is provided through direct and indirect contributions. Indirect contributions account for most of the Alliance's contributions.

The direct contributions are payments from the national budgets of the Alliance member countries, in the common budgets at the exclusive disposal of the NATO bodies.

Direct contributions are made by Member States in accordance with a cost-sharing formula, agreed by all members and based mainly on the allocated annual budget (percentage of GDP). Members who spend less on defense budgets are directed to invest in defense to exceed the recommended 20%.

All members of the Alliance contribute to the NATO budget according to an agreed cost-sharing formula, based on Gross National Income, which represents a small percentage of each country's defense budget. Romania has proposed a percentage of 2.5%, a very important aspect in the politico-military decision, which indicates an active participation in the security of the Alliance. The Alliance's financing arrangements include civilian and military budgets. To this is added the NATO Security Investment Program (NSIP). These are secure funds through which NATO authorities identify requirements and set priorities in line with the Alliance's overall objectives and objectives.

Therefore the NATO budget has strong governance and oversight mechanisms, the Allies decide together what is eligible for joint funding, decide how much to spend each year, and set medium-term planning figures.

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THE FUTURE OF SMART CITIES

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Abstract: *IoT, big data analytics, and machine learning advancements have made the concept of a smart city a reality. The goal of a smart city, as we all know, is to give efficient answers to its residents using modern technology and data analytics collected by sensors. The idea of a smart city was something SF for many people in the 20th century, that was anyway pictured just in the popular media. Cities are becoming smarter not just in terms of how we can automate regular operations for individual people, buildings, and traffic systems, but also in terms of how we can monitor, comprehend, analyze, and design the city in real time to increase efficiency, equity, and quality of life for its population. A smart city goes beyond utilizing digital technology to improve resource efficiency and reduce pollution. It entails improved urban transportation networks, updated water and waste disposal facilities, and more energy-efficient lighting and heating systems. It also entails a more involved and responsive local government, safer public areas, and addressing the needs of older people. In this paper we will approach the actual smart city, what is it today; how they developed in recent years, the domains where is implemented (traffic management, healthcare, and public safety for example) and the future of smart cities in the whole world.*

Keywords: *Smart Cities; Urbanizing; IoT; Artificial Intelligence; Big Data; Development.*

Introduction

In the context of urban development policy, the notion of "smart cities" has gotten a lot of attention (Schaffers, et al. 2011). Smart cities are technologically sophisticated metropolitan areas where people and organizations are highly linked. All of the components work together to create an integrated system that gives real-time access to high-quality services and goods in an economically and socially sustainable environment. This approach entails the application of information and communication technologies (ICTs) to boost economic growth and improve quality of life while also integrating all hardware and software technologies to better urban administration (Kitchin 2015). This new city "frequently links together technical informational transformations with economic, political, and socio-cultural development," according to the term "smart city." (Voda, Ana Iolanda, and Radu, Laura Diana 2018).

(Voda, Ana Iolanda, and Radu, Laura Diana 2018) also state that smart cities begin with smart human capital, because only smart people can develop ICTs equipped with AI (Figure no. 1).

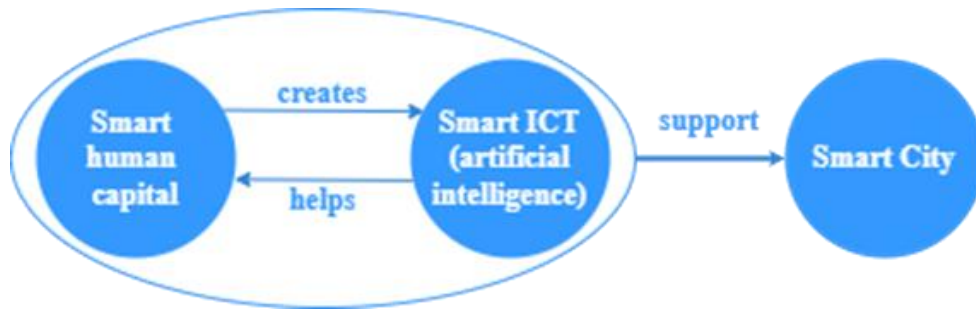


Figure no 1. How Smart Cities are created

(Source: Kitchin, Rob. 2015. "Making sense of smart cities: addressing present shortcomings." *Cambridge Journal of Regions, Economy and Society* 8: 131-136.)

