ROMANIAN MILITARY THINKING

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A LEGACY SINCE 1864

The Romanian Armed Forces road to modernity started in 1859, once the United Principalities General Staff Corps, currently the Defence Staff, was established.

Soon after it, in 1864, a group of nine captains, graduates of the first series of the Officer Cadet School in Bucharest, took the initiative to develop a *"military science, art and history journal"* named *"România Militară/Military Romania"*.

The initiators of the publication – **G. Slăniceanu** (Captain, Chief of the Engineer Battalion), **A. Gramont** (Staff Captain), **G. Borănescu** (Engineer Captain), **G. Anghelescu** (Staff Captain), **A. Anghelescu** (Artillery Captain), **E. Arion** (Artillery Captain), **E. Boteanu** (Staff Captain), **E. Pencovici** (Staff Captain) and **C. Barozzi** (Engineer Captain) –, educated not only in Romania but also abroad, were inspired by the necessity to develop a substantial theoretical activity in the Romanian Army too.

The journal manifesto[1], included in the first issue, which appeared on 15 February 1864, contained innovative ideas and approaches that were meant to:

"- contribute to the organisation of our military system the Legislative Chamber is about to decide upon soon;

- assemble and examine the Country old military institutions that had made for the glory of Romania for several centuries and ensured our existence;

- explore, in the absence of any military study, all the aspects related to the Army training, the most solid basis of the armed forces;

- get the Romanian Troops well-informed about the military events in the world;

- join efforts to work concertedly and whole-heartedly to develop and strengthen the edifice that is meant to ensure the future of our country"[2].

"România Militară" was an independent publication, under the aegis of the War Ministry, and it ceased to appear in 1866 as there were no sufficient funds and subscribers. The publication was resumed in 1891, about a quarter of a century later, also as the result of the initiative of a group of officers in the Great General Staff who intended to *"reproduce the serious studies on the organisation, strategy and art of commanding troops under any circumstances"*[3]. Shortly after it, by the Royal Decree no. 3663 issued on 8 December 1897, *"România Militară"* became the *"Great General Staff official publication"*.

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[1] *Din trecutul României Militare cu prilejul aniversării a 75 de ani de la apariția ei în viața armatei. 1864-1939*, București, 1939, p. 31.

[2] *Ibidem*, p. 32.

[3] *România Militară*, no. 1, 1981, p. 6.

C. Barozzi
(Engineer Captain)

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General
Ioan Sichitiu"
Award*

*"Marshal
Alexandru Averescu"
Award*

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ROMANIA
AND THE ROMANIAN ARMED FORCES:
20 YEARS IN NATO

Lieutenant General Dragoș-Dumitru IACOB

Deputy Chief of Defence Staff

*T*he dissolution of the USSR let to a temporary detente in Central and Eastern Europe, at the end of the 20th century and the beginning of the 21st century. In the absence of a dominant power in the region, security and stability in this area seemed to have only one truly viable solution, namely integration into the Euro-Atlantic security system and a more active and sustained presence of the EU and NATO in the region.

The initiation of NATO's collaboration process with the European democracies resulting from the end of the Cold War was achieved at the inaugural meeting of the North Atlantic Cooperation Council (NACC), on 20 December 1991, which was attended by foreign ministers from NATO and six countries from Central and Eastern Europe, including Romania. From that moment on, Romania has proven over time that it is a country with a European vocation. It has embraced and adopted Euro-Atlantic principles, norms and values, opting for integration into NATO and the EU – international political-economic and security entities capable of promoting and defending the national interests of member states.

At the Brussels reunion in 1994, the Alliance declared itself open to other European states capable of promoting the principles of the Treaty of 4 April 1949 and contributing to security in the North Atlantic area. After the creation of the Partnership for Peace – PfP, on 1 January 1994, Romania was the first state to join the partnership, committing itself to fulfilling the established objectives.

Our country has quickly transformed into a pole of stability in Southeast Europe and has undergone political and military system reform, becoming not only a consumer but also a provider of security. The actions undertaken to fulfil the conditions for NATO membership have targeted all areas of social life: political, military, legal, economic etc.

*T*he reform in the military field had as its main objectives the reconsideration of doctrines, military strategies, organisation, equipment and training of the armed forces to fulfil the political-military objective stated in the Constitution of Romania, under the conditions of integration into European and Euro-Atlantic security structures, and participation in collective defence – the declared purpose of the North Atlantic Alliance. Also, Romania has committed to achieving the conditions of interoperability with NATO structures and participating in the fundamental tasks assumed at the level of the Alliance: deterrence and defence, crisis prevention and management, and security through cooperation. Practically, before becoming a de jure member of NATO, Romania began to behave like a de facto ally, participating

in international joint peacekeeping and peace enforcing missions, becoming part of the International Security Assistance Force (ISAF), led by the USA, which got involved in the War in Afghanistan starting in 2001. Also, before the formal moment of accession, in 2003, Romania began its military presence in Iraq, where it was part of the Multinational Force also led by the United States. The results obtained made that, at the Prague Summit – 2002, our country received the invitation to join the North Atlantic Alliance. Romania's membership in the Euro-Atlantic security umbrella became a reality on 29 March 2004, by depositing the instruments of ratification with the depositary of the North Atlantic Treaty – the Government of the United States –, and on 2 April 2004, the ceremony of hoisting Romania's flag at NATO headquarters took place, along with those of six other states from the Eastern Europe region.

In the years that followed and under the decisions and documents adopted in Prague, Romania supported and participated substantially in the process of adapting the North Atlantic Alliance to the new security risks, to the extent of its potential and interests in the Euro-Atlantic context. In this regard, special attention was paid to identifying concrete ways of participating in the new capabilities and forces of the Alliance, in the process of developing the capabilities to combat terrorism and consolidating transatlantic cooperation. As a NATO member, our country has joined the global response to new threats and challenges and has proven this political option by continuing to participate in operations within the missions in the ex-Yugoslav space (SFOR, KFOR), within ISAF, in Operation "Enduring Freedom" and in the missions in Iraq.

*N*ATO *membership and diversification of the contribution to the security of the transatlantic area represented a catalyst for accelerating the internal processes of restructuring and modernising the Romanian Armed Forces, which targeted several essential areas, such as: the legislative framework, standardisation, interoperability, education and training, acquisition of new equipment and modernisation of the existing one, restructuring and reorganisation of the leadership system at the strategic and operational level, reorganisation of the unified logistics system, implementation of volunteer-based service etc. Optimising defence capabilities involved a sustained effort to review the force structure to generate capabilities with a high degree of sustainability, flexible, robust, mobile, interoperable and deployable, technologically superior and with self-sustainability capacity in theatres of operations, capable of participating in the entire range of NATO, EU, UN or OSCE-led international missions.*

Practically, respecting the commitments assumed as a NATO member state meant, among other things: achieving the military capabilities committed in the allied force planning process, by implementing the Force Goals (FGs), ensuring, preparing and making available to NATO the forces established by national decision for the NATO Response Force (NRF), achieving the necessary capabilities, according to the Prague Capabilities Commitments (PCC), fulfilling

financial obligations for the payment of national contributions to the military budget, including the NATO Security Investment Program (NSIP), filling the positions allocated to Romania at NATO commands and staffs, ensuring Headquarters representation within the Permanent Delegation of Romania to NATO and at the Military Representations in Brussels, SHAPE and Norfolk.

A *relevant moment in the evolution of Romania and the Romanian Armed Forces is the year 2007, which marked the accession to the European Union, an event with essential strategic significance for the development of Romanian society, as a whole. From the perspective of the military body, the relevance of Romania's integration into the EU was even greater in the conditions of the transformation process that the Union itself was going through, by developing its own security and defence dimension. One of the priorities undertaken at the level of the Ministry of National Defence was the involvement in this process both from the perspective of connecting to the institutional logic of the EU and on the practical dimension of the process of developing European defence capabilities and participation within the operations carried out by the EU. In 2008, Romania committed to make available to NATO and the EU a unique package of forces, to increase the coherence and coordination of the military capability development processes carried out within the two organisations.*

Another major event with a direct impact on the activity of the military body, especially from the perspective of the implications on the process of developing its capabilities, was hosting the NATO summit in Bucharest, in April 2008. Having a special relevance due to the importance of the decisions adopted, this event gave our country increased visibility within the Alliance, coincided with the completion of the first stage of the transformation undertaken at the level of the armed forces, of the basic restructurings and came to support the objective of developing Romania's strategic profile in NATO.

*T*he *Romanian Armed Forces Transformation Strategy's second stage was defined as the operational integration stage into NATO and the European Union and covered the period 2008-2015. The main objectives of this stage consisted in: continuing the operationalisation of the NATO and EU earmarked forces, completing the restructuring of the strategic and operational level logistics system, continuing the acquisition of new equipment, reorganising military education, developing training, linguistic skills and the communications and computer system at the level of the generation and regeneration forces etc. Concretely, within the Alliance, Romania has undertaken participation in the establishment of the strategic transport unit, in the realisation of the missile defence system, the terrestrial surveillance system, the defence system against cyber-attacks and ensuring the informational superiority of the Alliance. It also continued to participate in the missions and activities of the European Union, adopting measures to support crisis management operations, to increase*

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the contribution to the processes of developing military capabilities, by involving in the programs and initiatives of the European Defence Agency.

*T*he stage of full NATO and the European Union integration (2016-2025) presupposes the fulfilment of the long-term objectives of the transformation process: focusing efforts and financial and human resources to achieve all the capabilities provided in the Force Goals and fulfilling the responsibilities within NATO and the European Union; continuing the modernisation of procurement with new equipment and achieving full interoperability and interchangeability with the armed forces of NATO and EU member states; creating the conditions for the accommodation of big units and units in barracks with complete facilities for social assistance, military equipment and training; focusing the systemic and structural evaluation activities on the field of the procurement and modernisation process with technique and equipment. This stage currently overlaps with the "Army 2040" Programme, oriented towards the following main directions: budgeting the army's personnel needs, reconfiguring the equipping programs and efforts to replenish stocks, modernising the defence industry, as well as measures for better retention of qualified military personnel. The program thus provides the necessary directions for a new generation of military leaders, urging conceptual flexibility and action efficiency in going through the stages of the transformation process of the Romanian Armed Forces until 2040, for the implementation of a flexible, multi-domain force structure, with a wide spectrum of technologically advanced capabilities, based on knowledge, resilience, multispectral camouflage, deception, centred on the multi-specialised fighter, equipped with means to ensure survival in the tactical field, extensive situational awareness and increased firepower.

*A*s for NATO, the last 20 years have had the gift of highlighting the fact that it is an alliance itself in a constant process of modernisation and adaptation to new security challenges both at the regional and global levels.

After the events in Georgia (2008) and Ukraine (2014), NATO has made efforts to consolidate, on the one hand, its eastern flank and to respond, on the other hand, to the new configuration of threats, transposed into the hybrid sphere. These developments were addressed by launching the Readiness Action Plan at the Wales Summit in 2014, under which the Very High Readiness Joint Task Force (VJTF) was created to strengthen response capabilities on the eastern flank. Also, in Warsaw, in 2016, it was decided to establish the enhanced Forward Presence mechanisms (for Poland and the three Baltic countries) and tailored Forward Presence (for NATO member states in the Black Sea area), in order to discourage any potential aggressive actions against allies and ensure the best and fastest possible protection of them, if necessary.

Romania has been an actively committed party and a strong supporter of these processes. In 2014, our country received the role of lead nation within the NATO-Ukraine Trust Fund on Cyber Defence. A year later, against the backdrop

of the crisis in Ukraine, in order to ensure and consolidate its own security and to contribute to the allied one, Romania committed to gradually reach the threshold of 2% of GDP, allocated to defence, starting from an allocation of 1.4%. Of this percentage, at least 20% targets, annually, the procurement of military systems and equipment. In 2015, the Multinational Division South-East (HQ MND-SE) was established in Bucharest, with personnel from the United States of America, Germany, Bulgaria, Great Britain, Spain, Portugal or Poland, in addition to the Romanian one, and which has as its main mission the coordination of NATO Force Integration Units (NFIU) from Bulgaria and Romania and the Multinational Brigade South-East, from Craiova (MN BDE SE). The command of the Multinational Brigade South-East has the mission to ensure the command and control of a NATO Article 5 – Collective Defence operation, thus contributing to strengthening the South-Eastern flank of the Alliance, to the security of the territory and the population of the member states. NATO Force Integration Unit is a multinational NATO structure on Romanian territory. It was established in 2015 as a response from NATO to changes in the security environment and threats from the east and south. The mission of this command is to coordinate the rapid deployment of NATO forces with a very high level of reaction located on Romanian territory. Also, in 2020, the Multinational Corps Command South-East (HQ MNC-SE) was established in Sibiu, also as part of NATO's force structure, meant to strengthen the security architecture in the region by ensuring operational coherence between national and allied defence plans.

In turn, the Romanian Armed Forces contribute, since 2017, with an anti-aircraft defence subunit to the NATO US-led Battle Group in Poland, which has the mission of ensuring the Enhanced Forward Presence, on a rotation basis, in the northeast of the Alliance to discourage any potential aggression, in accordance with the missions adopted at NATO's Warsaw Summit in 2016. Also, a detachment of the Romanian Air Forces participated in 2023 in the Enhanced Air Policing Mission (eAP) in the Baltic States, under NATO command. The first such mission was carried out in 2007, to ensure the security of the airspace of the Baltic States.

*S*tarting with 24 February 2022, the day Russia invaded Ukraine, affecting the rules-based international order, the global and especially the regional security environment underwent dramatic changes. The invasion mobilised international efforts to coordinate support for Ukraine, both at the national level and at the level of NATO member states. The support consisted in humanitarian, economic and military aid.

In this context, NATO has shifted from reassurance measures to deterrence and defence measures, including through the deployment of response forces, in order to consolidate its posture and presence on the Eastern flank. Given the geographical location of Ukraine, the Wider Black Sea Area has gained even greater importance than before the invasion, maritime security being

mentioned in NATO's new Strategic Concept adopted in Madrid, in June 2022, as a major element of peace and prosperity. Also, the Alliance decided to establish four new battle groups against threats from Russia and Slovakia, Hungary, Bulgaria and Romania. Battle groups have been established since 2017 in the three Baltic States and Poland, in response to Russia's annexation of Crimea, in 2014. Moreover, it was decided that these battle groups could be extended from battalion size to brigade size. But, perhaps the most important aspect was the expansion of the Alliance, through the accession of Finland and Sweden to NATO.

Romania's objective, in this context, was aimed at identifying medium and long-term adaptation options for the defence and deterrence posture, in parallel with ensuring participation in the efforts to develop the defence capacity of the regional partners most vulnerable to Russia's aggressive actions (Ukraine, Republic of Moldova and Georgia).

In January 2022, the application of Enhanced Vigilance Activities (eVA) was obtained, including in the Black Sea region, particularly in Romania, which led to the consolidation of allied efforts and presence in support of regional security. Also, the successive decisions adopted at allied meetings and summits in 2022, led to the following: the activation of advanced defence plans and the deployment in Romania of the High Readiness Joint Task Force (VJTF) within the NATO Response Force; the establishment of the Collective Defence Battle Group in Romania, with France as the lead nation; long-term adaptation and consolidation of the collective posture with the main benchmark being the strengthening of the capacity for deterrence and collective defence in the Eastern Flank region, including the Black Sea area. In the same context, our country benefits from NATO and allied support for ensuring security in the Black Sea area, through structures belonging to member states deployed in Romania. At the Mihail Kogălniceanu Base, soldiers belonging to the 10th Mountain Division and the 101st and 82nd Airborne Divisions of the US Army were deployed, by rotation. Detachments from Canada, Great Britain, the Netherlands, Italy, Germany, Turkey have ensured, also on a rotation basis, the missions of Enhanced Air Policing under NATO command, by deployment on the air bases in Mihail Kogălniceanu and Borcea – Fetești. The French Armed Forces have strengthened the forward presence of the multinational NATO battle group with the SAMP/T - MAMBA ground-to-air missile defence system, located at Capu Midia.

Another consequence of the conflict in Ukraine was the issuance by the North Atlantic Council, on 24 February 2022, of the NATO Execution Directive (NED) for authorising the activation of the five Graduated Response Plans (GRP) of the Alliance. Consequently, the commander of the Multinational Division Command South-East – HQ MND-SE ordered the relocation of a Deployable Communications and Information Module (DCIM) from Romania to support the command and link with the allied Battle Group (BG), located in Bulgaria, under its operational control.

To ensure maritime security in the Mediterranean Sea, the Aegean Sea, the Baltic Sea and the North Sea, the Romanian Armed Forces contribute to the missions of the Permanent NATO Groups with staff personnel in embarked commands.

Given the dynamics of the security environment in the Black Sea region, full of uncertainties, with complex, hybrid threats, it is evident that conceptual and tactical approaches adapted to a security ensemble subject to continuous changes and evolutions are required.

In the last twenty years, since its accession to NATO, Romania has undergone a remarkable transformation in the field of defence and security. This journey represented a significant stage in the evolution of the country and the Romanian Armed Forces, offering unique opportunities and challenges in a constantly changing international context. Since its accession to the North Atlantic Alliance, Romania has consolidated its commitment to democratic values and collective security, showing a solid spirit of partnership and cooperation with its allies. Through NATO, but also strategic partnerships, Romania has had access to resources, expertise and military interoperability, strengthening its defence capacity and actively contributing to allied operations and missions around the world. Also, Romania has invested significantly in the modernisation and professionalisation of the armed forces, adapting them to NATO standards and the requirements of a rapidly changing security environment.

However, there are still changes and objectives to be achieved. Strengthening cyber defence capacity, continuing structural reforms within the defence sector and consolidating the transatlantic partnership remain important priorities for Romania within NATO. Therefore, the transformation of the Romanian Armed Forces is a permanent process, it does not represent an end in itself, but the proper response to the evolution of the security environment, the transformation of NATO and the commitments that Romania has assumed internationally.

For Romania, the status of full NATO member represents: the guarantee of security and stability, vital for the prosperity of the Romanian people; access ensured to the decision-making process, which is important in the field of European and Euro-Atlantic security; reconfirmation of Romania as part of the family of states with a European calling; solid foundation for the relaunch and development of its own policies towards third states; undertaking of common NATO responsibilities and risks.

In conclusion, while we celebrate two decades since Romania's accession to NATO, it is important to recognise the remarkable progress made, but also to focus on future challenges and opportunities for the development and consolidation of Romania's position within the North Atlantic Alliance. Through continuous commitment and solid cooperation, Romania can play a significant role in promoting international peace and stability in the coming decades.

RESILIENCE, SOCIETAL SECURITY AND THE INTANGIBLE ASPECTS OF WAR. UKRAINE'S LESSONS LEARNED

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Explaining the achievements on the ground during war times, in the full-scale, high-intensity and long-term war of aggression launched by Russia in Ukraine has led us to studying the conundrum formed by resilience, societal security and the intangibles of war. The layered resilience that NATO has embraced[1] as concept is not enough. The difference between success and failure in the Russian war of aggression in Ukraine has come from the intangibles of the war[2], difficult to put under nominal indicators, but more suitable to be evaluated under qualitative criteria. That has made the difference between the effectiveness of both parties in war, together with Ukraine's societal resilience that includes both the basic indicators of societal security and an important part of the intangibles of war. We are very much aware, at the same time, that numbers do matter, and that weapons, manpower and will to fight have no alternative to grant support for any long-term war.

Keywords: resilience; societal security; intangibles of war; layered resilience; war of aggression;

A CONUNDRUM OF RESILIENCE, SOCIETAL SECURITY AND INTANGIBLES OF WAR

When discussing the **perspectives of a war**, the first elements in mind come from the very clear tangible and measurable physical characteristics that define **power**[3], in realpolitik, or even extending it to the **alternatives of power** – hard, soft, smart power (Keohane, Nye, 2009; Nye, 2012) –, meaning the one including influence not only constraint and force. We could even arrive at the **geopolitical capability of the states** (Roger, 2019), a more refined way of comparing states that includes some intangibles, non-measurable indicators, like **cultural prestige** (15% ponder on the total result), governance effectiveness (7% of the total) and 3% – **national resolve**, 1% for each of the economic, strategic and altruistic resolve.

Anyone who had mechanically considered the **power characteristics** or even the **geopolitical capability** (as defined by the Henry Jackson Society) between Russia and Ukraine would have given – and did it – the Kremlin's war the upper hand. But **Russia's large-scale, high-intensity, sustained war of aggression in Ukraine** has demonstrated the relevance of other characteristics that make a difference. For sure, resilience is one of them, composed not only by **infrastructure resilience**, a tangible component[4], but also by the conundrum formed by **societal resilience** (Chifu, 2018, pp. 23-30; 2021, pp. 10-21; 2022-1, pp. 5-13), **societal security** – societal identity and cohesion alike (Chifu, Nantoi, Sushko, 2008), and especially what we have called the **intangible characteristics of war** (Chifu, Simons, 2023). We have already proved the relevance and importance of this conundrum societal resilience-societal security – intangibles in war times (Chifu, 2023-1).

Anyone who had mechanically considered the power characteristics or even the geopolitical capability (as defined by the Henry Jackson Society) between Russia and Ukraine would have given – and did it – the Kremlin's war the upper hand. But Russia's large-scale, high-intensity, sustained war of aggression in Ukraine has demonstrated the relevance of other characteristics that make a difference. For sure, resilience is one of them.

Societal resilience, national resilience, community resilience, in general, is seen as a characteristic of the human community itself that involves not only **reacting to shocks and crises** and surviving, but also **rebuilding society**, a feature that measures the capacity to work together in such times (Faulkner, Brown, Quinn, 2028). In the analysis of the Ukraine case (Goodwin, Hamama-Raz, Leshem, Ben-Ezra, 2023), certain characteristics emerge: **the degree/level of resilience** – in the case of Ukraine, the third-generation resilience – **the level of societal security, and the tangible and intangible elements in war** (Chifu, Simons, ib.).

Community resilience is defined as a property of dynamic social-ecological systems and assesses the extent to which communities can respond positively to several **risks, including shocks, extreme events or other changes** (Faulkner et al.). The characteristics identified vary from author to author (JRC, 2017). They often include references to attachment to community place, leadership, community cohesion and effectiveness, established and functioning community networks, knowledge and learning. These characteristics would be useful for community conservation, disaster risk reduction, climate change adaptation and community development (Faulkner et al.). **Societal resilience** already refers to societies, it has the basic characteristics of community resilience, but raised to the level of complexity, cohesion and sophistication of society, including the responsibilities to its members[5].

LESSONS LEARNED FROM THE WAR.
UKRAINE AT THE LEVEL OF THE THIRD-GENERATION RESILIENCE

Where are we in terms of Ukraine's resilience in Russia's full-scale war of aggression? We can briefly refer to the three-dimensional formula, **shock absorption, shock adaptation and transformative resilience**, i.e., reform during crisis (Faulkner et al.). There is no question of a direct leap to the fourth-generation resilience, i.e., studying, preparing for and preventing future crises, anticipating

Societal resilience is seen as a characteristic of the human community itself that involves not only reacting to shocks and crises and surviving but also rebuilding society, a feature that measures the capacity to work together in such times.

them through prospective studies and **dynamic adaptive capacity** (Chifu, 2023-1). But certainly, Ukraine's actions have shown us its adaptive and transformative capacity.

It is proven by multiple cases based on the **traits, individual skills, characteristic of those involved in war, improvisation** (Gerasymchuk, 2008) in case of jamming or lack of communications, the ability to assume **autonomy and improvisation**, the ability of commanders at intermediate and lower levels to **independently assume decisions**, **to adapt old technologies to current situations**, to use the things at hand to compensate for the absence of adequate supplies of capabilities, ammunition or fuel. **Adaptability to new weapons**, rapid learning of how to use them, development of creative means, tactics and ways, such as the **use of Patriot to shoot down hypersonic missiles** – even if it was not the original purpose of using such air defence weapons – are also part of resilience.

It is also true in the case of **absorbing the consequences of disrupting critical services and utilities**, such as electricity and heating in Ukraine, once such critical infrastructure falls under Russian missile attack. Building **safety points inside cities** where everyone can come, get warm, charge their phones, have a glass of water and a piece of bread or meat is also a result of this **resilience and adaptability**. All these are part of a society's resilience.

As far as **societal security** is concerned (Chifu, Nantoi, Sushko, ib.), the assessment criteria are **societal cohesion and identity**. Both are also found in classical community (Faulkner et al.), the EU and European definitions of resilience (JRC).

If we are to relate concretely to Ukraine, there are elements that are undoubtedly present here, some of which also relate to the intangibles of war that have made the difference. It is society that both **provides the reserve forces** in large-scale, long-term warfare and **sustains the war effort**. In the first case, we can take the example of **queues at recruitment and volunteer centres** (not to deny the illegal border crossings by some to avoid being drafted).

This is also where we can find the **motivation to wage war** (Chifu, 2023-2, pp. 318 and on) and to accept the destruction of one's own territory for a higher goal – **real independence, the survival of the nation, national identity, prestige and dignity** (Faulkner et al.).

Adaptability to new weapons, rapid learning of how to use them, development of creative means, tactics and ways, such as the use of Patriot to shoot down hypersonic missiles – even if it was not the original purpose of using such air defence weapons – are also part of resilience.

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[5] *Resilience, a core element of collective defense*, NATO document, https://www.nato.int/docu/Review/2016/Also-in-2016/nato-defence-cyber-resilience/EN/index.htm, retrieved on 21 July 2023.

These elements are at the same time **consequences of a solid and assumed identity**, accentuated by Russia's large-scale war of aggression and the **ignorance, trivialisation and attempted annihilation of Ukrainian identity**, different from the Russian one (Chifu, 2022-4, pp. 5-12; 2022-5, pp. 3-10; 2022-6). Here, again, societal cohesion, solidarity and the strength to fight are evident[6].

THE INTANGIBLES IN WAR TIMES

Some of the elements revealed above are direct and **tangible**, while other elements are mainly **intangible in war**. The most important intangible under discussion, directly related to **societal security**, is **the capacity for sacrifice** – the ability to sustain a war effort and to absorb the costs of a long war, the acceptability of the expenses during war times, and the power **to endure the suffering, hardship and pain of loss of loved ones in a war**. These elements are difficult or impossible to measure, to place among the tangibles of war, remaining in the space of intangibles.

The **intangibles of war** are those elements that have made the difference between the Russian armed forces – self-proclaimed to be the second largest armed forces in the world – and the Ukrainian armed forces, smaller in number but **much more determined** and capable of fighting for a purpose, the **real Ukrainian war of independence**. These intangibles relate to **reputation, credibility, even the country's brand**. Intangible elements, such as **culture and perception**, effectively shape the interpretation and evaluation of the physical realm by the cognitive realm. And the list of crucial intangibles also includes **leadership, morale, cohesion, unity, level of training and experience, situational awareness and support from public opinion**. And many, many others, such as the **will to fight or the determination to defend their country** (Chifu, 2023-3).

A very important intangible relates to **legitimacy**. It has multiple resorts, but the most important ones come from the **democratic resilience**, which influences the need for support the defence of such desirable values and **high stance** in the face of an aggression,

The most important intangible, directly related to societal security, is the capacity for sacrifice – the ability to sustain a war effort and to absorb the costs of a long war, the acceptability of the expenses during war times, and the power to endure the suffering, hardship and pain of loss of loved ones in a war.

itself creating deficits of legitimacy and costs in terms of ethics in international relations. It is about democratic **resistance or democratic fight**, the alliances and the cohesion of countries respecting the same values, and principles, situated on high moral ground.

Another important point regarding the intangibles, combining positions and perceptions as well, is to be on the **just, legally and legitimately justifiable** side of a war, with an evident **moral advantage**. In any case, one should choose to assume all the ingredients that define both a **right war** and a **good side of the conflict**. It is the one that deserves support and it can come both through political and symbolic support and through direct financial or military support in a war. Therefore, creating a **just cause** from supporting one side in such a conflict is primarily important for combat parties. A positive light will accumulate a **greater sense of legitimacy and following**.

In this case, the **use and conveyance of values and narratives** is important. It is not easy to determine a **shift on the reputation** of historically and commonly understood enemies, as it is difficult to move away from the injustices associated with the contemporary named enemy (or the *"bad guy"*). But once such reality is constituted via perceptions, it is a win in terms of legitimacy and a big hit against the enemy. These communications are rather directed to civil publics than to military ones, in order to **influence consensus** on the *"righteous"* nature of the war in question.

In the case of a **hybrid, irregular warfare** (Chifu, 2018) or of instruments of that nature used by state actors, we have a lack of a clearly defined front line and blurred distinction between combatants. It is the most probable for the actors or states that use hybrid instruments, when they are not on the negatively perceived side of the fight, to be easily labelled as **terrorists or insurgency groups**, especially if they are using such instruments as a weapon and tactic of choice. But the same reality, with **slight limits in the tactics** and invisible direct instruments that can be assimilated into terrorism, could enable the player to label its actions and tactics in a war as those of **resistance movements, liberation groups**.

Another important point regarding the intangibles, combining positions and perceptions as well, is to be on the just, legally and legitimately justifiable side of a war, with an evident moral advantage. In any case, one should choose to assume all the ingredients that define both a right war and a good side of the conflict.

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[6] The details could be found in Iulian Chifu, *Reziliența în război și caracteristicile intangibile...,* op.cit.

THE POLITICS, INFORMATION AND COMMUNICATION MIX

Tangible assets are those physical objects that can be attacked by terrorists, such as buildings, people and vehicles. They are normally of **symbolic or military value**, and are intended to weaken physically or psychologically their opponent, to undermine the **sense of security and trust** in the government and authorities of the population. **Intangible assets**, on the other hand, are objects that cannot be touched physically, but they have an impact upon the outcome of a battle or campaign. These assets are such things as **reputation, brand, sense of security, legitimacy and resolve/will to fight** (Chifu, Simons, ib.). Although these aspects cannot be physically touched, they have a profound impact upon an opponent's ability to wage or **continue to wage an effective military campaign**.

These intangible assets are adversely affected through attacks upon the tangible assets, which points to the **primary aim of attacking tangible assets is to diminish an opponent's intangible assets**. Entering the **Politics, Information and Communication Mix** (Simons, 2012), the secondary effects of **intangibles** in war are about the **degradation of an actor's – the enemy – intangible assets.** Stories constructed in this manner can actually create a **greater sense of risk and uncertainty** that would harm the enemy's war efforts and, therefore, its tangible assets too.

Let us take, for instance, the activity of **affecting recruitment efforts.** The fact is based on establishing the narrative of the **reluctance to go to war.** It is a distinct pattern of attempting to influence the perception, and therefore **influence the relationship between the people and the political leaders.** This is a core part of the role of intangibles when it is up to the control of narratives and projection of perceptions.

For those purposes, **slogans and branding** are created and applied to various wars, political and armed conflicts, and their sense of positive, ethical and moral relevance is crucial. The commonly used pattern is the **umbrella of humanitarianism,** a legitimacy vehicle that is also inclined to forge the *"contagious"* sense of hope in order to mobilise mass publics for **tangible** (to become physically engaged in an event) and **intangible action** (opinion and perception to support).

Tangible assets are normally of symbolic or military value, and are intended to weaken physically or psychologically their opponent, to undermine the sense of security and trust in the government and authorities of the population. Intangible assets are objects that cannot be touched physically, but they have an impact upon the outcome of a battle or campaign. These assets are such things as reputation, brand, sense of security, legitimacy and resolve/will to fight.

It creates a new ability to handle critical information, principles, values, ideology, as well as messaging, all done effectively in order to **assist the physical military operations**. That creates and defines the relationship and nature of interaction between information, politics and armed conflict (Chifu, Simons, ib.).

War evolves in physical terms too, with the intangibles in times of war and their impact as the core instruments used in order to **win over hearts and minds**. And **information warfare** does exactly that (Chifu, Nantoi, 2016), building a real contest to influence the minds and actions of a selected audience, through information operations, psyops, waging an **information campaign alongside a military campaign**. In democracies, no actor has the ability to strictly control how the message is framed and covered in the mass media. Even in **autocratic systems**, one is the official media, and another part is the information realm with **gossip, innuendos, conspiracy theories** and all the components that create, behind the official discourse and propaganda, **public opinion**. The real one, not the one that could be captured by official or even some independent opinion polls.

Remaining in this mix of politics, ideology, information warfare and communication, we can also have some better images about the definition of **victory or defeat** in war times, some based on **interpretation in political terms**, some the result of **factual results of military actions** on the ground. Even a decisive military victory on the ground, with elements very visible on the terrain, may not translate into a **decisive political outcome**. The status of **war and peace**, especially in hybrid confrontations, is relative and always subject to interpretation and **contest for the perceptions** of a targeted public (Chifu, 2018). The operations in the information realm are intended to shape the perceptions and judgements of the cognitive realm that impact what happen in the physical realm.

The intangible elements of **legitimacy, reputation, public will and opinion** are all critical factors when shaping the information environment to support **launching, continuing or even ending a military conflict**. The relationship of the political leaders with their populations is critical, especially at a time of **increasing distrust** and **war wariness**. The **intangible factors** like the will to fight and belief

War evolves in physical terms too, with the intangibles in times of war and their impact as the core instruments used in order to win over hearts and minds. And information warfare does exactly that, building a real contest to influence the minds and actions of a selected audience, through information operations, psyops, waging an information campaign alongside a military campaign.

in the fight depend on the public perception, even though they are also intrinsically linked to a certain community and reflects the **resilience of such a community in different layers**[7]. The aim of communication in war is also to **degrade the capacity and capability of the military forces and political leadership** through directly targeting and affecting the trust and credibility in war time.

The **narratives, vocabulary, values, frames and images** are also a part of the game and need to be carefully developed, spread, sanctioned and controlled in order to cultivate the desired effects upon the target publics. **Intangible assets,** before or during a war, can be both an opportunity and a threat to political regimes, depending on the prevailing conditions in the society concerned. **Support, resistance and enduring harms** cannot be maintained (Chifu, 2022-2), even if having this force to resist is a characteristic of the resilience of the community once the leadership loses its credibility or put all its force to maintain a **certain regime** or a **given personalized head of the country or community**. Putinism and Putin or any other autocrat are at peril when such conditions emerge or are formed in war times.

That comes also to another part of the **spectrum of intangibles** linked to the political, information and communication mix, essential in order to **create, shape, define and underlie intellectual differences** in the conception of what is judged to be the *"correct"* rational in the political and military components of an armed conflict in the 21st century. This is about the suitable intangible factors to influence the outcome of wars, to **legitimise** it, through the romantic notions of **moral/ethical constructs** that are used to frame it. To frame it in **romantic keys of lecture** of the evolution of the war and with a package of narratives so **chivalrous** in manner and tactics, to frame emotions in order to support *"the good side"*, to build legal, correct and communicated steps in order to put the desired part on **high moral ground**, to use principles, values, epistemology and axiology in order to frame the actions and facts on the ground as the **right desirable way** to do things in such a context.

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[7] See https://www.csis.org/analysis/current-military-operations-and-concept-forever-wars, https://foreignpolicy.com/2019/07/17/limited-wars-are-forever-wars/ and listen to https://warontherocks.com/2020/03/are-the-forever-wars-really-forever/, retrieved on 21 August 2023.

For all those facts, **Ukraine is winning** in front of larger, more furnished, more equipped Russian Armed Forces, in front of a wealthier, richer and bigger country that unfortunately launched **a full-scale, high-intensity war of aggression** and failed to end it in the first days of the attack.

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THE CONTRIBUTION OF NAVAL DIPLOMACY TO REGIONAL MARITIME SECURITY

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In the context of the military conflict in the Black Sea region, with implications for regional security, the approach proposes a solution to strengthen international relations by capitalising on the non-coercive potential of the naval presence on the maritime communication routes in the Black Sea, starting from the premise that the Romanian Navy is the military instrument of power through which the state projects its naval diplomacy, a mission manifested under the auspices of ways of asserting national maritime and fluvial interests.

With a wide range of diplomatic instruments through which the Romanian state manifests and consolidates its geopolitical position and interests in the Black Sea and the Danube River, at the political-military level there is the possibility of using specific ways of contributing to the consolidation of regional maritime security.

Practically, the proposal to carry out a regional cooperation initiative in the Black Sea, by establishing an air-land-naval battle group, under the auspices of the collaboration of allied partners, candidates, and the riverine countries of the Black Sea Extended Area. Punctually, through this approach, a solution is presented regarding the contribution of the Romanian Navy to the consolidation of regional, maritime, and fluvial security, through simple steps, resuming a previously applied model, and effectively using military instruments through regional cooperation.

Keywords: naval diplomacy; regional leadership; maritime security; community-European perspective; Danube River;

INTRODUCTION

As an academic in the field of higher military education, I would like to suggest a solution to strengthen international relations in the context of the military conflict in the Black Sea region. I want to submit to the attention of specialists in defence diplomacy the use of the non-coercive potential of naval presence on the ways of maritime communications in the Black Sea.

To achieve this, I suggest leveraging a well-established instrument of state diplomacy, namely *naval diplomacy*, declared as the mission of the Romanian Navy, which can be manifested through ways of asserting national maritime and fluvial interests.

Regarding the variety of diplomatic instruments through which the Romanian state manifests and consolidates its geopolitical position and interests in the Black Sea and the Danube River, I believe that at the political-military level, there are specific ways of contributing to the consolidation of regional security, under the conditions of a volatile regional security environment.

Thus, in order to materialise the contribution of naval diplomacy in maintaining regional security, I suggest a concrete solution for how the Romanian Navy can contribute to the consolidation of regional, maritime and fluvial security. This solution involves simple steps, resuming a previously applied model, effectively using already existing military resources for regional cooperation.

Practically, my proposal is to create a regional cooperation initiative in the Black Sea, on the model of Turkey's Black Sea For initiative (which was suspended in 2014), but with the collaboration of allied partners, candidates and the riparian states of the Wider Black Sea Area. I would like to mention the fact that the previous model was unsuccessful, despite its stated goal of increasing regional security by: *"strengthening friendship and good neighbouring relations between regional states and increasing interoperability between the naval forces of these states"* (Özdal, 2011, p. 34). However, Russia's actions

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in Ukraine in 2014 and the 2015 Turkish-Russian airstrike incident proved that the initiative did not work.

Concretely, I propose the establishment of an air-land-naval battle group in the Black Sea, by developing and perfecting an appropriate force to which all Black Sea riparian states that are part of the community and allied bloc, candidates, and regional partners will contribute.

THE JUSTIFICATION OF THE PROPOSAL

The national arguments underlying the substantiation of the proposed solution are from the range of interests of regional and zonal expression and capitalisation of the geostrategic position, declared in the National Security Strategy (2020, paras 47-49) such as:

- access to the sea;
- exit to the sea at the mouths of the Danube;
- capitalisation of trans-European economic corridors (capitalisation of critical port infrastructure, communication lines, energy networks and submarine cables);
- security of maritime and fluvial communication routes;
- access to raw materials and resources;
- obligations assumed by participating in coalitions, alliances, partnerships;
- maritime and organisational resilience.

I believe that increasing the awareness of the need and importance of regional security must be done from two perspectives, an allied perspective and a community-European perspective, by applying a maritime security strategy to the Black Sea, aiming, as far as possible, at a common agenda and undeniably on the promotion of these common interests. In my opinion, the soft value of this proposal can be identified and the strengthening of regional security can be achieved by increasing the political-military and diplomatic capacity.

Increasing the awareness of the need and importance of regional security must be done from two perspectives, an allied perspective and a community-European perspective, by applying a maritime security strategy to the Black Sea, aiming, as far as possible, at a common agenda and undeniably on the promotion of these common interests.

Soft solutions

To substantiate this proposal, I want to bring to attention some soft solutions, as possible contributions of the Black Sea riparian states and the leading factors of the Black Sea fleets to regional security from a military perspective. The soft valence of my proposal is given by:

- regional leadership;
- defence diplomacy;

- naval diplomacy;
- maritime security culture;
- maritime consciousness.

Regional leadership, I believe, is, from a political-military point of view, a strategic leadership model that offers a leadership approach adapted to the dynamic and unpredictable contemporary operational environment. Starting from the premise that in the field of regional security in the Black Sea, regional leadership is given by the profile of political leaders in the region, principles such as multilateralism and the internationalisation of the region will form the basis of the definition of regional leadership. Factors such as politics, economy, society, and culture, will form the basis of defining the leadership of the Black Sea region. *"The leadership of the Black Sea region must be based on a strong political and economic network, harmonised (legal, economic, diplomatic and financial) with the other neighbouring regions, in a convergent and participatory manner"* (Panait, 2021, p. 20).

According to the international relations theory, multilateralism refers to an organisation, usually of the alliance type, in which the participants pursue a common goal. Internationalisation refers to the exchange of good practices, collaboration, cooperation and international mobility, an aspect that underlines the international character of a military action. Thus, it can be considered that the two principal characteristics can be the basis of my proposal, outlining its soft profile.

Defence diplomacy represents the totality of actions carried out by a government, through the use of components of the national security system, through which it implements measures to increase confidence between states, contributes to the development of collaborative and cooperative relations between armies, and ensures the conditions for creation or operation of alliances, coalitions, partnerships and regional initiatives, to reduce the climate of tension and maintain a balanced state of regional security (https://prezi.com/clwamc3baewu/diplomatia-apararii-parte-principala-a-diplomatiei-general/).

Naval diplomacy includes the actions of national representation, as well as a component of diplomacy, which is also called the naval strategy of influence.

"The leadership of the Black Sea region must be based on a strong political and economic network, harmonised (legal, economic, diplomatic and financial) with the other neighbouring regions, in a convergent and participatory manner".

For example, the *"Diplomacy (politics) of gunboats"* represented at the beginning of the 20th century defence of property rights of Western investors. Today, naval diplomacy is understood as the use of naval power, the basic component of maritime power, to support the state's position in negotiations.

Naval diplomacy is manifested by the use of at least one component of maritime power in support of political and diplomatic activities and represents the set of measures to promote maritime and fluvial interests, to influence the behaviour of other countries in the sense of favouring an advantage related to a defined goal or objectives, including for discouragement. *"Naval diplomacy, part of the security culture, can represent the most effective leadership tool in the context of strengthening regional security"* (Panait, 2022).

Following the main missions of the Romanian Naval Forces, the ways of manifesting naval diplomacy and the contribution to diplomatic support in the maritime field are as follows:

- naval representation;
- naval presence;
- discouragement;
- preventive naval deployment (prepositioning of forces);
- the show of force.

Maritime security culture. According to the National Security Strategy for 2020-2024, by analogy with the general security culture, the security culture manifested in the maritime field could represent the totality of values, norms, attitudes, or actions that determine the understanding and assimilation of the security concept at the level of security maritime. Thus, it can be considered that a culture of maritime security represents a process of formal, informal, non-formal, and continuous lifelong education, based on an already existing security culture.

Also, the national interest in security is declared *"the desirable state of existence of a nation, of an organic and inclusive community, aimed at defending and promoting fundamental national values, ensuring prosperity, guaranteeing respect for democratic rights and freedoms, protection and security of its members"* (SNApT, 2020, p. 14).

Thus, in my opinion, maritime security culture represents a state of manifestation of a security heritage in the maritime and fluvial

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field, cultivated, developed, consolidated, and affirmed, intended to provide the state with the possibility of manifesting maritime power and maintaining its integrity, independence, and sovereignty over territorial waters, including the preservation of the right of access to the sea and the exploitation of river potential.

Maritime consciousness is a part of the security culture, manifested in the maritime field, in correlation and through the promotion of national values on fluvial communications, the seas, and oceans of the world, the manifestation, protection, defence, and guarantee of maritime and fluvial interests.

Romania's maritime and fluvial interests should be understood as part of the national interests, along with the other components: economic, political, social, cultural, demographic, etc.

Romania's fundamental interests at sea and river are generally centred on aspects such as ensuring sovereign rights in the exclusive economic zone, in maritime and fluvial field, ensuring freedom of navigation on maritime and fluvial communication routes, protection and defence of infrastructure in the maritime and fluvial field, contribution to maintaining regional security etc.

Under these conditions, I believe that the promotion of Romania's interests in the maritime and fluvial field by contributing to maintaining the security of the Black Sea and the Danube River must become a component of the national conscience. *"Romania cannot evade the regional responsibilities represented by promoting and ensuring a climate of stability and security in the Black Sea region"* (Ciorobea, 2023). Thus, I believe that such an approach will primarily represent a way of manifesting the maritime conscience and implicitly a way of affirming the national conscience, as a result of an affirmed maritime security culture.

Proposals and directions for action

Having presented soft aspects regarding the possible contributions of the states bordering the Black Sea to regional security through political-military measures as well as educational culture, I would like to submit some proposals regarding the directions of action that require greater attention from decision-makers in the political-military field but also in the attention of educational program coordinators.

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From a political-military point of view: along with strategic partnerships, I bring to attention the opportunity to develop some local partnerships.

Proposal: resumption of the regional cooperation development mission through a local initiative.

Participants: fleets of the Black Sea riparian countries and the wider Black Sea region.

Beneficiaries/benefits: from all parties involved:

- the benefits of direct participants through naval presence, promotion and confirmation of mutual trust, standardisation of work procedures, action complementarity etc.;
- partner benefits: international visibility, increase in mutual trust, interoperability, confirmation of partner position through direct contribution, etc.;
- benefits of candidates to the allied bloc: international visibility, affirmation of mutual trust, interoperability, reduction of the capability gap, demonstration of candidacy, etc.