Artificial intelligence isn't just for smart buildings or transportation. From medical diagnostics to robot control and virtual aid scientific tools, it covers a wide spectrum of applications. AI is being used in a variety of applications, including automotive voice recognition, industrial robots, intelligent vacuum cleaners, and refrigerators, among others. It may also be utilized in smart homes, which allow hundreds or even thousands of sensors to give customized solutions to our needs, such as ambient supported living, energy conservation, and so on (Kitchin 2015).

Smart cities have a wide range of uses and applications. Many countries use three scenarios as examples: (i) transport, (ii) health, and (iii) living (Toh, et al. 2020).

1. Smart Cities today – Cosmina

Smart cities are one of the most widespread concepts of today's society. If we were to propose a simple definition of the concept, it would be as follows - the concept of the smart city relates to how cities work and assume progress in various areas so that they become a welcoming and appealing place to live (Kisala 2021).

But how have recent changes contributed to the emergence and spread of the smart city concept? The major advancement is that today's cutting-edge technology is affordable, safe, reliable and operates in real time (Angelidou 2020).

We can describe the current situation in the smart city area as being shaped by two distinct forces: technology push and demand pull. This idea is based on recent economics and innovation theories inspired by the writings of Schumpeter (2010) and Schmookler (2013). Thus, the technology push implies that a new product is introduced into the market due to rapidly advancing science and technology. At the same time, the demand pull refers to solutions developed and commercialized as a result of scientific research in response to societal demand. This hypothesis can be applied to the most recent events in the smart city sector.

The technological advancements of recent years have made feasible the development of a vast array of solutions and products that seek to enable the smart city. These products use ICTs to improve urban function management in areas such as transport, energy, health care, water and waste. As a result, many technology vendors and consultancies are looking for a niche in the smart city product market. Other stakeholders in the smart city area occasionally enhance this push, too:

- Global gatherings and their associated events
- Academic research organizations that have created prototypes and solutions for smart cities.
- Policymaking institutions at the local and global levels, through their policies and funding programs for smart city development.

A series of challenges in the economies and needs of cities have emerged over the last couple of decades, reinforcing the popularity of the smart city concept. One of them is urbanization. Since 2008, the global urban population has outnumbered the rural population, and experts predict that this trend will continue and be reinforced (United Nations 2012). This fact poses significant challenges to city economies regarding resource efficiency and social sustainability. The second is climate change and natural resource scarcity, which are increasingly becoming a source of concern for cities; city-wide measures for mitigating climate change and emergencies are now widespread in urban development strategies. (Figure no. 2)