Concretely, I promote the establishment of a heterogeneous multinational naval battle group, destined for the Black Sea, with centralized command, with missions of surveillance of maritime communications and protection of naval transports. This involves designating a naval battle group to the Black Sea with extended littoral, surface, MCM (mine countermeasures) and antisubmarine warfare capabilities. My vision involves a proactive participation of the fleets of the Black Sea riparian countries that can contribute to strengthening regional security in the current conditions of the dynamics of military actions generated by the conflict situation in the North of the Black Sea.

From the point of view of the educational culture, the soft feature of my proposal mainly targets the human component, which must acquire a nuanced valence towards:

❖ promoting the culture of maritime security (here, military education plays an important role, at all levels, gradually with the hierarchical increase of the forms of training; public promotion; organisation of social events on security issues; involvement of civil society; volunteering, etc.)

❖ promoting leadership at all levels of military education; military leadership has the advantage of multidisciplinary staff training

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from the first stages of professional training; the product of military leadership is expected to *"evaluate options, anticipate, be prepared for unpredictable situations and make decisions in situations of risk and uncertainty"* (Cioranu, 2021, p. 5), as presented in the cited study. It is deduced that personal development through the development of emotional intelligence and critical thinking is a mandatory step that will strengthen the profile of military leadership.

I believe that concerning the development of critical thinking, the educational component contributes to the development of the most important skills of the military leader and implicitly to the increase of decision-making quality, through:

- the ability to formulate reasoned points of view;
- the power to predict some solutions to the analysed problems;
- the ability to identify action alternatives;
- the ability to create logical deductions;
- the ability to avoid biases;
- the ability to estimate the effects of the decisions taken.

The personal development of the military leader is a complementary component that contributes to the development of military leadership. Qualities such as emotional balance and maturity are developed through the promotion of organisational culture in close connection with the development of emotional intelligence (Chiorcea, Cioranu, 2021, p. 163).

In these conditions, military leaders need to be proactive, reactive, concerned, challenged, and removed from routine tasks (Cioranu, 2021, p. 3). This outlines a new profile, a product that comes of a resilient school of thought, which is the aim of higher military education.

Regarding maritime and organisational resilience, I believe the Romanian Navy has a crucial role to play in the doctrinal and operational adaptation to the dynamics of hybrid actions and multi-domain operations in the Black Sea.

To implement the launched proposal, the Romanian Navy must approach the issue from two perspectives:

- it needs to identify what means are needed to contribute to strengthening maritime security by participating in such a regional initiative;

The personal development of the military leader is a complementary component that contributes to the development of military leadership. Qualities such as emotional balance and maturity are developed through the promotion of organisational culture in close connection with the development of emotional intelligence.

- it needs to determine what the Romanian Navy's actual contribution to this initiative will be.

To adopt the proposed model, the Romanian Navy must identify:

- the opportunities to develop new collaborative relationships with Black Sea coastal fleets, as well as strengthen existing ones;
- the development of military capabilities for action in the Black Sea concerning emerging risks and threats;
- the solutions to promote the culture of security through direct involvement in social life and educational measures (educational programs in military educational institutions in the maritime field).

CONCLUSIONS

Considering the current geopolitical context, Romania can become a centre of coagulation of regional interests by promoting a regional leadership model. The Romanian Navy will thus serve as a political-military instrument to promote national maritime and fluvial interests, as well as a vector of Euro-Atlantic and EU Community interests in the region.

To conclude this approach, I present some forecasts regarding the role of a regional initiative developed on the proposed model. This model is perfectible, considering the possibility of identifying other constructive arguments that would strengthen the launched idea as well as practical solutions for establishing the naval group, in terms of structure, command and control and assigned missions.

At the political level:

- it will allow firm decisions to be made during crises;
- it will provide interstate solidarity against hybrid threats.

At the military level:

- it will provide an appropriate active and timely response;
- it will anticipate threats;
- it will contribute to counteracting risks.

In conclusion, a political-military, decision-making and educational approach must be taken to strengthen regional security.

Defence diplomacy and maritime diplomacy play a significant role in the political-military aspect, to which strategic leadership is paramount.

A political-military, decision-making and educational approach must be taken to strengthen regional security.

In terms of decision-making, the contribution of the naval forces of the Black Sea fleets (especially the Romanian Navy) is crucial for the establishment of a naval group in the Black Sea. Its missions are aimed at maritime security, but also the soft measures that maritime leaders can adopt, leadership, security culture, and maritime awareness need to be developed.

From an educational point of view, the role of naval military education has been emphasised, mainly for the development of skills of future military leaders, by promoting critical thinking, developing emotional intelligence, and monitoring personal development.

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SECURITY STRATEGY FOR THE BLACK SEA REGION: COOPERATION, STABILITY AND SUSTAINABLE DEVELOPMENT

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The article explores the development of a comprehensive security strategy for the Black Sea region, focusing on multiple aspects of security, including energy security, conflict management, cyber security and defence cooperation. The implementation of such a strategy involves sustainable efforts and close collaboration between the littoral states, international organisations and external partners.

On energy security, the article stresses the importance of developing energy infrastructure, diversifying energy sources and promoting energy efficiency. It also highlights the need to strengthen regional cooperation to address challenges such as conflict management, environmental protection and cyber security.

Conflict management is another key element of the strategy, with a focus on identifying, monitoring and resolving conflicts through dialogue and negotiation. Cyber security is treated as a global concern, with an emphasis on the need for close cooperation and information sharing to counter evolving cyber threats. Defence cooperation strengthens military capabilities and improves military security.

Keywords: energy security; Black Sea region; human rights; regional cooperation; cyber security;

INTRODUCTION

The Black Sea region, with its particular geography and strategic importance, is a complex area where the multiple interests of littoral states, regional partners and international actors intersect. Security in this region is essential for the stability of Eastern Europe and for the prosperity of local populations. However, the Black Sea is not only a sea basin but also a crucial hub for energy security, freight transport, cyber security and military cooperation. In this context, developing a comprehensive security strategy becomes an imperative necessity to address the various threats and challenges affecting this vital area of the European economy, security and integrity.

This paper proposes an in-depth analysis and conceptual structure for developing a security strategy in the Black Sea region. The theme is based on four main directions, each reflecting a key aspect of security and stability in this area. In the following, each of these directions is analysed in detail, providing a comprehensive picture of how they can help ensure a safer and more stable area.

Firstly, promoting and strengthening regional cooperation is essential. Dialogue and collaboration between Black Sea littoral states are key tools to address common threats, such as cross-border crime and illegal trafficking. Then, energy security occupies a crucial place in the strategy, given the region's dependence on energy resources and associated infrastructure. The diversification of energy sources, the development of energy infrastructure and the promotion of energy efficiency are key elements.

Conflict management and confidence building are also important priorities. By supporting conflict resolution efforts and facilitating dialogue, they can help reduce tensions and prevent conflict escalation in the region. Environmental protection, cybersecurity, defence cooperation, external partnerships, monitoring and intelligence gathering also complement this global strategy.

The Black Sea is not only a sea basin but also a crucial hub for energy security, freight transport, cyber security and military cooperation. In this context, developing a comprehensive security strategy becomes an imperative necessity to address the various threats and challenges affecting this vital area of the European economy, security and integrity.

Education and public awareness are also important components of the joint strategy. By raising awareness and educating the public about regional security, civil society can get actively involved in the joint efforts of the states seeking stability in the Black Sea area.

STRENGTHENING REGIONAL COOPERATION

The Black Sea region, located at the crossroads of Eastern Europe, Central Asia and the Middle East, has become a particularly strategically important geographical area in the 21st century. This area, characterized by remarkable ethnic and cultural diversity, hosts a complex range of threats and challenges that require a very special approach.

In the current geopolitical context, the Black Sea region represents an important area of interests for great and regional powers, such as the Russian Federation and Turkey. The region is rich in terms of history and strategy, having roots that extend from ancient empires to modern conflicts. Throughout history, the Black Sea has been a vital frontier for regional and global stability, considering its natural resources, maritime trade routes vital to the global economy and its position between two continents. For Russia, having control over the Crimean Peninsula and the Bosporus and the Dardanelles Straits is vital for ensuring its access to the warm waters of the Mediterranean Sea and the ocean. Turkey, in turn, as the host country for the Bosporus and the Dardanelles, uses this type of control to strengthen its geopolitical position and to secure its frontiers. The interests of these two powers, together with other regional factors, generate an extremely complex dynamics in the Black Sea region, which has deep consequences for global stability and security.

Strengthening regional cooperation in this area has become an imperative necessity to strengthen security. In an environment characterised by latent conflicts, diplomatic tensions and cyber risks, the region needs to develop constructive dialogue and collaborative mechanisms that promote mutual understanding and effective crisis management (Shindler, 2023).

International agencies, coastal States and non-governmental organisations have an important role to play in facilitating this process of strengthening regional cooperation. Multidimensional approaches

The Black Sea region represents an important area of interests for great and regional powers, such as the Russian Federation and Turkey. The region is rich in terms of history and strategy, having roots that extend from ancient empires to modern conflicts. Throughout history, the Black Sea has been a vital frontier for regional and global stability, considering its natural resources, maritime trade routes vital to the global economy and its position between two continents.

to energy security, natural resource management, sustainable economic development and confidence building are key to creating a solid foundation for long-term stability. (Daumann, 2023; *Defense & Security Analysis, no. 3*).

The Black Sea region, due to its geographical position and historical complexity, is a subject of major interest for global and regional security. By promoting regional cooperation and dialogue between stakeholders, we can help ensure a more secure and prosperous future for this world critical region.

Importance of Regional Cooperation

Regional cooperation in the Black Sea region is an essential pillar for successfully addressing common threats and promoting stability and security in a highly complex and dynamic environment. In this context, it is important to highlight the vital role that regional cooperation plays in ensuring a secure and prosperous future for all littoral states.

Regional cooperation is based on the premise that no country alone can manage the threats and challenges affecting the Black Sea region. Although the states in the area have individual interests and priorities, they also share common concerns, such as energy security, combating terrorism, conflict prevention, protecting the environment and promoting sustainable economic development. By working closely together and coordinating efforts, littoral states can meet these challenges more effectively. (Batka, 2023; Daumann, 2023).

One of the key benefits of regional cooperation is sharing information on potential or existing threats, as it has been established within the Operation Black Sea Harmony initiative. The exchange of information between countries in the region can help identify and assess risks quickly, thus facilitating preventive and crisis management measures to be taken more effectively. Regional cooperation also allows for crisis response capacities to be strengthened, such as developing common security infrastructure or organising joint military exercises, to prepare for crisis situations, as it was during the effective functioning of BLACKSEAFOR (Black Sea Naval Cooperation Group).

Moreover, regional cooperation promotes the development of common policies and coordinated approaches in areas of mutual

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interest. It may include the development of regional agreements and treaties for the management of natural resources, as well as the establishment of common rules for navigation in the Black Sea in line with the UNCLOS (United Nations Convention on the Law of the Sea) in 1982. By strengthening common policies and rules, the region becomes more stable and predictable, which creates a climate conducive to investment and economic development.

Increasing cooperation in the Black Sea region is not only beneficial, but also essential for ensuring security and stability in this complex environment. By working closely among littoral states, positive results can be achieved in managing common threats, strengthening response capacities and promoting sustainable development. This collective approach contributes to creating a prosperous future for the entire Black Sea region.

Strengthening regional cooperation in the Black Sea region involves not only efforts to identify common threats and promote common security policies, but also the development of robust crisis management and conflict prevention mechanisms. These issues are important for maintaining stability and peace in an environment of varying risks and periodic tensions.

One of the key aspects of strengthening regional cooperation is drawing up emergency response plans and organising joint exercises. These plans and exercises are fundamental for preparing littoral states for potential crises such as natural disasters, industrial accidents or security threats. Through simulations and practical exercises, countries can identify needs to improve response capacities and develop effective procedures to deal with crisis situations.

Facilitating dialogue and building mutual trust are also essential components of regional cooperation. By establishing a framework for communication and collaboration, states can address differences and discuss the challenges they face openly and constructively. Mutual trust is a vital element in preventing conflict escalation, as it allows for tensions and disputes to be managed more effectively. Exchange of information and views can help resolve differences peacefully and prevent delicate situations from escalating into open conflicts.

Through effective cooperation in crisis management, states in the region can avoid aggravating difficult situations and maintain

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stability. It not only reduces the potential for deterioration of regional security and order, but also contributes to creating a safer and more prosperous environment for citizens and businesses in the Black Sea region. Strengthening regional cooperation and developing robust mechanisms for crisis management are valuable investments in the long-term stability and security of this strategic area. (Chovančík, Krpec, 2023; Ștefan, 2023).

Economic Development and Stabilisation

Regional collaboration in the Black Sea area is a powerful tool for supporting sustainable economic development and stabilisation in a constantly changing environment. Through joint involvement in initiatives and projects aimed at economic development, littoral states can bring significant benefits both to themselves and to the region as a whole.

One of the key pillars of economic development through regional cooperation is investment in joint infrastructure. The development and modernisation of infrastructure, in particular ports and transport networks, can create a solid foundation for economic growth. Efficient connections to international markets are essential for easier exports and imports and can support the development of manufacturing sectors and industries in the region. (Ștefan, 2023).

A concrete example is the development of transport corridors and port infrastructure linking Black Sea ports with those in Europe and Asia. These infrastructure projects can reduce transport costs, increase the competitiveness of companies in the region and facilitate access to global markets. They therefore not only stimulate the economic development of littoral states, but also contribute to raising the standard of living of the population and creating jobs.

Trade facilitation by removing barriers and promoting a favourable trading climate can also support economic development. Littoral states can work together to simplify customs procedures, harmonise trade regulations and promote cooperation in areas such as investment and technology transfer. These measures can attract foreign direct investment to the region and promote sustainable economic growth. Economic development and stabilisation in the Black Sea

The development and modernisation of infrastructure, in particular ports and transport networks, can create a solid foundation for economic growth. Efficient connections to international markets are essential for easier exports and imports and can support the development of manufacturing sectors and industries in the region.

region are closely linked to regional cooperation. By investing in infrastructure, facilitating trade and promoting common economic policies, littoral states can create an environment conducive to sustainable development, generating significant benefits for citizens and businesses. These efforts contribute to transforming the Black Sea region into a prosperous and stable economic centre with promising prospects for the future.

A notable example of regional cooperation in the Black Sea region illustrates the commitment of littoral states to promote stability, economic development and security in this strategic area. One such example is the *Organisation for Black Sea Economic Cooperation (BSEC)*, which was established in 1992 and represents an important platform for dialogue and collaboration between the twelve member states in the region.

BSEC has as main goal the promotion of economic cooperation and sustainable development in the Black Sea region. The organisation shall facilitate the exchange of information and best practices in economic, commercial, cultural and educational fields. Through BSEC, member states have developed joint infrastructure projects, established trade agreements and promoted foreign direct investment in the region. This form of regional cooperation has contributed significantly to economic growth and to strengthening economic ties between littoral states.

Another example of relevant regional cooperation is the *Danube Initiative*, which involves the states bordering the Danube, including those in the Black Sea basin. This regional cooperation project focuses on developing transport and navigation infrastructure on the Danube, promoting tourism and preserving the environment. Through the *Danube Initiative* states have worked together to improve access to natural resources and regional markets, which has led to economic growth in the region.

In addition, the national security strategies of the Black Sea littoral states have highlighted the need for regional cooperation in addressing common challenges. States have recognised that addressing security issues in isolation is not effective and have started developing cooperation mechanisms, including joint military exercises

and information exchanges to counter security threats in the region. Moreover, regional cooperation in the Black Sea area is exemplified by organisations such as BSEC and the Danube Initiative, which promote economic development, stability and security in an environment characterised by diverse challenges. However, it is important to mention that the Russian-Ukrainian war has had an important impact on the functioning of the two initiatives. Moreover, the *Three Seas Initiative*, which involves countries in Central and Eastern Europe, has added another dimension to the regional dynamics, increasing the relevance of cross-regional cooperation. In addition, the *Black Sea Grain Initiative (BSGI)* has played an important role in promoting security and transport infrastructure in the region. In conclusion, the mentioned initiatives demonstrate the willingness of littoral states to work together to tackle regional problems and to create a more prosperous and secure future for the citizens of the region, while also considering the geopolitical challenges, including the impact of the conflict in Ukraine.

Strengthening regional cooperation is an imperative necessity in the security strategy for the Black Sea region, given the complexity of the threats and challenges faced by this strategic area. In a global climate characterized by rapid changes and complex geopolitical dynamics, promoting security and stability in the Black Sea region becomes a vital priority.

One of the fundamental pillars of strengthening regional cooperation is diplomatic dialogue. Littoral states and regional partners should engage in constant and open dialogue to address security issues and find common solutions. This dialogue can cover a wide range of topics, from disarmament and arms control to conflict prevention and crisis management. Through diplomacy, trust can be built and differences resolved in a peaceful and constructive way.

Information exchange is another essential element of regional security cooperation. Littoral states may share information on potential or existing threats, which facilitates effective risk assessment and management. Intelligence sharing and cooperation in cybersecurity are examples of activities that can help raise awareness and strengthen responsiveness to contemporary threats.

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Coordination in crisis situations is also very important for strengthening regional security. Littoral states should develop emergency response plans and organise joint exercises to prepare for various crisis scenarios. This preparation enables states to react quickly and efficiently to unforeseen events, such as natural disasters or security incidents.

Finally, economic development and economic stability are intertwined with security in the Black Sea region. By promoting sustainable economic development and trade cooperation, states can create a solid foundation for stability and security. Investment in infrastructure, trade facilitation and promotion of foreign direct investment can boost economic growth and contribute to resource development and job creation. (*News-European Security &Defence*).

ENERGY SECURITY FOR THE BLACK SEA REGION

The Black Sea region is of significant strategic importance in terms of energy security, given its key position in the supply and transport of energy resources. In order to ensure sustainable energy security in this area, concentrated efforts are needed in developing energy infrastructure, diversifying energy sources and promoting energy efficiency. This chapter examines these key issues in detail.

Development of Energy Infrastructure

The expansion of transport networks is a central aspect of ensuring energy security in the Black Sea region. This process involves:

Significant investment: Governments and international organisations need to allocate considerable financial resources to build and modernise pipelines for natural gas and oil. These projects require long-term planning and funding to become operational and ensure constant and reliable energy flows. (Black Sea Security and Development: The Need for a Regional Strategy, German Marshall Fund of the United States, n.d.; Russia, NATO, and Black Sea Security, RAND, n.d.; US Senate Passes Black Sea Security Act, Ministry of Foreign Affairs, n.d.)

Port infrastructure: The development of port infrastructure is essential to facilitate the import and export of energy resources.

By promoting sustainable economic development and trade cooperation, states can create a solid foundation for stability and security. Investment in infrastructure, trade facilitation and promotion of foreign direct investment can boost economic growth and contribute to resource development and job creation.

Well-equipped ports allow efficient unloading of oil tankers, as well as secure transport of these resources to domestic and international destinations (Ib.).

Modernising power plants: Modernising existing power plants and building new facilities is an important part of strengthening energy security. This process involves:

- Technical efficiency: Modernisation of existing plants to make them more technologically efficient, leading to more efficient energy production and reduced losses in the generation process.
- Diversification of energy sources: Building new power plants using various energy sources, such as natural gas, solar, wind or hydropower. This diversification ensures a more robust supply and greater resilience to market fluctuations or changes in available resources.
- Nuclear and thermal power plants: Investment in nuclear and thermal power plants to meet basic energy consumption requirements and reduce **dependence on imported energy resources**.

Interconnectivity: The creation of an efficient interconnection network is another essential element of energy security in the Black Sea region. This process involves:

- Networking: Developing links between the internal energy networks of littoral countries and the energy networks of neighbouring countries. It facilitates transit and exchange of energy and allows states to support each other in emergencies or energy shortages.
- Flexibility and resilience: Interconnection with neighbouring networks increases flexibility in managing energy supply. If an energy source suffers a disruption or delay in delivery, the state may draw on resources from other interconnected partners to maintain stability of supply.

The development of energy infrastructure in the Black Sea region requires active, coordinated collaboration between littoral states, international organizations and private investors to ensure long-term energy security. These efforts will not only help secure energy supplies

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in the region, but will also enhance the overall stability and prosperity of this key area (Ib.).

Diversification of Energy Sources

The Black Sea is an important part of the global energy infrastructure, and several energy programs and energy transport routes transit this key region. Some of the most notable energy programs transiting the Black Sea include:

1. Druzhba Pipeline: This is one of the largest pipelines in the world, transporting oil from Russia to Western Europe, crossing Ukraine and Belarus. Its southern part, known as Druzhba Adria, reaches the oil terminal of Omisalj in Croatia on the Adriatic coast, crossing the Black Sea region.

2. Blue Stream Pipeline: This pipeline transports natural gas from Russia to Turkey, passing under the Black Sea. It is an important part of the region's pipeline infrastructure and contributes to Turkey's natural gas supply.

3. Southern Energy Corridor: This project consists of a series of natural gas pipelines connecting Azerbaijan to Europe, passing through Georgia, Turkey, and finally under the Black Sea to the Balkans and Southeast Europe. Important components of this corridor are the Trans-Anatolian Pipeline (TANAP) and the Trans-Adriatic Pipeline (TAP).

4. Electricity Transmission Corridor: The Black Sea also serves as an interconnector for electricity transmission between countries in the region. Projects such as the Turkey-Greece-Bulgaria Interconnector (TGBI) and the Romania-Bulgaria Electricity Interconnector (REBAP) facilitates the transport of electricity between countries.

Over-reliance on a single energy source poses a significant risk to a region's energy security. Diversification of energy sources plays an important role in reducing vulnerabilities and increasing resilience. This section analyses the importance and benefits of diversification of energy sources in the Black Sea region.

Renewable energy: Promoting the development of renewable energy resources such as solar, wind and hydropower is essential to reduce dependence on fossil fuels and help fight climate change. The Black Sea region has significant potential in terms of solar energy,

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with adequate sun exposure during the year. The development of solar and wind farms should be a priority for increasing renewable energy capacity. An important aspect of renewable energy is energy **independence**, which leads to import independence of raw materials (e.g. fossil fuels).

Energy efficiency: Energy efficiency means doing more with less energy. This concept implies the adoption of technologies and practices that reduce energy consumption in different sectors, such as industry, commerce and buildings. Investing in efficient lighting technologies, thermal insulation, more efficient household appliances and more environmentally friendly transport systems can contribute significantly to reducing overall energy consumption and significant cost savings.

Exploring new resources: In addition to promoting renewable energy, exploring and exploiting unconventional energy resources contribute to the diversification of energy sources. It may include developing capacities to extract shale gas or other unconventional natural resources that may be available in the region. A relevant example in this regard is the *"Neptune Deep"* project, carried out by Romgaz and OMV Petrom, which aims at the exploitation of natural gas in the deep area of the Black Sea. This project has the potential to bring significant benefits in terms of Romania's energy security and economy, but it is essential that it should be managed carefully and in accordance with the highest environmental standards to minimize the impact on the marine ecosystem and ensure the sustainability in exploitation of unconventional natural resources. Thus, the exploration and exploitation of these resources require a careful and responsible approach to ensure a balance between energy needs and environmental protection in the Black Sea region.

The diversification of energy sources in the Black Sea region not only increases energy security, but also contributes to environmental objectives, such as reducing greenhouse gas emissions. This approach also offers economic benefits, creating a broader industrial base and jobs in the renewable energy and energy efficiency sectors. With such diversification, the Black Sea region can become more independent and energy sustainable in the future. (Black Sea Security and Development: The Need for a Regional Strategy).

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CONFLICT MANAGEMENT. CONFIDENCE BUILDING

Conflict management is an essential element of the security strategy in the Black Sea region, having a direct impact on regional stability and security. This section focuses on the importance and ways of implementing conflict management within the security strategy.

Conflict Identification and Monitoring

The first essential step in managing conflicts in the Black Sea region is to identify and monitor them. This complex and rigorous process is fundamental to effectively anticipating and managing regional security threats. This section details some aspects of conflict identification and monitoring (Ib.).

Risk and threat analysis:

Identifying potential conflicts: The first stage involves identifying and assessing risk factors and potential sources of conflicts in the Black Sea region. These can include territorial disputes, ethnic tensions, competition for natural resources, political or economic differences, and more.

Impact assessment: A detailed analysis of the potential impact of conflicts on regional and global security is essential. It can assess the economic, social, political and military consequences of a conflict.

Data and intelligence collection: Continuous monitoring of events in the region by constantly collecting and analysing relevant data and information from various sources, such as press reports, government reports, and classified information sources.

Continuous monitoring:

Early signs of conflict: Identifying early signs of conflict escalation is essential. It may include rising tensions between the parties, unusual military moves, bellicose rhetoric, and growing incidents in the conflict zone.

Advanced technologies and analytics: Use advanced technologies such as satellite surveillance systems and data analysis tools to enhance the ability to monitor and identify threats.

Collaboration with international organizations: Cooperation with organizations such as the United Nations, OSCE (Organization

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for Security and Cooperation in Europe) and other international institutions to access independent information and analysis on the evolution of conflicts.

Assessment of the evolution of the situation: Constantly updating the assessment of the situation to keep pace with changes in conflict dynamics and adapt management strategies.

Conflict identification and monitoring is the foundation for informed decision-making and effective planning of conflict management measures. Close collaboration between Black Sea littoral states, international organisations and external partners is essential to ensure effective management of threats to regional security.

Facilitating Dialogue and Negotiations

Facilitating dialogue and negotiations is an important step in conflict management in the Black Sea region. This approach focuses on promoting constructive communication and peaceful solutions between the parties to a conflict. Below are the key aspects of this component of the security strategy.

Preventive diplomacy:

Reducing tensions: Preventive diplomacy involves diplomatic efforts aimed at reducing tensions and preventing conflicts from escalating before they turn violent. Diplomacy may involve mediation and mediation by neutral third parties or bilateral or multilateral diplomatic initiatives.

Monitoring and early warning: Set up a monitoring system and early warning to identify early signs of a possible escalation of the conflict and intervene swiftly with preventive measures.

Encouragement diplomacy: encouraging stakeholders to explore conflict resolution options through dialogue and negotiations and avoid violent solutions.

Negotiation and agreements:

Promoting negotiations: Stimulating and facilitating negotiations between the parties to the conflict to find lasting solutions. These negotiations may concern the resolution of territorial disputes, the management of natural resources or the cessation of hostilities.

Facilitating dialogue and negotiations is an important step in conflict management in the Black Sea region. This approach focuses on promoting constructive communication and peaceful solutions between the parties to a conflict.

Mediation and arbitration: Recourse to international mediation or arbitration procedures to help parties overcome obstacles and reach agreements acceptable to all parties.

Development of agreements and protocols: Develop and sign agreements and protocols defining peace conditions, territorial boundaries or regulations for the management of common resources. They can help prevent conflict from recurring.

Creation of dialogue platforms:

Regional forums: Development of regional forums and platforms for dialogue and cooperation. They can serve as neutral spaces for parties to the conflict to discuss sensitive issues openly and promote mutual trust.

Bilateral and multilateral consultations: Organise consultations at bilateral or multilateral level between the parties involved to discuss issues of common interest and facilitate dialogue, thereby reducing tensions between the parties.

Cultural promotion and peace education: Initiatives to promote intercultural understanding and educate young generations in peace and tolerance, thereby contributing to creating an enabling environment for dialogue and reconciliation.

Facilitating dialogue and negotiations requires a carefully managed approach and patience. It implies the strong commitment of all the parties involved and the support of the international community to promote peaceful solutions to conflicts and avoid their escalation to violence. (Strengthening Black Sea Security and Defense in a New Era - Atlantic Council, n.d.)

Involvement of the International Community

The involvement of the international community is a central aspect of the conflict management strategy in the Black Sea region. The international community brings with it a diverse range of diplomatic resources, experience and influence, playing a key role in supporting conflict prevention and resolution efforts.

International mediation:

International organizations: Organizations such as the United Nations, the OSCE, the European Union and others can act as mediators in conflicts in the region. These institutions have considerable resources and expertise in negotiating and facilitating dialogue between the parties involved. They can organise peace conferences, initiate negotiations and advise on mediation processes.

Reputable diplomats: Involving diplomats with a solid reputation and experience in conflict mediation can bring additional authority to the negotiation process. These diplomats can access diplomatic channels and senior leaders, facilitating dialogue and promoting peace agreements.

Implementation of agreements:

International monitoring: The international community may provide monitoring missions to oversee the implementation of peace agreements or conflict resolution plans. These monitoring missions can help ensure compliance with agreements and prevent a resumption of hostilities. International observers can monitor compliance with the ceasefire, troop withdrawal and respect for human rights. (Black Sea Security and Development: The Need for a Regional Strategy, German Marshall Fund of the United States, ib.).

Technical and financial assistance: The international community can provide technical and financial assistance for post-conflict reconstruction, economic and humanitarian development. Such assistance can help stabilise conflict-affected areas and improve the quality of life for affected populations.

Promoting Human Rights and Justice:

Human rights monitoring: International organisations may conduct human rights monitoring missions in conflict-affected areas to enforce human rights and prevent abuses. Human rights monitoring can help protect civilians and document human rights violations.

Reconciliation assistance: The international community can facilitate reconciliation processes between parties to conflicts. It may involve educational and cultural initiatives to promote understanding and tolerance between communities and ethnic or religious groups. Support for reconciliation can help restore relations between warring parties and prevent a resumption of hostilities.

The involvement of the international community is essential to strengthen conflict management efforts in the Black Sea region.

It brings with it resources, experience and diplomatic influence, helping to promote peaceful solutions and stabilise the region. It is important that littoral states, international organisations and external partners work closely together to achieve the objectives set out in conflict management and to ensure a safer and more stable region. Through concerted efforts and cooperation at international level, a significant contribution can be made to conflict prevention and resolution in this area.

CYBERSECURITY – DEVELOPING CAPABILITIES TO COUNTER CYBER THREATS

Cybersecurity is one of the important pillars of the security strategy in the Black Sea region, given the increasing cyber threats to critical infrastructure and communication networks. This section explores the importance of developing cybersecurity capabilities and the measures that can be implemented to counter these threats effectively and sustainably. (Ştefan, 2023).

An important first step in the development of cybersecurity is a deep understanding of the specific cyber threats faced by the Black Sea region. This process involves analysing and implementing the following measures:

Risk analysis: Identify and thoroughly assess potential cyber risks that may affect critical infrastructure, communication networks and information systems in the region. It includes identifying vulnerabilities in infrastructure, sensitive data, and critical systems.

Threat monitoring: Set up a constant monitoring and early warning system to identify early signs of growing cyber threats and react quickly to incidents. Monitoring should cover both internal and external sources of threats.

Impact assessment: With the help of cybersecurity experts, the potential impact of cyberattacks on critical infrastructure and communication networks can be assessed. It includes financial, operational and security impact assessment.

Education and training: Training cybersecurity specialists and raising awareness of staff in critical sectors on cyber threats. This process should include training to identify and manage cyber incidents.

Creating dedicated teams: Forming cyber incident response teams (CIRTs) and cybersecurity teams that are ready to act quickly in the event of an attack. These teams should have the resources and authority to investigate and respond to cyber threats.

Implementation of security policies: Development and implementation of cybersecurity policies and standards to protect critical infrastructure and enforce appropriate security measures in the public and private sectors. (Ib.).

CONCLUSIONS

The implementation of a comprehensive security strategy for the Black Sea region requires a solid and coordinated commitment from littoral states, international organizations and external partners. This collaboration is essential in the face of complex and interconnected threats and challenges.

In terms of energy security, the development of energy infrastructure will stimulate economic growth and ensure a stable energy supply, thus contributing to the prosperity of the region. Diversifying energy sources and promoting energy efficiency will reduce dependence on traditional energy sources and help protect the environment.

Conflict management and confidence building are an important barrier to potential conflicts and their escalation. Through preventive diplomacy, negotiations and dialogue platforms, states in the region can resolve disputes and avoid conflict escalation.

Cybersecurity is a global concern and regional and international cooperation is key to countering cyber threats. Information sharing, exercises and simulations, as well as compliance with international rules on cyber use are particularly important to ensure cybersecurity. Defence cooperation between states in the region and external partners will contribute to strengthening military capabilities and improving military security in the region.

Overall, the successful implementation of this security strategy will require long-term commitment and constant efforts from all parties involved. However, the benefits are significant: a safer, more stable and prosperous Black Sea region that serves the interests and well-being

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of all those who inhabit it. It is time for littoral states and partners to act together to make this vision a reality and ensure a bright future for the Black Sea region.

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THE EVOLUTION OF ROMANIA'S SECURITY THREATS IN REGARD TO MILITARY STRATEGIES: FROM 2007 TO 2023

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The evolution of the regional security environment determined the change of perspective in the elaboration of the military strategies regarding the threats faced by Romania. This retrospective analysis aims to highlight, on the one hand, the dynamics of the main threats to Romania as a result of the trends of the regional security environment, starting with the first military strategy after joining NATO until the present, and, on the other hand, to emphasise the imprint produced at the strategic level as a complementary document to the Romanian National Defence Strategy. Thus, the purpose of this research is to emphasise the amplification and complexity of threats over time as a result of the tightening of the security environment, a fact that highlights the current interdependence of threats and their transformation from autonomous elements into aspects that can no longer be analysed, in the present, in functional isolation.

Likewise, the retrospective analysis also emphasises Romania's role within the North Atlantic organisation, starting with the implementation of NATO strategic concepts within the national military strategies. If, at the beginning of 2007, Romania identified itself as a state concerned with aligning with NATO standards regarding the transformation processes of the Romanian Armed Forces, in 2016, Romania appeared as a credible state within the Alliance, and in the 2022 NATO Strategic Concept, Romania had a special strategic importance in the context of the war in Ukraine in the Black Sea region.

Keywords: Military Strategy; Romanian National Defence Strategy; NATO Strategic Concept; security threats; regional trends;

INTRODUCTION

The objective of this article is to highlight the transformation of the nature of security threats impacting Romania as a product of the security environment, as well as increasing Romania's role as an actor involved in the international and regional security architecture and a member state within the North Atlantic Alliance. The evolution of the transformation of Romania's capacities to assert itself as an actor of strategic importance for the consolidation of Euro-Atlantic security, especially for the Black Sea area, can be analysed through the lens of the analysis of strategic documents both at the national level and also those within the North Atlantic Alliance. On the other hand, strategic documents provide significant clues about the complexity of addressing security threats over time. From concepts that were once treated and managed autonomously in isolation, the dynamism and amplification of threats determined the imperative of their management and analysis interdependently.

The premise from which this paper starts is that the tightening of the security environment and the complexity of security threats are in a cause-and-effect relationship. Also, the effectiveness of military strategies in order to manage threats determined the growth of Romania's strategic profile in the Black Sea region. The objectives of the research aim to highlight the evolution of the threats faced by Romania in the regional context since joining the North Atlantic Alliance and, on the other hand, Romania's strategic approach as a response to security challenges.

The research methodology is based on the qualitative analysis of Romania's strategic documents from the moment of accession to the North Atlantic Alliance, respectively the military strategies and the national defence strategies, as well as the NATO Strategic Concepts, with the aim of evaluating the transformation stages of the security environment, the turning points that determined the changes in strategic perspective, as well as Romania's way of responding in relation to the nature of the threats.

Also, the relevance of the research remains in the need to evaluate the effectiveness of strategic documents in relation to the nature of security threats, as well as the management of elements of surprise in the security environment, in the context where the last turning points that marked the reconfiguration of the international security architecture, namely the pandemic COVID-19 and Russia's war against Ukraine, demonstrated the imperative to quickly and effectively adapt to unpredictable events or *"black swan"* scenarios. At the same time, the paper retrospectively analyzes the evolution of threats in relation to Romania's strategic approach with the aim of concluding on some aspects that should be taken into account in the elaboration of the following preparatory documents of the strategies in order to manage the elements of surprise, a fact that is useful for the academic research reporting the unpredictability of the unfolding of some scenarios on the international stage.

In order to deepen the quality of the analysis, it is important to clarify the conceptual framework of the theoretical tools that are to be used in this research. Thus, to define the concept of *"strategy"*, one can start with the etymology of the military art component, which establishes the preparatory aspects consisting of the planning and coordination of military operations (DEX, 2009). The distinction between *"military strategy"* and *"grand strategy"* should also be taken into account (Christianson, 2016). While the grand strategy draws the general directions for capitalising on national goals and interests in accordance with the political goals, the military strategy establishes the planning of the military instruments that reinforce the implementation of the political objectives provided in the grand strategy (Ib.).

Moreover, within the framework of the strategic documents, an individualised definition is offered by which the military strategy *"expresses the fundamental guidelines and options regarding the planning, establishment and use of the Romanian Armed Forces, in order to fulfil the objectives of the defence policy of the Romanian state, in a national and allied context"* (Romania's Military Strategy, 2016), while the national strategy represents *"an integrative and multidimensional approach, in which the defence dimension combines and balances each other with a series of other dimensions – public order;*

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intelligence, counter-intelligence and security activity; diplomacy; crisis management; education, health and demography" (National Defence Strategy, 2015).

On the other hand, the NATO Strategic Concepts represent the strategic approach of the Alliance in accordance with the fundamental security objectives and values and provide guidelines for quantifying the opportunities and overcoming the challenges of the security environment in order to adapt to the changes generated by international dynamics. Thus, NATO member states contribute to the achievement of the Alliance's objectives in accordance with the lines drawn by the Strategic Concepts (NATO, 2022).

Regarding the conceptual clarifications provided by the National Defence Strategy, the notion of threat means *"actions, facts or states of fact, capabilities, strategies, intentions, or plans that can affect the values, interests, and national security objectives and/or are likely to directly or indirectly endanger national security"* (National Defence Strategy, 2020). Thus, by security threats are meant the objectives of state or non-state actors contrary to the national interests of a state who seek to exploit their interests, jeopardising the state of stability and national security.

Before proceeding to the analysis of the strategic framework, it is important to also reflect on the consistency of the theoretical framework, considering the four schools of thought that have shaped contemporary military thinking and strategic approaches: *traditionalism, futurism, realism* and *institutionalism*. If the theory of *futurism*, largely shared by US military strategies, embraces the perspective of technological progress as an approach to military thinking (Gurzinger, Clark, 2015, p. 8-11), on the other hand, traditionalism mediates the fact that the principles and nature of war remain unchanged as a consequence of the pattern of different historical contexts and frictions between states (Clausewitz, 1976).

At the same time, *institutionalism* presents as relevant the structure of military institutions in order to shape a military strategy, especially from the perspective of the fact that the role of defence institutions is crucial in the implementation of military policies and strategies, in which sense it is imperative to study the institutional impact on the results of strategies and their implementation (Bodnieks, 2020).

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Realism, on the other hand, embraces the idea that armed conflicts and war present situational particularities, depending on the evolution of international events. It also mediates strategic depth and a long-term vision of resistance to the logistical and human exhaustion of war (Nolan, 2017). In this sense, the analysis regarding the strategic military and security framework will also provide a perspective on the military school of thought that can be applied most compatible with the particularities of Romania's strategic framework.

Starting from these conceptual clarifications, the main characteristics of the security environment and the turning points are to be analysed, which marked the change of the security architecture and, consequently, determined the need to adapt the strategic documents to the new requirements.

SECURITY ENVIRONMENT AND REGIONAL TRENDS: TURNING POINTS VS. TRANSITION PERIODS

The first national military strategy from the year 2000 came against the background of a regional context in which the possibility of a military confrontation was significantly diminished, and Romania did not assimilate any state as representing a threat to security. Internally, Romania was in a period of transition with the collapse of the communist regimes and was preparing to join the North Atlantic Alliance (Military Strategy of Romania, 2000).

NATO's Strategic Concept in 2000 was still operating along the lines of action established in 1999, although the security environment had changed significantly with the terrorist attacks of September 11, 2001. The 9/11 terrorist attacks against the USA represented a turning point for Euro-Atlantic security, which changed the perspective on the threats facing the international security environment. While the Strategic Concept of 1999 essentially envisaged the proliferation of nuclear weapons and the use of technology for the diversification of weapons of mass destruction as the main threats, but the risk of military confrontations was low, the turning point represented by the terrorist attacks of September 11, 2001, decisively changed the strategic orientation for the member states, both on the development of the capabilities of the North Atlantic Alliance and on the defence principles. However, the next NATO Strategic Concept was only adopted in 2010,

during a period of transition for the European security environment in which the main threats were already diversified.

Thus, with the accession to NATO in 2004, Romania was concerned with the adoption of the Strategy for the Transformation of the Romanian Armed Forces (2006) and the implementation of some pillars for the acquisition of military capabilities to NATO standards, against the background of the deployment by the Alliance states of military operations in Afghanistan, directed against the sources of terrorist attacks. So, together with this strategy, Romania's approach becomes representative of aligning with NATO standards and contributing to the reduction of threats at the regional level. From the moment of joining NATO, Romania asserted itself as a present actor, involved in joint efforts to combat risks and threats developed by state and non-state actors, a fact highlighted both from the perspective of the Military Strategy for the Transformation of the Romanian Armed Forces (2006) and from the perspective of the adoption of the National Security Strategy in 2007, which was the first strategy adopted after joining NATO.

The security environment at that time was envisioned as being characterized by rapid changes, some developing predictably and positively and others acting disruptively and unpredictably in discord with strategic directions. The main elements that characterised the security environment in the period 2006-2007 were constituted by trends: the acceleration of globalisation and regional integration processes, simultaneously with the existence of some forms of state fragmentation; the convergence of efforts to structure a new, stable, and predictable security architecture, accompanied by the accentuation of anarchic tendencies in some regions (National Security Strategy of Romania, 2007). Also, there were antagonistic tendencies represented by the efforts of the states to preserve a dynamic of stability in the international security architecture, in parallel with the intervention of non-state actors in the evolution of these relations.

The NATO strategic concept of 2010 came to draw the directions of action against the background of a coagulated context since the end of 2001. However, with the member states engaged in the fight against terrorism at the international level, the security environment was envisioned as already being characterised by elements much more complex, starting from the terrorist threat represented by non-state

actors such as Al-Qaeda, instability at the borders of the Alliance, cyber attacks, and the expansion of emerging technologies in the production of sophisticated weapons (NATO Strategic Concept, 2010). Security challenges were already beginning to acquire a diversified character, either oscillating between the complexity of predictable threats and the novelty of the appearance of other types of threats presented by technological development or the appearance of other non-state actors.

A turning point for the European security environment was the beginning of the Russian aggression in the Baltic Sea region and the Black Sea region, which at that time predicted serious indications of increasing offensive tendencies in Europe. Thus, the aggression tendencies of the Kremlin against Estonia (2007) and Georgia (2008) were advanced in 2014 by Russia's first offensive against Ukraine and, respectively, the aggression against Crimea in 2014 (National Defence Strategy 2015-2019).

These events marked new threats to the European security order and the need to adopt new strategic documents, which would provide strategic directions, against the background of the dynamics and complexity of the security environment constituted by the unfolding of the military conflicts in Georgia and Ukraine and the expansion of other threats constituted by terrorism and migration generated by instability in the Middle East and North Africa.

At the time these strategies where adpted, respectively, the Military Strategy from 2016 and the National Defence Strategy for the period 2015-2019, Romania positioned itself as an integrated state within regional organisations (NATO, European Union), able to act in alignment with regional policies. Moreover, the strategic importance of Romania in the Eastern Flank of the Alliance began to acquire an increasingly high role in relation to the defensive capabilities against Moscow's growing aggression in the Baltic region and the Black Sea. On the other hand, the regional context challenges Romania to maintain its strategic balance against the background of the instability in the Western Balkans, characterised by extremist tendencies that are radical and affect the rights of ethnic communities. Russia's aggressive tendencies against Ukraine, Georgia, and the Republic of Moldova are also affecting the sector of regional energy.

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In 2016, the trends of the international security environment foreshadowed a continuous transformation, largely determined by the creation of interdependencies constituted by the reconfiguration of geostrategic games, the rapid development of information technology, ethnic-religious fragmentation and ideological radicalisation, and the need to adapt critical infrastructures in relation to the emergence of energy crises and cyber attacks. At the external level, Russia's actions to annex Crimea in disagreement with the norms of international law have brought NATO's mission of collective defence back to the fore, simultaneously with the need to manage developments in the Eastern neighbourhood, the Middle East, and North Africa as factors that generate the expansion of phenomena such as Islamic radicalisation, irregular migration, and economic instability (National Defence Strategy 2015-2019).

However, the adoption of the National Defence Strategy for the period 2020-2024 and the Military Strategy in 2021 marked the transition of the security environment from a global turning point – the COVID-19 pandemic – to another significant event of a military nature with serious consequences both regionally and internationally: Russia's war against Ukraine started on 24 February 2022. While the COVID pandemic highlighted the unpredictability of some major scenarios for the international community and the rapid need to adapt and manage a crisis that can affect the main security sectors in the state, the war led by Russia against Ukraine marked the start of the first military conflict in Europe after the Second World War, jeopardising the democratic values and international law promoted within international peacekeeping organisations.