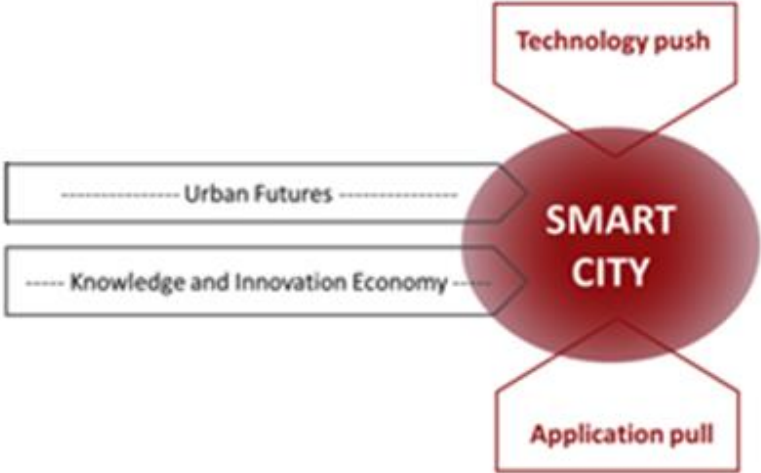


Figure no. 2 Smart Cities - the result of several factors

(Source: Angelidou, Margarita. 2015. "Smart cities: A conjuncture of four forces." (Cities 47) 95-106. doi:https://doi.org/10.1016/j.cities.2015.05.004.)

For a better understanding of the highlighted notions, we will analyze the case of Barcelona. The one being implemented in Barcelona, Spain, is an example of an integrated smart city strategy. The city's vision for the smart city includes both technological and efficiency-oriented goals, as well as human capital progress through the knowledge economy's development. The city's high-tech area (Angelidou 2020), which includes a "smart city campus," not only presents futuristic images of a "smart" Barcelona in terms of technology and design but it also promotes the area as a place where large-scale collaboration and knowledge exchange among the city's people and businesses advance the knowledge and innovation economy (Info Barcelona 2014).

2. Development of smart cities – Cosmina

In the late 1980s, innovations in centralized management of power generation, water processing, first steps in video monitoring, and real-time data exchange over those-days telecommunication networks may be considered the Smart City's toddler age.

Smart City development was accelerated in the 1990s by advances in computing power, the introduction of web services, and the deployment of mobile radio networks. Although sensors were still not "plug-and-play," and telecom networks were typically narrowband, it became clear that remote devices could be connected and integrated with a central processing platform almost anywhere and at any time. Smart Cities are becoming a viable and sustainable concept.

In the late 2000s, we saw broadband mobility, the first steps toward cloud computing, and ever-present and ever-affordable sensors in smart devices. Data centers have evolved into critical public and private infrastructure. People and devices become fully interconnected. A

large population begins to benefit from its smart environment, and smart applications become a necessity for everyone.

Big Data analytics applications in various Smart City domains enable large amounts of data storage and processing for the development of advanced Smart City services. Big Data platforms, which are typically hosted on the cloud, can process and analyze such large amounts of data in parallel.

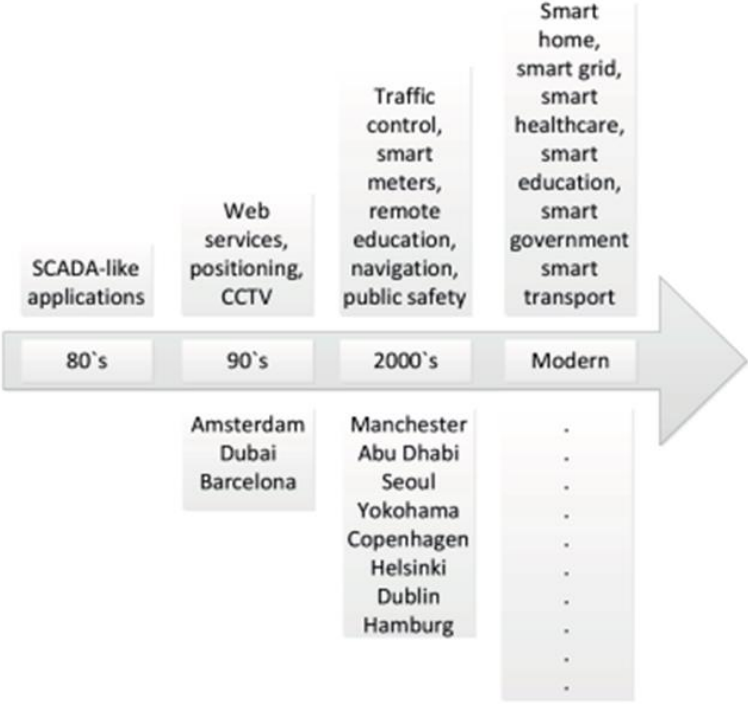


Figure no. 3 Smart City Evolution Timeline

(Source: Simic, Mirko, Miljan Vučetić, Milos S. Stankovic, and Gardelito Hew A Kee. 2019. "Big Data and Development of Smart City." *Sinteza 2019-International Scientific Conference on Information Technology and Data Related Research* 581-588. doi:10.15308/Sinteza-2019-581-588.)