The year 2023 marks a period of continuous challenges, mainly determined by the unpredictability of the end of the conflict in Ukraine and the ability of European states to adapt their reaction capacity and increase their resilience to complex phenomena generated by the emergence of pandemics, natural disasters, economic crises, and energy generated by conflict and instability.

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STRATEGIC VIEWS ON SECURITY THREATS

Threats viewed from the perspective of NATO Strategic Concepts

Starting with the acquisition of the status of a member state of the North Atlantic Alliance in 2004, Romania contributed to the consolidation of two NATO strategic concepts, respectively the NATO Strategic Concept 2010 and the NATO Strategic Concept 2022. The difference between the two concepts exists in the changing perspective on the nature of the security threats endangering the Euro-Atlantic space. In the 2010 NATO Strategic Concept, the threats were mentioned generically, drawing the lines of direction of the Alliance in combating four major types of threats: the conventional military threat caused by the proliferation of ballistic missiles by a significant number of states; the proliferation of nuclear weapons in volatile regions outside borders of the Alliance; the diversification of terrorism as a threat using CBRN substances; and the risks created by the complexity of cyber attacks and the impact on critical infrastructure.

On the other hand, in the context of the recent security environment, the new NATO Strategic Concept 2022 explicitly identifies the threats generated by state actors and specifically provides for regions of strategic interest for strengthening the security of the borders of the North Atlantic Alliance. If the NATO Strategic Concept 2010 envisaged a low risk of a military confrontation on the borders of the Alliance, the new concept identifies the military threat generated by Russia as the most significant and direct threat, combining conventional military capabilities with the advancement of nuclear capabilities. Also, the regions affected by the risks generated by the aggressive behaviour of the Kremlin, both in hybrid and conventional forms, are represented by the Baltic Sea, the Black Sea, and the Mediterranean Sea.

At the same time, if Moscow's actions represent a significant military threat by all means, affecting complex regions on the borders of the Alliance, on the other hand, the threat presented by China is incidental in the economic, technological, and political fields, seeking to assert its hegemonic status at the global level. Also, the hybrid means constituted by the narrative, the cyber, and disinformation actions, combined with the intentions to create economic dependencies

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at the regional level and the fundamental alliance with the Russian Federation, constitute fundamental reasons for classifying China's actions as a threat to Euro-Atlantic security.

Last but not least, in relation to the threats generated by the proliferation of nuclear weapons, the behaviour of states with authoritarian regimes is foreseen, which is evidenced both by the systematic violation of human rights and the norms of international law and also by the intentions regarding the development of nuclear capabilities. The development of nuclear programs by Iran and North Korea, as well as the use of chemical weapons by states such as Syria, Russia, and North Korea, contribute significantly to the advancement of major risks posed by the use of weapons of mass destruction. Although the proliferation of nuclear, biological, and chemical weapons was also recorded as a threat in the NATO Strategic Concepts of 1999 and 2010, the novelty of this reference document comes against the background of the Alliance signalling both the direction for efforts to combat and prevent the member states and also the explicit identification of the main state actors, hostile to the interests of the Alliance.

On the other hand, although terrorism still constitutes a threat that generates instability coming from the regions of the Middle East and Africa, in this strategic document, the evolution over time of the complexity of the phenomenon is observed most meaningfully. While in the 2010 NATO Strategic Concept, terrorism was configured as one of the main threats in the international security environment, but it was perceived in the traditional sense in the sense of the conventional means of preparation and action of terrorist means, in the current NATO strategic document, terrorism is broadly characterised, including multiple forms of action.

It is also identified as the most asymmetric form of threat to security, both from the perspective of the ways of operation and the actors involved, including non-state actors, states, or entities. Thus, it is observed that there is a change of perspective from the concentration of the direction of action predominantly in the region of Afghanistan and Iraq as a generating source of instability towards the inclusion of a wide range of actors that can directly or indirectly constitute a terrorist threat. Also, the diversification of the means of action, operation (using white weapons, non-conventional means of attack,

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but also CBRN substances or improvised explosives), and radicalisation (directed or coordinated radicalisation, self-radicalisation, including other subtypes outside of classic reductionism) regarding religious or political radicalisation determines the asymmetric character of the threat.

Therefore, the complexity of the North Atlantic Alliance's approach can be seen in the new NATO 2022 Strategic Concept. Although the NATO defence principles are preserved in the old reference document from 2010 (collective defence, crisis management, and security cooperation), the ways of action and coordination of the Alliance's efforts have become much more specific, in the sense of identifying the sources generating instability, whether they are about actors or regions. Equally, the traditional concepts regarding security threats have imposed a reorientation towards more nuanced approaches in accordance with their interdependence: hybrid actions, asymmetric threats, and diversification of conventional military means.

Security threats from the perspective of national defence strategies

As I mentioned before, the National Defence Strategy aims at expanded dimensions in relation to the Military Strategy, including essential sectors for national security such as foreign policy, public order, intelligence and counter-intelligence activity, the economic, health, environmental, and cultural fields, as well as management crises. What stands out is the inclusion of an expanded security concept, starting with the strategy for the period 2015-2019 in relation to the National Security Strategy of 2007. This multidimensional concept of security is modernised in the National Defence Strategy for 2020-2024, including new directions of action in the field of the environment, a more complex approach to the societal dimension, and the multiplication of objectives related to each line of direction.

By analysing the National Defence Strategies from the time of Romania's accession to NATO, respectively, from 2007 until the present National Defence Strategy from the period 2020-2024, it is observed:

1. *The multiplication of new security threats as a result of the dynamics of the security environment and the acquisition of complex valences of traditional threats.*

By analysing the National Defence Strategies from the time of Romania's accession to NATO, respectively, from 2007 until the present National Defence Strategy from the period 2020-2024, it is observed: the multiplication of new security threats; the introduction of new concepts or their modernisation; consolidation of Romania's profile within the North Atlantic Alliance and the European Union.

2. *The introduction of new concepts or their modernisation in order to make strategic instruments more efficient.*
3. *The consolidation of Romania's profile within the North Atlantic Alliance and the European Union.*

Regarding the perspective of security threats aimed at Romania, the double concept operated within the strategic documents, namely that of national defence and collective defence, is highlighted. However, in the National Security Strategy of 2007, threats and risks were treated in the same category and perceived primarily from the perspective of being a member state of the North Atlantic Alliance and the European Union. Also, the threats were mainly generated by the trends of the international environment and, to a lesser extent, by the internal context, being listed exhaustively: *international terrorism structured in cross-border networks; proliferation of weapons of mass destruction; regional conflicts; transnational organised crime; ineffective governance* (National Security Strategy of Romania, 2007).

With the introduction of the new *extended security concept* in the National Defence Strategy of the Country for the period 2015-2019, in which the defence dimension sought to create a strategic balance with other essential security dimensions such as public order, intelligence activity, counter-intelligence, education, health, critical infrastructure, economy, energy, and the environmental sector, Romania implemented strategic principles developed in the EU Security Strategy and aimed to increase the resilience of state institutions and civil society in relation to the unpredictability of the international security environment.

Also, cyberattacks and hostile information actions represented two new types of threats compared to those mentioned in the previous security strategy. In relation to the threat presented by cyber attacks, the main cause is determined by the integration of emerging technologies into the offensive tools of cyber entities, while, in the case of hostile information actions, Romania's strategic partnerships and policies promoted in accordance with EU and NATO membership brought attention to Romania predominantly compared to the previous period.

In relation to the National Strategy for the period 2015-2019, the evolution of the security environment determined the emergence of a new set of threats in the Strategy for the period 2020-2024, as a result

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of the unpredictability of the security environment and, on the other hand, of the interdependencies created in the international dynamics. If threats such as terrorism, illegal migration, the proliferation of weapons of mass destruction, cyberattacks, and the continuation of potentially destabilising frozen conflicts in the Black Sea and Western Balkans region are found in both national defence strategies, the trends of evolution or development of these sources of instability are observed in this strategy. For example, in the case of terrorism, new ways of radicalisation and incipient manifestations of the inclusion of extremist ideologies are added, but without reaching a high level in the Romanian space.

However, considering the principle of collective defence, Romania's contribution is also translated through receptivity to the trends present in the Euro-Atlantic environment in order to transfer information and knowledge in the field in the context of the continuous diversification of the phenomenon, either through the emergence of new actors, new objectives of interest, or the acquisition of technological capabilities associated with traditional methods. Likewise, in the case of the proliferation of weapons of mass destruction, although it is perceived as a classic threat, unpredictability remains in relation to the intentions of international actors regarding the triggering of a new arms race with conventional or nuclear weapons.

On the other hand, the predictability of the intensification of a military aggression by Russia in the vicinity of Romania on the eastern flank has been foreshadowed since the beginning of 2020, following the militarisation of Crimea and the Black Sea basin and the conduct of military exercises by the Kremlin. In the case of the National Defence Strategy of the Country for the period 2020-2024, the economic threats present multiple valences in relation to the offensive behaviour of state entities with contrary interests, energy market distortions, economic sabotage, or economic blockages at the regional level. Also in the economic field, the turning point at the international level marked by the COVID pandemic determined the triggering of an economic crisis, a phenomenon that affects not only Romania but also other regional states in economic relations.

The novelty present in the current strategy relates to the conduct of hybrid actions against Romania or propaganda by actors with hostile

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interests with the aim of changing perceptions and influencing the behaviour of civil society through online means. Moreover, the diversification of technological means has determined the amplification of the phenomenon of computer crime, a phenomenon with reverberations in the cyber and economic fields.

The evolution of security threats from the perspective of military strategies

From a military point of view, interdependence and threats to Romania were foreshadowed from the period before joining NATO as an effect of regional trends that produced strategic imbalances in areas of strategic interest for Romania, the prolongation of economic and social difficulties with an effect on military potential, and dysfunctions of financial, energy, IT, and communications systems. Thus, ever since the drafting of the Military Strategy in 2000, actions with a destabilising effect in essential security sectors (economic, energy, and technological) alongside transnational risks such as organised crime, illegal migration, and drug and arms trafficking have also had consequences for the military field. Also, the asymmetric risks with reverberations and for the military field involved strategies or actions of hostile actors, using procedures different from the classic fight and attacking vulnerable points.

In this sense, Romania's Military Strategy adopted in 2000 develops the consequences of threats such as the expansion of terrorist networks and activities, the proliferation of nuclear technologies, materials, and armaments, and the informational war, in the sense that the main effect consisted of damaging the image of Romania – at that time, a state aspiring to membership in NATO – and propagating a distorted image regarding democratic values and the fulfilment of treaty commitments internationally by Romania. It should be mentioned that, at that time, from the point of view of strategic surprises and the unforeseeable, the strategy foresees the possibility of triggering natural disasters caused by floods, earthquakes, and droughts.

With the acquisition of the NATO member state, Romania adopted the Armed Forces Transformation Strategy in 2006, in which sense obtaining the credibility of the armed forces as an actor capable of contributing to the consolidation of European security and a preventive

From a military point of view, interdependence and threats to Romania were foreshadowed from the period before joining NATO as an effect of regional trends that produced strategic imbalances in areas of strategic interest for Romania, the prolongation of economic and social difficulties with an effect on military potential, and dysfunctions of financial, energy, IT, and communications systems.

force was essential for the sedimentation of the integration process. For this purpose, the modernisation of the operational and technical capacities of the Romanian Armed Forces and the strengthening of the response capacity of the armed forces in times of crisis and war had to be complementary to the effective combating and prevention of threats.

The following two military strategies adopted by Romania as complementary strategic documents to the National Defence Strategies highlight the interdependence of security threats as sources of instability, a fact that involved a comprehensive, unitary approach to the reference military strategic documents. To the extent that the security environment was characterised by the use of the means of hybrid warfare led by actors hostile to Romania's interests through the accumulation of conventional methods with actions of coercion, sabotage, disinformation, psychological operations, and propaganda, this fact required a complex approach in the reference documents on the military without being reduced to the classical reductionism of the types of military risks and threats generated by conflicts and the proliferation of armaments.

A first example in this sense is the Military Strategy of 2016, which, unlike the previous strategy, portrayed Romania as a state that strengthened its profile in the North Atlantic Alliance with fundamental contributions to the security of the Euro-Atlantic space, making the transition of the image of Romania to a newly integrated state in full process of modernisation and adaptation of the armed forces an active state within the North Atlantic Alliance.

Also, the 2016 Strategy emphasised the need to preserve Romania's interests and values, taking into account the annexation of Crimea by Russia and the development of military potential in the country's eastern neighbourhood. At the same time, the phenomenon of illegal migration maintained by actors such as Russia or other destabilizing actors in the Western Balkans area, the hybrid war from the perspective of the management of information operations that can affect Romania, cyber attacks directed against some targets in the military sector, and cross-border organised crime in the sense of interference with the objectives of the military and their endangerment through connections with other types of threats represent some edifying examples regarding

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the interconnectivity of the approach from the military field with that of other security sectors.

This accelerated trend of the transformation of the nature of the threats confirms the theories regarding **the need to change the analysis framework** following the interdependencies in the security environment (Buzan et al, 2011) in the sense that military risks can no longer be private in isolation nor treated without taking into account their interference in other security sectors, such as economic, technological, or environmental.

The current Military Strategy adopted in 2021 highlights the need for a multidimensional approach also in the case of surprise, strategic shock events, which are not caused by the involvement of the human factor, a fact demonstrated by the impact of the COVID-19 pandemic on most of the state's security sectors, including the defence sector. Threats generated by economic, social, or health instability have the potential to produce dysfunctions through the prism of the need to decrease military budgets or re-plan essential endowment programs. Moreover, threats such as terrorism also have implications for the military field in the context in which non-state actors or radicalised individuals can facilitate the production of weapons of mass destruction in order to achieve objectives contrary to the international legal order.

An important aspect signalled by the current strategy is the change in perspective from the use of military forces understood in the traditional sense to the use of technological advantage to obtain military interests. Also, the cyber threats to the military infrastructure confirm the need to increase cyber resilience and strengthen cyber defence through offensive and defensive means in the context of the intensification of military tensions in the vicinity of Romania and also of increasing the strategic profile of our country.

Although the current strategy operates with the same concepts as the previous military strategy (Romania's Military Strategy, 2016), it is emphasised:

1. **increasing the profile of Romania as a state of strategic importance** in the region of the Black Sea and the Western Balkans prior to Russia's invasion of Ukraine, against the background of the accumulation of tensions, a fact confirmed and emphasized by the NATO Strategic Concept 2022.

The current Military Strategy adopted in 2021 highlights the need for a multidimensional approach also in the case of surprise, strategic shock events, which are not caused by the involvement of the human factor, a fact demonstrated by the impact of the COVID-19 pandemic on most of the state's security sectors, including the defence sector.

2. the complementarity of the response to threats that can affect the military field in close connection with threats that can affect economic, technological, and cyber security.

3. the multiplication of the types of threats that can have reverberations on the military field, although they are generated by the dysfunctions in other security sectors.

CONCLUSIONS

Both from the perspective of the National Defence Strategies and from the perspective of the Military Strategies from 2007–2021, Romania's credibility within the North Atlantic organisation has increased, either as a result of the consolidation of defence capabilities on the eastern flank of the Alliance area of strategic interest or from the perspective of promoting NATO's values and principles in the proximity of conflict zones that threaten stability at NATO's borders.

From this research, it has emerged that, both from the perspective of the National Defence Strategies and from the perspective of the Military Strategies from 2007-2021, Romania's credibility within the North Atlantic organisation has increased, either as a result of the consolidation of defence capabilities on the eastern flank of the Alliance area of strategic interest or from the perspective of promoting NATO's values and principles in the proximity of conflict zones that threaten stability at NATO's borders. Romania started from the status of a newly integrated NATO state in 2004, characterised by the need to adapt and transform the armed forces to NATO standards, to an active state within the Alliance by consolidating NATO's presence through operational objectives on the country's territory highlighted by the strategic directions starting in 2016, so that in 2022 the strategic importance of Romania in the Black Sea area as an actor involved in combating Russian aggression will be recognised at the level of the Alliance.

On the other hand, both from the perspective of national defence and common defence, the prevention of security threats by Romania has experienced a continuous improvement over time from the point of view of strategic instruments, through the development of directions of action and the introduction of an expanded security concept in accordance with the European principles of strategic planning, as well as their implementation at the institutional level. Thus, although the trend of security threats turned out to be upward over time, equally, the investment in early warning mechanisms and the minimisation of internal vulnerabilities increased the resilience of the state in relation to the evolution of threats.

The evolution of security threats to Romania can be seen as a product of the transformation of the security architecture at the international level, with the source of the threats being perceived predominantly as a consequence of regional dynamics rather than as a source of instability at the internal level. Also, the factors that turned out to be the main indicators in terms of the complexity of threats over time are: the dynamism and evolution of technology, which determined the amplification of risks in almost every security sector, including the military; the economic interdependencies that imply major effects for the development of each security sector; and the cross-border character of the expansion of threats, a fact that affects states that are not part of the area of the source of instability.

At the same time, in relation to the evolution of security threats, characteristics such as:

- their multiplication as sources of instability for each security sector, having the character of novelty in the reference periods;
- their amplification and complexity in relation to the events of previous years;
- simultaneous damage to several security sectors by the same type of threat, regardless of the factor that triggered it;
- external interdependence as a product of the international security environment and internally related to the management of threats through prevention tools.

Also, in relation to the dynamics of events on the international scene, the unfolding of unpredictable scenarios in terms of magnitude or consequences that can affect a large number of states or several security sectors at the same time (the COVID-19 pandemic, Russia's war in Ukraine), which are of strategic surprise. In this sense, increasing the ability to anticipate and improving the quality of prospective analysis (Bassford, 2023) regarding the evolution of the security environment becomes fundamental to diminishing the unpredictability of new security threats.

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In conclusion, in relation to the particularities analysed regarding Romania's strategic framework, this article shares the idea that a holistic (Fox, 2023) vision must be applied, comprehensive, and balanced in relation to the schools of military thought that will shape Romania's future military strategies.

In this sense, relative to Romania's capabilities and the dynamics of the international environment, technological progress must be

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embraced as a particularity of society's progress regarding the modelling of military strategies, but on the other hand, a futuristic reductionist approach would be inapplicable relative to Romania's needs and capabilities. At the same time, the traditionalism of the military school's thinking cannot be completely ignored, considering that it offers an important base of knowledge in terms of historical contexts and the pattern of states in relation to the individuality of strategic approaches, but equally, the realistic approach should not be neglected either, in the sense in which the recent war in Ukraine demonstrated the fatalism behind the situational in the military sense. It was also observed that although Romania largely embraces the institutional approach in relation to the theoretical tools applied in building military strategies, nevertheless, in order to prevent strategic surprises, borrowing specific aspects from the other three schools of thought is useful and relevant for modelling the strategic framework related to the dynamism of the current security environment.

Relative to Romania's capabilities and the dynamics of the international environment, technological progress must be embraced as a particularity of society's progress regarding the modelling of military strategies, but on the other hand, a futuristic reductionist approach would be inapplicable relative to Romania's needs and capabilities.

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HYBRID THREATS IN THE BLACK SEA
– IDENTIFYING GEOGRAPHIC AND ECONOMIC VULNERABILITIES OF ROMANIA'S MARITIME AREA –

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With no clear evidence of its origin, hybrid warfare is a worldwide phenomenon, its effects having worldwide reverberations. Characterised by a very high adaptability and flexibility of the methods and procedures used, as well as the continuous expansion of the target audience or the area of coverage, hybrid warfare is not a new concept in human history. Overshadowed by the much higher degree of destruction and the very large number of human victims – specific to conventional war – unconventional actions – an integral part of hybrid war – often go unnoticed, but their effects are felt in all areas of human society existence. Today, the annexation of Crimea and the invasion of Ukraine by the Russian Federation are classic examples of hybrid warfare, characterised by true intentions concealment along with the fact that special operations forces experience and support allowed ethnic Russian communities to organise paramilitary groups with the aim of creating an ambiguous and insecure environment on Ukraine's territory.

Furthermore, these events forced NATO leaders to identify and implement measures to limit and reduce Russian Federation possibilities to apply a similar strategy against the Black Sea or Baltic Sea member states. Analysing in detail the Russian hybrid actions major impact in the maritime environment, materialised both by the two parties' state borders modification and the Russian Federation Exclusive Economic Zone expansion to the detriment of Ukraine, this paper aims to identify geographical and economic vulnerabilities in the Black Sea, the exploitation of which can result in the weakening of the south-eastern flank of the North Atlantic Alliance. Moreover, the present study's results will represent the basis of a further analysis that will highlight the optimal measures for their reduction.

Keywords: hybrid warfare; hybrid maritime warfare; hybrid threats; hybrid maritime threats; maritime vulnerabilities;

INTRODUCTION

Benefiting from the support of Russian ethnic communities, the hybrid actions of the Russian Federation have had the common purpose of paralysing the Ukrainian decision-making process by creating an ambiguous environment and concealing true intentions. Furthermore, the experience and support of special operations forces have allowed Russian ethnic communities to organise paramilitary groups and provide information regarding the disposition of major conventional capabilities, with the aim of deterring foreign intervention in support of the Ukrainian armed forces (Murphy, Hoffman, & Schaub, Warfare and the Baltic Sea Region, 2016, p. V; English Abstract).

The use of hybrid warfare techniques by the Russian Federation throughout the entire conflict with Ukraine has had a significant impact on the security environment in Europe, with global repercussions.

Today, there are state and non-state actors challenging nations, institutions, and private companies through a wide range of overt and covert activities targeting their vulnerabilities. Both NATO and the European Union refer to these as "*hybrid threats*", and the maritime domain has proven to be particularly vulnerable.

The term *hybrid* refers to actions that can be conducted by any state, as well as a variety of non-state actors. These involve multi-modal activities and actions that can be carried out by separate units or even the same unit but are generally directed and coordinated at various levels throughout the battlespace to achieve synergistic effects in the physical and psychological domains.

Essentially, the key aspect of hybrid threats is the deliberate "*blurring and mixing*" of adversarial organisational forms, types of weapons, and tactics used, often at or beyond the legal boundaries, directed at military or civilian targets, with the dual purpose of weakening the adversary's resilience and creating an advantage for one's own or allied forces.

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The maritime dimension of vulnerability for states with access to the sea has received inadequate attention, particularly in NATO's evolving response to hybrid threats. There are ports and coastal areas with pro-Russian populations that, at some point, could serve as an initiation point for disturbances affecting national security and safety.

Within the maritime environment, among the vulnerabilities that a potential adversary could exploit there are latent disputes over territorial waters with implications for fishing rights in particular and the exploitation of the maritime environment in general.

This work aims to analyse Romania's area of responsibility in the Black Sea and to identify a series of geographic and economic vulnerabilities that, if efficiently exploited, could affect the country's security. Furthermore, the sea can be characterised as a theatre where hybrid actions could prevail, for countering which a judicious analysis of these vulnerabilities is necessary. This subject could form the central element of a subsequent scientific endeavour, the result of which would materialise in the identification of potential responses to reduce risks and enhance the resilience of states bordering a closed or semi-enclosed sea.

In fulfilling the purpose of this scientific undertaking, we believe it is essential to understand the peculiarities of hybrid warfare in the maritime environment, as well as to realise that the geographic characteristics and economic importance of the Black Sea's resources, when not adequately managed, transform into vulnerabilities that can materialize as hybrid threats to the state's security and safety.

MARITIME HYBRID THREATS

Recognising from very early on that the struggle for survival, both as individuals and as a species, is governed by violence, human society has understood the importance of establishing and enforcing a regulatory framework governing life within the community and relations between communities. In the broadest sense, these norms can be defined as politics, varying throughout history in accordance with humanity's transformations, with the primary purpose of creating the necessary harmony for peaceful coexistence. Any disruptive factor affecting this harmony, followed by the failure of politics to restore

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the previous balance, leads to a violent manifestation of the struggle for survival. Thus, warfare emerged, which is nothing more than "*the continuation of politics by other means*" (Clausewitz, 2007, p. 28), characterised by "*the massacre of people who do not know each other, in favour of people who know each other but will not massacre each other*" (Citatepedia®.ro, 2005, p. 1). With chameleon-like traits (Clausewitz, 2007, p. 30), the evolution and transformation of warfare are synchronised with that of human society, with each aspect of life being influenced by and, in turn, influencing this complex and violent phenomenon. Thus, in the past, the term 'war' strictly referred to military confrontation – the army being the only "*specialised organism for waging war*" (Duțu, Moștoflei, & Sarcinschi, 2003, p. 3) – while today we witness the use of this term in various fields, such as technological, informational, economic, energy etc., where the military component is small, often insignificant, or even absent.

As a result, most experts and dictionaries provide complex definitions that highlight the diversity of areas in which warfare can manifest (Cambridge Dictionary, 1999), (Merriam-Webster's Dictionary, 2011). Additionally, in an effort to develop a definition that encompasses all aspects and nuances resulting from technological advances or the spiritual transformations of society, as well as the challenges arising from these, new concepts have emerged, such as "*new type warfare*" (Kaldor, 2012, p. 1), "*fourth-generation warfare*" (4GW) (Echevarria, 2005, p. 1), "*non-linear warfare*" (Schnaufe, 2017, p. 20) or "*hybrid warfare*" (Hoffman, 2007, p. 28). This work focuses on defining and understanding the latter term, in general, and on *hybrid maritime warfare*, in particular.

Generalities

The complexity of military actions and the multitude of effects felt in increasingly many areas of human society, generated both in the preparation phase (modelling/competition) and in its execution, result in difficulties in formulating a comprehensive and widely accepted theory or definition of the new type of warfare facing humanity. Among the multitude of terms defining this new type of conflict, we will further analyse *hybrid warfare* in an attempt to identify a definition

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that covers the entire spectrum of actions and threats, whose effects have multilateral reverberations, with their central purpose being to create the most favourable conditions for conflict cessation negotiations.

At the introduction of the term hybrid warfare, Frank Hoffman defines it as *"warfare that incorporates a range of different modes of warfare, including conventional capabilities, irregular tactics and formations, terrorist acts, including indiscriminate violence and coercion, and criminal disorder"* (Hoffman, 2007, p. 21). In the same idea of complexity in hybrid threats, they are defined as *"methods and activities that target an adversary's vulnerabilities. Vulnerabilities may result from a confluence of factors, including historical memory, legislation, old practices, geostrategic factors, strong societal polarization, technological disadvantages, or ideological differentiations. If the interests and objectives of hybrid actions are not achieved, the situation can escalate into hybrid warfare, in which the role of the military and violence will significantly increase"* (Hybrid CoE Working, 2019, p. 11). Analysing these two definitions, we can conclude that the broad and varied range of methods used to exploit various vulnerabilities of an opposing entity to achieve objectives, as well as the imminence of armed conflict in the event that the effects of unconventional tactics do not converge towards the accomplishment of the entire action's goal, highlights the particularly important role that the military instrument plays in maintaining the parameters of the security equation at the state, regional, and global levels.

The major role of the military component was emphasised at the NATO summit in 2014, held in Wales, by highlighting the fact that overt or covert actions carried out by military personnel, coordinated with paramilitary and civilian actions, are undertaken within an integrated design (North Atlantic Treaty Organization, 2014). From this, we can deduce that hybrid warfare tends to *borrow* elements such as action planning, analysis, and operational design, which are specific to conventional warfare. In response to these actions, a series of measures have been identified, such as *"improving strategic communication, developing exercise scenarios in light of hybrid threats, and enhancing coordination between NATO and other organizations, in accordance with relevant decisions, to improve information exchange, political*

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consultations, and coordination among the armed forces of member countries" (Ib.).

The importance of hybrid warfare has not only been recognised and analysed by NATO member countries; these techniques and procedures have been successfully used by the Russian Federation in conflicts in Georgia and more recently with Ukraine. Heavily influenced by the conflicts in Chechnya, Russian military thinking has understood that the fusion of unconventional military tactics with informational warfare (IW) and psychological operations (PSYOps) is very challenging to counter. As a result, Moscow's military leaders have used the conflicts in 2008, 2014, and 2022 to validate the theory that the coordinated, integrated, and synchronised engagement of conventional military force with irregular units can be used as an instrument of foreign policy, while demonstrating that, strategically, gains could be achieved with low long-term costs (Murphy & Schaub, *"Sea of Peace"* or Sea of War – Russian Maritime Hybrid Warfare in the Baltic Sea, 2018, pp. 2-3). It is easy to observe that in this case as well, hybrid warfare is perceived as a complex threat arising from the combination of military actions with those of other structures and entities, whose synergistic effects target not only the adversary's military but also civilian society with the aim of destabilizing and dividing support for the war effort.

In the same idea, in the doctrine bearing his name, the Chief of the Russian General Staff, General Valery Gerasimov, defines hybrid warfare as a combination of *"military, technological, informational, diplomatic, economic, cultural factors, and other tactics involved in achieving strategic objectives"* (Islam, 2021, p. 1). From the enumeration of all the factors involved in the Gerasimov Doctrine, one could erroneously deduce that the military component's weight is reduced. However, one of the most significant innovations introduced by the Russian general is that military actions are and will be crucial in achieving objectives, with the real challenge being the identification of optimal methods for involving military means, as they can no longer act independently of non-military ones, and strategic-level objectives cannot be achieved without the coordination of efforts between these two structures.

In the context of Russia's approach to hybrid warfare and as a NATO member state, Romanian military thinking has also addressed this concept with the aim of fully understanding the challenges posed

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by a complex and ambiguous security environment in which military leaders are forced to make decisions based on uncertain and often insufficient information. Consequently, according to some experts, hybrid warfare is "*the exploitation of a tandem of favourable and unfavourable situations by a potential adversary, by supporting and improving unfavourable situations until the success of a major socially impactful negative event*" (Roman, 2022, p. 83). Furthermore, the success of this negative event is defined as focusing "*not only on causing damage and exploiting opportunities but rather on destabilising society as a whole, creating ambiguity with the purpose of jeopardizing the counteraction to the effects of hybrid-type negative manifestations and, implicitly, the entire decision-making process*" (Roman, 2022, p. 83).

In **conclusion**, regardless of how *hybrid warfare* is defined, there are no major conceptual differences stemming from the status of being a single state or a member of an alliance, or from belonging to the military or civilian system. Analysing the specialised literature, we can observe that the majority of definitions revolve around the idea of *gaining a significant advantage at the strategic, operational, or tactical level through coordinated actions of the state's civilian and military authorities, along with the involvement of non-state actors*.

Furthermore, by encompassing nearly all aspects of societal life (Stanciu, 2016, pg. 13-15), hybrid actions have their effects felt across all domains specific to military actions, from the most recent ones such as space and cyber, to the traditional terrestrial, aerial, and maritime domains. The specifics of the latter will be analysed in the following sequence of this scientific endeavour.

The Specifics of Hybrid Maritime Threats

The low costs associated with maritime transport represent both an advantage and a disadvantage of the maritime environment. On one hand, the advantage arises from the understanding of the importance of maintaining freedom of navigation on the world's seas and oceans, as manifested in the signing of numerous international conventions in which most states are signatory parties. On the other hand, jeopardizing maritime communication lines has had and will continue to have a major impact on a state's economy, whether it has access to the global ocean or not.

Hybrid warfare is "the exploitation of a tandem of favourable and unfavourable situations by a potential adversary, by supporting and improving unfavourable situations until the success of a major socially impactful negative event".

The importance of safeguarding the maritime environment and the need to reduce its specific vulnerabilities, especially in the face of hybrid threats, constitute a significant item on the NATO and EU agendas. Thus, in the joint declaration from Warsaw on 8 July 2016, representatives of these organisations underscore the necessity of countering hybrid threats. One of the identified methods emphasizes expanding and adapting maritime cooperation, particularly for reducing the phenomenon of immigration, by promoting the resilience of member states in the eastern and southern flanks and through projects in various areas, with the common goal of strengthening maritime capacity (NATO, 2016).

Generating an adequate response to any type of threat requires, first and foremost, identifying that threat and how it can negatively impact one or more states. Therefore, when countering hybrid threats in the maritime environment, it is necessary to analyze it from the perspective of vulnerabilities that can be exploited. After studying the specialised literature, we have found that most hybrid actions focus on the ambiguity of provisions in international treaties and conventions, the cyber environment, surface or submarine means and installations, as well as the maritime transportation system.

The most exploited vulnerabilities stemming from the ambiguity of international treaties and conventions are related to the delimitation of territorial waters, contiguous zones, or exclusive economic zones, as well as the regulation of transit through straits. From the perspective of maritime means and installations, hybrid threats focus on undersea communication cables, the majority of which lack even basic protection, despite being responsible for over 97% of intercontinental communications traffic (Center for International Maritime Security, 2018). Maritime transportation can be significantly affected either by disrupting the functioning of technological systems on board vessels or by the operational status of port facilities and installations. The exploitation of vulnerabilities in the cyber environment, which is ubiquitous in society, is felt across all sectors of activity, whether related to the maritime environment or not.

Furthermore, the maritime space can be affected by hybrid actions, whether planned or not, carried out within the territory of a state far from its coastline. An example of this is the closure in 2007

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of the ferry line between the Estonian port of Sillamae and the Finnish port of Kotka due to the refusal of transit authorization through Russian territorial waters by the vessel Vironia. Most likely, the refusal by Russian authorities was prompted by the outrage of the Russian-speaking residents of the Finnish capital caused by the relocation of the bronze monument of the Soviet Soldier in Tallinn (Center for International Maritime Security, 2020). This action immediately led to increased discontent among the population and decreased trust in authorities, potentially resulting in negative effects on national security, which is one of the most frequently targeted objectives of hybrid actions.

The energy crisis, driven by the dependency on gas imports from the Russian Federation, has compelled EU member states to identify new sources of supply. In the absence of underwater pipelines for transporting petroleum products, the flow of liquefied natural gas (LNG) and other oil products depends on shipping vessels and onshore unloading facilities, with most of these being owned by commercial operators. Additionally, the exploration of gas and oil in the eastern Mediterranean and their transshipment by sea are primarily the domain of private business enterprises. All of these factors increase the vulnerability of the energy supply chain, with hybrid threats focused on commercial entities engaged in exploring, extracting, and shipping these goods, either due to their sometimes-different interests from those of the state or because of a lack of readiness and understanding of the consequences of these actions on other aspects of society.

From the information presented, it is clear that, as in other specific cases, in the maritime domain, the main characteristic of hybrid threats is *diversification*, both in terms of the methods used and the results and effects achieved. Therefore, we believe that only through optimal and robust *resilience* can the effects of these threats be successfully countered. To increase the maritime domain's resilience to hybrid attacks, a first step is the realistic identification of vulnerabilities in this domain, with optimal solutions resulting from an analysis of responsible and decision-making factors.

Building resilience is closely linked to a more precise understanding of the causes that generate vulnerabilities. Maritime security,

The energy crisis, driven by the dependency on gas imports from the Russian Federation, has compelled EU member states to identify new sources of supply. In the absence of underwater pipelines for transporting petroleum products, the flow of liquefied natural gas (LNG) and other oil products depends on shipping vessels and onshore unloading facilities, with most of these being owned by commercial operators.

instrumentalised migration, critical infrastructure, the economy, aviation and space (Hybrid COE, 2017), maritime transportation including port infrastructure, cyberspace, the energy system, including its dependent resources, communication systems, especially undersea communication cables, and geographic or territorial vulnerabilities (Center for International Maritime Security, 2018), are examples of *preferred targets* for hybrid threats. The multiple vulnerabilities in these areas stem from a multitude of factors, such as legislative ones, the inter- and intra-state interdependence of economic activities, territorial disputes, or frozen conflicts, among others.

Taking into account what has been presented, we can **conclude** that there is an increase in the share of hybrid threats in all areas of human society, and the maritime domain is no exception. Their main objective is the disorganisation, interruption, and delay of both cargo and passenger transport by water, as well as economic activities related to the exploitation of maritime resources. When efficiently coordinated, the effects of these actions are felt in the military spectrum, by diminishing the war effort, increasing dissatisfaction in society, and creating pressure on authorities to put an end to these costly actions.

Characterised by a low degree of predictability, hybrid actions themselves are difficult to counter. However, by raising awareness of the situation and conducting a judicious analysis of maritime objectives and the tactics used by state and non-state actors that may undertake such actions, it is possible to anticipate scenarios of using these actions and determine the best ways to enhance the resilience of the state, thus minimising the adverse consequences on national stability and sovereignty.

Regarding the increase of the resilience of the Romanian state against hybrid threats in the maritime domain, it is necessary, first and foremost, to identify vulnerabilities of any nature in the Black Sea, whose exploitation could generate one or more economic, military, or other advantages for a potential adversary or have the effect of reducing the state's defence capability.

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GEOGRAPHIC AND ECONOMIC VULNERABILITIES IN THE BLACK SEA REGION FROM THE PERSPECTIVE OF HYBRID THREATS

According to the United Nations Convention on the Law of the Sea from 10 December 1982 (United Nations – Oceans and Law of the Sea, 2022), Romania, as a country with access to the Black Sea, enjoys sovereign rights and exclusive economic control over internal maritime waters (IMW), territorial waters (TTW), the contiguous zone (CZ), and the exclusive economic zone (EEZ). However, these rights also come with certain obligations and responsibilities. Primarily, authorities have a duty to maintain freedom of navigation in these areas by appropriately marking navigational hazards, recommending safe routes for navigation, providing information and notices to mariners, and ensuring a satisfactory level of security so that economic activities can proceed optimally.

The expansion of the national territory and the state's responsibility over the maritime domain not only brings benefits but also diversifies the risks and threats to the state's security. Any disturbance in the maritime security situation immediately impacts maritime transport and underwater economic activities, causing cascading effects on all sectors of society. Furthermore, the high level of interconnectedness among states through instant global communications, coordinated and integrated financial systems and trade, increases the speed and distance of the propagation of these effects, with consequences extending beyond a single state's borders. Among all these aspects, we will focus on the geographic and economic vulnerabilities that, when exploited through hybrid actions, can generate certain military or other advantages by affecting a state's military power or authority.

Geographic Vulnerabilities in the Black Sea

The maritime space can be considered both an advantage and a source of challenges for nations with a coastline. The advantages stem from the opportunity to exploit significant economic resources in this space, establish commercial routes with distant states, or develop tourism services. However, the challenges are driven by technological advancements in resource exploitation and, more importantly, the very high costs of maintaining an optimal level of security for conducting

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economic activities. From this perspective, the Romanian Naval Forces, as a branch of the armed forces responsible for ensuring maritime safety (Legea nr. 346/2006 privind organizarea şi funcţionarea Ministerului Apărării Naţionale, 2006, p. art. 5, 28), face several challenges due to their Maritime Responsibility Area of 29,851 square kilometers in the Black Sea (which includes the Internal Maritime Waters – AMI, Territorial Waters – TTW, Contiguous Zone – ZC, and Exclusive Economic Zone – ZEE).

(Maritime) RNFAR	Surface km²
Internal waters IW	762
Territorial waters TTW	4.472
Contiguous area CA	4.282
Exclusive Economic Zone EEZ	24.617

(River) RNFAR	Length km
Danube	1.075
Danube-Black Sea Canal	96
Branches — Chilia	100
Branches — Sulina	64
Branches — Sf. Gheorghe	109

(Land) RNFAR	Surface km²
TULCEA (* includes the Danube Delta)	8.499
CONSTANŢA	7.071
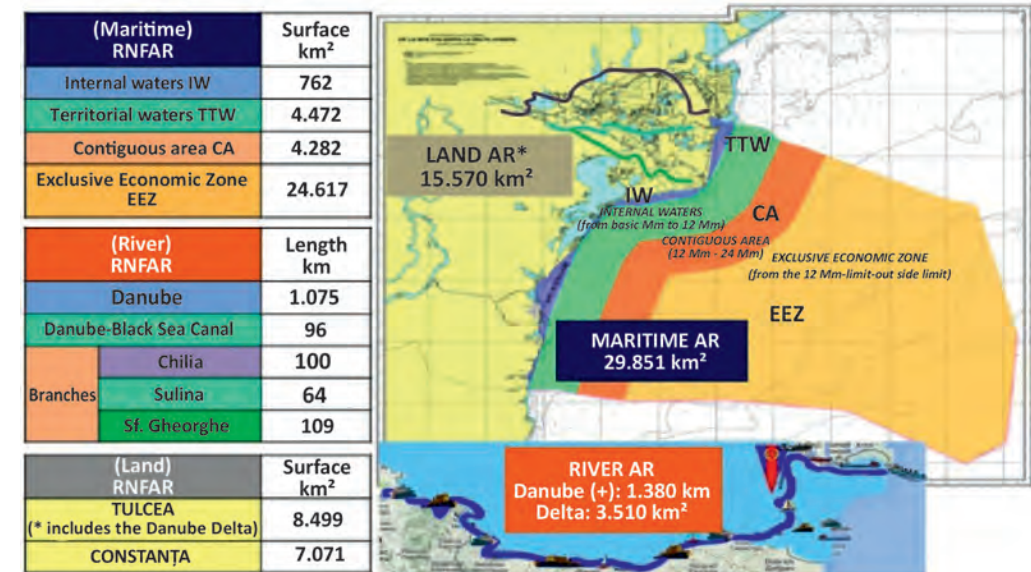
Figure 1: The responsibility area of the Romanian Naval Forces
(Forţele Navale Române, 2022)

Moreover, the relatively small surface area of the Black Sea compared to the world's oceans and its status as a semi-closed sea open up new opportunities for a potential adversary to exploit the vulnerabilities of any coastal state. For Romania, a significant vulnerability is generated by the approximately 24,617 square kilometres of the Exclusive Economic Zone, in relation to the relatively low number of vessels in the inventory of the Romanian Naval Forces. Since one of the main missions of the Romanian Naval Forces includes defending the country's interests, ensuring sovereignty and safety in the Black Sea, safeguarding freedom of navigation in the responsibility area, as well as protecting critical infrastructure elements along the coastline, territorial waters, and Romania's Exclusive Economic

Zone (Matache-Zaharia, 2014, pp. 154-159), we can conclude that maintaining an optimal level of safety in Romania's maritime area requires significant human, material, and financial efforts.

Through the Port of Constanța, our country has access to both the longest network of inland waterway transport in Europe, represented by the Rhine-Main-Danube transport corridor, connecting the North Sea to the Black Sea, and a rich Exclusive Economic Zone with various resources, especially hydrocarbons (Ib.). One possible solution for achieving the common goal of deterring any hostile action, regardless of its nature or character, towards national security from the maritime perspective is the cooperation between naval forces and aviation. Furthermore, there is a rapid increase in the utilisation of space and satellites for communication, monitoring, and early warning services, where the expansion of private services also aims to enhance maritime national resilience. Internationally, the rapidly evolving competition in the military use of outer space has generated various issues, from legislative regulation to moral dilemmas, through the formulation of accusations, with or without concrete evidence, that some states employ space for purposes other than those declared (Hybrid COE, 2017). From a security standpoint, the purpose of any state's actions, represented in the maritime environment by its naval forces, is to explore vulnerabilities related to hybrid threats and to pave the way for identifying the best solutions and recommendations to enhance resilience, the main pillar in reducing or nullifying the effects of maritime hybrid threats and actions.

In **conclusion**, when analysing the hybrid threats posed by a potential adversary, it is necessary to understand that the optimal strategy for countering them, in most cases, involves deterring or delaying their hostile actions. To achieve this goal, it is essential for the Romanian Naval Forces to make their presence felt in the area of interest, simultaneously conducting a promotional campaign through mass media and social media to showcase exercises and missions carried out in the Black Sea.

However, the mere surface presence of naval vessels does not entirely eliminate the risks and does not necessarily deter or nullify the opponent's actions, as observing them for a period of time

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can reveal vulnerabilities that can be exploited. Consequently, it is crucial to maintain and enhance naval capabilities that can operate without being observed by the adversary. From our perspective, equipping the Romanian Naval Forces with submarine capabilities could be a priority for military leadership, with the task of convincing the political authorities about the importance, necessity, and, most importantly, the benefits to Romanian society of ensuring an optimal security environment in the Black Sea.

Economic Vulnerabilities in the Black Sea

Since the economy is vital for the survival and development of every country, it also has numerous vulnerabilities that adversaries can exploit. In order to maintain a conducive environment for economic activities, optimal solutions for increasing resilience can be identified by assessing vulnerabilities from various perspectives, including the military and economic ones (Hybrid COE, 2017). Competition, as a form of human nature, is present in the economic domain and can be approached as a factor with a pronounced hybrid character that is unfolding on a global scale, with the maritime environment serving as the common thread that interconnects the world's nations.

From an economic perspective, in the maritime environment, we are particularly referring to waterborne transportation, which is one of the key contributors to a state's development. Commercial ships and port infrastructures are essential for sustaining a state's growth. However, they are vulnerable to hybrid threats in the form of sabotage, falsification of navigation data, or cyberattacks on supply chain information systems. These actions immediately impact maritime traffic, resulting in the loss or disruption of the supply chain for goods or the denial or hindrance of access to critical port facilities (Kotman). Equally noteworthy are the damages inflicted on the maritime environment, characterised by the enormous costs of mitigating the harmful effects on marine fauna and flora.

Closely related to the economic aspects at sea is the energy sector, where achieving energy independence is a goal most countries aspire to reach. The need for diversification of energy supply has led to the increased importance of natural gas exploitation and transportation.

In order to maintain a conducive environment for economic activities, optimal solutions for increasing resilience can be identified by assessing vulnerabilities from various perspectives, including the military and economic ones.

Thus, on the waterways, in addition to the transportation of general cargo, there is a rapid increase in the traffic of vessels specifically designed for the transportation of liquefied natural gas (LNG), as well as a rising trend in onshore loading/unloading facilities (Ib.).
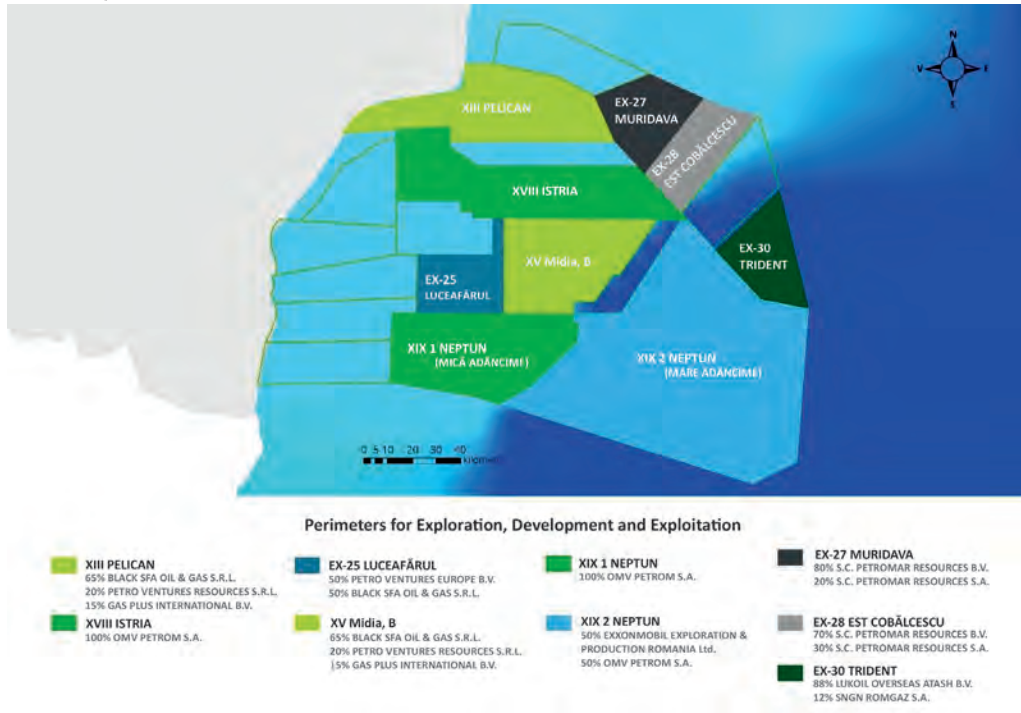

Figure 2: The Romanian offshore area
(Deloitte Touche Tohmatsu Limited, 2018, p. 12)

Romania's Exclusive Economic Zone is rich in hydrocarbons and various resources, and the exploitation of these resources is a priority for the central authorities of the state. To achieve this objective, the state relies on private economic operators, whose origins can be found on any meridian. This fact represents a vulnerability in the economic environment specific to the maritime space since there is not always a convergence of interests between these operators and those of the state. Thus, a specialized actor in hybrid actions can exploit these vulnerabilities for their own benefit and create a security breach, the effects of which can be felt in many aspects of Romanian society over time.

The range of hybrid actions that can be directed towards the economic sector in general and the economic activities specific to the maritime environment varies, from using migration as a hybrid threat instrument in the context of humanitarian law (Hybrid COE, 2017), to actions like the destruction of submarine gas transport pipelines, as was the case with the explosions at the Nord Stream gas pipeline on 26 September 2022 (Șancu, 2023). These incidents, in addition to causing material damage, also registered effects on public opinion on various issues.

In this broad palette of hybrid actions, special attention should be given to actions in the cyber environment. The increasing dependence on the internet and the degree of digitization and automation in various systems and activities mean that the effects in the cyber domain can propagate cascade into systems, organisations, or activities that initially seem to have no connection with those targeted by a hybrid actor. From navigation systems to port information systems, maritime activities, whether commercial or related to the military, rely more than ever on cyber capabilities (Kotman). Being interdependent, all these systems are vulnerable to cyber-attacks by hybrid actors and criminal organisations. Furthermore, the perspective of the development and widespread use of unmanned ships generates obvious major risks when viewed through the lens of maritime hybrid threats. One potential scenario involves a cyber-hacked unmanned ship being transformed into a weapon.

As a result of this analysis, we can **conclude** that hybrid warfare is not a clearly new phenomenon, and the aggressor usually uses gray zones to complicate the decision-making regarding the legality of their actions in conflict situations. From the perspective of other states, the aggressor makes it difficult to take decisive measures in response.

The gray zone in hybrid warfare can be understood as a space of limited and ambiguous military action, in which the aggressor creates enough ambiguity to achieve their strategic objectives without engaging in open warfare. In other words, it is not entirely clear to what extent the law of the sea applies in conflicts with a pronounced hybrid character. Intertwined with the question of whether maritime law or the legal framework for the application of the law should be

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applied in so-called gray zones to assess the legality of the use of force or direct coercion by the coastal state at sea, these actions can affect the smooth conduct of economic activities in the maritime environment. The implications of this disruption are felt in all areas, including national security.

CONCLUSIONS

While not guaranteeing complete success, a series of measures, such as adopting a robust common communications strategy to counter Russian information operations or reducing energy dependence on Russia, can be part of a more comprehensive plan to mitigate the effects of its hybrid actions. Furthermore, the fact that after the annexation of Crimea, NATO and the Russian Federation share a common border in the Black Sea emphasises the importance of the maritime domain. Therefore, the critical role of maritime and submarine infrastructure can be demonstrated by highlighting the significance of using the sea for collecting, analysing, and disseminating information, with a focus on hybrid threats. The ultimate goal is to increase the resilience of a state and, by extension, the alliance itself.

Regarding responsibilities in the maritime environment, the ability to control, maintain, and protect territorial waters, the contiguous zone, and the exclusive economic zone is a key aspect of governance. In Romania, this is reflected in the National Defence Strategy and all subsequent normative acts. Consequently, military normative acts translate this strategic objective into the central tasks of the Naval Forces and the Coast Guard.

Romania's maritime interests are linked to military defense projects aimed at ensuring an optimal environment for the development and maintenance of energy independence, as well as ensuring freedom of navigation. It is also crucial to understand the essential role of interconnected critical services that fuel and enhance national economic development. Modern critical infrastructure is a preferred target in the view of actors generating hybrid threats, whether state or non-state.

Intact and functional critical infrastructure elements in the maritime environment are vital for the well-being of society as a whole.

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As a result, one of the main concerns of decision-making bodies at the highest level should be focused on reducing the geographical and economic vulnerabilities of the country in the Black Sea by acquiring the necessary means for the Romanian Naval Forces to anticipate and counteract any action, whether hybrid or not, by a potential adversary.

Building resilience is essential when it comes to countering hybrid threats. A good understanding of the underlying causes of exploitable vulnerabilities is necessary. Since hybrid threats target multiple sectors of society in complex ways, resilience must be approached sector by sector. However, overall societal resilience must also be implemented.

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ROMANIAN
MILITARY
THINKING

THE A2/AD (ANTI ACCESS/AREA DENIAL) CONCEPT
– BETWEEN THEORY AND PRACTICE –

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A continued deficit in NATO's ability to provide permanent security wherever and whenever the allied states' political interests demand may result in the Alliance failing to maintain internal cohesion and to deter potential geopolitical adversaries. This aspect, constantly hoped for and speculated by the Russian Federation, starting with the resumption of the offensive at the beginning of the 21st century, especially after the annexation of Crimea, has led to a proper dosage of the ingredients that laid the foundation of the A2/AD concept. Understanding the role A2/AD plays in Russia's doctrinal thinking is as critical as allocating the resources to counter it. A full change in Russia's strategy in this regard for the Black Sea region is very unlikely, especially after the interdiction capabilities have reached a satisfactory level of operationalization and remain the only ones that guarantee optimal control of the maritime area, thus making it possible to continue ground operations in Ukraine.

Keywords: A2/AD concept; strategy; Black Sea region; maritime control; hybrid war;

INTRODUCTION

An approach to the A2/AD theme cannot begin otherwise than from the perspective of the North Atlantic Alliance, which implies a dose of subjectivism. Also, it should be analysed and understood in its historical becoming, because, although it was not called that way, the tactics of preventing the adversary from using a certain territory for the conduct of its operations is very old. What else could the construction of fortresses, castles, trenches, walls (e.g., the Great Wall of China), defence lines (e.g., the Maginot Line), channels and, more recently, A2AD capabilities to undermine the enemy's freedom of action mean? Moreover, the set-up of ship groups uses the same underlying A2/AD concept (i.e., ship groups around an aircraft carrier organize and carry with them a security zone targeting all combat environments similar to an A2/AD area).

As in the case of other concepts that seem new (i.e., hybrid war, information war, economic war, media war) history shows us that they have *"distant relatives"* that manifested long before their conceptualization. Only the operating conditions and the speed at which they invade our thinking (critically, I hope) have changed.

From a purely military perspective, A2/AD is the ability to prevent an adversary from deploying its forces and operating within a given geographic area. In other words, while an anti-access strategy aims at constraining the ability of projected forces to penetrate a theatre of operations, an area denial aims at limiting the freedom of action of those forces once they are present in the theatre. Therefore, the first two of the three missions of a defending fleet, i.e., *"to identify the threat", "to prevent the threat from reaching the objective"* and *"to remove the threat"*.

Beyond the purely military approach, A2/AD encompasses other dimensions resulting from the expansion of the spectrum

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of naval operations and the multi-domain approach to the specific environment of naval combat. From a conceptual and operational point of view, this evolution has been understood and addressed by military experts, especially after the '90s (following the analysis of Operation *"Desert Storm"* in Iraq in 1991), thereby expressing their agreement or disagreement regarding the content of this relatively newly approached concept.

Thus, in an October 2016 interview, the Commander of the US Naval Forces, Admiral John M. Richardson expressed his disagreement with the use of the term A2/AD as an autonomous acronym and stressed out that it must be viewed not only from a military perspective, but also in a broader context (Richardson, 2016). In fact, the American official accuses a superficiality in high American political, academic and military circles in the understanding and use of the term that implies too much of the Chinese and Russian military strategies. The concept is far too defence-oriented, Richardson asserted, when in fact it describes both offense and defence, and, above all, it assumes much more complexity than is evident from the discussions of policy makers; effective adaptation to the A2/AD challenge is only possible through a correct understanding of the implications of the problem.

THE DEVELOPMENT OF THE A2/AD CONCEPT

Russia began developing A2/AD capabilities in order to create a buffer zone to offset its post-Cold War losses. It managed to do so, to a large extent, due to the synergy of two conditions: on the one hand, the lack of vision for integrated defence planning of most EU states (i.e., most European allies failed to understand and be proactive to the manifestations of the Russian Federation in the Wider Black Sea Area) and, on the other hand, the US decision to give an increasing share of strategic attention to the theatres in the Middle East and Asia, as well as a reserved approach in securing the eastern flank of the Alliance.

Starting from 2014, the aggressive attitude of the Russian Federation intensified, a possible explanation being provided by Professor Adrian Cioroianu: *"...Russia's main problem at the moment is that it feels under attack from the West. It feels attacked both internally*

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(the Putin administration has repeatedly accused the USA in particular of financing opposition and dissident movements in Moscow and in the big cities), and externally in its immediate neighbourhood – this being a concept by which Moscow understands the former states of the USSR, in which it considers itself legitimate to have privileged interests, as it has ethnic Russian citizens, for whose safety it feels responsible". (Cioroianu, 2014, p. 11).

At least from the perspective of the Russian Federation's desire to remain a global actor, to continue to control the heartland (i.e., the space between the Atlantic and the Pacific oceans), the action still follows the decade-long policy of the USSR. Within this strategy and due to its geographical position, Ukraine represents an area of utmost importance in the Eurasian area. The former security adviser to American President Jimmy Carter between 1977 and 1981, Professor and political scientist Zbigniew Brzezinski stated in 1990 that "*the independence of Ukraine changes the very nature of the Russian state and – by controlling Ukraine – Russia remains an empire in Eurasia. Without control of Ukraine, Russia will remain only a regional power (…) Furthermore, if it no longer controls Ukraine, Russia itself loses its geographical <balance>: after all, it is a European power that dominates a predominantly Asian territory. Without control of Ukraine, Russia becomes (at least on the map) even more Asian than it actually is*". (Sturmer, 2014, p. 10).

Returning to the NATO approach, the purpose of A2/AD is to deny an operationally superior adversary's freedom of manoeuvre and action, maximizing its own capabilities and combat power and thus keeping the adversary at bay. It therefore means the denial of freedom of action in electromagnetic, land, air, sea surface, submarine and, more recently, space operational environments in crisis or at war.

For Europe, A2/AD has become a topic of interest, discussed in the most diverse circles, after the annexation of Crimea by Russia. Jānis Garisons, State Secretary of the Ministry of Defence of Latvia, joked that in the Baltic States, *"even the housewives were talking about the A2/AD challenge in North-East Europe"* (Garisons, 2017). While Russia's military activities peaked with the start of the actions

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in Ukraine, the deployment of anti-access systems in locations adjacent to NATO countries had begun decades ago and was accompanied by a mix of threats and aggressive rhetoric, of rising tensions and suspicions in regions where Russia and NATO have (sometimes diverging) interests, such as the Baltic States and the Black Sea.

Here, as NATO theoreticians claim that the Russian A2/AD *"phenomenon"* was caused by the allied negligence in the allocation of funds by the member states and by effective inaction (doing nothing in this regard), the Russian ambitions seem equally convinced of their rightness to achieve the A2/AD system, rooted in the argument that their attitude of weakness and neglect led to the eastward expansion of the North Atlantic Alliance. In other words, each side believes that its weakness has been speculated upon and seems to believe so with full conviction. It is very difficult to fight or defeat an opponent who believes wholeheartedly that he is right.

To summarize, it came down to who acted faster. Moscow has developed concentrated areas of defence capabilities that are aligned with Russia's historical vision, that is the motherland at the centre of its peripheral, buffer zones. Today, Russia's efforts to restore its lost position in the region go beyond the military. The international community perceived these efforts through the proliferation of rhetoric, political subversion, disregard of international norms to support domestic national interests, and, starting in 2022, through the use of the military tool in actions specific to armed struggle, by invading the territory of an independent state, and of energy and food as a weapon and tool of intimidation. More worryingly, Russia is testing the limits of the allied commitment to the defence of the member states and the application of NATO Article 5 in energy and food crisis situations through actions in all operating environments.

The construction of the A2/AD capabilities, which with the conquest of Crimea gained an even more solid base from a geographical point of view, has been a decade-long geopolitical effort aimed at consolidating Russia's regional and even global leadership position in the *"approach from abroad"* or as the Kremlin tends to label it: *"the sphere of privileged interests"* (EUvsDisinfo, 2022). It has also

Moscow has developed concentrated areas of defence capabilities that are aligned with Russia's historical vision, that is the motherland at the centre of its peripheral, buffer zones. Today, Russia's efforts to restore its lost position in the region go beyond the military.

targeted an economic component, namely achieving and maintaining control of hydrocarbon exploitations in the maritime area. By annexing Crimea and developing A2/AD elements no investor who is not accepted by Russia can go there to explore by modern means and exploit deep resources.

One of the main priorities of President Vladimir Putin was and is represented by an ambitious set of policies to revitalize the Russian military in all areas – air, land, sea, nuclear, cyber and space. The foundation of this military revival is based on President Putin's belief that perceptions of weakness invite competitors to *"test"* Russia, thereby putting more external pressure and generating internal tensions; as a result, the need for action has arisen, unfortunately most of the time beyond international norms.

Against the background of these beliefs, the Kremlin has embarked on a complex transformation of the armed forces from a model inherited from the Soviet era into a compact, mobile, technologically advanced military force structure that is capable of projecting force in an effective way in a wide spectrum of potential (conflictual) scenarios. At least declaratively. Reality tends to convince us that this approach has not materialized yet.

Russia's armed forces have not only updated their doctrines, but also tried to modernize the tools on which they rely. Ballistic and cruise missiles provide the backbone of any good A2/AD strategy, and the Russians can capitalize on a long tradition in this sphere. To defend its territory, the Soviet and Russian doctrine has always sought to implement a multi-layered integrated defensive network, linking strike vectors with a system of radars and sensors. The range of strike vectors and sensors has increased greatly in altitude so that anti-missile defence and long-range missiles are the main beneficiaries of the modernization process. In the case of Russia, the A2/AD capabilities are complemented by the modernization process of conventional naval forces, and here special mention should be made to the submarine and corvette program of the Russian Black Sea Fleet.

All these complex integrated capabilities are in turn supported by effective electronic warfare systems that have the ability to jam

One of the main priorities of President Vladimir Putin was and is represented by an ambitious set of policies to revitalize the Russian military in all areas – air, land, sea, nuclear, cyber and space. The foundation of this military revival is based on President Putin's belief that perceptions of weakness invite competitors to "test" Russia, thereby putting more external pressure and generating internal tensions.

the electromagnetic environment in the radar working bands, can intercept and jam satellite signals, early warning aircraft, drones and ground equipment.

The sustainability of the no-access development intent has been questioned or ignored, at various stages, by NATO/EU analysts and decision-makers. *How far can they go? They will have to stop! They will not have enough resources to complete the development programs!* These are just some of the questions asked in Western chancelleries in recent years that have been disproved and ruined with every A2/AD item built by the Russian Federation in Crimea, be it submarines, corvettes, cruise missile systems, multirole aircraft or strategic bombers.

Obviously, it is important for EU/NATO member states in the Wider Black Sea Area to understand the Russian Federation's theory and practice of creating and enforcing A2/AD areas. The analysis cannot, however, be complete without also referring to what is happening in the other area of strategic interest for the USA, Asia, and when we say Asia we mean China. Central to China's maritime strategy is its disengagement from coastal waters and the imposition of strategic interests in blue waters. Therefore, China has overpassed the time of establishing and imposing A2/AD zones and is constantly acting with a decade-long strategy to create footholds/naval bases in areas where it has invested time, resources, money, influence. Although China currently has only one base in other countries (Djibouti), its policy is to expand its influence and create favourable conditions for leasing/purchasing port facilities that will later lead to the development of advanced naval bases.

The same strategy, applied by the Russian Federation, by distributing A2/AD elements in Syria, Kaliningrad and even in Arctic areas, has been successfully implemented by the USA for many decades. In the operationalization of this strategy, the essential contribution of the most outstanding American strategists of the 19th century, Admiral Mahan, must be remembered. You can also see the similarity with the game invented in China over 2,500 years ago, named *"Go".*

It is important for EU/NATO member states in the Wider Black Sea Area to understand the Russian Federation's theory and practice of creating and enforcing A2/AD areas. The analysis cannot, however, be complete without also referring to what is happening in the other area of strategic interest for the USA, Asia, and when we say Asia we mean China.
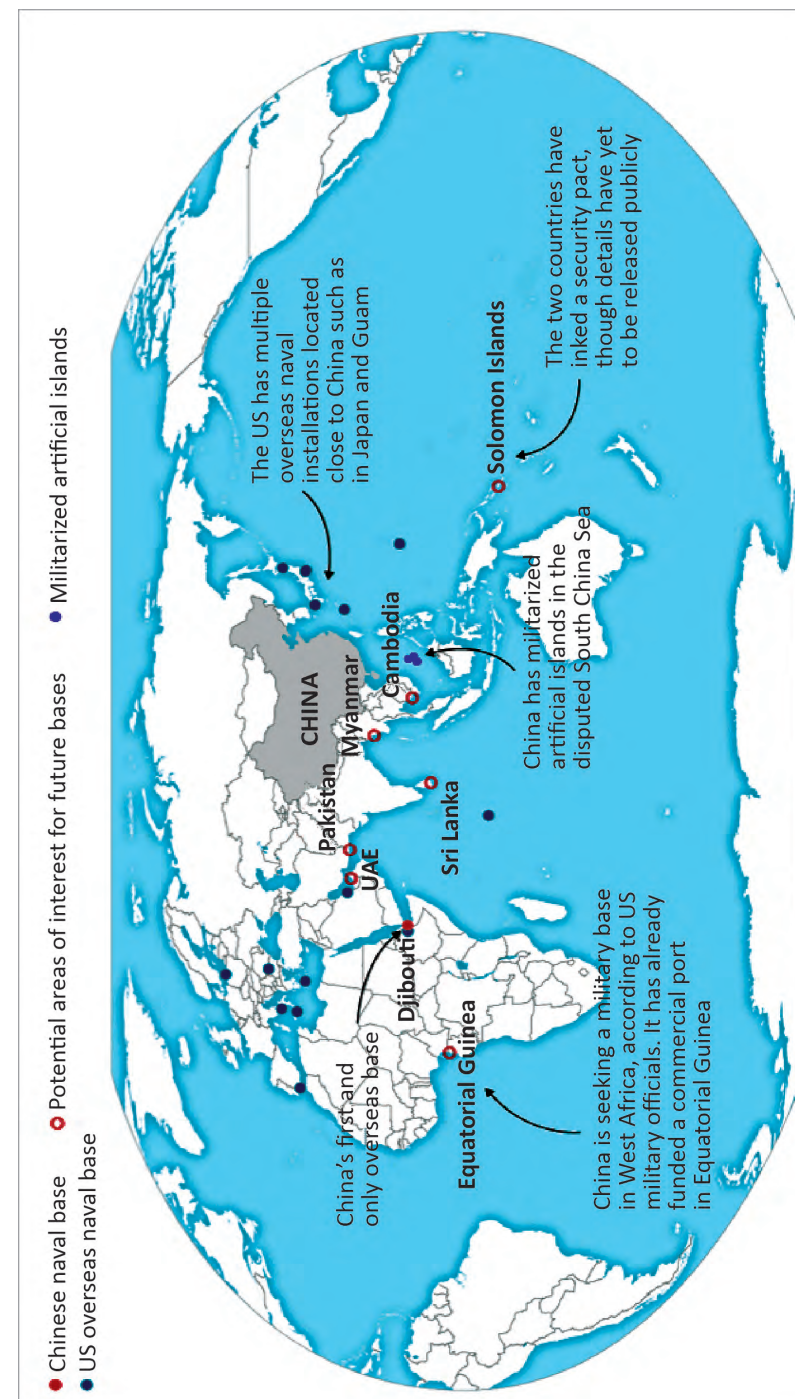

Figure 1: Chinese Naval Ambitions (Lendon, McCarthy, 2023)

Of course, this brief review of the capabilities put in the A2/AD support must not omit perhaps the most important element of threat, which is the nuclear arsenal.

A2/AD COMPONENTS

All these initiatives along the lines of creating A2/AD capabilities that would make possible interventions by an opposing air-naval force very expensive had, from the very beginning, two components.

A first component, *"anti-access"*, refers to those *"actions supported by those capabilities, usually long-range ones, designed to prevent an adversary force from entering an area of operations"* (Joint Operational Access Concept, 2012, p. 6). They therefore target (in the sense of the mission to deny/neutralize/destroy) forces approaching their own area of operations, predominantly air and sea, but may also target cyber, space and other forces that support them. Although the A2/AD concept is essentially a defensive one, at least in this first phase, the actions are predominantly offensive. They cover two levels. An information level, which involves a set of measures and actions to determine indicators and warnings regarding the adversary's intention and the combat power generated by it, and an action level aimed at actions that prevent the preparation for the execution of an offensive action, planning actions, action precursors to gaining (temporary and area) control of the maritime and air space. This first component of A2/AD has the role of keeping the opposing forces away from our own maritime area (or in which we are going to impose our interests) and, if it fulfils its objectives, it can be considered that the entire A2/AD system has fulfilled its objective.

A second component, area interdiction/denial or *"turning the ocean into a vast no-man's land"* (Hughes, 2018) refers to those *"actions, supported by those usually shorter-range capabilities designed to limit the adversary's freedom of action in the area of own operations"* (Joint Operational Access Concept, ib.), thus creating conditions for the reorganization of the own operative device and the intervention of the main forces to regain control over the area.

"Anti-access", refers to those "actions supported by those capabilities, usually long-range ones, designed to prevent an adversary force from entering an area of operations".

I consider that, for a good understanding of the second component of A2/AD, the concept of freedom of action must be analysed, which in military art is called the *"principle of freedom of action".* Acquiring and maintaining freedom of action, simultaneously with thwarting or limiting the enemy's attempts to conquer and keep its own, has been and will continue to be a permanent concern of all commanders on the battlefield. The desideratum is achieved primarily by striving to have the initiative against the enemy, or to win (regain) it when he owns it.

The deepening of the study on the action of this principle in the operations carried out in the modern war involves revealing what should be done to acquire and maintain the freedom of action by using the available forces and means, and through appropriate forms and procedures of action, the ways to be followed to enhance them, the necessary measures to use it and put it into value with the most favourable results.

In a confrontation in which the enemy operates simultaneously on land, air and sea, making extensive use of aviation, high-precision strike-reconnaissance systems, airborne troops, and special reconnaissance-diversion forces, concurrently with the deployment by him of intense actions of electronic and information warfare and with the manifestation of air and sea supremacy, freedom of action can be obtained through actions primarily offensive, dynamic, manoeuvre-based, fast, joint and synchronized, which require from the commanders and troops foresight, initiative, situation awareness and knowledge of the higher echelon's objective, cooperation, flexibility in leadership and action, streamlining of leadership, actions, troop protection and logistical support.

Achieving these conditions for the manifestation of the principle of freedom of action requires predicting the enemy's intentions and the way the military actions will be carried out, achieving a local and temporary qualitative-functional superiority over the adversary in the most important sectors and directions, ensuring the necessary space and time to carry out the actions, achieving the enemy's surprise, increasing the capacity for independent action and, in conditions of isolation of the troops, mitigating the influence of disruptive factors

The concept of freedom of action in military art is called the "principle of freedom of action". Acquiring and maintaining freedom of action, simultaneously with thwarting or limiting the enemy's attempts to conquer and keep its own, has been and will continue to be a permanent concern of all commanders on the battlefield.

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(e.g., the uncertain nature of information about the enemy, his tendency to misinform, errors that may occur during the preparation and transmission of orders, the physical efforts to which the fighters are subjected, the technical-organizational failures, weather conditions etc.), the superior exploitation of the geoclimatic, economic, demographic, cultural conditions of the area where the operations are carried out, the large-scale use of harassment actions. From the simple enumeration of actions specific to this component of A2/AD, it can be inferred that almost all the general principles of armed combat are achieved, and also the fact that the actions target all areas specific to naval combat (air, surface, underwater and in the electromagnetic space). Therefore, in the defence-type actions, freedom of action can be acquired and preserved through offensive reactions, the use of active defence and other fighting methods characterized by dynamism and impetuosity.

The principle of freedom of action is, therefore, the most significant in obtaining success, in adopting an offensive attitude in all the actions undertaken, synthesized in the slogan *"surprise, preserve and exploit the initiative"*, starting from the idea that offensive action represents the most effective and decisive way to achieve a clearly defined goal and that, in any military operation, the side that keeps the initiative by offensive spirit surprises the enemy, maintains its freedom of action, forces the enemy to react and not to act, achieving decisive results.

Initiative, as the most obvious form of expression of the principle of freedom of action, must not be manifested only in decisive moments of the battle, but in all situations, starting with the first actions and ending with the complete fulfilment of the general strategic goal of the war. Manifestation of the initiative also requires an in-depth knowledge of the combat domains (*"multi-domain operations"* recently entering the operational language), therefore the realization of a recognized operational image, based on an integrated ISR system at the level of allies, an image that would allow access by all the actors involved in the operation of relevant information about the situation in the area of operations.

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The distinction between the two components is sometimes difficult to make because many capabilities can be used for both purposes. For example, the same submarine performing an area interdiction/denial mission in coastal waters may be an anti-access capability when engaged in a remote mission.

CONCLUSIONS

The resulting question seems to be *"What is to be done at the NATO/EU level to manage a security situation in which the adversary builds its conception of action on the existence of an A2/AD capabilities?"*.

A first option would be for NATO to identify the existence of the A2/AD capabilities (with all the subsystems that make it up) and avoid it. This variant involves executing activities and taking complex measures along the lines of awareness of the maritime situation, paralleled by planning and undertaking a set of complementary measures (without presupposing the direct deployment of forces) and actions that lead to the fulfilment of own security objectives. *"Our first response should be to double diplomacy, because America offers freedom, security and economic opportunities where China wants control"*, said politician Seth Moulton, in an interview with CNN (Moulton, 2023).

Avoiding an adverse A2/AD capability may have a first motivation that it is *"a nut hard to crack"* and therefore the effort represented by the combat power consumed is too great to neutralize it compared to the effects obtained. A second motivation can come from the result of the analysis of the effects on the line of conflict escalation that such an action can have, effects that are sometimes undesirable.

Such a course of action characterized the entire Cold War period, and the current security situation created in the Black Sea Area makes us wonder if it was enough. The reality of our days proves that it is not.

A second course of action is to create other capabilities at the NATO/EU level to counter the opposing one. This option seems justified based on NATO's defensive role, defined as such in the treaty. The action option will lead to an escalation of the procurement effort with multi-domain capabilities (including the space domain), therefore with a constant increase in pressure on defence budgets.

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A third variant of action is to achieve those capabilities through which NATO/EU can "break" the adversary's A2/AD "bubble" in order to apply its combat power in maritime areas contested by the adversary. It means achieving superior capabilities to the adversary, in the information field, strike capabilities, security and protection, the implementation of preventive strike measures etc., therefore offensive capabilities, which presupposes that NATO abandons its defensive posture.

Obviously, in the conditions where the information technology (with a determining contribution of AI) acquires an increasingly important role in combat capabilities, it implies a reorientation of the procurement policies of some states lagging behind (among which most of the states from the NATO/EU eastern border), based on coherent security strategies, connected to NATO/EU strategies. It means that the role of such a system is not to achieve a certain degree of defeat to the adversary, but to deter his actions in the area of operations where there are opposing interests (Schmidt, 2016).

A third variant of action is to achieve those capabilities through which NATO/EU can *"break"* the adversary's A2/AD *"bubble"* in order to apply its combat power in maritime areas contested by the adversary. It means achieving superior capabilities to the adversary, in the information field, strike capabilities (range strike capabilities with engagement range from outside or from the edge of the A2/AD area in combination with A2/AD resistant ISR means), security and protection, the implementation of preventive strike measures etc., therefore offensive capabilities, which presupposes that NATO abandons its defensive posture, a situation that will lead to a change of attitude, in disagreement with the founding treaty.

The three courses of action have been presented separately only to explain them. The security situation in the Black Sea Area demonstrates that it was not applied sequentially, but that only a combination of the three methods can be successful. Obviously, these options for action exhaust their potential at the moment when the nuclear weapon appears in the equation, at which point diplomacy remains the last resort.

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ELEMENTS OF AIR POWER
IN THE ROMANIAN MILITARY ART EVOLUTION

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The emergence of the aircraft as a means of combat has changed both the strategies and the tactics of waging wars, determining in a relatively short time major changes at the level of the forces doctrines, organization and training, their management, as well as command and control arrangements. At the same time, the aircraft has proved to be an important vector of progress and human civilization in the technical, economic, social and cultural fields, playing an important role in both war and peace.

The ability of the air force to fulfil its role in a war or in military operations depends on the science and skill in harnessing the components of air power. The evolution of these components over time is reflected by the history of military art, which highlights both continuity and tradition as well as innovation. Moreover, it points out the similarities and differences, draws the necessary conclusions, which, filtered by military thinking, give the opportunity to formulate new rules and principles to be inserted in military doctrines and regulations, in training and education plans, as well as in economic development strategies and policies, including the defence and aeronautical industries, both civilian and military.

The Romanian aviation has adapted, since the first use of the aircraft as a weapon, to the new reality of the battlefield, and this article is aimed at presenting the evolution of the concepts of its use in the first half of the 20th century, the principles of the use of aviation in battle, as well as the lessons learned following the participation of the Romanian military aviation in the campaigns of the two world conflagrations. To meet this purpose, the method of studying historical documents is employed.

Keywords: air power; principles of war; Second World War; anti-aircraft artillery; assault aviation;

INTRODUCTION. AIR POWER DEFINITION

The use of the aircraft in the military and civilian fields has had, since its beginnings, a special importance, which has established it as a factor of military and economic power. Given that, after the Second World War, aerial means of destruction allowed the execution, from the initial period of an armed conflict, of powerful strikes on the main military, economic and socio-economic objectives of the adversary, including in the strategic depth (which provided the old doctrine of Douhet, the doctrine of _"strategic bombing"_, adopted by the Anglo-Americans in the Second World War with a new dimension). Moreover, with the emergence and development of ballistic missiles, the centre of gravity of the military actions moved to the aerospace component. Thus, the aerial reconnaissance and attack systems _"have surpassed the stage of supporting elements of the other categories of armed forces (...) and have become a mandatory and indispensable presence in military conflicts"_ (Rus, Cioabă, 1988, pp. 120-121).

Due to the special attention paid by the political-military leadership of the main states of the world to the combat capability of the air force (and, later, the aerospace forces), the concept of _"air power"_ or _"aerospace power"_ emerged, depending on the level of economic development (Ib., p. 124).

Air power definition. As its true value has not been fully understood yet, the role assigned to the Air Force being greater or lesser, air power does not have a universally accepted definition. In the 1920s, US General William Mitchell defined air power as _"the ability to do something in the air. It consists in transporting all kinds of things by means of the airplane from one place to another"_ (Meilinger, ib.) and brought to the fore the need for air superiority (Ib.).

About 60 years later, UK Air Marshals Michael Armitage and Tony Mason wrote that air power is _"the ability to project military force through or with the help of platforms in the third dimension, above the earth's surface"_ (Ib.), a definition also accepted by the British doctrine,

in which air power consisted in *"the ability to project power from the air and space to influence the behaviour of people or the course of events"* (https://wblog.wiki/ro/Airpower).

Air power was also defined by Admiral Arthur Radford, former Commander of the US Pacific Fleet, who supported naval aviation programmes in the 1950s and advocated for the continuation of the use of the nine aircraft carriers, as *"the ability of a nation to exploit the air or space in its own interest and to deny it to the enemy under war circumstances"* (Strâmbeanu, 2002, p. 39), and by Philip Towle, in the book *"The Dynamics of Air Power"* as *"the use or denial the use of air or space for military purposes by aircraft controlled and supported beyond the immediate conflict zone"* (Ib.).

From the analysis of these definitions, it follows that, in essence, air or aerospace power represents the ability of a state to exercise its will in air or space (Rus, Cioabă, p. 124) through the Air or Aerospace Forces.

The main characteristics of air power are as follows: *ubiquity* (the ability of aircraft to operate anywhere and at any time), *tempo of air operations/strikes* (allows for preventing the enemy's combat potential from being restored), *perspective* (provides a decisive advantage in terms of gathering data on the enemy and conducting air combat actions), *flexibility and versatility* (the ability of the air force to rapidly attack a wide range of targets and organize several air strikes/campaigns simultaneously, as the air assets are able to be, simultaneously, tactical, operative and strategic vectors), *penetration* (the ability of aircraft to avoid the enemy's defence and reach deep into its territory), *reaction capacity* (having the highest reaction time, the air force can be quickly deployed to any part of the planet), *precision* (due to the new generation of smart munitions), *sustainment* (allows the air force to become almost independent) (Strâmbeanu, pp. 40-42).

The impact of air power on war has resided, among other aspects, in shortening the decision-making cycle, improving the management of ground troops through aerial observation, correcting artillery fire executed beyond visual range, hitting targets from the contact line to those deep in the territory of the belligerents, thus amplifying the effectiveness of ground and naval operations and putting pressure on the population and economy. Moreover, the impact has made

the land forces develop means, tactics and defence procedures against air threats, both active (anti-aircraft artillery, surface-to-air missiles, fighter aircraft) and passive (cover, camouflage, simulation of targets or actions etc.) (Ib., p. 43). The mastery of the air (air supremacy) – the fundamental premise of the theories of Italian General Giulio Douhet – is of crucial importance for achieving success in conventional warfare (Meilinger, p. xiii), no matter by what means it is achieved. Apart from these aspects, air power can sustain a war and even win it independently (Strâmbeanu, p. 43). Moreover, in a study from 1943, entitled *Arma aerului în arta militară /Air Weapons in the Military Art*, Colonel (AF) Alexandru D. Sahini emphasized that *"A state that will not understand how to use its air power as the first instrument of its war policy will therefore not have an air strategy, which links the air action with the political and military ones, but at most an air tactic, which conditions the way of using aerial means among the other means, as an auxiliary weapon"* (Sahini-1, 1943, p. 8).

The basic factors supporting the effective exploitation of air power are considered to be the following: *aircraft carriers* [which provide the joint force commander with a unique source of air power, largely immune to host nation support constraints, capable of exercising sea control, force projection, and of applying air power (AP 300, p. 1.2.3.)]; *airfields* [a network of alternative operating bases, established in peacetime, ensures a high degree of redundancy and makes them less vulnerable (Ib., p. 1.2.4.)]; *basic planning factors* [destination, distance, demand and duration (Ib.)]; *coalition capabilities* [based on a large number of common elements – purpose, training and conception that are based on similar doctrines and jointly executed exercises, air power being integrated into combined forces for multinational/coalition operations (Ib., p. 1.2. 5.)]; *fragility* [aircraft can, however, be vulnerable to enemy air defence, which is why its suppression/annihilation is crucial to air power, and the inherent fragility of aircraft can be ameliorated by speed, stealth technology and self-defence measures (Ib.)]; *impermanence/ephemerality* [the cost of maintaining a permanent presence or aerial occupation/denial of ground or aerial occupation may be theoretically possible but prohibitively expensive, for which monitoring of crisis areas may be achieved through surveillance, reconnaissance, aerial patrolling

Air power was defined by Admiral Arthur Radford as "the ability of a nation to exploit the air or space in its own interest and to deny it to the enemy under war circumstances".

The main characteristics of air power are as follows: ubiquity, tempo of air operations/ strikes, flexibility and versatility, penetration, reaction capacity, precision, sustainment.

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and actions *"on call"* for an active response to detect incidents on the ground or in the air (Ib.)].

The use of air power in a set of operational circumstances requires that it should be factored into a campaign plan in accordance with the **principles of war**, namely: *objective setting* (selecting and clearly defining the purpose of the war or operations, directing all efforts to achieve it); *maintaining morale* (success in war depends more on morale than on material conditions, morale being based on understanding the purpose, training and discipline, immediately responsive to effective leadership); *security* (achieved through physical and information protection and enabling own forces to accomplish their objectives); *surprise and its avoidance* (essential for the successful completion of the mission, involving the use of new technologies, materials and categories of assets); *offensive action* (brings the determination to gain and maintain the initiative and deny it to the enemy); *concentration of forces and means* (the cardinal principle in the use of air power to achieve success in war, entailing the concentration of superior forces against the enemy at the decisive place and time); *economy of forces and means* (the corollary of concentration of forces, being impossible to be strong anywhere/everywhere, requires careful balancing of the forces assigned to the mission); *flexibility* (allows for plans to be modified as circumstances change, taking advantage of the opportunities encountered or changing the main effort of the campaign/operation); *cooperation* (coordination in time, space and by missions of all activities to achieve the maximum combined effort); *sustainability* (involves all aspects of physical, moral and spiritual maintenance of the force, being more than logistics, and develops force generation, movement, operations, recovery and training, ensuring the force's ability to maintain its combat capability/power to meet the military objectives) (Ib., p. 1.2.10-12). Their value depends on the commander's individual understanding, his knowledge of military aeronautical art, and his skill in applying these principles to a particular operational context. If the relative importance of each principle depends on the circumstances, the successful application of the principles of war requires sound military judgment (Ib., p. 1.2.9-10).

The elements of air power can be grouped according to three components: conceptual, moral and physical.

The use of air power in a set of operational circumstances requires that it should be factored into a campaign plan in accordance with the principles of war, namely: objective setting; maintaining morale; security; surprise and its avoidance; offensive action; concentration of forces and means; economy of forces and means; flexibility; cooperation; sustainability.

Conceptual component (the thought and learning processes on which air power is based) encompasses the *history* of campaigns and operations and the *lessons learned or identified* during their conduct, the *principles of war*, *the air power doctrine*, *strategy*, and the campaign *planning techniques*. The knowledge acts as a guide in the education and training process of all Air Force personnel (Ib., p. 1.2.14).

Moral component (ability to make the people fight) represents the basic element of air power. The Air Force reflects the society it serves, but it requires a much greater degree of commitment and sacrifice than that found in comparable professions. This component includes: *leadership* (inspirational leadership – an essential element that increases and supports morale); *core values* (the permanent foundations, including physical courage, total commitment and self-sacrifice in service, integrity and moral courage); *education* (oriented by doctrine and instruction, remains the key requirement for developing successful commanders) (Ib., p. 1.2.15-16).

Physical component represents the combat means and it is limited by the available civilian, military and industrial resources necessary to procure a sufficient number of platforms and weapon systems for defence. The successful use of air power depends on the exploitation of superior and timely/opportune information, a faster decision/action cycle than the adversary, and precise application of air power across the spectrum of conflicts. Combat airpower must be supported by robust and sustained logistics (Ib.).

THE EVOLUTION OF CONCEPTS OF AIRCRAFT USE BY THE ROMANIAN AIR FORCE

The emergence of the aircraft and the progress made in the field of aeronautics at the beginning of the 20th century had a strong impact on military art, which sought the best methods and procedures for using all means of combat, primarily the newest means, namely aerial ones (Ionescu, 1913, p. 1). Moreover, during more than a hundred years, the evolution of military art has influenced, in turn, the evolution of the defence industry, the aeronautical industry, as well as education and training in the field.

As in the countries with powerful armed forces, where, in addition to the development of the concept regarding the combat use of balloons,

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Conceptual component encompasses the history of campaigns and operations and the lessons learned or identified during their conduct, the principles of war, the air power doctrine, strategy, and the campaign planning techniques.

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aerostats, airships (lighter-than-air means of flight), the concepts regarding the combat use of aircraft (heavier-than-air means of flight) were also developed, in Romania there were concerns about using the aircraft for military purposes too. Thus, during the manoeuvres carried out in 1910 in the Oltenia area, in 1911 in the Pașcani area and in 1912 in the Ploiești-București area, observation, recognition and liaison missions were carried out for the benefit of the Land Forces. At the same time, due to the conceptualization of the experience of military manoeuvres and the first military actions in which aircraft were used in the period 1910-1912 (Mexico, North Africa), there appeared the first drafts of the elements of military art in aviation, which were made known in Romania too thanks to some articles by Major Mihai Ionescu, published in 1913 in *"România Militară/Military Romania"* Journal. In those articles, it was presented the way of using military aircraft (missions and action procedures) in the different phases of military operations, namely during mobilization and border coverage, during strategic concentration and deployment, during operations conducted in the tactical field and during operations conducted after the end of the confrontations in the tactical field.

After the experience of the Romanian aviation participating in the Second Balkan War in 1913, during the **years of neutrality (1914-1916)**, the first attempts to develop a concept for the use of aircraft in a possible military campaign were made. They got materialized in the *"Instructions on the use of aircraft"*, complemented by the *"Rules of service for the use of aircraft in the campaign"*. According to those documents, on the basis of which some aerial reconnaissance exercises were conducted at longer distances and the new procedures used on the Western Front for correcting ground artillery fire were learned, in case of mobilization, the military aviation made available to the army four squadrons that formed the *"Military Aviation Squadron"*. Moreover, it was also stipulated that all military aviation was subordinated to the Great General Headquarters (G.G.H.) and, when the situation on the battlefield required it, the squadrons were attached (assigned) to the army corps and divisions, the squadrons executing reconnaissance missions for the benefit of those large units, which were considered very important for the development of action plans (Miu, 2013, p. 367).

During the **First World War**, after the failure in Flămânda (September 1916), the G.G.H. developed the *"Instructions for the use of aviation attached to the commands"*, which specified the categories of aircraft (combat, fighter, bomber and artillery) and emphasized the need for close cooperation between land and air commands, all movements of the enemy having to be communicated immediately. The instructions also stated that the determination of the type of aircraft to conduct a mission was the responsibility of the air group commander, fighter aircraft being used for the protection of bomber and reconnaissance aircraft or to fight against enemy aircraft that had entered their own airspace.

At the end of December 1916, with the help of the French Mission, a complex regulation on the use of aerial means in combat was drawn up under the title *"Instructions on the use of aerial observation in the service of the infantry"*, which emphasized that *"... the airplane and the balloon are indispensable auxiliaries of the command, of the Artillery and of the Infantry in battle"* (Instructions, 1917, p. 2; Rus, Cioabă, pp. 56-57) and presented the conditions for the execution of aerial observation, the missions of aviation and the aerostation, the way of making connection and cooperating with the supported forces. According to those instructions, the Aeronautics had the following **missions**: *aerial reconnaissance* (distant and of a sector), *surveillance of the battlefield, correction of artillery fire ("adjustment of artillery fire"), keeping the infantry informed*. The importance of each mission depended on the phase of the operation and its characteristics. Moreover, those instructions specified the manner of execution of the aeronautical missions both in the offensive operation and in the defensive operation, during the stationing included, as well as the coordination between the aviation and the aerostation, intended to be achieved through a judicious distribution of the missions (Ib., pp. 12-13).