In terms of existence, response speed, and certainty, the results of this process exceed those of traditional applications. All of this demonstrates how Big Data and related phenomena have had a tremendous and profound impact on Smart City changes, transforming its shape and achievable goals and redefining its requirements and challenges. Table no. 2 depicts some historical aspects of the evolution of Smart City technological layers (Simic, et al. 2019).

Table no. 1 (Evolution of Smart City technological layers)

	Centralized Platform	Telecommunication medium	Smart devices	Application
80`s	Mainframes, dedicated SW	Narrowband, restricted for public use	Expensive sensors, restricted for public use	SCADA, industry
90`s	Server farms, first public interfaces	More bandwidth, access available	More affordable, market driven	Web services, positioning, CCTV

	Centralized Platform	Telecommunication medium	Smart devices	Application
2000`s	Data centres, more processing power	Fixed broadband, mobile	Very affordable, "plug-and-play" type	Traffic control, smart meters, remote education, navigation, public safety
Modern	Cloud computing, artificial intelligence, Big Data, IoT, ideas about decentralization	Fixed and mobile broadband	Smart and autonomous, ever-presented	Smart home, grid, health, education. Government, transport, neighborhoods...

(Source: Simic, Mirko, Miljan Vučetić, Milos S. Stankovic, and Gardelito Hew A Kee. 2019. "Big Data and Development of Smart City." *Sinteza 2019-International Scientific Conference on Information Technology and Data Related Research* 581-588. doi:10.15308/Sinteza-2019-581-588)

The traditional Smart City applications will be examined: traffic management, healthcare, and public safety:

One of the first Smart City applications to hit the ground was Traffic Management. Traffic flow, congestion detection, parking availability, real-time traffic monitoring, accident prevention, and accident response were initially identified as long-term Smart City objectives. The potential for return on investment in traffic applications piqued the interest of city governments, decision makers, and solution providers a long time ago.

Healthcare is an area where Smart City has yet to demonstrate its worth. The challenges of smart healthcare are as follows:

- availability to all citizens – the issue of finances, social justification, and government type
- education of medical staff and citizens to deploy and use futuristic healthcare services.

Examples include the Amsterdam Health Lab in the Netherlands and the Forum Virium Helsinki in Finland.

Smart City becomes Safe City when viewed through the eyes of public safety professionals. Terrorist attacks or attempted attacks most commonly target urban areas. The use of modern communication methods and databases to prevent security incidents or enable first responders to better handle problematic situations fits nicely into the Smart City agenda. The challenges of public safety applications are typically dealing with massive amounts of data while maintaining citizen privacy.

3. How these cities will change in the future – Ana

Over time, technology has continued to have an influence on society, enhancing our level of living and quality of life (Toh, et al. 2020).

As a result of expanding global technology, many components of people's everyday activities have been assigned to machines. As people become more reliant on smart technology, this tendency looks to be expected to continue (Kuru 2021). Autonomous technologies, particularly autonomous cars operating in urban contexts, are being considered by industry and government organizations for deployment throughout society. As a result, the new patterns will affect everything from how automobiles are driven to the gasoline they use.

The goal is for cars to become self-driving, communicating and cooperating, making driving easier. In the long run, significant mobility changes are predicted. Furthermore, metropolitan areas are projected to change, with the goal of all cities becoming smart cities with automobiles connected to and in constant contact with the urban infrastructure (Lanza, et al. 2015).