During the planning of operations in the summer of 1917, the Aeronautical Directorate developed the *"Instructions on the Organization and Operation of the Aeronautical Service"* (in June) and the *"Instructions on the Use of Aviation during the Offensive Period"* (in July and August), which specified the missions assigned to the categories of aviation for each separate operation (Avram-1, 2012,

pp. 213-214), clearly highlighting the concept of using Romanian aviation applied in the offensive operations of the summer of 1917. Also, during the battles and operations, the G.G.H. and the armies issued several orders that established the areas of air activity, the missions and the mode of action of the air groups and aviation squadrons for each particular battle/operation.

In the **interwar period**, we saw the direct involvement of the French air doctrine on the concept of use of the Romanian Aeronautics, its entire evolution being evidenced by the regulations regarding the use of that category of armed forces, which was developed in 1921 (*Regulation of Aerial Observation*), 1928 (*Provisional Regulation on Manoeuvre and Combat Training of Aeronautics*) and 1938 (*Provisional Regulation on the Organization and Use in Combat of Large Tactical Units of Aeronautics*), describing both the training process and the mode of action in combat of aeronautical units and subunits (of all aviation and anti-aircraft defence categories) in wartime. Also, an important contribution to the definition of the concept of use of the Romanian Aeronautics was made by the conferences of Colonel Gheorghe Rujinschi held at the Higher School of War in 1923, the tactics courses taken at the aviation schools and at the Higher School of War in the '30s of the 20th century, the various regulations that were developed during that period (e.g., *"Aeronautical Tactics. Principles and Applications within the Army Corps, Division and Cavalry Corps"* – 1933), as well as the materials published in the journal *"România Militară"* in the '20s and '30s of the last century.

The mode of using Aeronautics in combat, correlated with the reality and the economic-financial possibilities of our country, was initially based on a defensive concept, and later, it also took into account the concept of war of movement, in which aviation actions had to take place in strict cooperation and for the benefit of the land forces (Rus, Ciobă, pp. 69-70). At the same time, it was appreciated that the performance of the Aeronautics was *"influenced by two essential elements – the combat power of the enemy's aviation in relation to the own one and the atmospheric conditions"* (*Organizarea*, 1922, p. 162; Rujinski, 1924, p. 40). It was also considered that air superiority was the first condition for the Aeronautics to act, being indispensable for the success of the operation and having to be maintained throughout

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the battle (Ib.), concluding that modern warfare could no longer be conducted without the Aeronautics effective support (Pentelescu, Nicoară, 2011, p. 38).

Taking into account the air and land forces doctrines, developed in that period by different states, as well as the technical progress made in the construction of aircraft, which highlighted the important role of Aeronautics in the spectrum of operations, in the courses of the Higher School of War, it was appreciated that the use of Romanian Aeronautics was determined by the *war situation*, namely by the *manoeuvre needs*, by the *technical possibilities* and by the *adversary reaction*. The successful analysis of those factors led to the organization of aerial actions, which included: *"specifying the missions"* belonging to different categories of means (information and combat/destruction) in order to meet the operational needs of the Land Forces in the best conditions; the *"distribution of the means"* of Aeronautics by establishing a size (*"a dosage"*) by which the operational needs of the Land Forces were correlated with the air means; the *"establishment of aerial action areas"*, through which the action of aerial means was coordinated in time and space; the *"distribution of landing grounds and their equipment"*, without which the manoeuvre and concentration of the Aeronautics were not possible; ensuring communications (*"transmission links"*) (UNAp Library, 1938-1939, p. 36).

The defence against aircraft involved the use of both active and passive means, in the regulations of 1928 and 1938, its missions being established as the protection of the objectives of the amies or in the interior area, aerial surveillance and information about the danger of air attack and, in the situation in which there were not aerial targets, shooting observation balloons and tanks (Ib., p. 126). All that conceptual framework was the basis of education in aeronautical educational institutions, of training in the Romanian Air Force large units, units and subunits, of manoeuvres (applications) and military exercises, which also had an important role in the preparation of commands from all levels and, finally, contributed to the success of the air operations conducted by the Romanian Air Force in the Second World War. At the same time, the air doctrines favoured the construction and development of a national aeronautical industry which, in turn, ensured the physical support of education, training

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and the success of the operations conducted by the Romanian Air Force in the second world conflagration.

Colonel (AF) Alexandru Sahini, the Commander of the 1st Bomber Flotilla during the Second World War, believed that, upon **entering the war and throughout the Second World War**, Romania had cohesive ideas and doctrinal theses, which considered that the Aeronautics represented an important part of the nation's armed complex, the materialization of air power, with actions integrated into the general dynamics of the war, executing both strategic-level missions, such as the gain of air supremacy, as well as missions in the tactical field (Pentelescu, Nicoară, p. 40).

Starting in 1940, the German influence was felt in the concept of using the Romanian aviation in the war, this aspect becoming more pronounced after the arrival of the German Air Military Mission in our country and being accentuated during the war. The mentioned influence did not fundamentally change the concept of the use of the Romanian Aeronautics (the first being the cooperation with the land forces), because it was similar to the German one, with the difference that the latter was influenced to a much greater extent by the old Douhet doctrine, of aviation actions on the economic-industrial and political-administrative centres of the enemy, which aimed to paralyze the political-military and economic-administrative leadership, industrial activity and, above all, the morale of the population (Rus, Cioabă, pp. 80-81).

The changes that occurred as a result of the German influence referred more to the elements of execution, to tactical issues, such as the transition to the organization of the fighter squadron in three patrols of four planes, in which the smallest organic combat unit, the cell, composed of two fighter planes, was considered as an indivisible combat unit (in which the first plane, the head of the cell, executed the attack, and the second, the teammate, protected its rear) (Ib., p. 81).

The military campaign of 1941 brought changes to the doctrinal guidelines, the management of air operations being transferred from the level of the armies to the Great General Headquarters. Under those circumstances, through the creation of the Air Combat Group, the Aeronautics acquired an important strategic role, materialized through the remote reconnaissance in the depth of the enemy's disposition,

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the gain of air superiority, the destruction of the supply networks and the neutralization of its strategic reserves, especially through the aerial bombardment and the attack on ground.

The structural change in modern warfare **after the Second World War** was driven by three key events that occurred during this period: *"the discovery, refinement, and diversification of nuclear weapons and the accumulation of an absurdly large amount of nuclear warheads; the conquest of outer space and the improvement of aerospace means of transport (...); the achievements in the field of electronics, cybernetics and automation, information and computer technology"* (Ib., pp. 107-108), which allowed *"the synchronization of land or naval actions with aerial ones"*, the ground battle becoming air-ground, and the naval one – aero-naval.

In the first part of the '50s of the last century, by deploying aviation, anti-aircraft artillery and air ambush units, in accordance with Moscow's interests and the evolution of the political-military situation in the Balkans, it was created, in Romania, a defensive alignment made up of fighter regiments, medium- and small-calibre anti-aircraft artillery batteries and airspace monitoring posts, concentrated in the south of the country (Strâmbeanu et al., 2013, p. 282). Moreover, during that period, the flights of the Romanian reactive military aviation began to take place under radar control, including directing fighter planes to intercept aerial targets (Ib.).

The concept of the use of the Romanian Air Force acquired a strong Soviet imprint, the regulations of use at the tactical and operational level being influenced by the Soviet ones, especially after 14 May 1955, when, in the capital of Poland, Warsaw, the Treaty of Friendship, Cooperation and Mutual Assistance was signed, establishing a military organization of some communist countries, intended to oppose the North Atlantic Alliance, the military organization of the West. In the event of a war with it, Romania was assigned the mission of strengthening the southern (Balkan) front, coming to support Bulgaria (Ib., p. 285).

After the events in Czechoslovakia, in 1968, in Romania, it was adopted the *Military Doctrine of the War of the Entire People*, which accordingly influenced the military art in military aviation and anti-aircraft defence of the territory (armed forces services, which,

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together, through the size of the structures and their equipment, constituted an effective air power), as well as the revitalization and modernization of the national defence and aeronautical industry. Considering the conceptual framework of the national military doctrine, the regulations and conceptual approaches provided that the aviation had to actively participate in the actions conducted by the other forces of the national defence system, by executing the following general missions: *aerial reconnaissance* (its importance increasing with the increase in the mobility of the troops, in the firepower and in the destruction potential of various types of weapons, culminating in the emergence of weapons of mass destruction and high-precision search-and-strike means/systems) on the battlefield; *aviation support* of the land troops and other elements of the national defence system (by destroying or neutralizing land targets, in tactical or operational cooperation with the large units of the land and naval forces or those belonging to the other elements of the national defence system); *striking targets of operational or strategic importance* from the depth of the enemy disposition [in order to *"(...) achieve the general air supremacy or limited air supremacy in time and space, disorganize and neutralize the aggressor's ground troop command, transport and supply etc."* (Ib., p. 255)]; *aerial coverage* of troops and objectives on the territory, executed simultaneously with the fight for controlling the airspace; *air transport of troops*, combat equipment, various materials, food, ammunition etc. (Rus, Cioabă, pp. 246-247). The vast majority of those missions were executed for the benefit and according to the plan of the commands of the land troops, a small part for the benefit of the navy and the other elements of the national defence system, and the rest according to the plan of the Supreme National Command (Ib., p. 247).

PRINCIPLES OF THE USE OF THE ROMANIAN AERONAUTICS

The fundamental principles of war, with their specific aspects, were found both in the doctrinal conception of the Romanian Aeronautics and in military actions (air operations) even since the **First World War** (concentration of forces, freedom of action, air superiority, economy of forces and means, reserve creation, surprise etc.), continuing

with the **interwar and the Second World War** periods, and later with the **post-war** period. In this context, we mention the principles analysed by Colonel (AF) Alexandru Sahini as principles of military art:

- *the principle of morale;*
- *the principle of action;*
- *the principle of economy of forces;*
- *the principle of mass;*
- *the principle of conservation of forces;*
- *the principle of initiative;*
- *the principle of safety* (Pentelescu, Nicoară, 2011, p. 40; Sahini-1, p. 11).

The principle of morale highlighted the fact that at the base of any action was the moral force, which manifested itself in the form of will, commander Sahini appreciating that the armed struggle, at all times, was a confrontation of wills, respectively of moral forces, which tipped the balance where the potential (the amount of psychic, physical or material energy) was greater (Sahini-1, pp. 11-13). According to Sahini, in aviation, the morale factor had to reach the superlative, and the Aeronautics had to be, par excellence, the *"branch of morale"*, which could fulfil its objective of defeating/paralyzing the will of the adversary only through an obvious morale superiority, which could be reached by air education, air propaganda and confidence in the commanders (Ib., p. 15).

The principle of action was rooted in the morale factor, materializing the will, by putting the air force in motion following certain rules of success, generating advantages such as **time** (surprising the adversary by outpacing him in preparation, execution and speed of the action), **space** (following the *manoeuvre*, which allowed a very strong strike where it was needed), **quantity** (by achieving the *mass* of means of action grouped for decisive efforts, superior to the enemy) and **quality** (through *procedures, mechanisms and means of action* able to produce maximum effects) (Ib., pp. 16-20).

The principle of economy of forces required sizing/dosing of means of any kind, as well as their consumption, in order to be able to use them **when** needed, as **much** as needed, **where** needed and **how** needed. The principle discussed a problem with four variables (time, quantity, space, quality), imposing a perfect harmonization between the conception of solutions and the reality of the situation, by establishing

the *order of urgency and importance* and the *pharmaceutical sizing/ dosing* of the means, aiming to achieve the yield with minimum means for maximum effects. For the fighter aviation, the principle imposed the concept of *air superiority*, local and temporary, and for the bomber aviation, the establishment of the urgency order of the targets, the dosage of the means depending on the nature of the targets and the desired effect, the methods of preparation and execution of the mission etc., so as to produce maximum effects with minimum consumption of means and losses (Ib., pp. 20-24).

The principle of mass, closely related to that of economy of means, required tailoring the means of action to the situation, to ensure superiority over the enemy, in a certain place and at a certain moment, and to execute the decisive strike, by manoeuvring the forces and means. Since that principle could conflict with the principle of economy of means, a commander's art was necessary that allowed the manoeuvre to be conducted (essential elements being the time, place, quantity, pace or sequence in time and space, without neglecting possible diversions or secondary actions). Having an exclusive characteristic – mobility –, aviation, the most indicated tool for applying the principle of mass, has become one of the most powerful and mobile reserves of fire at the disposal of a commander from the strategic echelon. According to Sahini, the principle of mass should form the dominant spirit of air instruction and education, manoeuvre being the true passion of any commander in war and the essential part of an aviation commander (Ib., pp. 24-27).

The principle of conservation of forces recommended and required their continuous replenishment in order to maintain the morale and material combative force under the conditions of wear and tear caused by war actions. Complementing the principle of economy of means, that principle aimed at the organization, preparation and management of actions, as well as the establishment of structures able to ensure the supply, maintenance and service of combat forces, their morale, physical and material capacity (Ib., pp. 30-31).

The principle of initiative (also called the principle of surprise) emphasized an as dynamic as possible activity, in order to gain advantages against the enemy, requiring the preparation of possibilities to concentrate an effort in a certain space and time, anticipating and preventing any counter movement of the enemy, and act opportunely,

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there and when the opponent was not expecting it. The principle also imposed an obvious moral (through enthusiasm and courage), professional (through instruction, methods and procedures, quality) and technical (through weaponry and speed) superiority, aviation education, training and tactics having to impose the school of initiative on commanders (Ib., pp. 32-34).

The principle of safety required for the operation preparation and execution actions or measures to be unknown by the enemy so that they could not be prevented, thus ensuring the freedom of action. The application of that principle required the preservation of secrecy, the selection of personnel, the concealment and preservation of documents, the organization of the counterintelligence service, taking land, air and naval security measures to prevent the enemy from knowing and interrupting preparations and actions (Ib., pp. 34 -37).

Those principles represented, according to Sahini, the foundations of the military art of the Romanian Aeronautics, which, in essence, required it to have an enlivened military force (principle of morale), with a dynamic military attitude (the principle of action), with a judicious dosage of forces for different missions (principle of economy of forces), achieving a superiority of forces for the main purpose (principle of mass), with the possibility of preserving operational combat capacity (principle of conservation of forces), outpacing the enemy in action and achieving surprise (principle of initiative) and ensuring protection against the enemy in the preparation and execution of air operations (principle of safety).

In the post-war period, the principles analysed by Sahini retained their value, requirements and conditions, even if some under other names and with other interpretations. Moreover, they were supplemented with other principles, in accordance with the new conceptions and means of combat and with the refinements brought to the combat technique, as follows: centralized leadership and decentralized execution, unity of leadership, concentration of effort, surprising the enemy and avoiding the surprise of own forces, offensive nature of actions, multilateral and timely provision of forces, optimal distribution of forces on objectives/targets, cooperation, economy of forces and means, continuity of actions, flexibility of actions (Rus, Cioabă, pp. 140-155).

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LESSONS LEARNED FOLLOWING THE ROMANIAN AERONAUTICS PARTICIPATION IN THE WORLD CONFLAGRATIONS

Lessons learned from the Second Balkan War. The participation of the Romanian Air Force (Sections I and II aviation and the aerostation company) in that war was one of the first tests on the world level in which the aviation practically and convincingly demonstrated the usefulness of aeronautics in combat actions, by executing reconnaissance missions (including aerial photographs), as well as by disseminating propaganda materials addressed to the opposing civilian population (Nicoară, 2014).

The combat actions of the Romanian aviation were appreciated, considering both the novelty of the situation, the spectacularism of some actions, even the inherent incidents (Giurcă, 2014, p. 349), as well as the successes of the reconnaissance and observation missions that made the crossing of the Danube and the energetical march to Sofia a success. Thanks to the valuable information provided, doubled by aerial photos, which showed the tactical and operational reality of the Romanian-Bulgarian front, the Romanian armed forces quickly reached Sofia (Nicoară, Stan, 2010, pp. 44). Thus, the first representation of Romania's air power, as a product of the Aeronautics, had an important contribution in obtaining victory and ending the Second Balkan War, both of them being capitalized diplomatically, through the Bucharest Peace. After the first war experience, the land commands began to be convinced of the usefulness of aviation (SIA, M.C.G. collection, file 70, p. 100; Avram-2, 2014, p. 355), and some critical assessments of military aviation were followed by proposals aimed at: the organization, at peace, with complete equipment and troops, of a war squadron, with competitive aircraft in terms of distance, height and duration of flight and which would constitute a stock separate from that of training aircraft; the training of a corps of pilots of lower grades, the officers being trained more as instructors/teachers in the piloting school; the development of a body of intelligence officers and non-commissioned officers; the lower ranks in aeronautics to have a special treatment, ensured by law; the air squadron to be a strictly military organization, to be relied on in war, and the aviation formations originating from private initiatives to be able to cooperate only if need arose; providing

each balloon section with four officers, of whom the commander should be an active-duty officer *"who knows how to manoeuvre and orient the balloon"* (AMR, M.C.G. collection, file no. 69/1913, p. 104; SMFA, 2014, p 351; SIA, M.C.G. collection, file 70, p. 100).

Lessons learned from the First World War. The participation of the Romanian Aeronautics in the First World War highlighted the evolution of the Romanian aviation from an auxiliary artillery service, which provided information to the Land Forces and corrected the artillery fire, to an offensive one, which intervened directly in the battle with the bomber and fighter planes, being used independently or in cooperation with the other branches in the land battle (Rujinski, 1924, p. 30; Șelescu, 1935, p. 6).

The military campaign in 1916 was unfavourable to Romania, because of the poor preparation of the armed forces, the organizational mistakes and the inconsistency between the objectives at the strategic level and the military capabilities of the country, on the one hand, and the international context and the evolution of the war on the different fronts in Europe, on the other hand. As far as *aviation* is concerned, because of the lack of confidence of the leadership of the Romanian armed forces in the role it was going to play in the war, the technical equipment was inadequate (only 24 older and unarmed airplanes, compared to a requirement of at least 150 airplanes of various types, with navigation and armed equipment, and bomb launchers for bombers), which did not allow the execution of specific missions on a front of hundreds of kilometres, with divergent directions of action. Lacking an aeronautical industry, the aircraft fleet was completed (with 320 aircraft) over a very long period of time, ending in the spring of 1917, because of the length of the supply line and the need to repair some airplanes, damaged by transport conditions (Avram, Niculescu, 2015, pp. 40-41). Moreover, in the first month of the war, because of an organizational error, the pilots had to carry out, alone on board, the missions of reconnaissance and correction of the artillery fire, which required the presence on board of the general staff air observers and of artillery (Ib.).

In the 1916 campaign, the Romanian Aeronautics executed a wide range of missions, mainly reconnaissance and artillery missions, and secondly bombing missions against terrestrial targets (initially,

with artillery or mortar bombs, later adapted with aviation bombs), for the protection of reconnaissance and bombing aviation and for the destruction of enemy aircraft, after the equipment with armed Nieuport 11 aircraft (Ib., p. 41).

The actions of the *anti-aircraft artillery* were mostly tactical, isolated and independent, adopting the principle of circular defence, which required the placement of anti-aircraft artillery near the objectives, in a circle, to defend them against attacks from all directions (Bărboi et al., 1996, pp. 84-85).

The participation of the Romanian Air Force in the ***Campaign of 1917*** was particularly consistent, with increased intensity during the battles of Mărăști, Mărășești and Oituz, a fact that gave a modern character to the battles fought by the Romanian armed forces to achieve the success of the battles. Given that the combat actions in the campaign were mainly specific to the war of position, most of the missions executed by the Romanian aviation were aerial reconnaissance (through visual observation and photography), covering all moments of the battles from 1917 (Avram-2, pp. 284, 289, 301-304). In order to verify the masking, the positions of the own forces were also photographed for the first time (Ib.).

In addition to aerial reconnaissance, frontline *aerial surveillance* missions were conducted (each Farman squadron was assigned a surveillance sector, in which at least one aircraft was permanently operating), *battlefield observation* missions (the five aerostation companies being used on the main defensive and offensive directions of the Romanian 1st Army, more often than not at the disposal of the heavy/destruction artillery group), to *correct the fire/"strike adjustment"* of own artillery to ensure the accuracy of the artillery strikes (a constant of the actions of the Romanian aviation and aerostation) (Ib., p. 257). At the same time, during the offensive actions of the Romanian 1st and 2nd Armies, the aviation carried out *infantry missions* and *secret missions* in support of the intelligence services (Ib., p. 227).

The *bombing missions* aimed at targets both in the front area (Bărboi et al., p. 155) and, especially, behind it, deep in the territory occupied by the enemy (Ib., pp. 141-151), being executed despite the reaction of the German and Austro-Hungarian anti-aircraft artillery and fighter aircraft (Ib.).

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Starting in August, Breguet heavy bombers, taking off in the light of searchlights (Avram-2, p. 201), conducted, until the conclusion of the armistice, night bombings with Michelin bombs on several important targets (the main target being the city of Focșani) (Ib., pp. 304-305). During them, it was used for the first time on the Romanian front a new tactic – *"pendulum bombardment"* (Ib., pp. 317-318).

At the same time, the Farman aircraft attacked the targets discovered during the execution of the reconnaissance missions (a method known as target hunting) (Bărboi et al., pp. 269-270) and executed ground attack missions with the on-board machine guns on the positions of the enemy troops from the contact line.

During the entire campaign, the fighter aviation performed a varied range of specific missions, namely the *protection of its own reconnaissance and bombing aircraft* (by *en route* escort and patrolling in the area of action), the *protection of friendly balloons* in the ascent zone, as well as the *search and destruction of enemy aircraft/balloons* (by patrolling above the front and engaging in air battles with them, using fire from onboard machine guns, from horizontal flight or from dives) (Avram-2, p. 151). In some situations, fighter aircraft also carried out *ground attack* missions on enemy troops and targets (using airborne machine gun fire and Le Prieur rockets) and *aerial reconnaissance*.

The *combat use of anti-aircraft artillery* retained the characteristics of the 1916 campaign. In addition, the experience of the war also validated some rules, such as the preparation of anti-aircraft defence forces and means to be ready for combat at any time, maintaining a high degree of their effectiveness and a permanent state of vigilance (Bărboi et al., pp. 84-85).

During the participation in the First World War, the Romanian Air Force applied the principles of war to the specifics of the new environment for the exercise of military power – airspace. We mention here the *principle of the concentration of air assets*, a principle first stated in 1916, during the Battle of Flămânda [when a concentration of Romanian and Russian airplanes was achieved on the Mihai Bravu airfield, from which they carried out reconnaissance and bombing missions in support of the land forces (Ib., p. 69)] and, then, in the summer of 1917 [when the Romanian 1st Army, located in the main direction of action, received under its command 6 aviation squadrons

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and 5 aerostation companies, compared to the 2nd Romanian and 6th Russian armies, which received only 3 aviation squadrons each (Rus, Cioabă, p. 61)]. Moreover, the principle was applied by the anti-aircraft artillery both to the fixed objectives and to the groups of forces that required defence against the corresponding aircraft. Another principle applied by the Romanian aviation, which is worth noting, was that of *freedom of action (air superiority).* For example, when the Romanian troops attacked the enemy positions, on 11 July, in the Battle of Mărăști, the crews of the 1st Aeronautical Group executed dozens of intelligence, bombing, hunting and liaison missions, meeting, for the first time, an essential requirement for any offensive start – air superiority, which was maintained in the following days as well (Strâmbeanu et al., p. 100). Other principles that were also applied by the Romanian aviation during the campaign were the economy of forces, the creation of reserves, the achievement of surprise and cooperation (Rus, Cioabă, ib.).

Lessons learned from the Second World War. *In the 1941 campaign*, the Romanian Air Force proved to be a viable functional structure, materializing the concept of air power, capable of solving the most difficult combat situations, at a strategic, operational and tactical level, the major effort being made by the *Air Combat Group* (ACG), without underestimating the actions of the observation aviation at the disposal of the Romanian 3rd and 4th Armies, which totalled 1/4 of the total aircraft sorties and 1/3 of the total flight hours (Pentelescu, Nicoară, pp. 78-79; A.M.Ap.N., collection 1376, file 2, p. 56). The organization of the main combat aviation forces in a large operational-strategic unit, under the name of the Air Combat Group, proved viable and effective (Ib.), the group being used in the 1941 campaign for both strategic and tactical purposes, ultimately contributing to the liberation of Bessarabia and Northern Bucovina and the conquest of Odessa.

From a *strategic point of view*, it was firstly pursued and achieved the air supremacy, through massed and repeated airstrikes on the airfields of the enemy's aviation and through air battles with its aviation, a fact that allowed the execution of the reconnaissance and bombing missions and ground attack by own aviation and the reduction of the reaction of enemy fighter aircraft. Secondly, the actions of the ACG

allowed for the decrease in the enemy fighting capacity, through the material losses produced behind the front and the disorganization of transports, following airstrikes on communication nodes, works of art, warehouses of war materials and ammunition etc. (Ib., p. 81).

In the tactical field, the ACG supported the land forces operations, acting on troop agglomerations, especially those motorized and mechanized, troop columns and moving equipment, artillery firing positions etc.; without air support, the ground offensive could not have had the expected results (Pentelescu, Nicoară, p. 81; A.M.Ap.N., collection 365, file 1144, p. 26).

In the preparation and execution of the missions, the commands of the large units and units within the Aeronautics pursued the application of the fundamental principles of the use of air force (choosing the objectives, achieving the mass of aircraft, achieving surprise etc.). Since combat aviation could not be everywhere, it was not subordinated to the armies (although, in the interwar regulations, this possibility was stipulated), the management of combat aviation in operations being the attribute of the higher war management structures and the Aeronautics, which established the objectives of the combat aviation units, as a rule, in the depth of the enemy's operational disposition, without neglecting the execution of the air support of the land forces in crisis situations on the front in both Bessarabia and Odessa (Pentelescu, Nicoară, p. 82).

Once the objectives of the aviation large units and units and the targets to hit ranked according to importance and opportunity (airfields, communication hubs, warehouses etc.) were established, in accordance with the principle of the right choice of objectives, action was taken applying both the principle of mass (by the number of aircraft and by the tonnage of ammunition consumed), as well as the principle of surprise, which targeted, to the same extent, the strategic and tactical fields, resulting in the large number of enemy aircraft destroyed, especially in the first part of the campaign (Ib.) .

Bomber aviation adopted, depending on the situation, both a general strategic conduct by which it aimed to execute combat actions in the general interest of the country and the war [especially at the beginning of hostilities, executing strikes on potential enemy war factors and air bases, the characteristics of the phase being surprise

In the 1941 campaign, the Romanian Air Force proved to be a viable functional structure, materializing the concept of air power, capable of solving the most difficult combat situations, at a strategic, operational and tactical level, the major effort being made by the Air Combat Group (ACG), without underestimating the actions of the observation aviation at the disposal of the Romanian 3rd and 4th Armies, which totalled 1/4 of the total aircraft sorties and 1/3 of the total flight hours.

Bomber aviation adopted, depending on the situation, both a general strategic conduct by which it aimed to execute combat actions in the general interest of the country and the war especially at the beginning of hostilities, executing strikes on potential enemy war factors and air bases, the characteristics of the phase being surprise and mass, as well as a general tactical conduct, in the immediate interest of land or naval operations.

and mass (Sahini-2, 1941, p. 1836)], as well as a general tactical conduct, in the immediate interest of land or naval operations [when they gained consistency, acting especially on communications and reserves – what today is called *"air denial"*, the characteristic of this phase being continuity (Ib.)]. When the land operations became acute, i.e. in the middle of major fights and battles, bomber aviation directly supported ground operations (performing what today is called *"close air support"*), acting on mobile targets of small size and consistency, the characteristics of this phase being the opportunity and the mass (Ib.).

Fighter aviation made an extraordinary effort in the campaign of 1941, performing missions to protect the bomber aviation, to gain air superiority, to cover the disposition of own land troops and reconnaissance troops, including for the purpose of air support of the land forces under different weather conditions (Pentelescu, Nicoara, p. 83). Bomber aviation protection (by escorting along the entire flight path or by covering in the area of operations) was the basic mission of fighter aviation in that campaign (Ib., pp. 83-84).

From the actions of the 1st Fighter Flotilla, a first lesson learned concerned the *centralized command in the air* of some fighter aviation group level forces. It referred to the fact that, by not acting *en masse* in an area or space, including due to the need of economy of forces (Ib., p. 84), the practice of leaving the squadron commanders the opportunity to make decisions was favoured, considering that the squadron was the combat unit where the commander could exercise his prerogatives of command in the air in good conditions (Turturică, 2012, pp. 196 -197).

The second lesson learned took into consideration the *role and mode of action of the patrol and the cell.* After crossing the Dniester, the importance of the patrol increased, due to not only the reduction of the area of action that corresponded to the fortified city of Odessa and the surrounding area, but also to the fact that more and more fighter planes were becoming unavailable and the possibilities of replacement were very small (Ib.).

The third lesson learned was related to the *procedures for employing air combat in various missions*, their successful application depending on a perfect knowledge of the characteristics of air targets

The second lesson learned took into consideration the role and mode of action of the patrol and the cell. After crossing the Dniester, the importance of the patrol increased, due to not only the reduction of the area of action that corresponded to the fortified city of Odessa and the surrounding area, but also to the fact that more and more fighter planes were becoming unavailable and the possibilities of replacement were very small.

(enemy bombers) and their modes of action in order to identify their well-defended areas, as well as the vulnerable ones. As bomber formations were more difficult to attack if they maintained a close formation, it was necessary to wait for the moment when the turning, the fire of own (friendly) anti-aircraft artillery or a weakness within the formation caused it to disperse, becoming a good target for attack (Ib., pp. 198-200; A.M.R., *Flotila 1 Vânătoare* collection, file 50, pp. 354-356).

The fourth lesson learned was related to *air combat with Soviet fighter planes*, namely with the I-16 *Rata* planes, which, due to their technical characteristics, could use the density of the air to their own advantage, in the sense that, being slower, they were also much more manoeuvrable, creating problems for the Romanian fighter planes, designed to fight at high altitudes and at high speeds. The best firing position was when the Soviet fighter plane, following frequent manoeuvres, exposed its belly to the attack of a fighter plane, which, through a well-placed volley, shot it down (Ib., pp. 200-202, p. 358).

The fifth lesson learned concerned the *strengths and weaknesses of the fighter planes in the flotilla's equipment*, which had to be taken into account in the following campaigns. The IAR-80 fighter plane demonstrated competence in 90% of the entrusted missions, having, at that time, manoeuvrability superior even to German planes, a good climbing speed and a relatively sufficient firepower (Ib.). The He-112 planes, used, as a rule, to accompany the bombing formations in the depth of the enemy's disposition, were *"heavier"*, *"lacking manoeuvrability and climbing power"*. But, thanks to the on-board armament and the attached loads, those planes were successfully used in ground attack missions (Ib.; Pentelescu, Nicoară, p. 85). The Hurricane plane responded *"honourably"*, being appreciated for its speed, manoeuvrability and firepower. The Me-109 E plane, having a high speed, both in horizontal and ascending flight, and a high firepower, met in a proportion of 90% the requirements of air battles, but it had no armour like the other fighter planes in the inventory (Turturică, p. 202; p. 359).

The sixth lesson learned was aimed at *ensuring the necessary conditions for conducting combat actions*. As the demands of the front exceeded the technical capabilities of the fighter groups, greater

The fifth lesson learned concerned the strengths and weaknesses of the fighter planes in the flotilla's equipment, which had to be taken into account in the following campaigns. The IAR-80 fighter plane demonstrated competence in 90% of the entrusted missions, having, at that time, manoeuvrability superior even to German planes, a good climbing speed and a relatively sufficient firepower.

attention had to be paid to the capacity and pace of repairing damaged aircraft and replacing those lost with new aircraft.

Other lessons learned highlighted a series of problems regarding both the fighter planes in the inventory (defects in various components, old ammunition or reduced autonomy) and the quality of modernizations and repairs performed by the I.A.R. Braşov. For the Me-109 aircraft, it was proposed to study the possibilities of arranging an additional tank, changing the cabin to improve visibility, providing spare parts in a larger quantity, improving the firing system, providing ammunition for the on-board cannon and supplying ammunition of mine type, improving parachutes and radio headsets etc. (Ib., pp. 203-208).

A major conclusion resulting from the experience of the four months of war was that, in order to carry out their missions, the large units and operational units of the Aeronautics had to have, among other things, modern aircraft in which the aircrews could trust, a better cooperation between different categories of aviation (joint training, including the preparation of missions) and permanent links with the land large units with which they cooperated, in a position to ensure mutual trust and an efficiently profitable spirit (Pentelescu, Nicoară, p. 85).

In the 1941 campaign, the anti-aircraft artillery, subordinated to the Air Defence Command and available to the army corps, at airfields and other sensitive territorial objectives, despite the numerical insufficiency of the armament at its disposal, contributed to the entire operational effort of the Aeronautics (Ib.). The reinforcement of the land large units with anti-aircraft artillery subunits (including mobile groups) took into account the need for their direct defence against air attacks, when starting the offensive, when forcing the Prut and during the offensives for the liberation of Bessarabia and Northern Bucovina. The combat disposition of the anti-aircraft artillery subunits was closely related to the elements of the combat and march disposition of the troops defended against aircraft, the successful completion of the missions depending on a good cooperation with the land forces (Bărboi et al., p. 181).

It is worth noting the creative adaptation of the anti-aircraft artillery disposition to that of the land forces in order to be able to achieve a system that generated a continuous zone of fire, through

the arrangement of the batteries of anti-aircraft machine guns, of small-calibre automatic anti-aircraft guns and of medium-calibre anti-aircraft guns for combating enemy aircraft at all probable attack heights (Ib., pp. 200-201).

The basis of airspace surveillance, information and warning was the system of aerial observation posts staffed with scouts-observers (*"aerial scouts"*) and arranged on the territory of the country so that the entire airspace could be observed. Anti-aircraft artillery groups were linked by wire to information centres, and divisions and batteries could also be linked by wire (there was no centralized radio network yet) to some information sub-centres (Ib., pp. 186-187; Iordache et al., pp. 38-39).

In the 1942 campaign, the Air Combat Group was established again, but it no longer had a strategic role, as in the previous year's campaign. The ACG acted under the command of the German 8th Air Corps, later of the German 4th Air Fleet, supporting the operations of the Romanian 3rd and 4th Armies, as well as the German 6th Army, during the operations in the Stalingrad and in the Don Bend areas, with results appreciated by both Romanian and German commands (Pentelescu, Nicoară, p. 108). Moreover, to support the actions of the Aeronautics on the Eastern Front, the *Forward Air Region* was established, following the German model, a large aeronautical unit with specific logistics, having as main missions: receiving aviation units in the Stalino area; extending transport from this area to the East; organizing the temporary stationing of aviation units in the Stalino area, then in the operations area; recognizing and preparing landing grounds; organizing communications; organizing air navigation protection and meteorological insurance; organizing land and warehouse security; managing transport and air connections; organizing technical assistance and repairs (Ib., pp. 91-92; A. M.Ap.N., collection 1377, file 132, p. 57A, 70, collection 803, file 3, p. 319).

The *reconnaissance aviation* had a particularly intense and efficient aerial activity, doubling the number of daily reconnaissance missions between 27 October and 19 November 1942, a fact that allowed for precise conclusions to be drawn on the concentration of enemy forces in front of the Romanian 3rd Army, even estimating the date of the launch of the Soviet forces' counteroffensive (Ib., p. 109; A.M.Ap.N.,

collection 803, file 3, p. 201). For the success of the reconnaissance missions on the Stalingrad front, the measure of filling the positions in the reconnaissance (intelligence) offices with staff officers capable of thoroughly preparing the missions and correctly interpreting aerial photographs proved extremely beneficial (Ib.; p. 202).

With regard to *bomber aviation*, it was found, as in the case of the 1941 campaign, that only low-altitude and surprise bombing of targets such as moving columns gave maximum results, high-altitude bombing being relatively effective only for fixed and moving targets in large areas (Ib.). The bombers of the Air Combat Group contributed to paralyzing the industrial activities and disorganizing the transport in the Stalingrad area (SM-79), to neutralizing enemy defences (He-111 and IAR-81), practically replacing ground artillery, as well as to neutralizing the railway transport (Potez 63), successfully bombing the moving trains (a fact that proved more effective than the destruction of the railways which were rebuilt in a short time by the Soviets) (Ib., pp. 109-110; p. 203). Moreover, in order to have greater freedom of manoeuvre at the target, under the conditions of unfavourable weather, after 25 November 1942, the bomber aviation also acted with isolated aircraft, often by the *"free hunting"* procedure, for the search, discovery and attack of enemy troop columns. Although very appropriate in difficult weather conditions, those isolated missions tired the crews a lot, because of the mental strain (Bucurescu, Sandachi, pp. 161, 174-176).

In some situations, formations of SM-79 bombers were accompanied by formations of IAR-81 fighter/dive-bomber/assault aircraft, two patrols on the right and left, in excess of the escort aircraft requirement, but the IAR-81 pilots also had to perform their specific dive-bombing missions (Marandiuc-1, 2000, p. 27).

The *dive attack/bomber aviation* (8th Fighter Group), equipped with IAR-81 aircraft, had spectacular results, favoured by the increased precision of the dive attack executed at low altitudes. Those attacks also killed pilots, because of the specifics of flight at low and very low altitudes and the permanence of the action (Ib., p. 35).

The *fighter aviation* proved its usefulness and special efficiency in the Stalingrad Operation, more than the other categories of aviation, both through ground attacks and air combat. Free hunting was the best

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tactical method of using fighter aviation (Pentelescu, Nicoară, p. 110; A.M.Ap.N., collection 803, file 3, pp. 172-201; 203), although that procedure could only be used on a narrow front. When acting on a wider front, for the protection of the bomber aviation, requested to intervene in various sectors of the front during the Soviet counter-offensive, the fighter aviation was limited to that mission (Ib.).

As far as the *on-board armament* is concerned, the military actions in the Stalingrad and the Don Bend areas highlighted the need for a more powerful armament (large calibre) and with increased precision (by installing it as close as possible to the longitudinal axis of the plane), solutions adopted on the aircraft Me 109 G (Ib.).

The *Romanian anti-aircraft artillery* participated, during the campaign conducted by the Romanian 3rd and 4th Armies in the Don Bend and in the Calmuca Steppe areas (August-December 1942), with a considerable number of units and sub-units for the defence against airstrikes of land large units and units, of aviation grounds of Romanian and German units, mandatory crossing points, ammunition depots, service formations and other sensitive points (Bărboi et al., p. 227).

In addition to the fight with the enemy's aviation, the Romanian anti-aircraft artillery subunits, deployed in the action areas of the land large units, also conducted combat actions against tanks, armoured vehicles and even the enemy's infantry penetrated into the area of the firing positions (Ib., p. 228), situations in which those subunits registered the most losses in guns (Ib., pp. 259-260). At the same time, the anti-aircraft artillery subunits encountered great difficulties because of the special weather conditions (Ib., p. 228) and the terrain (Ib.). From the point of view of the anti-aircraft gunners, the big problem was the communications (lack of paved roads, poor condition of the roads and bridges), which permanently made it difficult to move, often impossible in the case of the frequent manoeuvres required by the ground actions (Ib.).

In the period January 1943 – July 1944, the conditions in which the actions of the 1st Romanian Air Corps (with reorganized and equipped units, mainly with German equipment) were conducted to support the defence operations on successive alignments carried out by the German and Romanian troops between the Don and the Dniester/ the Prut and the withdrawal from the Taman Peninsula and Crimea

The Romanian anti-aircraft artillery participated, during the campaign conducted by the Romanian 3rd and 4th Armies in the Don Bend and in the Kalmuck Steppe areas (August-December 1942), with a considerable number of units and sub-units for the defence against airstrikes of land large units and units, of aviation grounds of Romanian and German units, mandatory crossing points, ammunition depots, service formations and other sensitive points.

were characterized by: the insufficiency of air assets in relation to the length and needs of the front (Pentelescu, Nicoară, pp. 121-122; A.I.C., collection P.C.M.C.M., file 5/1944, p. 155); the numerical and sometimes technical superiority of the air enemy (due to its possibility to replace the losses), supplemented by a very strong reaction of its anti-aircraft artillery; the rapid movement to the West of land operations [imposed frequent and rapid changes of aviation grounds, especially of working ones, with various difficulties in ensuring transport and with great technical unavailability (Pentelescu, Nicoară, p. 122; A.I.C., collection P.C.M.C.M., file 5/1944, p. 157)]; particularly severe weather conditions in winter (Avram-2, p. 428).

During the period between 4 April and 20 August 1944, the Anglo-American bombing actions on important military, economic and administrative objectives on the territory of Romania, the largest ever carried out on Romanian soil, considering "the proposed goals, the extent of the strikes, as well as the effects they produced, (...) constituted true strategic air operations", as part of the allied air offensive in Europe, launched in 1943.

In this context, from the point of view of the aviation assets, *"the combat force of the 1st Romanian Air Corps (...) was reduced to the number of planes available for flight from the units, the availability being variable from unit to unit, depending on the degree of fragility of the assets and the number of missions that were executed daily, as well as on the difficulties encountered in the execution of the missions"* (Pentelescu, Nicoară, p. 127). Since *"the value of aviation personnel and equipment was of particular importance in combat actions, in front of an inferior enemy from those points of view, although it was highly superior numerically (...), it is explained why the Russian aviation, much numerically superior, could be relatively controlled by the German and Romanian aviation, although, after 19 November 1942, (...) the Soviet aviation had the air initiative"* (Ib.).

The personnel losses of the assault aviation and the fighter aviation were explained by the difficulty of executing the ordered missions (the assault aviation acting at low altitude above the enemy's land disposition, under the fire of anti-aircraft and infantry weapons, and the fighter aviation having to fight against a numerically superior aerial enemy). The losses recorded in the bomber (Ju 88) and dive bomber (Ju-87) aviation were the consequence of the *"incomplete instruction relative to flying in formation, with which it was entered into the war"* (A.I.C., collection P.C.M.C.M., file 5/1944, p. 164; 154).

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the extent of the strikes, as well as the effects they produced, (...) constituted true strategic air operations" (Bărboi, 1994, p. 2), as part of the allied air offensive in Europe, launched in 1943. Those large-scale air operations were characterized by: the *massiveness of the air assets used*, of which more than half were bombers, the *large number of raids* and air attacks in those raids, their *long duration in time* and the monthly pace of the operations, the *bombing methods used* (in *"carpet bombs"*, from high altitude, under the protection of radar jamming, accompanying fighter aircraft *"to the objective"* and *"from the objective"*), the destructive effects etc. (Ib., p. 165).

In response, *"(...) the air defence system of the territory was organized according to modern principles, still in force today: at the objective with anti-aircraft artillery and, on the remote access routes, with fighter aircraft; at all heights (low, medium, high), on all possible directions of attack; permanently, day and night; using all the means provided (cannon, machine guns, balloons, artificial fog, fake a.a. devices etc.); ambush and alarm system, modest in terms of technical equipment, but with a high degree of operability etc."* (A.M.Ap.N., collection 948, file 175, p. 47).

If, at the beginning, they acted with fighter formations of the squadron level and less often of the group level, later, they acted with the forces of several fighter groups, based on the information provided by the German aerial surveillance system (Marandiuc-2, 1985, p. 147; Armă, 2019, p. 40).

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The tactic used by our fighters was aimed at hitting the head of the bomber formation and dispersing it, acting, as a rule, on the planes arranged towards the outside of the combat disposition or on the isolated bombers, looking for their blind spots. However, the large quadrotors had defensive armament arranged according to a *"special"* protractor, on which it was impossible to find *"dead angles"*, and the attack on a bomber formation was particularly difficult, because of the mutual fire support between the bombers (Marandiuc -2, p. 52).

In the situations in which our fighter aviation engaged the battle with formations of American fighter planes, its attacks were executed from the front hemisphere, initially on patrols and even on squadrons. The following attacks were carried out with isolated planes, because the regrouping of the IAR-80 and 81 planes, which had a low

horizontal/climbing speed and manoeuvrability at heights above 5,000 m, was difficult (Armă, Turturică, 2021, p. 197).

From the analysis of combat actions for the defence of Romania's airspace, an obvious superiority of the American fighter planes resulted. The power of their engines ensured a very high climbing speed, which, together with the very good manoeuvrability, allowed the American planes to be placed easily behind our planes (Marandiuc-2, p. 180).

The armament of the American fighter planes was more effective, having a higher flow rate (in the case of the P-51 Mustang plane, equipped with four heavy machine guns) and being very powerful (Armă, Turturică, ib.), able to penetrate the armour of the IAR-80 planes (Ib., p. 199). Moreover, the American planes had a lot of ammunition on board, unlike our planes, the pilots using up the ammunition before they ran out of gas, no participant in the battle returning to the airfield with ammunition on board (Ib., p. 189).