Smart city designs are becoming increasingly popular, and various nations and cities, like Madrid, Barcelona, and Singapore, are now planning theirs. In addition, some authorities will create smart city testbeds to mimic and assess the suggested solutions (Bhushan, et al. 2020). Aside from IoT sensors such as parking sensors, blockchain is a promising future technology. While everything around us is constantly changing, blockchain technology can aid in transparent city management and data integrity by maintaining it, facilitating decision-making between individuals and organizations (e.g. national and local governments, hospitals, universities, and businesses), and developing a democratized smart city. Many components of smart cities, such as supply chain management, smart grid, smart transportation, smart healthcare, financial systems, and data center networks, can benefit from blockchain technology. Because a healthcare network often owns several hospitals that a central organization administers, blockchain might be a valuable notion in the healthcare sector. A single point of failure exists in such centrally regulated healthcare networks.

Furthermore, with the world's rapidly urbanizing population, traditional health institutions find it challenging to meet public demand. Healthcare must be sustainable, efficient, and intelligent because of the conflict between finite resources and rising demand. As a result, blockchain is the ideal solution for this problem since it provides the needed centralization, improving security. Smart hospitals, smart ambulances, and the ability for every patient to wear a wearable device are all required for a comprehensive smart healthcare system. Sharing real-time data regarding a patient's status is necessary for effective treatment since it allows clinicians to make judgments even from faraway places. Another benefit of implementing blockchain technology in this field is that patients would have easier access to their medical records (Bhattacharya, et al. 2020).

Incorporating machine learning and deep learning algorithms into smart cities is a potential future option. Transfer learning is one probable future study direction. Using this strategy, training and testing delivery are adjusted or shifted from one platform to another. Integrating semantic approaches into apps to improve user-device interaction is another topic that academics might work on in the future of smart cities. Another area where smart devices could be improved is the incorporation of speech recognition technology for natural language processing. The key to building such smart devices is to recognize that we must not end up with infrastructures where apps are built with delays and do not integrate with one another (Kasznar, et al. 2021).

Table no 2. The perspective addressed in order to shape the landscape of City Development

	Cities and Urban Development
Actors	City policy actors Citizen platforms Business associations
Priorities	Urban development Essential infrastructures Business creation
Resources	Urban policy framework

	Cities and Urban Development
	Organizational assets Development plans
Policies	City policies to stimulate innovation, business and urban development Innovative procurement

(Source: Schaffers, Hans, Nicos Komninou, Marc Pallot, Brigitte Trousse, Michael Nilsson, and Alvaro Oliveira. 2011. "Smart cities and the future internet: Towards cooperation frameworks for open innovation." *The future internet assembly* 431-446. doi:10.1007/978-3-642-20898-0_31)

As you can see in Table no.2, is presented the perspective addressed in order to shape the city and urban development policies. Concrete and short-term solutions that assist company formation, SMEs stimulation, and social involvement are most appealing to city policymakers, people, and businesses. While many cities have launched ICT innovation programs to boost corporate and social applications, scaling up experimental ideas to large-scale, real-world implementation is now crucial (Schaffers, et al. 2011).

According to several studies, such as (Medina-Tapia and Robusté 2018), the future scientific study will focus on themes like 5G networks, IoT approaches, and artificial neural networks in order to aid in the development of a thorough grasp of the technological parts of smart cities and their infrastructure. Another developing future trend is the use of technology to make green infrastructure a reality. Furthermore, multiple studies demonstrate that using information and communication technology to promote e-governance would assist in raising awareness about the need to create and maintain smart infrastructure.

Conclusions

The purpose of this paper was to investigate various aspects of the Smart City concept. We presented the Smart City concept: its brief history, present, and future development paths, as well as the challenges encountered in the implementation of projects in various cities. We also discussed their traditional applications (traffic, healthcare, and public safety) as well as the aspects of AI and Big Data on Smart Cities.

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