During the period between September and October 1944, as a result of the actions of the German and Hungarian combat aviation on the Romanian and Soviet land forces that flowed towards Transylvania and then carried out the offensive operations to liberate the northern part of the national territory, broken by the Vienna Award, the Romanian aviation, simultaneously with the execution of the manoeuvre of forces and means on the new airfields in the first part of the period, struck the enemy in the air and on the airfields, the targets located throughout the depth of its defence, the vehicles on the communication routes, as well as the railroad nodes. The collection of data about the enemy with the help of aviation was done as far as Budapest and Belgrade to meet the information support needs of the 1st and 4th Romanian Armies.

The air missions executed for the liberation of the north-western part of the national territory can be grouped into four categories, as follows: air missions against the enemy's aerial potential; air missions for close air support; aerial information, reconnaissance and observation missions; liaison missions and air transport.

Offensive air missions against the enemy's air potential were directed against the air capacity of the German and Hungarian enemy, aiming at the destruction (neutralization) of aircraft, anti-aircraft artillery batteries, installations and equipment that supported the air power of the Germans and Hungarians. Those missions were executed

by heavy bombers and dive aviation, accompanied by fighter aviation (Pentelescu, Nicoară, p. 331).

Air support missions were executed by assault, fighter and bomber planes, mainly against targets located in the immediate vicinity of their own troops, requiring a perfect coordination of fire and movement with them. The execution of those missions was closely related to the success of air actions against the enemy's air assets and was also often problematic because of the distribution of targets, the limitations determined by the fire coordination of land troops in continuous movement and the reaction of the enemy anti-aircraft artillery and fighter aircraft (Ib., p. 333).

The *aerial reconnaissance and observation missions* were executed on the main lines of action of own troops, both by visual observation and by photography, especially to clarify the various situations, two observation squadrons executing tactical reconnaissance missions in the sector of the Romanian 1st Army, and an observation squadron in the sector of the Romanian 4th Army (Ib., p. 334).

The *liaison and air transport missions* were performed relatively independent, the degree of independence getting manifest more at the beginning of the air actions during the deployment in Transylvania. The correspondence of the Romanian armed forces in Transylvania was ensured, for efficiency, by the planes of the 1st Romanian Air Corps (AMR, collection 359, file 18/1944, p. 61).

During the period between November 1944 and February 1945, most of the air missions carried out by the Romanian Air Force in Hungary (in support of the Soviet 27th and 40th Armies and sometimes only in support of the Romanian 4th Army, which acted for the liberation of this country) had a tactical character, being air support, reconnaissance and aerial observation missions. The operational and strategic missions aimed at the objectives located, as a rule, in the depth of the enemy's disposition, such as: the reserves of the large units, the military columns moving on the roads and on the railways or the troops in the concentration areas, bridges over important watercourses, tunnels, airfields etc. The importance of the cooperation between the fighter aviation and the assault/dive aviation must be emphasized as, without them, the efficiency of the assault/dive aviation would have been less than 50% (Marandiuc-2, p. 332).

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In the first part of the operations on the territory of Hungary, the aerial actions of the Corps were carried out from the airfields in the country, equipping the lands of Turkeve and Miskolc (from the territory of Hungary) being performed with difficulty (because of the length of the communication routes for supply, non-arrival of workshop trains at airfields). Flying technical teams were set up at the Kun Madaras airfield, but they had a low yield, lacking the means to repair or recover forced-landed planes at long distances of 100-250 km, spare parts and specialized personnel. That situation decreased the combative strength of the units, for which an increased number of sorties were executed, which led to the physical exhaustion of the flight personnel.

The 1st Romanian Air Corps had to support the offensive operations, taking into account the rapid pace of the advance of the ground forces, under the conditions of the occupation of some airfields in the area abandoned by the enemy, which meant destroyed runways and communications, arranged in areas flooded by rains, the meteorological conditions being characterized, in the Tisza area, by frequent and persistent rains, often thick fog and haze, reduced visibility, changeable weather at small time intervals and sky covered with clouds at several ceilings. Weather conditions were also unfavourable in other areas. For example, in the area of Miskolc and on the southern slopes of the Matra Mountains, the rains were reduced, the sky, in general, slightly overcast, but there was mist and fog in the valleys, and the temperature was low (AMR, collection 1377, file 854, p. 324).

The air operations in Hungary were firstly affected by the unfavourable weather conditions (rain, fog, low ceiling, persistent fog) and, secondly, by the extremely small number of airfields, some of them being unavailable because of the rainy season, and the best ones being occupied by the Soviets. That is why the Romanian aviation remained for a long time at the Turkeve airfield, using, upon the insistence of the Soviet 5th Air Force, the unsuitable runway at Kun Madaras, at the cost of the immobilization of a large number of planes and materials (Pentelescu, Nicoară, p. 379).

The mix of those vicissitudes led to the execution of missions exclusively at low altitudes, putting at risk the lives of valuable Romanian pilots, who voluntarily executed combat tasks, most of the missions being sacrificial (Răpan, 2001, p. 83).

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The main characteristic of the aerial actions carried out in Czechoslovakia, **between February and April 1945**, by the Romanian 1st Air Corps was their close connection with the ground operations of the Soviet and Romanian troops, the aviation's involvement being total every day, in every offensive and attack, at every objective, area and even locality.

In order for the Soviet 40th Army and the Romanian 4th Army to capture various ground alignments, the aviation performed on sight and photo reconnaissance along the communication lines to determine if the enemy was bringing in new forces, withdrawing, or organizing. Based on this information, the 1st Romanian Air Corps carried out attacks with the 1st Heavy Bomber Group on communications, with the aim of paralyzing them, and with the 8th Assault/Dive and 2nd Fighter Groups (IAR-81) on the enemy's troops (especially armoured vehicles from the concentration areas, on the move or combat equipment), to destroy and demoralize them, under the protection of the 9th Fighter Group (Me-109G), which also covered the regrouping areas.

The quantity of the Romanian-Soviet air forces and assets proved to be decisive in the fight with the quality of the German aviation, which also had jet planes, but kept on the ground because of the lack of fuel. The firepower and mobility of the planes piloted by the Romanians had an immediate, direct and decisive contribution on the battlefield, helping the ground forces to fulfil their specific missions. In the offensive carried out during the battles in Czechoslovakia, the air support was an effective means of compensating the fire of the ground weapons, and, not infrequently, the tactical effects of the air support were enhanced by the actions of the Romanian and Soviet ground forces, at the operational level.

In Czechoslovakia, thanks to the war experience, the actions of enemy planes, isolated or in massive formations, with or without fighter aviation protection, were prevented. The anti-aircraft defence of the city of Miskolc was performed with the Soviet anti-aircraft artillery in the region of the factories and with the Romanian anti-aircraft artillery at the airfield, in cooperation with the Romanian fighter aviation, equipped with Me-109 G planes, during the day. For their perfect coordination, each ally acted in its area of responsibility, and the fighter aircraft, outside the area of action of the anti-aircraft

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artillery, on enemy planes or formations arriving or departing from the objective. The atmospheric conditions specific to the winter season and the Tatra Mountains constituted a heavy servitude for the aviation, especially since there were not enough radio stations to transmit weather reports from the front area, which led to the permanent use of weather reconnaissance performed by fighter aviation.

CONCLUSIONS

Modern warfare, regardless of its scale, cannot be conceived without the contribution of air power to the achievement of its overall purpose. In the third wave wars (Toffler, 1995, p. 81), aviation played an important, even primary role, due to its ability to adapt to often changing situations (manoeuvrability, reaction speed, projection of force at considerable speeds and distances, surgical precision of the weaponry used etc.), which proved to be defining in the current wars.

The vastness of the airspace and the lack of mandatory crossing points allow the attack from any position. As a rule, ground armies move along well-defined routes. Interception is the key element in an air attack: certainly, radar, surface-to-air missiles and own aviation can act as deterrents. However, terrain camouflage, careful path planning, electronic measures and, more recently, *"stealth"* technology make the anticipation of an air attack extremely difficult. In the airspace there are no fronts and flanks, so the one defending against air attack has very little chance of anticipating enemy flight paths and cannot build fortifications in the air. It is almost impossible to stop an airstrike; even in the event of heavy losses, some of the attack planes can still hit their target.

We can conclude that, during the battles of the First World War, the Aeronautics had the following missions: *aerial reconnaissance* (distant and of a sector), *battlefield surveillance*, *artillery fire adjustment*, *infantry information*. The importance of each mission depended on the phase of the operation and its characteristics.

In the Second World War, some changes occurred, as a result of the German influence, but they referred to the elements of execution, to tactical issues, such as the transition to the organization of the fighter squadron on three patrols of four planes, in which the smallest organic combat unit, the cell composed of two fighter planes, was considered as an indivisible combat unit.

During the battles of the First World War, the Aeronautics had the following missions: aerial reconnaissance (distant and of a sector), battlefield surveillance, artillery fire adjustment, infantry information. The importance of each mission depended on the phase of the operation and its characteristics.

Therefore, the Romanian military aviation fully benefitted from the advantages of using the aircraft on the battlefield in the two world conflagrations, permanently adapting its doctrine of using airplanes in a military campaign. There were also some well-defined principles (the principle of morale, the principle of action, the principle of economy of forces, the principle of mass, the principle of initiative, the principle of conservation of forces, the principle of safety). Moreover, the lessons learned were employed in adapting the tactics and strategy so as to maximize combat gain with minimal effort.

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GENERALITIES CONCERNING THE CAPITALIZATION ON SOME ELEMENTS OF MILITARY ART IN THE RUSSIAN-UKRAINIAN WAR

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The article addresses some points of view regarding the particularities of military art, as a result of studying the military actions carried out in the Russian-Ukrainian war, expressing a general character and serving to achieve the proposed objectives. The author focused his attention on the examination of the sources, the elucidation of various phenomena and significant moments about military art, in correlation with the mutations of the battlefield. The mentioned results were obtained following the study of the factual material and the formulation of some ideas from the learned lessons, which will later be useful in the national military art. The author approaches the visions of the operations based on the analysis of the phenomena, laws and established principles regarding the conduct of the armed struggle, the existing conceptions of the universal military thought.

In conclusion, choosing of the correct course of action will depend on the ratio of forces and means of the conflicting parties, the action plans of one's own forces and of the adversary, as well as the visionary capabilities of the commanders.

Keywords: operational art; strategic art; physiognomy of military actions; contemporary warfare; armed forces;

INTRODUCTION

Based on the analysis of the political-military situation and the evolution of the balance of forces, the beginning of the 21st century was marked by a series of military operations, undertaken by the troops of some countries that were at war. Thus, the sequence of events caused the conflicts in the Balkans, then starting in 2014, the violence in the separatist regions of eastern Ukraine (Luhansk and Donetsk), the annexation of Crimea. Currently, within the elucidation of the general aspects of the political-military situation in the theatre of war between Russia and Ukraine, a confrontation between a Western doctrinal conception and some theories of Soviet military art is observed. At the same time, we consider that the forms of military actions have the same content, registering differences only in terms of their physiognomy, as a result of the quality of the forces and means used. It is certainly not the first time in contemporary history that difficulties have been encountered in achieving the objectives proposed by one party participating in the war and imposed by the other party involved. In the context of the recently produced political-military phenomena in Ukraine, there is a resolution regarding the extent of the military phenomenon, determined by political and socioeconomic developments. So, due to the processes and mutations characteristic of the recent period regarding the conduct of military actions, military art goes through a series of transformations by updating and incorporating new contemporary concepts, which polarize the attention of researchers and military specialists in modern states. Starting from these considerations, in the respective study we gather a succinct approach to the evolution of the armed struggle in order to prepare and conduct operations from a theoretical and applied point of view.

We believe that the academic interest in this subject is explained by the complexity of the military phenomenon, being determined by the diplomatic, informational, military and economic dimension (DIME) of the warring parties and the particularities of the operational variables under political, military, economic, social, infrastructure and informational aspects (PMESII).

Currently, within the elucidation of the general aspects of the political-military situation in the theatre of war between Russia and Ukraine, a confrontation between a Western doctrinal conception and some theories of Soviet military art is observed.

PHYSIOGNOMY OF MILITARY ACTIONS: THEORETICAL-CONCEPTUAL ASPECTS

The study of previous and ongoing military conflicts requires us to examine the physiognomy of modern military actions from different points of view, which in return will allow the generation of a new orientation, as well as the development in peacetime of viable plans regarding the organizational structure, training, equipment and effective use of troops on the battlefield. Thus, in order to comply with the imposed rigors, it is necessary to optimize the organizational structure conceived in peacetime, in which the troops are a force prepared to carry out decisive actions in various forms of military actions. We believe that, theoretically, a special interest in recent years has been registered for the mutations of conducting military actions on applied-scientific basis according to the rules and principles of armed struggle, updated in accordance with the evolution of the modern battlefield. Thus, military actions are distinguished by: active character, dynamic manoeuvring, decisive actions, and a diversity of procedures in order to surprise a possible aggressor. The character and physiognomy of conducting military actions clearly demonstrate that the threats do not come only from the military sphere, but also from the non-military sectors. The analysis of recent military conflicts highlights the need to revise the physiognomy of conducting military actions according to the form of combat actions.

Therefore, the analysis of the history of military art focuses first of all on the components of military art viewed as a whole, then on its separate components. As it is known, *"military art is the art of organizing and leading the battle in accordance with certain principles, norms and rules developed on the basis of the evolution of the physiognomy of military actions. So, it includes the principles, methods, procedures and rules of preparing and conducting military actions, as well as the personal qualities needed by commanders and troops to achieve success in battle"* (Agud, 1994, p. 47). Thus, the War in Ukraine started in the morning of 24 February 2022 by a large-scale offensive air operation, the invasion being launched from Belarus to target the capital of Ukraine – Kiev, and from the northeast – against the city of Kharkiv. The ground actions of the Russian Federation had a rapid character and in the first days they managed to break through inside the Ukrainian territory (https://ru.euronews.com/2022/12/19/2022-year-in-review-war-in-ukraine-february-may).

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After about five days of fighting, the offensive of the Russian Federation was halted in most directions, so both sides switched to defensive actions on positions. The result of the operation is well known, the units of the ground troops of the belligerents during the period of about 12 months conducted guerrilla warfare. Analysing the combat actions we find that they were carried out by executing strong attacks with the aim of crushing and capturing, through massive mutual actions, the state and military infrastructure.

So, the failure of the first offensive to conquer Kiev demonstrated to the West that the Russian army is far from the reputation it has promoted over time. In the end, both sides miscalculated that the war would be a short one, resulting in Russia's victory, with Ukraine standing no chance against the military colossus.

We propose to present a variant of the situation evolution and formulate some ideas from the lessons learned based on the analysis of the political-military situation of the evolution of the balance of forces, the factors that determine the fighting capacity regarding the conception and conduct of the Russian-Ukrainian war. In the idea of the scientific support of the strategy, we analysed the manner of action of the law, the ratio of forces, and the balance of forces from both sides, addressing the actions triggered by the Russian Federation. Thus, following the study on the way of preparing and conducting military actions, the following conclusions emerge:

At the strategic level:
- Planning the operation based on the Blitzkrieg concept; the establishment of the strategic fighting order, from 2014, allowed the strategic enclosure of the Ukrainian troops (Ib.);
- The plan of ground actions within the ground stage of the offensive operation was developed on several operative directions and, as a consequence, strikes were executed on the strategic civil and military infrastructure of Ukraine;
- The conception of the land operation was foreseen by concentrating the effort in several directions, the setting of unrealistic objectives of the troops led to unjustified failures within the offensive operation;
- The error of emphasizing the support of the Ukrainian population in the eastern and southern regions of Ukraine created great difficulties for the strategic leadership in the conduct of military actions;

The units of the ground troops of the belligerents during the period of about 12 months conducted guerrilla warfare. Analysing the combat actions we find that they were carried out by executing strong attacks with the aim of crushing and capturing, through massive mutual actions, the state and military infrastructure.

- An important reason was in the initiation of hostilities carried out without announcing the mobilization and as a consequence the insufficiency of the of group forces (army corps) in the operative directions for the achievement of the operative objectives was registered;
- Lack of motivation and low level of will of the Russian military.

Operations planning at operational level:
- Unsatisfactory organization and conduct of operative and strategic reconnaissance; as a result, the strategic and operative objectives were not clearly established (Gareev, p. 349);
- Achieving success in operations using technological advantages at the operational level: reconnaissance, aviation, missiles, high-precision strike weapons, considering that the achievement of operational results will depend on the effects of aviation and missile strikes;
- Tendency to use group forces unsuitable for the theatre of military actions, which had the consequence of diminishing the scope of the operation;
- Incorrect establishment of the direction of effort within the operation;
- No group forces suitable for offensive operations were created (Ib., p. 339).

At the tactical level:
- Unsatisfactory training of the military personnel in order to use those ingenious and more diversified forms and methods of action in close combat, for combining fire with movement, not using the advantages of the terrain etc.;
- Preparation, organization and carrying out under the limit of combat insurance; during the march: non-establishment of march security, disorder of the march order, tactical reconnaissance, anti-aircraft defence led to large losses in personnel and combat equipment;
- Unsatisfactory organization of the logistical support of the battle (supply, maintenance, transport of materials, medical support and others) led to multiple failures at the tactical level, such as: unjustified losses of military equipment and weapons;
- Combatant units left on the battlefield without ammunition and fuel; soldiers inadequately equipped for battlefield requirements; abandoned military equipment;

Unsatisfactory organization of the logistical support of the battle (supply, maintenance, transport of materials, medical support and others) led to multiple failures at the tactical level, such as unjustified losses of military equipment and weapons.

- Conduct of military actions is related to communications and focused on the fight for control over places (towns);
- Formation of the tactical group based on infantry battalions, very massive and heavy tactical structures, which had a high weight of fire, but at the same time, a very weak striking power and manoeuvrability. The precise composition of these units can vary, but they generally comprise a large number of armoured vehicles and relatively few infantry troops.

Within the military strategy of the political-military leadership of Ukraine, the most diverse methods and peculiarities were used in order to prepare and conduct military actions, in a certain perspective, aiming at the achievement of the final goal – military victory and the reintegration of the territories under Russian occupation. Thus, we consider that in the combat actions carried out by the Ukrainian Army, the goals of the defence were partially achieved; succeeding only in holding back the offensive of the enemy forces and causing them maximum losses. At the same time, the failure and partial loss of territory did not allow to fully defend the integrity of the country's territory and create favourable conditions for the transition to the counteroffensive. So, as features of Ukrainian Military Art, applied in military actions, we can mention the following:

At the strategic level:
- Incorrect prediction regarding the physiognomy of the future war, so military conflicts are initiated due to political, ideological, economical, religion problems as well as territorial issues following by the incorrect elaboration of war projects and plans with different action hypotheses, the configuration of the initial period of the war, the goals pursued by the belligerents, the forces and means used, the extent, duration and intensity of the war (Gareev, p. 338);
- Starting and conducting of combat actions, without announcing the mobilization, created an insufficiency of forces and means, and as a consequence there were considerable territorial losses;
- Unpreparedness of the territory for defence, creation and development of civil and military infrastructure;
- Defence in a difficult strategic configuration and strategic semi-encirclement forced the Ukrainian Army to divide its forces into several operational directions, carrying out military

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The reduced application, at the beginning of the war, of tactical missiles on the enemy's objectives from the strategic depth allowed the freedom of manoeuvre of the enemy's reserves from the operative-strategic depth.

Weak response to the airstrikes on the first day of the war led to the imbalance of the Ukrainian defence in the first months of the military actions.

actions with a shortage of forces, which resulted in the rapid surrender of important areas of territory, especially in the south of the country;

- Application of the defence concept aiming at the organization of points of resistance in large cities;
- Rejecting the enemy's attempts to achieve the objectives of the strategic operation, based on the concept of blitzkrieg;
- Lack of strategic reserves led to the deployment of a static defence at a strategic level, unable to retaliate by executing counter-strikes to destroy the enemy's forces, which penetrated the defence of the Ukrainian Army;
- Insufficiency of aviation and anti-aircraft defence means allowed to hit important cities and multiple strategic objectives; the reduced application, at the beginning of the war, of tactical missiles on the enemy's objectives from the strategic depth allowed the freedom of manoeuvre of the enemy's reserves from the operative-strategic depth;
- Threat on several operational directions forced the leadership of the Ukrainian Army to excessively disperse its armed forces, creating impediments to the strategic leadership in establishing the direction of effort, the lack of strategic mobility in defence;
- Weak response to the airstrikes on the first day of the war led to the imbalance of the Ukrainian defence in the first months of the military actions;
- Massive support of the population, especially in the areas of military actions, significantly raised the will of resistance of the Ukrainian Army.

Actions carried out at operative level:

- Establishment, on the threatened operational-strategic directions, of some inadequate group of forces, which led to massive surrenders of territories right from the first days of the war;
- Success of the operations depending on the result of the defence of urban centres of regional importance;
- Organization of deep supply routes (centred on the communication routes), which led to the production of maximum losses to the enemy;
- Effective action within the supply routes of some forwarded units – size of Motorized Infantry Brigade or Motorized Infantry

Company, as well as the value of the force depending on the importance of the communication;

- Insufficiency of aviation and anti-aircraft defence means constrained the conduct of defence operations in the conditions of the enemy's air superiority;
- Operative disguising measures were not fully executed, which led to the destruction of multiple military objectives from the beginning of the war;
- Results of the defence operations led to the partial achievement of the defence goals, the excessive dispersion of forces, on a front of approximately 2,000 km, led to the organization of an unstable defence in most directions and the partial fulfilment of the goals of the defence operations.

At the tactical level:

- Organization of the supply routes/advanced positions with emphasis on road communication routes;
- Organizing ambushes on communication routes, in separate support points, positioned on key points in the field, supported by artillery fire;
- Establishing positions and points of resistance organized in defence based on urban centres;
- Use of drones, guided anti-tank missiles and artillery fire to effectively hit the enemy while moving;
- Organization of unsatisfactory cooperation between the Armed Forces branches led to many tactical failures.

CONCLUSIONS

We consider that, based on the lessons learned in order to prepare and plan military actions in the Russian-Ukrainian war, it is necessary to take into account the following factors:

- strategic leadership of both sides did not apply to a large extent the main activities regarding the preparation and conduct of military actions;
- complex use of measures such as the collection, transmission, centralization and processing of information regarding the political-military situation and the conduct of combat actions;
- elaboration of operational documents and the planning of military actions in order to execute the concepts adopted on the conduct of military actions;

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- communication of action orders, directives in the established time to executors;
- transition of the system of leadership from peacetime to the state of war and control over planned activities in due time;
- optimizing the organization of cooperation at all levels of military art;
- logistics planning according to supply norms;
- the organization of mobilization after the start of military actions and the establishment of operational forces capable of ensuring strategic coverage during the entire period of strategic deployment with observance of disguising measures;
- insufficient preparation of the civil and military infrastructure for transition to a state of war;
- establishment of appropriate group of forces on the main operative directions, depending on the situation created;
- organization of the coverage within which forward units of battalion/company size will act, which will be focused on the main communication routes;
- organizational structure of large combat units and subunits to meet the requirements of the modern battlefield.

The analysis of the contemporary armed struggle confirms that the methods of using troops have essentially changed the physiognomy of military actions.

At the same time, the analysis of the contemporary armed struggle confirms that the methods of using troops have essentially changed the physiognomy of military actions. In this context, if, in the recent past. military analysts and specialists moved away from the classical use of ground forces, currently the actions of the Russian-Ukrainian war contradict the previous statements.

Concerning the preparation and conduct of defensive operations, they will continue to remain a factor that provides and ensures the sovereignty and integrity of the state.

In this context, according to some military analysts, the offensive will remain the form of carrying out military actions and will consist in the successive or simultaneous destruction of groups of enemy forces with the liberation of important objectives and territory.

Simultaneously with the actions of the troops, information operations will be carried out on a large scale with the involvement of Special Operation Forces. Particular attention will be paid to the physical-geographical conditions of the country, which will influence the preparation and conduct of the armed struggle. In the context of the above, it is necessary to take into account possible risks and threats

to the country's security and integrity, the selection of forms and procedures for the use of forces in contemporary conditions, which will be based on the political-military situation. From the above, it is clear that the use of forces in contemporary operations demonstrates essential changes in the way they are used, which include the following: reduction of the economic-military potential and the military and civil infrastructure; conduct of military actions on all dimensions consistent with symmetric and asymmetric actions; hitting targets; sole command of forces and means.

In this context, from an organizational point of view and in order to adopt decisions, coordinate and cooperate actions starting with those at the state level and ending with those of the troops, it is necessary to organize a management system for the successful completion of missions.

It is clear that the use of forces in contemporary operations demonstrates essential changes in the way they are used, which include the following: reduction of the economic-military potential and the military and civil infrastructure; conduct of military actions on all dimensions consistent with symmetric and asymmetric actions; hitting targets; sole command of forces and means.

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ASSESSING ECONOMIC RESILIENCE IN NATO COUNTRIES: A COMPREHENSIVE DEFENCE PERSPECTIVE

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Economic resilience, considered in this paper as the ability to withstand and recover from economic shocks and disruptions, has become a linchpin of ensuring national security and stability. As demonstrated by conflicts such as the one in Ukraine, where economic sanctions were deployed to diminish an adversary's capacity to sustain its war efforts, it has become evident that military power alone is insufficient in today's complex security landscape. A comprehensive approach to defence must incorporate economic considerations, as the economic well-being of a nation is intrinsically linked to its overall security.

The main research objectives of this paper are to investigate the concept of economic resilience, from the perspective of the concept of comprehensive defence and the ways it is interconnected with other resilience domains, through the development of an economic resilience index outlining the relative economic resilience of the 29 European countries that are NATO members and to propose a methodology for identifying the main factors that influence the economic resilience from a comprehensive defence point of view.

Keywords: economic resilience; index; ranking; countries, recommendations;

INTRODUCTION

In recent years, the use of economic warfare as a strategic tool in conflicts has underscored the paramount importance of economic resilience within the broader framework of a comprehensive approach to defence. Economic resilience, considered in this paper as the ability to withstand and recover from economic shocks and disruptions, has become a linchpin of ensuring national security and stability. As demonstrated by conflicts such as the one in Ukraine, where economic sanctions were deployed to diminish an adversary's capacity to sustain its war efforts, it has become evident that military power alone is insufficient in today's complex security landscape. A comprehensive approach to defence must incorporate economic considerations, as the economic well-being of a nation is intrinsically linked to its overall security. Building and maintaining a robust and resilient economy is not just a fiscal matter but a strategic imperative for procuring the necessary resources to support defence capabilities, ensuring a credible defence posture, and effectively countering evolving threats in an interconnected world.

The main research objectives of this paper are to investigate the concept of economic resilience, from the perspective of the concept of comprehensive defence and the ways it is interconnected with other resilience domains, through the development of an economic resilience index outlining the relative economic resilience of the 29 European countries that are NATO members and to propose a methodology for identifying the main factors that influence the economic resilience from a comprehensive defence point of view. The results of the study are used to outline and provide recommendations for increasing the economic resilience of Romania, within the concept of comprehensive defence.

The hypothesis of this study is that economic resilience is a crucial component of ensuring a country's resilience in an uncertain and volatile international environment and categories of factors

As demonstrated by conflicts such as the one in Ukraine, where economic sanctions were deployed to diminish an adversary's capacity to sustain its war efforts, it has become evident that military power alone is insufficient in today's complex security landscape. A comprehensive approach to defence must incorporate economic considerations, as the economic well-being of a nation is intrinsically linked to its overall security.

such as Economic complexity, Economic openness and foreign trade, Energy independence, Logistics and infrastructure, Stability and sustainable growth, Innovation and IT, Human capital and Governance effectiveness contribute in a significant manner to achieving economic resilience.

The paper uses qualitative research methods, based on the analysis of existing specialized literature regarding the concept of economic resilience, and quantitative methods the analysis for the development of the economic resilience index from the comprehensive defence perspective, using data regarding selected resilience indicators in the 29 NATO countries selected to generate ranking.

The index employs a z-approach to normalize data, which assesses the relative resilience of the sample countries in comparison to one another rather than providing an absolute resilience measurement. As a result, this index is not suitable for determining the absolute level of resilience of a specific country. However, it can serve as a valuable foundation for crafting shared resilience enhancement strategies within selected countries, which could be subsequently adapted to their specific needs.

THE CONCEPT OF ECONOMIC RESILIENCE AS FOUNDATION OF A COMPREHENSIVE DEFENCE

The concept of economic resilience has gained attention from scholars in the past decade, consequently in the economic literature, economic resilience is examined from several key perspectives. A substantial number of studies (Dhawan, Jeske, pp. 21-32, 2006; Simmie&Martin, 2010; Hill et al., 2008; Briguglio, 2016; Akberdina, 2023) focus on the economic resilience to external shocks of mainly economic and financial nature. From this perspective, economic resilience is defined as *"any change to fundamental macroeconomic variables or relationships that has a substantial effect on macroeconomic outcomes and measures of economic performance, such as unemployment, consumption, and inflation... which are often unpredictable and are usually the result of events thought to be beyond the scope of normal economic transactions"* (Investopedia, 2023). The complex nature of the current economic and security environment has highlighted the need to extend this narrow approach to include

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the analysis of economic shocks caused by various other factors including military conflicts, migratory flows, natural disasters, technological advancements, demographic changes, and more.

Other authors approach economic resilience form the crisis and disaster management standpoint, assessing the economy's ability to cope, recover, and reconstruct after a disaster, from a macroeconomic perspective or from a combined microeconomic and macroeconomic perspective (Hallegatte, 2014; Pinkwart et al., 2022). Economic resilience is also approached in the literature from the point of view of the protection and resilience of critical infrastructure, especially from a governmental perspective (Australian Government, 2015; Roshanaei, 2021; Government of Canada, 2015). In a broader sense, economic resilience is approached in the literature as a vital component of human security and sustainable development, as a comprehensive and multidimensional process that underpins the stability and prosperity of nations (World Economic Forum, 2022; Atkinson, Grandi and Vaklinova, 2022).

Still, despite the recent interest in the concept of economic resilience from organizations such as the European Union (Hafele, Bertram, Demitry, Le Lannou, Korinek, Barth, 2023) and NATO (Roepke, Thankey, 2019) there is no agreement in the literature in regard to a common definition of economic resilience or the scope of the concept. While differing viewpoints, debates, and disagreements can help illuminate the nuances of the concept, this lack of a common definition poses practical and operational challenges. Vagueness in the definition of economic resilience can lead to the implementation of generic measures and policies that may have limited real-world impact.

The concept of economic resilience from the point of view of comprehensive defence is one line of research that should be further explored, especially in the light of the recent war in Ukraine, the COVID 19 pandemic or the resurgence of the interest of various states to use economic tools as a weapon of war.Top of Form

After a period of falling into oblivion following the end of the Cold War, concepts like societal security, total defence, whole of nation defence or comprehensive defence have been brought again in the public attention, in the light of the events in the past decade, culminating with Russia's attack on Ukraine in 2022, and the concept

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of economic resilience needs to be considered as an integral part of these approaches.

The concept of economic defence shall be approached in this paper from the point of view of the comprehensive defence as outlined by the NATO Special Operations Headquarters NSHQ, defined as an official Government strategy, which encompasses a whole-of-society approach to protecting the nation against potential threats (NATO Special Operations Headquarters, 2020). From this perspective, the concept of resilience supports the six main pillars of defence: Social and Psychological Defence, Economic & Essential Services, Military Defence, Cyber Defence, Civil Defence and Internal and Border Security. As outlined in above mentioned document, resilience in the general sense, and economic resilience in the more specific sense, is the foundation for reducing national vulnerabilities that could affect all six pillars of defence and ensuring the availability of the resources required for the generation of the capabilities.

The concept of resilience supports the six main pillars of defence: Social and Psychological Defence, Economic & Essential Services, Military Defence, Cyber Defence, Civil Defence and Internal and Border Security.

A COMPARATIVE ANALYSIS OF ECONOMIC RESILIENCE IN NATO COUNTRIES USING AN ECONOMIC RESILIENCE INDEX

Methodology

From the point of view of the above-mentioned document, securing economic resilience is the result of a collaborative endeavours involving governments, the private sector, and individuals (Comprehensive Defence Handbook Vol. I, 2020, p. 15). Governments play a crucial role in crafting and implementing policies that foster a stable and adaptable economic environment. They includes measures such as fiscal responsibility, regulatory frameworks that encourage innovation and competitiveness, and investments in critical infrastructure. Businesses, on the other hand, contribute by diversifying their operations, investing in research and development, and maintaining financial prudence to withstand economic shocks. They also play a role in job creation and economic growth. Individuals, as consumers and workers, contribute to economic resilience through financial literacy and responsible saving, which can provide a cushion during economic downturns. The participation of the country's citizens in the workforce

and their adaptability in acquiring new skills are also essential for economic resilience, as they help drive innovation and productivity.

These considerations have been the foundation for the selection of the eight categories of variable deemed relevant for the construction of the economic resilience index (Economic complexity, Economic openness and foreign trade, Energy dependence, Logistics and infrastructure, Stability and sustainable growth, Innovation and IT, Human capital and Governance effectiveness), based on the following research assumptions:

❖ *Economic complexity* is a relevant factor in ensuring economic resilience because it reflects a nation's ability to adapt, diversify, and innovate. A country with a low degree of economic complexity (which relies on just a few economic sectors for its development, such as tourism or export of a specific type of commodity) will have a lower capacity to withstand and recover from external shocks and disruptions.

❖ *Economic openness* can impact a country's economic resilience as it increases exposure to international markets, making it susceptible to global economic fluctuations and trade disruptions, while also providing opportunities for diversification and resilience-building through international trade and cooperation. *Foreign trade vulnerabilities* (such as overreliance on a specific trade partner, especially for imports of strategic commodities, or a chronic deficit of the trade balance) can undermine a country's economic resilience.

❖ *Energy dependence* can significantly impact a country's economic resilience by rendering it vulnerable to supply disruptions, price fluctuations, and geopolitical tensions in the energy sector, potentially causing economic instability and constraints on its capacity to respond to shocks.

❖ *The quality of logistics and transport infrastructure* can significantly impact a country's economic resilience by influencing its ability to efficiently move goods and services, respond to disruptions, integrate its economy in the international trade and maintain smooth supply chains, which are essential for economic stability and adaptability. It can also profoundly impact a country's defence, by directly influencing the rapid deployment of military assets,

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the efficiency of supply chains, and the overall logistical capabilities critical for effective defence operations and national security.

❖ Ensuring *macroeconomic stability, financial stability, and a sustainable economic growth* (with a judicious use of available resources) is paramount to a country's economic resilience because it provides a strong foundation for withstanding shocks, maintaining investor confidence, and fostering the resources needed to respond effectively to crises (including the resources for defence), ultimately safeguarding the nation's economic stability and adaptability.

❖ *Innovation and a robust IT sector* can significantly impact a country's economic resilience by enhancing its ability to adapt to changing economic conditions, diversify its industries, and leverage technological advancements, which in turn bolsters its capacity to weather disruptions and maintain competitiveness in a rapidly evolving global economy.

❖ *Human capital* is a crucial factor in impacting a country's economic resilience as a well-educated and skilled workforce enhances adaptability, innovation, and productivity, fortifying the nation's capacity to withstand economic shocks and thrive in an ever-changing economic landscape. Brain drain can significantly impact a country's economic resilience by depriving it of skilled professionals and innovators, potentially weakening its ability to respond effectively to economic challenges and innovate in the face of adversity. On the other hand, a skilled and educated population can enhance economic resilience, by increasing the overall productivity and competitiveness of the private sector and the quality of the services offered by the public sector. A population with high levels of financial and digital education and skills can enhance economic resilience by promoting sound financial decision-making, digital adaptability, and the ability to leverage technology for economic stability and innovation, while being better equipped to critically assess information, protect digital assets, and respond effectively to cyber threats and less vulnerable to disinformation, cyber attacks and bad financial decisions.

❖ *Governance effectiveness* is crucial for enhancing economic resilience in particular and resilience in general, as it ensures efficient decision-making, the implementation of policies to address economic challenges, and the maintenance of a stable regulatory environment.

Governance effectiveness is crucial for enhancing economic resilience in particular and resilience in general, as it ensures efficient decision-making, the implementation of policies to address economic challenges, and the maintenance of a stable regulatory environment.

The paper focused on analysing data related to the 29 European NATO countries. The United States of America and Canada were excluded from the analysis as the economic, political, military and social circumstances of the two countries are quite different from their European counterparts. The economic resilience index developed in this paper is aimed at ranking the European NATO member countries in terms of economic resilience, within a regional hierarchical system, and to determine the influence of the chosen factors on the overall economic resilience index. This influence should not be considered from the perspective of a relation of causality, as of the factors that drive resilience in each of the analysed countries are specific and should make the object of further research in developing national resilience measures.

The economic resilience index has been developed using the methodology outlined below:

1. Selection of the 78 quantitative factors considered relevant to economic resilience;

2. Assigning the identified factors into 11 intermediate categories and 8 main categories, as outlined in *table 1*;

3. Identifying the corresponding data and normalizing the indicators values; the sources for the data are presented in the references.

4. Assigning weight coefficients to each quantitative indicator, intermediate categories of factors and main categories of factors, with the sum of the weight on each category being 1, as per *table 1*.

5. The calculation of the index for each country selected, using an additive expression. The analysis covers the 2017–2022-time frame, depending on the availability of data for each specific indicator. Assigning higher weights to specific indicators, such as Innovation and IT or Logistic and infrastructure was considered reasonable, due to the higher influence these factors have on other components of resilience.

The economic complexity index was considered to be more relevant for the overall economic complexity than the market concentration index. In terms of foreign trade vulnerabilities, Food imports and fuel imports as % of total merchandise imports are considered the most important, as a high dependence on this type of strategic imports has negative implication on resilience. Trade with the Russian Federation as % of total trade (exports and imports, respectively) is considered

The economic resilience index developed in this paper is aimed at ranking the European NATO member countries in terms of economic resilience, within a regional hierarchical system, and to determine the influence of the chosen factors on the overall economic resilience index.

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to be more relevant in the short term, due to the current security situation, than trade partner concentration, which is more relevant in a long-term approach to economic resilience. In terms of energy independence, energy dependency as net energy imports as % of energy use is considered the most relevant factor of influence, followed by oil reserves and the percentage of oil production compared to oil consumption, as the short- and medium-term access to oil remains a critical factor of influence for economic resilience. In the long term, the diversification of energy sources could be a more relevant factor of influence. In terms of logistics and infrastructure, the logistic performance index for 2022, the quality of trade and transport related infrastructure, the competence and quality of logistic services and the efficiency of customs clearance process are considered the most relevant factors of influence.

Trade with the Russian Federation as % of total trade (exports and imports, respectively) is considered to be more relevant in the short term, due to the current security situation, than trade partner concentration, which is more relevant in a long-term approach to economic resilience.

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Table 1

Main category	Intermediate category	Weights	Factors of influence
Economic Complexity	Economic Complexity	0.6	Economic Complexity Index
		0.4	Market concentration HH index
Economic openness and Foreign trade	Economic openness *Weight 0.30*	0.25	Ratio of international trade to GDP
		0.25	Exports as % to GDP 2021
		0.25	Imports as % GDP 2021
		0.25	FDI % of GDP 2021
	Foreign trade vulnerabilities and dependence *Weight 0.70*	0.1	Export partner concentration – main three leading destination markets for commodity exports as share of commodity exports (percentage)
		0.1	Import partner concentration – main three trading partners for commodity imports as share of commodity imports
		0.15	Exports to Russian Federation as % of total exports 2021
		0.15	Imports from Russian Federation 2021
		0.09	Trade balance as % of GDP
		0.05	Export of high-tech goods, compared to overall exports, %, 2021
		0.15	Food imports as % of total merchandise imports

Main category	Intermediate category	Weights	Factors of influence
Energy independence	Energy independence	0.15	Fuel imports as % of total merchandise imports
		0.06	Trade balance (exports minus imports) in basic food as a ratio to total imports, 2017-2021, percentage
		0.13	Energy dependency as net energy imports as % of energy use
		0.11	Reliance on Russian coal imports percent of consumption 2021
		0.11	Reliance on Russian oil imports percent of consumption 2021
		0.11	Reliance on Russian natural gas imports percent of consumption 2021
		0.12	Oil reserves billion barrels, 2021
		0.12	Oil production/oil consumption, percentage
		0.05	Fossil fuels electricity capacity, million kilowatts, 2021
		0.05	Wind electricity capacity, million kilowatts, 2021
		0.05	Solar electricity capacity, million kilowatts, 2021
		0.05	Hydroelectricity capacity, million kilowatts, 2021
		0.05	Nuclear electricity capacity, million kilowatts, 2021
		0.05	Geothermal electricity capacity, million kilowatts, 2021
Logistics and infrastructure	Logistics and infrastructure	0.15	Logistic performance index 2022
		0.15	Quality of trade and transport related infrastructure 2022
		0.15	Competence and quality of logistic services 2022
		0.15	Efficiency of customs clearance process 2022
		0.10	Quality of railroad infrastructure 2019
		0.10	Quality of road infrastructure 2019

Main category	Intermediate category	Weights	Factors of influence
Stability and sustainable growth		0.10	Quality of port infrastructure 2019 (for landlocked countries, access to port facilities and inland waterways were used)
		0.10	Quality air transport infrastructure 2019
	Financial stability Weight 0.30	0.15	Banking system z score
		0.15	Non-performing loans as percent of all bank loans, 2021
		0.15	Banking system concentration % of bank assets held by top three banks, 2021
		0.15	Foreign exchange reserves including gold, as % of GDP
		0.10	Domestic credit to private sector (% of GDP)
		0.15	Household debt, loans and debt securities % GDP 2021
		0.15	Mortgage credit as % of GDP
	Macroeconomic stability Weight 0.35	0.14	Fiscal balance-to-GDP ratio 2022
		0.14	Unemployment rate, total (% of total labour force) 2022
		0.14	Inflation rate 2023, average consumer prices annual percent change
		0.14	Government debt as percent of GDP 2021
		0.14	Capital investment as percent of GDP 2022
		0.15	Current account balance as % GDP 2023
		0.15	Gross domestic savings (% of GDP) 2022
	Sustainable development Weight 0.30	0.125	Economic freedom, overall index (0-100) 2021
		0.125	Remittances as % GDP
		0.125	Unequal economic development index
		0.125	Shadow economy as % of GDP
		0.125	Cost of starting business
		0.125	Economic decline 2007-2023

Main category	Intermediate category	Weights	Factors of influence
Innovation and IT	Innovation and IT	0.125	Tax revenue as % of GDP 2021
		0.125	Competitiveness
		0.18	Expenditure on R&D as % GDP 2021
		0.20	Information technology exports, percent of total goods exports, 2021
		0.20	ICT sector share in GDP
		0.21	Digital skills gap index
		0.21	Innovations index (0-100) 2021
Human capital	Human capital	0.05	Financial literacy %
		0.05	Digital skills among population
		0.10	Government expenditure on education, total (% of GDP) 2020
		0.20	Human Capital Index (HCI), Upper Bound (scale 0-1)
		0.20	Human flight and brain drain index
		0.20	GINI index degree of inequality in the distribution of income/wealth
		0.20	Human development index
Governance effectiveness	Governance effectiveness	0.125	State legitimacy index
		0.125	Public services index
		0.125	Factionalized elites index
		0.125	Rule of law index
		0.125	Government effectiveness index
		0.125	Control of corruption
		0.125	Political stability index
		0.125	Corruption Perceptions Index, 100 = no corruption

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Results

The results of the analysis are presented in *figure 1*, with the 29 NATO countries analysed ranked according to the Economic Resilience Index from the highest level to the lowest. The results allow the classification of the countries into 5 distinct groups, taking as reference the average resilience index of the 29 states of 0.526:

- countries with very high resilience (index over 0.700) – Germany;

- countries with high economic resilience (index between 0.600 and 0.700) – Norway, Denmark, Netherlands, Finland, UK, France and Iceland
- countries with relatively high economic resilience (index between 0.530 and 0.600) – Belgium, Luxembourg, Estonia, Spain, Slovenia, Portugal and Italy
- countries with medium economic resilience (index between 0.400 and 0.530) – *Czech Republic, Poland, Lithuania, Hungary, Slovakia, Latvia, Greece, Turkiye, Croatia, Bulgaria and Romania*
- countries with low economic resilience (index between 0.333 and 0.285) – Montenegro, North Macedonia and Albania.

Correlation coefficients between the economic resilience index from a comprehensive defence perspective and the main categories of factors selected were calculated and are presented in *table 2*. As per the results, the categories *Logistics and infrastructure, Governance effectiveness, and Innovation and IT* display a high correlation with the Economic Resilience Index, outlining the contribution of these factor to economic development, adaptability and resilience, but also to multiple other areas of resilience (especially military, civil and societal resilience). The high positive correlation coefficient for *Stability and sustainable growth* category confirms that sound financial and macroeconomic policies, combined with measures designed to ensure sustainable economic growth, are the foundation of a strong and resilient economy.

Human capital category displays a slightly lower, but still significant correlation to the economic development index, confirming the research hypothesis that measures aimed at developing an educated, skilled and competitive society enhances economic resilience, adaptability, innovation, and productivity.

Economic complexity, economic openness & foreign trade vulnerabilities and economic independence categories display low correlation coefficients with the economic resilience index, but it does not necessarily mean independence or lack of causality between these factors. Considering the fact that the index proposed in this paper focuses on a broader approach to economic resilience, from a comprehensive defence approach, the result is reasonable, as economic diversification can contribute to an economy's resilience

The categories Logistics and infrastructure, Governance effectiveness, and Innovation and IT display a high correlation with the Economic Resilience Index, outlining the contribution of these factor to economic development, adaptability and resilience, but also to multiple other areas of resilience (especially military, civil and societal resilience).

Figure 1

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to economic shocks, but it cannot shelter it completely from other types of shocks, such as disruption of supply chains that affect many economic activity areas or multiple price shocks as the ones generated by the conflict in Ukraine.

The low correlation coefficients for energy independence should not be interpreted in the sense that it has no contribution in building economic resilience, but in the sense that, in the overall picture of economic resilience and from a comparative point of view, a sound and stable economy can withstand the effects of shocks and crisis better, even in conditions of energy dependenc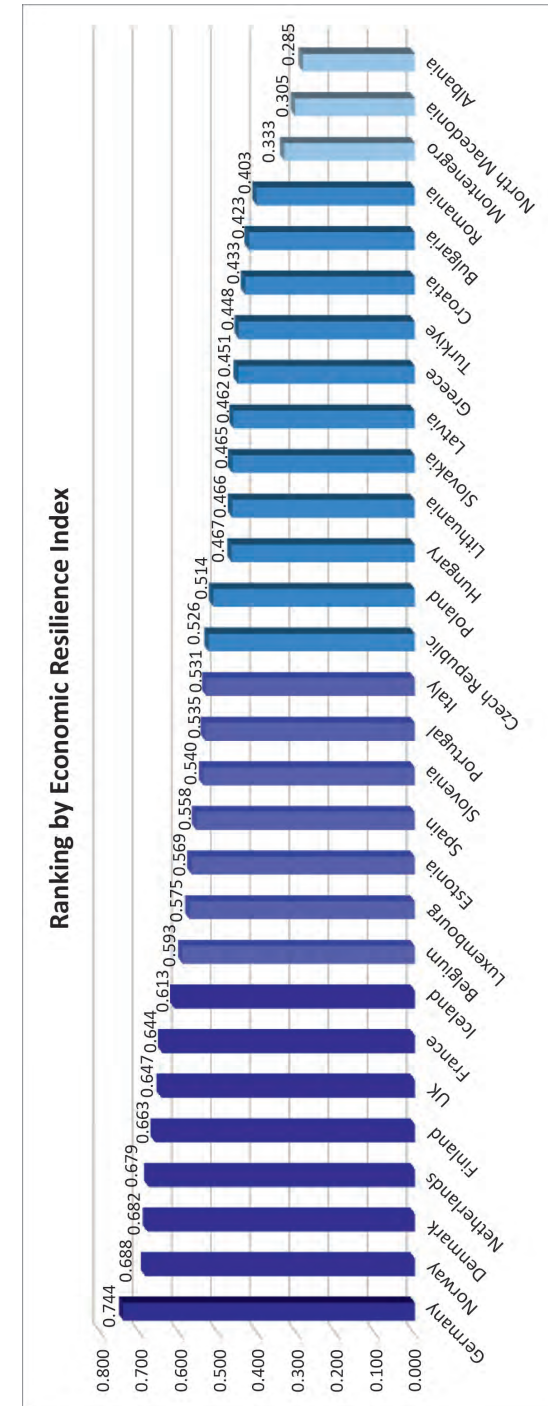e. Energy independence is a very important factor in ensuring a country's resilience, but is not a guarantee of economic resilience. For example, the oil reserves available to a country can contribute significantly to a country's energy resilience in the long term, but only if the country has the capacity to exploit them and extract the oil at a reasonable price, otherwise, from an economic point of view, it would make more sense to import cheaper oil. This conundrum was visible in the case of Germany, where the development of many industries (and indirectly the country's stable macroeconomic indicators) was partly based on a policy that generated increased dependence on the cheap Russian gas and oil. On the other hand, if Germany were to turn back its nuclear energy production facilities, the level of energy independence would increase significantly. Consequently, energy independence should be analysed in more detail, including various other indicators, in the framework of a different resilience area, namely energy resilience.

Economic openness and *foreign trade vulnerabilities* category also displays a low positive correlation with the economic resilience index. One of the reasons for this low correlation is that the selected countries (with the exception of Albania, Montenegro and North Macedonia) have a relatively limited contribution of the trade balance to the GDP formation, making them less vulnerable to this factor of influence. Another reason is that most of these countries are also members of the European Union, and intra-EU trade makes up a large part of their trade balance, resulting in a lower vulnerability to external factors. In the case of countries with a higher dependence on foreign trade (especially outside the EU), the results may be different, so this category of indicators should not be automatically excluded as a component of an economic resilience index.

Energy independence is a very important factor in ensuring a country's resilience, but is not a guarantee of economic resilience. For example, the oil reserves available to a country can contribute significantly to a country's energy resilience in the long term, but only if the country has the capacity to exploit them and extract the oil at a reasonable price, otherwise, from an economic point of view, it would make more sense to import cheaper oil.

Factors such as Food imports as % of total merchandise imports, Fuel imports as % of total merchandise imports or Trade balance (exports minus imports) in basic food as a ratio to total imports, 2017-2021, percentage, in addition to the effect of price shocks on specific strategic commodities, could make the subject of further studies, perhaps in a specific category (strategic commodities dependence). The present paper was limited by the available data in this respect.

Table 2: Correlation coefficients of factors determining the Economic Resilience Index of European NATO countries

	Kendall rank coefficient	Pearson's r	Spearman's r
Economic resilience/Economic complexity	0.1998	0.5571	0.3126
Economic resilience/Economic openness and foreign trade	0.2660	0.2867	0.3685
Economic resilience/energy independence	0.2562	0.3792	0.3488
Economic resilience/Logistics and infrastructure	0.7192	0.8996	0.8906
Economic resilience/Stability and sustainable growth	0.6897	0.8275	0.8626
Economic resilience/Innovation and IT	0.6847	0.8889	0.8616
Economic resilience/Human capital	0.5714	0.7470	0.7739
Economic resilience/Governance effectiveness	0.7537	0.8948	0.9192

The contributions of each main category of factors to the overall economic resilience of each of the selected countries, reflecting the specific national situations, is presented in *figure 2*.

According to the results presented in *figures 2* and *3*, Romania's rank derives from the following considerations:

- Romania ranks higher than the average of the selected countries on *Economic openness and foreign trade, Energy independence* and very close to average on *Economic complexity*, but unfortunately these categories of factors are not so relevant to the economic resilience index, as outlined above.
- Romania ranks marginally lower than the average on *Stability and sustainable growth*.
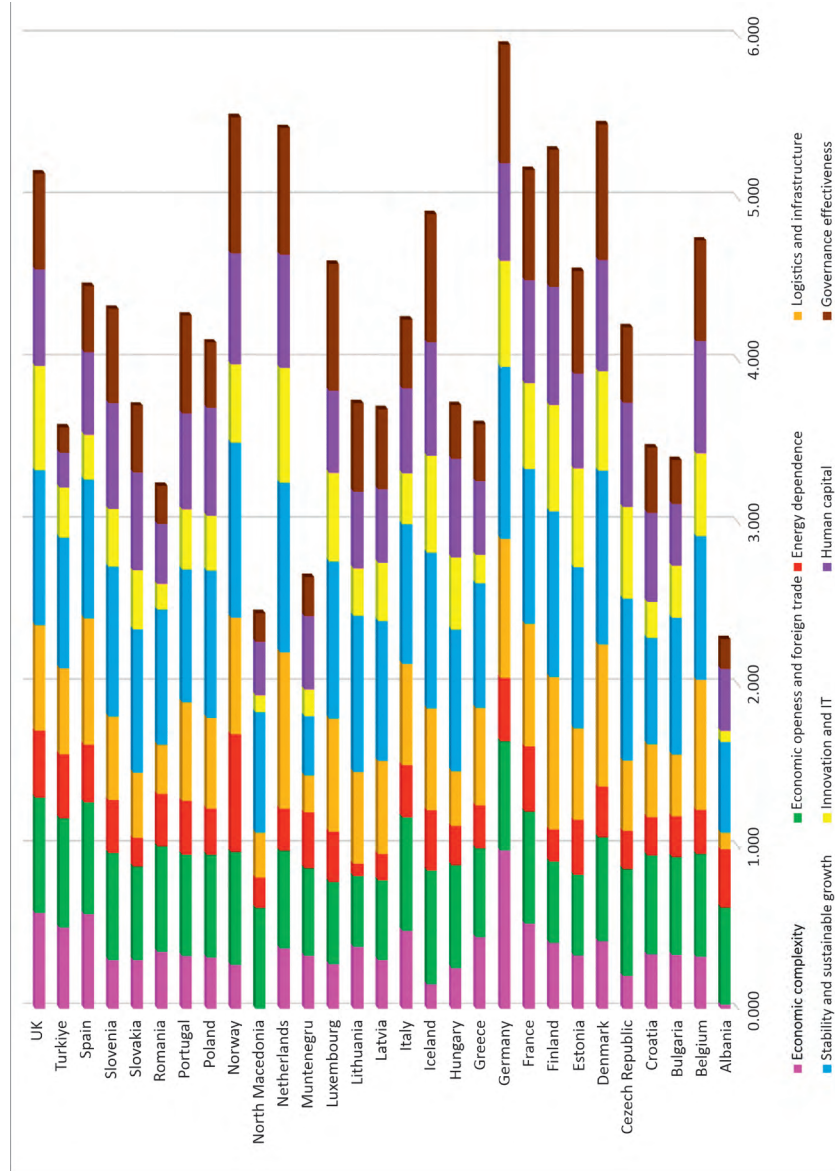
- The most significant factors in determining Romania's relative economic resilience index ranking are its weak results on *Logistics and Infrastructure, Innovation and IT, Human capital* and *Governance effectiveness*.
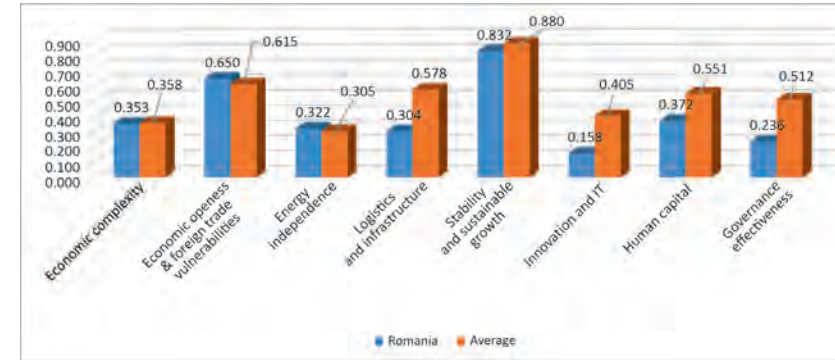

Figure 3

CONCLUSIONS

The results presented in this paper underline the complexity of the concept of economic resilience from a comprehensive defence perspective, with more detailed research needed in order to identify relevant factors of influence and their degree of influence on an economic resilience index.

The study was limited by data availability on specific indicators or specific countries, leading to less refined results. In terms of data collection, the study was limited by the availability of country specific indicators for the same year or the complete unavailability of indicators for some countries, leading to approximations from other sources (which may have different calculation methods). Still, the results of the study confirm the results in the literature, such as those in the Zoe Institute for future-fit economies. (Hafele et al., 2023).

In the case of Romania, the findings of this study outline the need for the state authorities to implement measures aimed at decreasing the gap relative to *Logistic and Infrastructure, Innovation and IT, Human Capital and Governance effectiveness*. Romania's logistic sector and its transport infrastructure are one of the country's biggest drawbacks in terms of economic resilience and resilience in general. Romania ranks on the last position in terms of the quality of road infrastructure, and this should be one of the first priorities in respect to increasing economic and military resilience.

Romania's logistic sector and its transport infrastructure are one of the country's biggest drawbacks in terms of economic resilience and resilience in general. Romania ranks on the last position in terms of the quality of road infrastructure, and this should be one of the first priorities in respect to increasing economic and military resilience.

Figure 2

Table 3

Indicators in Logistics and Infrastructure category	Romania's rank of 29 selected countries
Logistic performance index 2022	26
Quality of trade and transport related infrastructure 2022	27
Competence and quality of logistic services 2022	24
Efficiency of customs clearance process 2022	27
Quality of railroad infrastructure 2019	26
Quality of road infrastructure 2019	29
Quality of port infrastructure 2019 *(for landlocked countries, access to port facilities and inland waterways was used as proxy)*	25
Quality air transport infrastructure 2019	24

Even if Romania ranks on the 15th position in terms of Information technology exports, percent of total goods exports, 2021, it ranks low on government expenditures on R&D as % of GDP, innovations index (0-100) and digital skills gap index.

Despite the fact that the IT sector is one of the thriving economic sectors in Romania (with 220.000 employees, meaning 4% of the total national workforce) (Mihai, 2021), from the point of view of the economic resilience index, the ranking does not reflect Romania's potential in this area. Even if Romania ranks on the 15th position in terms of Information technology exports, percent of total goods exports, 2021, it ranks low on government expenditures on R&D as % of GDP, innovations index (0-100) and digital skills gap index. The digital skills gap index 2021 used as indicator reveals that Romania's economy still has a gap between the demand for digital skills (especially from businesses) and the actual skills level of the workforce, highlighting the shortcomings in terms of ability of policymakers, educational institutions, and corporate trainers to effectively address the shortage of skilled personnel in this domain.

Table 4

Indicators in Innovation and IT category	Romania's rank of 29 selected countries
Expenditure on R&D as % GDP 2021	26
Information technology exports, percent of total goods exports, 2021	15
ICT sector share in GDP	20
Digital skills gap index	28
Innovations index (0-100) 2021	25

In terms of the *Human capital* category, Romania should take measures to improve the financial literacy of the population, government's expenditures on education as % of the GDP. The Human Capital Index, on which Romania is situated on the 28th place, refers to the amount of human capital that a child born in the present can expect to attain by age 18, given the risks of poor health and poor education that prevail in the country where the child lives. This is an important indicator in terms of the quality of the future workforce, but also in terms of future financial vulnerability of a country's population, with serious implications on a country's resilience, which makes it another area where a strong and timely intervention from the government would be desirable.

Table 5

Indicators in Human capital category	Romania's rank of 29 selected countries
Financial literacy %	27
Digital skills among population	19
Government expenditure on education, total (% of GDP) 2020	27
Human Capital Index (HCI), Upper Bound (scale 0-1)	28
Human flight and brain drain index	24
GINI index degree of inequality in the distribution of income/wealth	21
Human development index	25

The Government effectiveness index, in which Romania ranks on the 28th place, refers to the index of "the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies".

In terms of the Governance effectiveness category, based on the lowest rank Romania registers in terms of Public Services index, measures to improve the provision of essential services, such as health, education, water and sanitation, transport infrastructure, electricity and power, and internet and connectivity, effective policing are a crucial requirement in terms of increasing resilience. The Government effectiveness index, in which Romania ranks on the 28th place, refers to the index of *"the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies"* (Globaleconomy.org, 2022). It is the foundation not only for economic resilience, but for resilience in general and is another area where improvement measures are critically needed.

Table 6

Indicators in Governance effectiveness category	Romania's rank of 29 selected countries
State legitimacy index	23
Public services index	29
Factionalized elites index	22
Rule of law index	21
Government effectiveness index	28
Control of corruption	25
Political stability index	21
Corruption Perceptions Index, 100 = no corruption	24

An additional area of research could refer to further refining the concept of economic resilience in the context of comprehensive defence. It entails expanding the analysis to incorporate factors related to national security and defence, such as safeguarding critical industries and assessing the extent to which government policies are interconnected and influence economic resilience, in order to achieve a combined and comprehensive index that could be the basis for policy recommendations.

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DISTANCE LEARNING OR RESIDENT EDUCATIONAL AND TRAINING PROGRAMS? POSSIBLE SOLUTIONS TO THE EFFECTIVENESS DILEMMA IN MILITARY EDUCATION

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Distance learning used to be a highly coveted reality before the outbreak of Covid 19 pandemic. When prompted as an emergency solution, it offered manifold avenues of creativity and adaptability for educators and institutions. All of them were essential to overcome many of the stumbling blocks raised by the impromptu transition or transfer from face to face educational and training programs to distance learning solutions. However, once the WHO declared the end of the pandemic and even though the public discourse is still focused on the importance of technology and the added value it provides in all walks of life, the return of many educational and training institutions to the delivery of face to face educational and training programs tends to become the norm. The current article focuses on the necessary prerequisites for establishing distance learning programs as viable, effective and sustainable counterparts of residential programs. It offers a bird's eye view on a select number of time-tested perspectives, processes, models in the field of education and training that can be employed to assure distance learning programs' effectiveness as informed by conceptual dimensions like end users' needs, technology enabled design of DL programs, participants' support, and learners' engagement. Thus, it can assist strategic decision-making in the field of distance learning education and training programs as well as the formulation of appropriate guiding questions concerning the effective design and development of such programs.

Keywords: effectiveness; systems approach to training (SAT); organizational system's view; ADDIE (analysis, design, development, implementation, evaluation); SAMR (substitution, augmentation, modification, redefinition);

INTRODUCTION

Distance learning/DL educational and training programs can be viable, effective and sustainable counterparts for residential programs. Furthermore, distance learning can demonstrate its effectiveness if approached from the perspective of a long-term vision incurring an outcome-based approach informing specific management processes like planning, organizing, monitoring, controlling and reviewing. These are two assumptions underpinning the current article. Based on them we will delineate a select few models that inform an effectiveness-based approach to distance learning.

The method employed by the article is a qualitative descriptive approach of the relevant models in the field of designing and developing distance learning solutions based on the conceptual dimensions derived from the operational definition of the concept of *"effectiveness of distance learning"* provided by the 2019 report of the Chartered Institute of Personnel and Development. Additionally, the article narrows down the scope of distance learning educational and training programs to adult learners as the main target audience. Inherently, that allows for the selection of the relevant literature in the field.

According to the aforementioned source, the effectiveness of DL is the result of a multitude of factors that can be synthesized under four main threads presented below:

- **need-**based approach derived from labour market'/employers'/ participants' requirements (also characteristic of residential programs);

- **technology**-enabled design of DL programs that meets requirements like compatibility across devices, ease of use, searchable content, provides means to ensure social interaction, and assures the practicability of the learning experience;

- **support** demonstrated by senior management and leadership for such programs, along with support for participants in the form

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of communities of learners and communities of practice for instructors/ educators, and career management and professional development opportunities for the latter;

- means to **engage** learners such as opportunities to take control of their learning process and demonstrate autonomy, establishing goals that they can meet, personalizing content to meet learners' specific needs, and acknowledging the DL solution organization-wide as a form of motivation.

Figure 1 is a visual representation of the conceptual dimensions underlying the concept of DL effectiveness based on which the models that we deem representative for designing and developing distance learning solutions are identified.
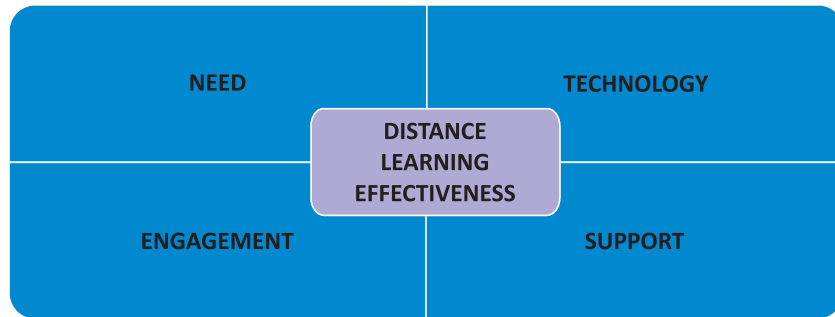
Figure 1: Conceptual dimensions ensuing
from the operational definition of distance learning effectiveness

All of the above considered, we contend that establishing the necessary framework to support the decisions substantiating the need for such programs, identifying the necessary steps required to take before implementing and conducting them on a routine basis, as well as analysing the goals to be served by the technology chosen to integrate in such programs are areas that need thorough consideration. Furthermore, technology-enabled design principles and student-based learning premises are intrinsic parts that need to be factored in when attempting to solve the effectiveness dilemma. All of the above entail a comprehensive approach in relation to the major prerequisites for designing and developing such programs. *Figure 2* is a synthesis of the main relevant models in this regard. Therefore, we consider

that the perspective, processes and models that guide the analysis of distance learning solutions as viable options and their design and development require the following:

- taking an organizational system's view and applying a systems approach to training (SAT) to validate DL as an option;

- employing models like ADDIE to guide the design and development of DL programs and identify the necessary support needed by instructors to conduct the courses, and SAMR to make informed decisions concerning technology integration in DL programs;

- facilitating future participants' engagement in the programs from a design and development perspective as assured by backwards design, student-centred learning and Bloom's taxonomy.
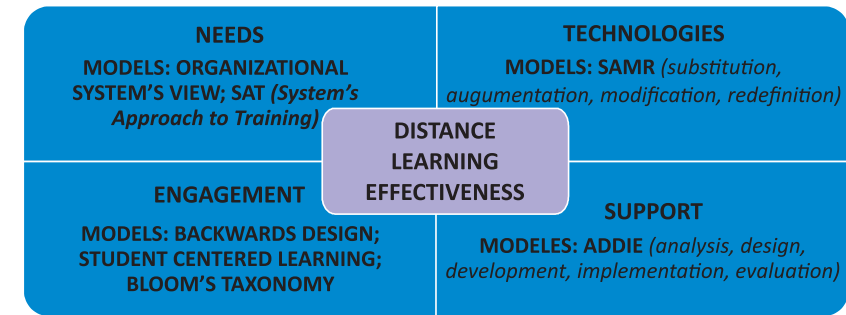
Figure 2: Perspectives, processes, models associated
with the concept of distance learning effectiveness

Nonetheless, given the comprehensive nature of setting up an effectiveness framework, the article focuses only on the necessary prerequisites for establishing distance learning programs as viable, effective and sustainable counterparts for residential programs. It offers a bird's eye view and therefore it does not focus on specific quality standards necessary for monitoring and controlling the implementation of distance learning and, implicitly, on those measures of evaluation of effectiveness that can further plead for considering it the qualitative equivalent of resident educational programs. In this respect, it provides a much- needed overall outlook that can inform strategic decision-making and guide effective design and development of such programs.

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SYSTEM'S APPROACH TO THE ORGANIZATION

Consolidating distance learning solutions that have already been developed during the Covid 19 pandemic, or proposing new solutions incurs first and foremost taking a system's view upon the organization as a whole. The clarity of well-established outcomes is a key aspect to factor in when reviewing the lessons identified in the field of education and training during the Covid 19 pandemic and considering the likely advantages that distance learning presents to employers, employees and educational and training institutions. Their identification depends to a great extent on any organization's mission, vision and strategic direction as informed by the evolution of external factors like legal framework, socio-cultural features and trends, economic realities, technological development, environmental concerns promoting sustainable approaches to resources, and swift geo-political overturns.

A well-defined legal framework that clarifies the place and role of distance learning as not only an alternative to residential educational and training programs, but also a standalone solution integrated within the overall educational and training framework (i.e. undergraduate, graduate and postgraduate studies, as well professional development programs) is the stepping stone. Based on that, specific quality standards are required. They can be developed based on the features of specific sciences and related field of educational programs, and broken down by levels of educational programs (undergraduate, graduate, postgraduate) and by the ratio of teaching to practical/research activities. All of the above represent the basis for specific details such as the workload of educators/instructors, and the means by which that is best described: *"contact hours"*, namely the time spent by the instructor in the synchronous mode or *"level of effort"*, that is the amount of time needed to prepare for material delivery rather than the delivery itself. Credits are another important aspect to be acknowledged, legally speaking, since they play an important role in the opportunities that undergraduates and graduates are presented with in terms of study abroad or recognition of qualifications by international educational institutions.

Unfortunately, more often than not, the changes in the legal framework do not always keep the pace with the volatility of the other factors that are external to organizational framework. Those either contribute to arguing the case of distance learning as an effective counterpart of full residential educational and training programs, or undermine it. For example, the socio-cultural features of a nation, the trends concerning employability, the brain drain that come along with economic realities represent important drivers when it comes to the choices that the people in the pool of potential participants in educational and training programs make. In this respect, unlike other major events impacting humanity in the past decade, Covid 19 pandemic has highlighted the digital divide between various walks of life from countries across the globe. According to the UN, educational inequality has been deepened by *"digital learning"* and great numbers of learners have been left behind as a result of lack or little access to digital tools. On the other hand, for the digital natives, Covid 19 has offered great opportunities in terms of full employment of existing competences just in time from any location. However, when describing economic realities in combination with geo-political factors, the ongoing war in Ukraine, as well as other emerging conflicts change the perspective as to the short-term and long-term priorities of people in relation to education and training.

Thus, legal framework, socio-cultural factors, economic issues, geo-political strife impact the medium to long-term planning of any educational entity in relation to integrating or not distance learning as a standalone solution for the delivery of educational programs. What is more, at the moment, it is pretty difficult for any organization – whether as an employer of DL graduates or deliverer of DL educational solutions – to evaluate the success of the impromptu DL solutions adopted during the pandemic for reliability reasons. Therefore, what we argue is that any decision to adopt distance learning depends on the results of reviewing the mission and vision of a given organization in relation to the impact of the external factors discussed above in terms of opportunities presented by the external environment, strengths acquired and weaknesses identified within the organization's competences, roles to be deployed and tasks to be fulfilled, information flows to be assured via chain of command, and technological solutions available or employed when adopting DL as an emergency solution.

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Furthermore, it is also important to mention the knowledge, technological, material capital already existing or gained and enhanced during the Covid 19 crisis. At the time, conducting distance learning alternatives for residential programs signalled the tight inter-dependencies among people's competences, the information flows generated by the specific roles and tasks undertaken by the latter and facilitated by the available technology. Furthermore, the temporary solutions identified to overcome bureaucratic processes of making decisions led to a decentralized approach that demonstrated the importance of allowing for agile approaches. Therefore, taking an organization's view on any decision concerning the adoption of DL standalone solutions requires an in-depth approach to the main components of the organization itself and their dependencies, namely organizational hierarchy, roles and tasks, technology that facilitates information flows, and people's competences. The roles and responsibilities inherent in the organization chart and the existing hierarchy, the tasks and processes derived from them, and the inherent flow of information they generate, the technology that facilitates the accomplishment of all of the above and the competences of people are all part of major organizational assets. Any change in one of the components generates ripple effects in the others. Adopting DL solutions requires not only better technological support, but also redefining the roles and tasks that are facilitated by technology or identifying new tasks derived from technology integration into organizational fabric. Furthermore, technology can be used effectively as long as people's competences and organizational decision-making and communication flows allow it. Hence, improvement in competences and re-engineering of organizational structures become a necessity.

In conclusion, distance learning can become a practical, workable and effective solution if a number of conditions are met organization wide from such a system's perspective. When an organization validates that distance learning is part of its mission and contributes to achieving envisaged outcomes and benefits, then features and requirements for DL educational and training solutions need to be identified. The system's approach to training is a time-tested process that not only enacts

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the principles underpinning a system's approach to organizational mission and structure, but also sequences the steps needed to generate the features and requirements to which DL educational and training solutions need to align.

SYSTEMS APPROACH TO TRAINING

The Systems Approach to Training (SAT) is a widely acknowledged standard both in private organizations and public establishments across the globe. Its main benefit consists in linking on-the-job performance standards and subsequent tasks with the process by which an educational solution is identified/designed, developed/reconfigured, implemented/piloted and evaluated. In this respect, it is the essential communication bridge between employers, on the one hand, and providers of education and training, on the other hand. Thus, the adequate identification and description of needs and requirements in the field of human resource professional development can be better reflected in the design and development of educational solutions. Furthermore, SAT provides the necessary framework for conducting a cost-benefit analysis that validates or not the extent to which the educational solution proposed is affordable and sustainable.

There is a number of key concepts supporting the system's approach to training and informing what it takes to design curricula and courses in a process-based manner. The most important, from the perspective of the topic of the current article, is that of stakeholders. They provide a clear depiction of what needs are met by an educational solution and what the exact requirements are. In our opinion, the identification of the right stakeholders is based on three variables that depict their profile: power to set strategic direction, make decisions, set constraints such as time, budget, and features of the educational solution; urgency of requirement anchored in performance gaps substantiated by valid and reliable data or in the strategic outlook; and legitimacy to formulate requirements. Those three variables enable a realistic identification and portrayal of the target audience to benefit from the educational solution in terms of competences available and competences needed, number of people who need education or professional development, their geographical location, availability etc.

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The ADDIE (Analysis, Design, Development, Implementation, Evaluation) model, a key component of SAT, offers the other key concepts that need to be properly delineated and implemented in order to assure that the right solution is identified, while also undertaking the right process. Thus, the above-mentioned aspects of a curriculum and associated course/program are both standalone steps to be undertaken as well as parts of a logical process taking any educational initiative from inception to fruition. The most important questions that need to be asked as part of the aforementioned process, as well as the tangible outputs that need to be generated are presented below.

The purpose of conducting the analysis phase is to generate a number of outputs, namely: job performance outcomes to be achieved via educational solutions; aim of educational solution/overall learning outcome; target audience profile (general characteristics); and instructional strategy (face to face/distance learning, solution life-cycle etc.). The questions to be asked in order to achieve the aforementioned results could be: *Who are the learners?; What do learners need to be able to do on the job?; What do learners already know?; What andragogical/pedagogical principles need to be made evident by the solution?; What other delivery modes/teaching strategies could be employed?; How much time do learners need to complete the course?; How much time is allocated for the educational solution?; What resources are needed by the learners to complete the course?*

Nonetheless, the major prerequisite for initiating this phase is to identify the stakeholders and their requirements. In this respect, a direct communication channel needs to be established between the employers who have knowledge of the performance standards to be achieved on the job, as well as the gaps that need to be bridged via education and training and the educational/training provider that has the necessary competences and technological and administrative infrastructure for designing, developing, and delivering an educational solution.

The design phase focuses on two aspects. First and foremost, it refines the target audience profile in terms of variables like geographical location, age, possible expectations/motivation level, necessary prerequisites for signing up on the educational solution,

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likely constraints that could impede their participation in the course etc. Second, it breaks down the learning outcome that is derived from job performance standards into tasks, sub-tasks, knowledge and skills necessary for completing it. Based on that, further learning objectives are identified, as well associated assessment tools and instructional methods. All these aspects need to demonstrate alignment to the overall learning outcome and become assessment strategies and instructional strategies and their clear identification allows for establishing the solution requirements such as time needed to meet individual learning objectives and overall learning outcomes, references, and resources such as manpower, equipment, materials, constraints. The main questions that guide the design phase are: *Are instructional strategies/activities and assessment strategies aligned to the learning outcomes? Do they reflect the overall outcome of the educational solution?*

In the development phase, the following outputs are generated: instructional materials; assessment tools; schedule; professional development plan for instructors. In addition to them, it is essential to pilot the educational solution in order to identify and address possible gaps or problems. Additionally, the main tasks or processes needed to assure course administration support are also refined or developed. They concern course planning, preparation monitoring and close-out requirements. Thus, the main questions to be addressed are: *What other instructional activities/assessment tasks should be developed?; How long does it take/what does it take to develop/improve the instructors/teaching staff's competences?; What processes should there be in place to support the course from an administrative perspective (solution planning, preparation, delivery, closing)?*

The implementation of the educational/training solution is possible only if the measure of success is established from the very beginning. During this phase monitoring activities aimed at data generation, collection, analysis based on quality assessment framework are conducted. The main question driving all those is: *What requirements need to be met to successfully implement the solution?* In this respect we argue that the assessment framework needs to be designed and developed at the same pace with the solution itself and has to be

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anchored into stakeholders' requirements and in the institution's quality assurance framework.

Evaluation, while partially overlapping with the previous stages (i.e. any stage incurs validation of products via specific control tools aligned to the features of outputs), is a stage on its own, as well. Its main activities concern post-course review and institutional review. The former is based on internal data analysis and interpretation (data resulting from course assessment strategy and from quality assurance surveys focusing on instructors' competences, materials' relevance, administrative processes timeliness). The latter is based on external data (employers'/former graduates' self-reports/surveys/assessment) generation, collection, analysis and interpretation.

STUDENT CENTRED LEARNING AND BACKWARDS DESIGN

Student-based learning (SBL) is not a new concept. However, we strongly believe that nowadays it has been revitalized as a necessity by the swift advances in technology which make it difficult for instructors and well established educational and training institutions to keep pace and adapt on an ongoing basis. Therefore, the main goals and principles of SBL should underpin any effort to review existing curricula and educational and training programs or to follow the ADDIE to generate new educational solutions.

The simplest operational definition of SBL is that it is aimed at designing a system of learning that places the student at the centre of teacher's and institution's choices in relation to learning materials, assessment tools and evaluation, and educational environment.

The goals of employing this approach are two-fold: retention of meaningful knowledge and use of what is meaningful in new contexts. The principles underpinning the concept are not that new, being proposed initially by Carl Rogers (1965). According to Brandes and Ginnis (1986), there are a number of principles that require the teacher to reconsider the roles assumed in class and outside the class. Thus, during the learning process, students are empowered to take responsibility for their learning. That means the choices made in terms of instructional methods and assessment tools need to promote

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active involvement and engagement, while the cognitive and affective domain become mutually reinforcing areas of learning. Consequently, the role of the instructor is that of a facilitator and resource person, while the relationships among students need to lead to growth and competency enhancement. Thus, the content of a specific discipline has to be wisely selected in order to consolidate knowledge, develop skills and self-awareness by targeted group/team work, allowing for time for reflection in class or outside the class, providing feedback and room for improvement, employing assessment rather than evaluation, using authentic assignments.

The stakeholders' perspective runs as a major theme through the concepts discussed previously (i.e. a system's approach to organization, SAT, ADDIE). We can assert then that it requires that education and training target authentic learning experiences. In this respect, it is worth underlining that every student has previous knowledge and skills, and those need to be unveiled, shared and employed in the learning environment. That means knowledge construction and skill development are enhanced by social interaction, resources external to the learning environment setup by the educational provide and inherent inputs, and by employment of cognitive, affective and physical processes (think-do-reflect) rather than by individual efforts or mere in-class interaction (Hoidn, 2017). Hence, a stakeholders' perspective underlines the importance of employing SBL principles.

In line with the need to enable students to become owners of the learning process, as well as taking into account the outcome-based approach on which the ADDIE model is built, we believe that another element contributing to solving the effectiveness dilemma of distance learning educational/training programs is backwards design and associated principles, tools and techniques. According to Wiggins, G. P., & McTighe, J. (2005), backwards design demands that any planning activity, be it in the field of curriculum or a given lesson, must clarify what the final result of the learning process needs to be. In other words, a clear statement of the learning outcome and associated objectives is fundamental. In this area, the clarity is rendered by the taxonomies employed in scaffolding the goals. One such tool is Bloom's revised taxonomy which covers in a sequenced

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manner cognition development from the lowest level to the highest level (i.e. remember, understand, apply, analyse, evaluate, create). Once the learning outcome is identified, acceptable evidence tools and techniques must be selected. In this respect, Wiggins and McTighe regard assessment as a continuum rather than a onetime event that *"vary in scope (from simple to complex), time frame (from short-term to long-term), setting (from decontextualized to authentic contexts), and structure (from highly to nonstructured)"*.
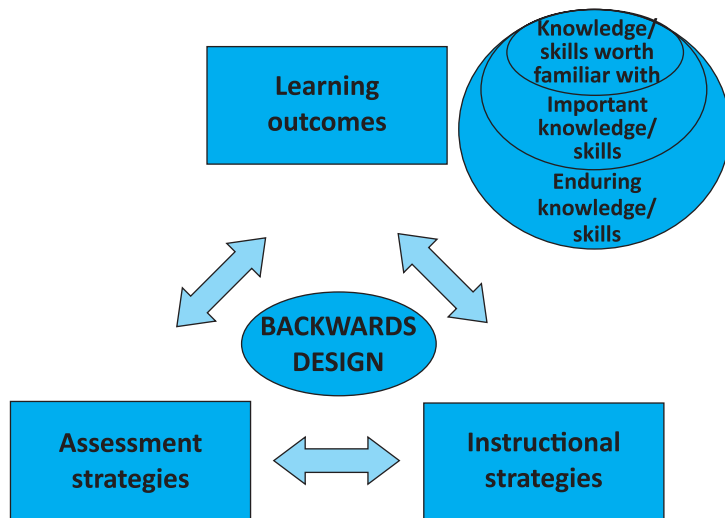
Figure 3: Backwards design
(Source: Wiggins, G. P., & McTighe, J. (2005). Understanding by design. Alexandria, VA: ASCD.; https://educationaltechnology.net/wp-content/uploads/2016/01/backward-design.pdf, retrieved on 23 September 2023)

TECHNOLOGY INTEGRATION IN DISTANCE LEARNING SOLUTIONS

An aspect that is essential in distance learning is technology integration. One model that is aimed at providing guidance on how to work with technology is proposed by Ruben Puentedura and focuses on four different levels of technology integration. Substitution, augmentation, modification and redefinition are the key words that drive the identification of where a lesson/curriculum/program is in this respect.

Substitution is about performing the same tasks of learning by using new technological tools. As its name says, what changes is the format

by which the task is undertaken, and no changes are made to the task itself. If, for example, we talk about the task of writing a paper, then substitution is made possible by the Microsoft Word suite. Augmentation maintains the task while increasing the learning opportunities. Thus, writing a paper is enhanced by the technology available in terms of opportunities presented by *speech to text/text to speech* applications, or checking/correcting typos via the *Spelling and Grammar* function. Modification incurs the use of technology in such a way that the lesson/curriculum/program is redesigned to allow for collaboration and higher order thinking skills like analysis and evaluation. In the case of our example, Google docs for peer/instructor feedback can be employed to allow for students to work together, own their learning and find new avenues for improvement. Worth mentioning is that the learning outcome remains the same, it is just the course of action that is different. In this respect, multimedia creation tools, collaboration tools allow for shared knowledge and joint knowledge construction, creating documents, videos, web pages. Redefinition in terms of technology integration involves conducting tasks that would be hard to achieve using traditional methods and generates leap in terms of enabling students to achieve learning outcome and even surpass it.

R	REDEFINITION creation of NEW TASKS PREVIOUSLY INCONCEIVABLE	TRANSFORMATION Technology as a partner
M	MODIFICATION SIGNIFICANT task redesign	
A	AUGMENTATION direct substitute, WITH FUNCTIONAL improvement in outcome or learning process	ENHANCEMENT Technology as a master
S	SUBSTITUTION direct substitute, NO FUNCTIONAL improvement in outcome or learning process	

Figure 4: The SAMR model
(Source: http://hippasus.com/rrpweblog/archives/2015/10/SAMR_ABriefIntro.pdf, adapted, retrieved on 22 September 2023)

The question that Puentedura advises to employ when reflecting on technology integration is: *"How to transition from traditional learning places to a continuum of learning spaces?"*. In this respect, it is noteworthy that technology as a substitution and augmentation tool is a master that dictates the accomplishment of tasks, whereas in the case of employing it for modification and redefinition purposes, it transforms itself into a partner and enables learning that would not be easily assured in its absence.

The model is not prescriptive and that is one of its main advantages. Furthermore, it contributes to better substantiated decisions concerning technology as an enabler of the learning process. Starting from the questions suggested by Puentedura and based on the authors' experience in designing, developing, conducting and evaluating distance learning courses, a number of questions can be employed to unveil the goals of technology integration as part of educational and learning solutions. They are presented in *table 1*.

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Table 1: Questions for assessing the goals of technology integration

REDEFINITION	**What tasks are performed via technology integration that could not be done before?** **Do the tasks redefined by the technological opportunities foster participants' critical thinking, collaboration and creativity skills**? Does technology integration **encourage and allow the use of external sources** of information/ technology tools not provided on the course specifically?
MODIFICATION	Is the task (instructional/assessment) significantly redesigned? Do students become **involved in using technology** to visualize/explore during the learning process? Do they become **content integrators and creators**? Do they gain **a personal stake in the process of learning**?

AUGMENTATION	Can students **interact with the content** (i.e. instant feedback to quizzes, engaging)? OR What **improvements** are made/could be made **to the tools** employed at substitution level (power point, video, assessment tool, e-docs etc.) to better **engage** participants?
SUBSTITUTION	What does the course gain by replacing paper-based tools with technological solutions (i.e. videos, pdfs/electronic versions of documents, highlighted text, pictures etc.?

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In relation to the effectiveness dilemma proposed by this article, we consider that the above questions are useful in order to better assess the goals of employing technological solutions and hence decide the benefits that they can generate compared to face-to-face solutions. In this respect, we argue that effectiveness is demonstrated by those DL solutions that aim at employing technology as a partner, and hence create collaboration spaces outside traditional classroom.

Choosing technology and integrating it as part of a continuum solution, as it is the case with distance learning programs or courses, should also take into account factors related to its functionality, suitability for active learning activities and accessibility. Thus, a number of questions need to be raised concerning the extent to which technology employed can be used by a great number of students while also allowing to create groups, its ease of use and the level of IT support needed to solve problems. Furthermore, technology should contribute to the learning process and not hinder it by focusing learners and instructors on technology use technicalities. Additionally, the distance learning solution should not overburden leaners with the need to acquire state of the art equipment or software in order to assure compatibility and hence access to the DL solution. Offline access is another major concern that should be addressed in relation to technology integration, since one of the most common clichés associated with the choice of DL solutions is the promise of *"anytime, anywhere"* access.

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CONCLUSIONS

Making a substantiated decision on choosing distance learning as an effective counterpart of face to face educational and training programs depends first and foremost on a thorough scoping of the main socio-cultural, legal, economic and geo-political drivers outside any educational institution with a view to identifying the extent to which those factors impact in any way the demand for educational/ training programs, be they face to face or in the distance learning format, and the formulation of the offer in line with the mission and vision of that specific entity.

Second, identification of clear-cut requirements based on a depiction of stakeholders' needs is another important step in establishing effectiveness criteria for distance learning solutions.

Third, it is of utmost importance that any distance learning solution should be anchored into the time-tested system's approach to training (SAT), namely identifying performance standards and performance gaps before actually starting the conduct of the ADDIE process.

Last but not the least, working with models or assessment frameworks that provide guiding questions for assessing the goals of technology integration into DL programs or courses is another major driver of effectiveness. Additionally, identifying specific functional, technical and pedagogical criteria supporting the choice of technological options is important for arguing the case of effectiveness of distance learning solutions.

In conclusion, the dilemma of the effectiveness of distance learning programs is complex and requires a multi-dimensional approach. This article provides an overview of the systemic, pedagogical and technological requirements for building and enhancing quality in distance learning educational/training/educational programs. Clearly, more detailed issues related to the criteria for shaping the virtual learning space in terms of the roles of educators/instructors and participants, principles, methods and techniques of interactive learning or formative assessment, principles for designing educational solutions, normative frameworks for quality assurance etc. should also be discussed to complete the solutions contributing to the effectiveness of distance learning solutions. All of those will be addressed in future research projects.

The dilemma of the effectiveness of distance learning programs is complex and requires a multi-dimensional approach. This article provides an overview of the systemic, pedagogical and technological requirements for building and enhancing quality in distance learning educational/ training/ educational programs.

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BEYOND THE WORDS
– THE VERBAL ANALYSIS OF POLITICAL-MILITARY PERSONALITIES' SPEECHES –

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Within the article, I intend to approach politicians' speeches from the point of view of word analysis, in order to discover what lies beyond the apparent message. Often, the information space is assimilated to a battlefield where words, like projectiles, fly to all sides to reach their target.

The analysis of political discourses complements and validates the distant assessment of political leaders' personality traits. Thus, we can determine whether or not the generated language patterns reflect their decisions.

The neurolinguistic studies show that grammatical choices are not made consciously, thus we can discover important information about the personality of a political person. Moreover, it can be validated or not by comparison if the author of the speech is the same as the one who promotes it.

This method of verbal communication analysis complements the remote psychological evaluation of political-military personalities on the ways in which they assume decisions.

Keywords: remote psychological analysis; political personality; cognitive complexity; verbal analysis; political crisis;

INTRODUCTION

Remote political personality assessment was developed as a method to present a relevant image of the political leader within the context. It capitalizes on the political leader's personality in the course of his life in terms of decision-making behaviour and his ability to influence the course of history. Thus, in addition to the traditional elements of clinical psychology, the assessment of remote political personality includes the following: management style, negotiation, taking strategic decisions in crisis situations. The radiography of the styles listed above provides important information about the cognitive and rhetorical aspect of the evaluated leader, each of these aspects being shaped by the socio-cultural context.

Within personality theory and research, cognitive complexity is generally associated with resilient behaviour in ambiguous or confusing situations. Hermann (1980) assessed cognitive complexity (remote psychological profiles) by calculating the ratio of words to phrases identified as being of high importance of words and phrases designated as of low importance. In the analysis of speeches from the point of view of psychological impact, cognitive complexity thus defined is connected with positive feedback associated with discourse addressed to other nations.

The cognitive complexity theory involves differentiation first and then integration, Suedfeld and his colleagues (e.g., Suedfeld and Tetlock 1977) adapting a measure of integrative complexity for remote research. (Whereas this integrative complexity is conceptually related to Hermann's). Several studies have demonstrated that integrative complexity is linked to peaceful resolution (versus conflict escalation). Suedfeld and Tetlock (1977) compared communications and statements from two crises that ended in war (1914 and 1950 outbreak of the Korean War) and three crises resolved peacefully (Morocco crisis of 1911, Berlin airlift crisis of 1948, and 1962 Cuban missile crisis).

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As expected, they found higher levels of integrative complexity when war was averted. Suedfeld, Tetlock, and Ramirez (1977) studied United Nations (UN) discourses on the Middle East for over thirty years and found significant decreases in specific integrative complexity during the periods just before the outbreak of wars in 1948, 1956, 1967 and 1973.

USEFULNESS OF VERBAL ANALYSIS
OF POLITICAL SPEECHES

The analysis of the verbal communication of political speeches is compared with the assessment of the politician's personality traits, with what is already known about him. It determines whether speech patterns generated by words analysis reflect the public behaviour of political leaders.

The grammatical choices are not made consciously, consequently personality traits can be highlighted, which cannot be identified by direct psychological evaluation. The used method is based entirely on available information provided by the media.

The speech can be studied from a variety of points of view. The linguistic component can be divided into the following disciplines: (1) phonology, the way sounds are put together to form words; (2) syntax, how sentences are made up of words; (3) semantics, which deals with interpreting the meaning of words; and (4) pragmatics, how we participate in conversations.

The paraverbal behaviour includes variables such as frequency, pauses, amplitude and tone. Of the speech facts available for analysis, syntactic variables and certain language variables are best suitable for the study of personality traits. Semantic variables, on the other hand, have only limited utility for identifying common behavioural responses. The speakers differ in their choice of vocabulary, but such preferences are influenced by situational variables, especially the topic of conversation (Laffal 1965, p. 93)

The method of analysing verbal behaviour is based on three arguments:
- Patterns of thinking and behaviour are reflected in speech styles;

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- Under stress, the speaker's choice of grammatical structure reflects characteristic coping mechanisms;
- Personality traits are revealed by grammatical structures that have a slow frequency of change.

COMMUNICATION SHALL BE MEDIATED
BY VERBAL CATEGORIES:

The category of qualifiers includes **expressions of** *uncertainty* *("I think I'll go to the ball game today")*; modifiers that weaken statements without adding information *("That old house is kind of scary")*; and phrases that contribute to a statement with a sense of vagueness or lightness *("Then we enjoyed what you might call an evening of relaxation")*.

The qualifiers are almost always spoken before the verb. The message is therefore reduced before it is transmitted. When they occur frequently, ratings indicate *a lack of decisiveness or avoidance of commitment*. Psychological studies have shown that the use of grades increases with anxiety (Lalljee, Cook 1975).

In his study of post-World War II presidents' speech patterns, Gerald Ford used significantly more qualifiers than others, giving his speaking style a touch of indecision (Weintraub 1989, 161). A very low frequency of qualifiers takes instead dogmatic speech.

It is important for such analysis that examples from speeches to be selected in the same way when comparing the use of qualifiers by speakers. In a study of the use of ratings, it has been shown that the use of this category is negatively associated with vocational training. Qualifiers serve as fillers, words, and phrases that are used when speakers search their memories for words (Weintraub, Plaut, 1985). A previously prepared speech will contain far fewer qualifiers than a spontaneous press conference.

Retractors, also called **adversarial expressions**, weaken or reverse previously spoken remarks. They include phrases such as: *but*, most often used retractor, *however, yet*. Frequent use of retractors suggests a difficulty in adhering to previously made decisions and gives a tinge of impulsivity to the speaker's style (Weintraub, Aronson, 1964).

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Compared to other post-World War II presidents, Richard Nixon used significantly more retractors (Weintraub 1981, pp. 130-131). It was especially true during anti-Vietnam demonstrations, when Nixon showed marked changeable behaviour. Impulsivity is not the only personality trait associated with frequent use of retractors. Many speakers use retractors to achieve *"pseudo-consensus"*, an apparent but inauthentic agreement with another speaker's point of view. An example of pseudo-consensus is the following statement: *"I agree that your note is not a good idea. It deserves to be raised from ‹B› to ‹A›, but as the principal of the school, I have to support your teacher"*. Moreover, the use of *"We"* in political discourse, when the speaker seems to reflect the need to present oneself either as oneself (high point/score, low score) or as a speaker for a cause (low/score, high score). Using *we* instead of *I* is a custom of kings and is unusual for Republican politicians.

The leaders of communist countries use the pronoun *we* instead of *I* as a sign of modesty and belonging to the modest condition of the people. One sign indicating that Gorbachev was a *"new"* Soviet leader was the relatively frequent use of *"I"*. (Weintraub, 1989, p. 12). When attacked by the opposition, Bill Clinton adopted the role of victim and used the pronoun *I* quite often.

The negatives. The most common examples of using the negatives category are: *no, never and nothing*. Speakers who use many negatives tend to be in *opposition and stubborn all the time*. They may also overuse denial mechanisms. In his study of the Watergate transcripts, H. R. Haldeman, known in Washington political circles as *"The Abominable Nobody"*, used more negative words, significantly more than the other Watergate conspirators (Weintraub, 1981, p. 124).

Explanators. The category of explainers includes words and phrases that suggest causal connections or justification of the speaker's thoughts and actions. The most common explainer is *because*. Other commonly used explanations therefore include *when*. Speakers who use many explanatories have a *didactic, apologetic or rational verbal style* (Lorenz, 1953). Those who use few explanations can be considered categorical and dogmatic. Part of Hillary Clinton's didactic speaking style is due to her frequent use of explainers as expressions

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of feelings. All causes in which the speaker attributes own feelings to oneself are punctuated. Examples are *"I love working outdoors"* and *"Jack's behaviour frustrates me"*. The use of expressions in which the speaker explains how he feels are associated in the listener's mind with emotional persons (Weintraub, 1989, pp. 49-72). In contrast, speech without such explanations of emotions reflects a distant, cold verbal style. Ronald Reagan's cold and flawless speech style was due, in part, to his rare use of expressions of feelings.

Adverbial enhancers. They include all adverbs that potentiate the force of the statement. The commonly used ones are: *very*, *really*, *so and so*. Adverbs intensify and add colour to the speaker's remarks. When used frequently, they produce a *dramatic*, *almost histrionic* effect. Speakers who use very few adverbial enhancers are perceived by listeners as *bored and gentle*. Among normal speakers, those in the middle-aged (fifteen to seventeen) adolescent group have the highest frequency of adverbial enhancers. Women use this category significantly more frequently than men among both normal and psychiatric patient groups. Patients with depression use this category more than other groups of patients (Weintraub, 1989, pp. 64-70).

Direct references include all explicit references within and in the context of the interview. The examples are: *"As I said in response to your previous question, I do not intend to run for public office in 1996"* and *"It is a pleasure to meet you in such a beautiful conference room"*. A large number of direct references reflect the verbal behaviour of a trained, perhaps manipulative speaker, one who avoids a particular topic by talking about the interview and not about what he was asked. When the frequency of observations addressed to the interviewer is very high, the speaker may appear *intrusive and in control*. A very low number of direct references may indicate that the speaker is *shy or distant*. In studies of post-World War II presidents, it has been found that the greatest use of direct references was by friendly and involved presidents Eisenhower and Reagan. Not surprisingly, the somewhat shy and aloof Jimmy Carter scored lowest in this category (Weintraub, 1989, p. 170). Among psychiatric patients, depressed and impulsive patients make the most direct references because they seek assistance from the interviewer (Weintraub, 1981, p. 31).

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Personal references are used in situations whose topics include the speaker and people he or she knows. *"I liked President Kennedy"* and *"Gerald Ford was my close personal friend"* are personal references. The situations whose topics are unknown to the speaker are qualified as non-personal. An almost exclusive use of non-personal references suggests *detachment from the listener*. Less use of non-personal references may reflect a tangible concern for oneself and one's immediate environment. John F. Kennedy made little use of personal references. It increased the impression of a *cool, detached, situational leader.*

Creative or colourful expressions. This category includes all occurrences of intelligence, metaphor, and idiosyncratic use of language. If the colourful expressions are of high quality, they can reflect the presence of an original mind. Original or not, colourful expressions are perceived by most listeners as entertaining. Examples of creative expressions would be *"an unbroken purple sky"* and *"scenes of ravaged dissipation"*.

Emotional speech. Expressions of feelings have previously been identified as a category that conveys emotion, but it is not the only category of its kind. Listeners associate the following categories to convey emotion: (1) using *me* rather than *us*; (2) intensifying adverbs; (3) direct references and (4) personal rather than non-personal references. Most emotional speakers will use several of the categories of feelings to convey warmth.

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PERSONALITY TRAITS ARE REFLECTED IN SPEECHES BY GRAMMATICAL CHOICES

Judgment. Readiness for decision can be measured by the frequency of occurrence of ratings. Numerous ratings suggest indecision, anxiety. Analysis of speeches reveals that among post-World War II presidents, Gerald Ford scored highest in this category.

Reconsideration or reversal of decision is best reflected by moderate use of retractors.

Frequent use of retractors and negatives is associated with *impulsivity* in many cases. During the Watergate crisis, Richard Nixon occasionally acted impulsively. This trend was reflected in the increased use of retractors and negatives.

The speakers in **angry moods** frequently become irritable during interviews. Occasionally, they explode if provoked by the interviewer. In such cases, the use of qualifiers may disappear completely. In extreme anger, all evidence of indecision disappears. Another characteristic of angry speech is negativity. In some samples of angry speech, the use of negatives can be up to five times greater than normal speech. Other noteworthy findings are the use of rhetorical questions and direct references, indicating aggressive listener involvement. Angry speech is unusual for world leaders, who generally try to present themselves peacefully and in control of themselves to their listener.

The speakers who have emotional control. Emotionally controlled people tend to score low in most or all categories of feelings. Speakers who are perceived as expressive or warm score high in sentiment categories. The speech of oppositional or stubborn speakers is characterized by the presence of many negatives.

Behaviour control. This personality trait is reflected verbally in at least two ways. Controlling speakers are often emotionally controlled, meaning they rarely use categories of feelings. To avoid finding themselves in an uncontrolled situation, controlled speakers try to prepare for interviews by limiting journalists' questions to certain topics for which they have studied carefully. Such training will be revealed by a low frequency of ratings.

Inactivity. The most useful verbal reflection of inactivity is probably the frequent use of the personal pronoun *I*. *I* is almost always used as the object of a verb and is therefore the recipient rather than the initiator of the action.

Domineering behaviour. Verbosity, the use of many connections (qualifiers, retractors and explanators) and interruptions best characterize domineering conversational behaviour. When domineering behaviour becomes intimidating, commands and offensiveness can occur in the speaker's verbal behaviour. Of the post-World War II presidents, Lyndon Johnson was the most dominant in his verbal behaviour.

Creativity. How can we measure verbal creativity? According to Richard Ohmann (1967), there are three ways creativity can be expressed in language. A writer or speaker can create new words; can make new syntactic associations, that is, put words together in novel ways; and can express itself in original metaphors.

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Familiar behaviour. The verbal manifestations of familiar's behaviour include the use of the first names, a favourite routine of Ronald Reagan (Weintraub, 1989, pp. 174-75), comments about the interviewer's personal life, and allusions to events or people known to the interviewee. These verbal mannerisms can be reflected in a high score of direct references. Familiar people frequently use teasing and clowning in their relationships with others, a tactic that many listeners find embarrassing and inappropriate. Lyndon Johnson was the most familiar of post-World War II presidents (Ib., p. 144).

Resilience is the ability to recover quickly from unfortunate situations, failure. This characteristic can be assessed by measuring a speaker's ability to lose and then regain their verbal style over the course of an interview or, even better, over several interviews spanning days or weeks. A vulnerable speaker may be so traumatized by a failed verbal performance that their ability to answer questions publicly may be impaired for a while. Richard Nixon temporarily lost his usual style of speech during the Watergate scandal. His verbal behaviour resembled that of a depressed patient. After the crisis was resolved, he regained his usual way of speaking.

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Stress response. This trait is best measured when verbal data has been gathered during stress interviews. The speaker's answers to challenging questions are scored and compared to the individual's other scores when answering neutral questions. If, for example, a speaker's use of both qualifiers and retractors increases in response to stress questions, we can conclude that the speaker becomes less decisive in crisis situations. If, in response to confrontational questions, a speaker uses the pronoun *"I"* more and the pronouns *"we"* less, it is likely that in crisis situations that individual will rely more on his own resources and less on the help of others. On the other hand, a speaker who cannot accept sole responsibility for crisis situations is likely to react in reverse, using more *"we"* pronouns and less *"I"* pronouns.

CASE STUDY: JIMMY CARTER AND RONALD REAGAN

Specifically, the analysis of verbal behaviour is based on identifying personality traits that we decide to evaluate and highlight. In describing the method, certain personality traits have already been emphasized, such as impulsivity, determination, vulnerability, taking responsibility etc.

In 1986 another verbal analysis of political leaders was published. Using randomly chosen samples from their presidential press conferences, they compared the spontaneous speech styles of Jimmy Carter and Ronald Reagan. There were significant differences between the verbal behaviour of the two presidents. Carter's use of verbal categories showed him to be shy, distant, competitive, and defensive when challenged. Instead, Reagan was engaging, generous, confident, entertaining, and detached with the White House press. Under pressure, Reagan showed a tendency to deny unpleasant aspects of reality and, in some cases, to reverse previously made decisions (Weintraub, 1980).

CONCLUSIONS

A benefit of analysing the speeches of political leaders, especially in crisis situations, just resides in the possibility of outlining the framework of negotiations to bring adversaries to a constructive dialogue aimed at ending hostilities.

Another reason for studying the speeches of political leaders is the possibility for those who produce such documentation to analyse beyond the thematic contents of their speeches, their memoirs, their letters, their transcribed conversations. Analysis of the personality of a political leader based entirely on the content of a narrative can be influenced by the subjectivity of the author and contain errors. This method that can compare, in a systematic way, behaviour and speech styles can be useful to historians and biographers.

Analysis of the personality of a political leader based entirely on the content of a narrative can be influenced by the subjectivity of the author and contain errors. This method that can compare, in a systematic way, behaviour and speech styles can be useful to historians and biographers.

The analyst can develop a complex profile of the leadership's style and decision-making that the political leader will present. Personality traits in conjunction with the frequency of verbal expressions used provide important information about the leader's actions, whether he will respect or challenge constraints, be open or closed to information in the environment, focus more on problem solving or community building, and be tougher or more resilient.

The speed at which international conflicts can *"become critical"* and the catastrophic consequences of miscalculations make it imperative that accurate assessments of the psychology of leaders should be developed quickly and closely monitored during crises.

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GHEORGHE I. BRĂTIANU AND THE BLACK SEA STRAITS QUESTION (1933-1944) – "STRAITS FATALISM" –

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The study analyses the position expressed between 1933 and 1944 by Gheorghe I. Brătianu regarding the Black Sea Straits Question. Through the works published during those years, he established himself as one of the greatest Romanian historians, his scientific interests focusing on the evolution of Romanians in the Middle Ages as well as on the role of the Black Sea in all international relations.

In this context, as a Professor at the University of Bucharest, between 1941-1943, he taught a course at the Faculty of Letters and Philosophy on The Black Sea Question, in which he extensively developed his concepts. They can be summarized in the phrase according to which Romania has faced the Pontus Euxinus "Straits fatalism" throughout its existence.

At the same time, as a politician and party leader, Gheorghe I. Brătianu opposed Nicolae Titulescu's policy of envisaging a mutual assistance treaty with the Soviet Union, a country that had not recognised the unification of Bessarabia with Romania. As such, he criticized the position adopted by Romania at the Montreux Conference (22 June-21 July 1936), which modified the status of the Bosporus and Dardanelles Straits, according to Moscow's interests. By the Convention signed on 20 July 1936, the access of non-littoral military ships was severely restricted.

Keywords: Black Sea; Bosporus and Dardanelles Straits; Gheorghe I. Brătianu; Nicolae Titulescu; Montreux Convention;

The Black Sea Straits Question has been a focal point in our both older and newer historiography. To provide some examples in this regard, I would mention the works of Constantin Diamandi (ANIC, file 29), Nicolae Iorga (1871-1940) (1915), Nicolae Dașcovici (1888-1969) (Studiu introductiv/Introductory study, 1937; 1937; 1943), as well as the more recent preoccupation with the topic of the Institute for Political Studies of Defence and Military History on the occasion of the 80th anniversary of the Montreux Convention[1].

Among the historians who addressed the Straits Question is also Gheorghe I. Brătianu. In 2023, we celebrated 125 years since he was born and commemorated 70 years since he died in dramatical conditions at Sighet[2]. In what follows, as a sign of tribute to this great Romanian scientist, I will briefly present his contribution to the understanding of this topic that is so important for the Romanian nation. The period between 1933 and 1944 will be mainly considered, as it was the most fertile one from a scientific point of view, although Gheorghe I. Brătianu also conducted a lively political activity, being, between 1930 and 1938, the President of the National Liberal Party (Georgist) (Gruber, 2013).

The topic of the Black Sea and implicitly of its straits became one of interest early in his career, more precisely during his doctoral studies in Paris, when Gheorghe I. Brătianu developed a thesis on the Genoese commercial activity in the Black Sea, brilliantly defended in 1929 (Brătianu, 2014)[3]. Later, he published a significant number of papers

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[1] See the volume *Marea Neagră de la "lacul bizantin" la provocările secolului XXI* (2006). București: Editura Militară.

[2] Further details related to his death can be also found in Brătianu. M. Gh. (1997). *Gheorghe I. Brătianu – enigma morții sale*, translated into Romanian by Antonia Constantinescu, with an introductory study by Șerban Papacostea and addenda by Ion C. Brătianu. București: Fundația Academia Civică; *Gheorghe I. Brătianu în dosarele securității. Documente. Perioada domiciliului obligatoriu. Arestarea. Detenția. Moartea* (2006). The selection of documents, introductory study and addenda by Aurel Pentelescu and Liviu Țăranu, and foreword by Acad. Dinu Giurescu. București: Editura Enciclopedică.

[3] Brătianu, Gh. I. (2014). *Recherches sur le commerce Génois et les Vénitiens dans la Mer Noire aux XIII-e-XIV-e siècles*. Editors: Victor Spinei and Ionel Cândea. București: Editura Academiei Române; Brăila,Muzeul Brăilei: Editura Istros. According to Constantin C. Giurescu, it took five hours to defend the thesis in Sorbonne. (See Giurescu, Const. C., 2000. *Amintiri*, editor Giurescu, D. C. București: Editura All, p. 135).

on the same topic, gathered in separate volumes or inserted in the pages of periodicals in the country and abroad. At the same time, the issues related to the Black Sea, to the navigation regime in the Pontic area, as well as to the straits were analysed sequentially in different works having a greater or lesser extent.

During 1941, Gheorghe I. Brătianu, transferred from the University of Iași to the University of Bucharest, included in the analytical curriculum of the Faculty of Philosophy and Letters a new course, namely *The Black Sea Question*, which he taught in the years 1941-1942 and 1942-1943, totalling 51 lectures. He analysed the period between 1484, the year in which the Ottoman Empire conquered the Chilia Fortress and the White Fortress, and the outbreak of the Second World War, which shows, once again, the scholar's synthetic spirit, considering the length of the analysed period.

At the end of the course, he explained his preference for the Black Sea topic. His research was continued, as it is well known, resulting in the great book: *La Mer Noire. Des origines à la conquête ottomane*, first published abroad and only in 1988 in Romania, thanks to Victor Spinei (Brătianu, 1988).

The history of the Romanians, the scientist emphasises, evolved between two geographical realities and permanent factors – the mountain and the sea. In his course taught at the University of Bucharest, *The Black Sea Question*, recently published following all scientific rigour by Victor Spinei, President of the Section of Historical Sciences and Archaeology of the Romanian Academy, and Ionel Cândea, corresponding member of the Romanian Academy, the scientist motivated his preference for the role of the sea as follows: *"And if I chose for this course an issue related to the sea, I did it for two reasons. First, because it is the sea that makes us enter universal history. The mountain is a national issue, an issue limited in space./.../ Secondly, because I believe that the sea question must be more deeply ingrained in the national consciousness.*

To talk about the mountain issue would be to push open doors. There is no need to talk about the mountain issue, it is deeply rooted in the consciousness of each of us; any Romanian has his mind focused on what is missing from this direction. From this point of view, the Romanian consciousness is similar to the heart's desire, which does not need an urge to be followed.

The sea issue is one of reason. It is not the first time that we are confronted with the heart-reason dilemma. In 1916, I chose the heart, because the sea issue did not then present the gravity that it does today. On the sea, then, we faced a collapsing Russia, while, now, the sea issue includes the threat of a formidable power, like today's Soviet Union.

The mountain issue, let us not hide it, is a problem of the neighbourhood with Hungary, a country with which the enmity has sharpened in the current war; of course, it is not that easy/.../ Put these two circumstances into balance and you will see that it is the heart's impulses that urge us to the mountain. The sea issue weighs more on our judgment than that of past generations" (2022, pp. 918-919).

Gheorghe I. Brătianu was also interested in geopolitics, being a member of the editorial board of the publication *"Geopolitica și Geoistoria. Revistă Română pentru Sud-Estul European"*. The committee also included: Sabin Mănuilă, Mircea Vulcănescu and Anton Golopenția. Here he published the study *Geopolitica, factor educativ și național* (1941, pp. 13-17), then reproduced in the volume *Cuvinte pentru Români* (1942, pp. 95-106).

One of the most important contributions made by Gheorghe I. Brătianu, in relation to the Black Sea and its Straits, is the category of space. In the inaugural lesson of the course on the Black Sea at the University, he briefly spoke about the *"safe space of the Romanians"*, which generated reactions both internally and externally. For example, the issue of 30 December 1941 of the official organ of the German National Socialist Party, *"Voelkischer Beobachter"*, referring to what the scholar said, made a direct connection with the ongoing events, deciphering tendencies of territorial expansion on the part of Romania, which was *"fully aware of its position on the Black Sea, which had to be defended from the Soviet threat, the only one that endangers the safety of this people. It explains Romania's desire to have points of support and spheres of influence on the Black Sea coast"* (ANIC, file 505, p. 2).

This wrong understanding of things by the German newspaper, which of course also reflected the position of the official circles, led Gheorghe I. Brătianu to provide, in the lecture on 12 January 1942, new clarifications, in which he detailed his concept in that complicated

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problem. Later, he analysed these aspects on other occasions, including in the work *Origines et formation de l'unit*é *roumaine* (1943, pp. 19-26; 35-45)[4].

Gheorghe I. Brătianu appreciates that there are three categories of spaces – *ethnic, vital and security*. The *ethnic space* is the easiest to define, because it represents the area *"on which the same race lives, the people with the same language and the same consciousness of origin, made up of individuals who are connected to each other by all the threads, seen and unseen, from which it is woven what is defined, in the modern sense of the term, as a nation"* (ANIC, file 218, p. 4). In other words, the ethnic space is *"the space inhabited by the same people, in the sense of nation (...), community of origin, language, common consciousness"* (Ib.).

The *ethnic space* is, in the scientist's opinion, a state of fact with a relatively stable character, although even here mutations can occur related to the demographic potential, the language expansion power, which can increase or decrease.

The *vital space* represents, according to Gheorghe I. Brătianu, a concept that belongs to geopolitics and it can only be defined by reference to a ratio of forces. It is *"the extension beyond the limits of the population of the same origin with more or less predominant influences of a nation or a state, which is justified by the overwhelming number of the population, by the demographic potential that causes population growth and needs growth; finally, by economic, industrial superiority etc., which naturally demand outlets"* (Ib., p. 2-3).

In the vision of Gheorghe I. Brătianu, the vital space had an offensive character par excellence and was linked to great interests, to the rivalries and clashes of the great powers that aspired to world supremacy. The scholar referred to Germany, where the leaders of the Third Reich officially adopted the *"vital space"* theory. In his opinion, Germany, until the spring of 1939, acted according to ethnic commandments, and with the expansion of control over the Quadrilateral and Bohemia the *"vital space"* theory was put into practice.

The Soviets did the same with the occupation of the Baltic states, a part of Finland and Bessarabia, where they could no longer invoke

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the ethnic principle, as they did in the case of the occupation of a part of Poland, in September 1939.

The historical analysis as well as the terrible clash of forces that took place at that moment, led Gheorghe I. Brătianu to operate with a new category of space, namely that of *security space*. It includes *"those regions and points without which a Nation can meet neither its historical mission nor the possibilities that make up its destiny"* (Ib., p. 4).

What is the relationship between the security space and the other two analysed types of space? In the scholar's opinion, the strongest position is that of the people whose ethnic space coincides with the security space, but it is quite rare. Regarding the situation of Romanians, in many respects, the ethnic space coincides with the security space. There are areas in the south of the Danube inhabited by Romanians, real islands left after the collapse of Eastern Roman Empire, which are part of the ethnic space, but not of the security space, because *"they are too far from the core around which the political unity of our nation was formed"* (Ib., p. 10).

It is the same in the East and in the West, but Romania has never claimed those spaces. It is proved by the February 1919 memorandum of the Romanian delegation at the Paris Peace Conference.

The problem is also the other way around. There are some areas that no longer enter the ethnic space, but they enter as obviously as possible the security space. Gheorghe I. Brătianu gives the example of the region inhabited by the Szeklers, stuck like a nail in the middle of the Romanian mass.

Considering the mountain-sea connections highlighted by Gheorghe I. Brătianu[5], Romania had great security interests in certain regions of the Pontic basin, namely the Straits and the Crimean Peninsula. Their status was essential for the evolution of the Romanian state, because the Black Sea presented itself as a closed sea, and Crimea was a maritime bastion that had always controlled a large part of the Black Sea maritime traffic.

Romania's interest in these objectives in no way means that the Romanian state was a follower of an expansionist and annexationist

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[4] The Romanian version, *Originile şi formarea unităţii româneşti* (2018), 2nd revised and added edition, translated by Maria Pavel, introductory study, notes, commentaries and index by Ion Toderaşcu (ed.). Iaşi: Editura Universităţii *"Alexandru Ioan Cuza"*, pp. 45-61.

[5] Further details in Gheorghe I. Brătianu (1995). *Originile şi formarea unităţii româneşti. Prelegeri ţinute la Şcoala Superioară de Război*, notes, afterword, addenda, chronology by Aurel Pentelescu, Petre Otu (eds.). Bucureşti: Editura Academiei de Înalte Studii Militare.

policy. The solution was for the status of these regions to be established in such a way as not to affect Romanian interests. The scholar highlighted two situations in which Romania's aspirations were favourably met – the Congress of Paris (1856), which demilitarised Crimea, and the Lausanne Conference, from 1923, which disarmed the Straits and ensured freedom of trade in the Black Sea.

The security space can be viewed in two ways. In his analysis, Gheorghe I. Brătianu had in mind its permanent significance, which was indissolubly connected with the lasting interests of the Romanian state. Of course, it could also be viewed from a temporary perspective, linked to concrete situations, strategic and military considerations. An example in this respect is the campaign of the Romanian armed forces in 1919, in Hungary, which became Bolshevik in the spring of the same year, a campaign that responded to a temporary security interest of Europe and Romania, that of preventing the expansion of Bolshevism towards the central and western parts of Europe[6].

Another example is related to the campaign of the Romanian armed forces between 1941 and 1942, which took the Romanian troops to the Don Bend, in the Kalmyk steppe and at the foot of the Caucasus. It was not one of Romania's interests, but the regions behind the Romanian troops undoubtedly represented a security space, which had to be secured temporarily, because it was an important condition for obtaining victory on the battlefield.

In conclusion, the security space is par excellence a defensive notion, unlike the vital space, which is an offensive notion, which necessarily entails an expansionist policy. Gheorghe I. Brătianu was particularly clear in this regard – Romania did not go so far to pose the problem of *"vital space"*, but only of *"security space"*, which is a primordial issue for the existence of each and every state.

This emphasis is, we believe, very important to prevent any *"slippage"* of the interpretation of the scholar's developments in relation to these geopolitical issues, which, especially during the communist regime, represented *"accusations"* for the physical

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extermination of Gheorghe I. Brătianu and the ban on his historical papers.

The problem of the Black Sea Straits was a constant concern of the political activity of Gheorghe I. Brătianu, too. He was the head of the National Liberal Party (Georgist), separated from the National Liberal Party in 1930, the reason for the dissidence being the position towards Carol II, who became king despite of the fact that he was disinherited four years before, when he was a prince.

Starting in 1933, Gheorghe I. Brătianu permanently opposed the policy pursued by Nicolae Titulescu regarding the rapprochement with the Soviet Union and especially the projected mutual assistance treaty with the great neighbour. In the party meetings, in the media of the time, at the Parliament tribune, Gheorghe I. Brătianu constantly criticized Titulescu's policy in this direction.

On 24 June 1934, he questioned Nicolae Titulescu about the conditions under which diplomatic relations were established (Brătianu, 1934, pp. 101-102). The series of interventions continued, Brătianu categorically opposing the project of a mutual assistance treaty between Romania and the Soviet Union. He appreciated that we cannot leave the defence of Greater Romania to the Red Army, knowing that Moscow did not recognize the unification with Bessarabia in 1918[7].

It was natural for Gheorghe I. Brătianu to express his concern about the signing of the Montreux Convention (21 July 1936)[8]. He considered Romania's attitude as strange. He agreed that Bucharest should support Turkey, our ally in the Balkan Entente, but, beyond this support, Moscow imposed its will, practically blocking the access to the Black Sea of the military naval forces belonging to non-littoral states (Brătianu, 2022, pp. 912-913). The fortification of the Straits was to the advantage of Turkey, the limitation of the presence of foreign vessels was in favour of Russia. *"However, where our points of view*

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[6] Ib., p. 58. Related to Romania's participation in the Paris Peace Conference (1919) and the campaign in 1919, see also Gheorghe I. Brătianu (2001). *Acţiunea politică şi militară a României în 1919 în lumina corespondenţei diplomatice a lui Ion I. C. Brătianu*, foreword by Şerban Papacostea (ed.). Bucureşti: Editura Corint.

[7] For further details see Otu, P., Pentelescu, A., Brătianu Gh. I. (2003). *Istorie şi Politică*. Bucureşti: Editura Corint, pp. 23-47. Other documentary details in: Gheorghe I. Brătianu (1936). *La Roumanie et l'URSS*, Bucarest; Idem (1936). *La Roumanie et la crise du système politique européen*, Bucarest; Idem (1937). *La politique extérieure de la Roumanie*, Bucarest; *Relaţiile româno-sovietice. Documente, vol. II, 1935-1941*, Coordinator: Costin Ionescu, Authors: Vitalie Văratic, Dumitru Preda, Stelian Obiziuc. Bucureşti: Editura Fundaţiei Culturale Române, pp. 44-81.

[8] For further details related to the Montreux Conference, see Deutsch, R. (1975). *Conferinţa de la Montreux*. Bucureşti: Editura Politică.

met with those of the Soviets, the scientist appreciated, there was a huge question mark about the goals that our delegate would have pursued" (Ib., p. 913).

Moreover, in 1937, the question of disbanding the European Commission at the mouth of the Danube was also raised, but the idea was temporarily abandoned, as it was appreciated that it would be good for other, non-littoral, than the Soviet Union flags to be at least symbolically present there[9].

As it is known, at the Sinaia Conference, on 18 August 1938, the *"European Commission of the Danube"* decided to transfer most of its prerogatives to Romania (Gogeanu, 1970, pp. 243-245; Cârțană, Seftiuc, 1972, pp. 325-327; Stanciu, pp. 297-299). Following this decision, the organisation disappeared and the *"Administration of the Lower Danube"* was established, a body under the control of the Romanian government, which was, in turn, disbanded in 1940, with the increase in German influence in the area. In the autumn of 1940, the Danube Conference was held, which reflected the increasing animosities between Germany and the Soviet Union, the latter wanting to extend its influence on the Danube (Trască, 2013, pp. 185-207).

Gheorghe I. Brătianu was also particularly concerned about the evolution of the international situation and Romania's prospects. Thus, the conclusion of the Anglo-French-Turkish tripartite pact (19 October 1939) unsettled him, as he considered that the Balkan Pact had become obsolete, since Turkey had committed to taking no action against the Soviet Union. Moreover, the existence of the agreement proved that Turkey had precise information that *"Soviet Russia is about to start a diplomatic action in the south-east of Europe in the sense of those undertaken in the Baltic states"* (ANIC, file 139/1939, p. 84). In his opinion, the tripartite Anglo-French-Turkish pact was directed against an expansion of Italy in the Mediterranean and the Balkans.

Gheorghe I. Brătianu correctly intuited the future actions of the Soviet Union. What he failed in exactly predicting, at least in the short term, was the place where the actions were to take place. They took place not in the southeast, as the scholar believed, but in the north, in the Scandinavian Peninsula, which created a moment of respite for Romania, the political class from Bucharest harbouring the illusion that it could escape from the grip of the Ribbentrop-Molotov pact[10].

In his papers, Brătianu highlighted some geopolitical constants, regarding the Black Sea and its Straits. Whoever controlled the Straits felt the need to also have control over Crimea; vice versa, the power that ruled the peninsula made great efforts to reach the Straits. This geostrategic principle is strongly confirmed by the historical evolution in this area; examples – Roman, Byzantine, Ottoman, Russian Empires. As a rule, whoever controlled the Straits also controlled Crimea (or most of it). Conversely, although there was a real expansionist programme, effective control of the Straits was not achieved (Russian Empire, USSR, Russian Federation).

During the Second World War, Gheorghe I. Brătianu continued to be preoccupied with the straits question, speaking of their *"geographical fatalism"*. Here's what he wrote in the *"Curentul"* newspaper on 17 March 1944: *"If Russia's policy ever succeeds in circumventing the geographical fatalism of the straits, which limit its maritime perspectives at all latitudes, it will not be able to circumvent the no less obvious fatalism of the confrontation with the British power, if not with the entire political system of the Anglo-Saxon states. No constant is more fundamental than the one that the drawing of the map itself inscribes in history".* (Curentul, 1944).

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THE RUSSIAN EMPIRE'S INTELLIGENCE AND COUNTERINTELLIGENCE SERVICES – GENERAL CONSIDERATIONS –

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The Russian Empire was based, since the early years of the nineteenth century, mainly on military force, in the composition of which an important role was played by the accumulation of information on opponents and the fight against foreign espionage inside the country. Despite the central role attributed to these secret services, the Russian Empire did not have a specialized body in the field of military espionage. In this context, based on a vast and new Russian historiographical material, accumulated as a result of research by the National Archives of the Republic of Moldova, the author presents, by the method of analysis of historical documents, a perspective of the genesis, activity and results obtained by the Russian intelligence and counter-espionage services of the tsarist period.

Keywords: counterintelligence; secret services; Russian Empire; intelligence; amateurism;

INTRODUCTION

The Russian Empire, like its predecessor, the Russian Tsardom, was a state characterised by the desire for territorial growth and expansion due to wars. The army's central role within the state structures was understandable, resulting in Russia becoming a truly militarised country.

It is surprising that this militarised country did not have a service that could gather information, which is necessary for developing a strategic vision on foreign policy objectives and planning military campaigns aimed at achieving the proposed objectives.

EXPOSITION

In Russia, the responsibility of collecting military information was on a case-by-case basis assigned to various state structures, most often those responsible for foreign policy, from the Ambassador's Office and the Foreign Office, during the medieval period, to the College and Foreign Ministry during the modern period. The armed forces's ability to obtain information was limited, due to rudimentary and unprofessional procedures. The military activities in intelligence gathering and combating foreign intelligence began when Peter the Great established the regular army. Such missions, from a formal point of view, were attributed to the service quartermaster general, established in 1711. This body represented the prototype of the military staff, which was active only in times of war and military actions. The General Staff was established in 1763 and the service-quartermaster general was added, but paradoxically, it did not accomplish reconnaissance and counterintelligence missions. This situation was kept until 1796, when Emperor Paul I (1754-1801) abolished the General Staff.

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During that period, the Russian secret services had mediocre results, mainly due to the lack of a specialised body, the overlapping of intelligence activities with counterintelligence activities, the absence of specialists trained in this field, resulting in amateurism in actions, and a series of dangerous accomplishments (Алексеев, 1998, p. 31). The inefficiency of these services contributed to the unhindered activity of a Prussian spy named Captain Lamerti in the Russian army during the Seven Years War (1756-1762). Lamerti reported to his superiors about the actual state of the Russian army, particularly the Moldovan Hussar Regiment. He managed to attract the Sergeant Major of that regiment, Keller, into his network. Keller was assigned to Field Marshal Apraxin and, while performing his personal services besides the Field Marshal, he systematically infiltrated the enemy and provided valuable information. He even succeeded in fleeing to the Prussians at the end (Leșcu, 2005, p. 77).

The first attempts to systematise things in the intelligence field arise during the reign of Alexander I (1801-1825), who established the Ministry of War in 1802, in charge, together with the Foreign Ministry, of the information collection on the military potential of other countries, which meant, in fact, the return to the situation prior to the reign of Paul I.

The first body specialised in collecting military information was established on 28 August 1810, when, following the decision of the Minister of War, Infantry General Michael Barclay de Tolly, *"The expedition of secret affairs to the Ministry of War"* was created, headed by Colonel Alexei Voeikov (Алексеев, 2010, p. 16). On 27 January 1812, *"The expedition"* was transformed into the *"Special Chancellery of the Minister of War"*, with the mission of gathering, analysing and generalising military intelligence from abroad, attributions remained unchanged throughout the entire period of the Napoleonic wars (Ib., p. 17). After five years of activity, the existence of a body specialised in intelligence was considered useless, the Russians

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returning in 1815 to the old and cumbersome system of collecting information. Most of the information collection in the military field was under the responsibility of the Foreign Ministry, through the diplomatic missions of Russia abroad, in which General Staff officers were sporadically being included. By 1825, Russia had 24 general consulates all over the world, including one in Moldova and one in Wallachia, which shows the strategic importance of these countries to ruling parties in St. Petersburg (Ib., p. 126).

At the Ministry of War, the 1st Section of the Quartermaster General's Service of the Great General Staff (Ib., p. 92) was in charge of the military intelligence, which periodically sent so-called scientific expeditions abroad, consisting exclusively of officers (Ib., p. 95), such as the one in 1834, sent to Moldova and Wallachia under the leadership of the Colonel of the General Staff, Carl Emanuel Victor von Ruge. As a result of this expedition, a detailed military description of both countries was compiled, with maps and drawings, without the right to be edited and put on sale (Ib., p. 112).

All the findings refer only to strategic military intelligence, there was no existing structural framework for tactical intelligence. Tactical reconnaissance was carried out, by commanders of various ranks, from the division down, at their own initiative, with questionable results and successes. It is also worth mentioning that the army and the state lacked an adequate counterintelligence service, resulting in local police being assigned duties on a case-by-case basis.

The case of Colonel Ivan Liprandi is an example to the inefficiency of the Russian army's intelligence service at the tactical level (the operative level, at that time, did not even exist). Prior to the Russo-Turkish War of 1828-1829, in 1827, General Pavel Kiseleff, the Chief of Staff of the 2nd Army, appointed Colonel Ivan Liprandi to investigate the national and Turkish military forces in Moldova. Arriving in Iași, he formed a network of spies composed of Phanariots and Bulgarians. However, his activity raised suspicion and he was

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expelled from the country by ruler Ioan Sandu Sturdza. Following the Russian army's arrival in Iasi, Liprandi arrested Sturdza and sent him to Basarabia as revenge for his earlier expulsion (Leșcu, 2005, p. 187).

The Crimean War (1853-1856) demonstrated the collapse not only of the Russian secret services, but also of the entire military system. The new stage in the history of the Russian secret services began with the military reforms of 1860-1870. After a century of experiments in this field, the importance of having a specialised secret service, independent of other state structures and institutions, was understood. Thus, from 1863, the General Staff became the main body within the Ministry of War responsible for military intelligence, devastating, from this point of view, the Ministry of Foreign Affairs!

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The information and intelligence service was structured on three levels – strategic, operational and tactical. Two sections of the General Staff were responsible for the strategic level, namely the 3rd section (Military Sciences) and the 2nd (Asian) section (Алексеев, 1998, p. 60), and since 1903, in the 7th section, the Directorate of the Quartermaster General (Ib., p. 85). The strategic information collection was handled by the Russian military attachés, officially accredited to the Russian embassies in the world, all being officers with academic studies, representatives of the General Staff corps. Military operational intelligence was assigned to the staffs of Military Regions, where intelligence (research) sections were established, within the Directorate of the Quartermaster General.

At the tactical level, military information collection was handled by all those with an interest and possibility to recruit secret agents – the gendarmes, the border guards, and the police, except for the army. The lack of a centralised system for gathering information at the tactical level hampered the activity of the intelligence services at the operative level, which were permanently lacking data. Thus, in the period 1903-1904, in the absence of its own network of agents, the General Staff of the Odessa Military Region sent to the Ministry of War

only one piece of information about the Romanian fortifications in Tulcea, one collected by the border guards, who were subordinated to the Ministry of Finance (Ib., p. 100).

If, in terms of military intelligence, things were somewhat clear, the situation was completely different in the field of counterintelligence. Until 1911, the Russian Empire did not have a special service, specifically focused on combating intelligence and counter-intelligence activities. Several ministries and departments of the state were active in this field – the Ministry of War, the Ministry of Maritime Affairs, the State Police, the Independent Corps of Gendarmes, the Independent Corps of Border Guards (Кирмель, 2006, p. 50), commanders of military units and local authorities. Of course, the efficiency of such a system was below the level of real needs, and innocent people were caught and arrested instead of spies. Thus, on 17 August 1829, the commander of a Russian detachment in Giurgiu, Major A. Lashkarev, arrested Moldovans Nicolai Matei, Mihai Patraș, Stoian Mitul, accused of espionage for the benefit of the Turks. They were handcuffed and sent to Basarabia without any concrete evidence (ANRM, file 229, p. 2). After a year of imprisonment in the prison of Hotin, it was only after the governor of Basarabia, A. Sorokunski, was involved in their favour, starting an investigation that proved their innocence, in 1830, that they were released and returned home in Moldova (Ib., p. 19). A similar case occurred in January 1854, when Ismail resident Ivan Vasiliev was charged with spying for the Turks without presenting any sustainable evidence (ANRM, C. 6, list 3, f. 689, p. 1).

After years of endless inter-ministry and interdepartmental consultations, on 8 June 1911, the *"Regulations for the operation of counterintelligence sections"* were adopted. Based on this document, a special body was established within the army, responsible for counterintelligence activities. According to it, counter-intelligence sections were established within the staffs of the Military Regions, subordinated to the service of the quartermaster general, mandatorily

Until 1911, the Russian Empire did not have a special service, specifically focused on combating intelligence and counter-intelligence activities. Several ministries and departments of the state were active in this field – the Ministry of War, the Ministry of Maritime Affairs, the State Police, the Independent Corps of Gendarmes, the Independent Corps of Border Guards, commanders of military units and local authorities.

headed by an officer of the Independent Corps of Gendarmes. Thus, within the Military Regions there were two special bodies, an intelligence one, led by a General Staff officer, and a counterintelligence one, under the command of the Independent Gendarmes Corps officer, who worked separately, independently, unrelated to each other (Кирмель, 2006, p. 50). It is evident that the Regulations implemented had some drawbacks. They restricted the scope of responsibilities at the operational and tactical levels, as there was no central authority to coordinate the counterintelligence activities across all military regions. The counterintelligence sections were subordinated to two different authorities, which made their work more complicated. This system remained in operation until the October 1917 coup.

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CONCLUSIONS

When analysing the work of Russian intelligence and counterintelligence services, it becomes apparent that, throughout the existence of the Russian Empire, a unique system of secret services in the military field was not developed. These services were characterised by a lack of centralisation, coordination, and an amorphous organisational state. Their actions were amateurish, leading to poor efficiency in practical work and sporadic achievement of objectives.

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ROMANIANS AND BULGARIANS
– INCIDENTS AT THE DANUBE RIVER BORDER (1890-1901) –

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On 2/14 September 1829, the Peace Treaty of Adrianople between the Tsarist Empire and the Ottoman Empire was concluded with important effects for the two Romanian countries, Moldavia and Wallachia. Their political development was regulated by a separate document, an integral part of the text of the Treaty. The separate Act confirmed the agreements made by the Tsarist Empire and the Ottoman Empire in the text of the Akkerman (White Citadel) Convention on 25 September/7 October 1826, on the election of the Romanian ruler, following the wish and consent expressed by the Sublime Porte. In addition to these political issues, important for the topic covered in this article were the provisions related to the protection of the borders, especially the right bank of the Danube and the islands close to the left bank of the great river that were in proximity to the Ottoman Empire. According to the Adrianople Treaty of 1829, the thalweg along the Danube was considered the border between Moldova and Wallachia on the entire common sector up to the confluence with the Prut River, agreement protected by the Sublime Porte.

In 1830, after the Treaty of Adrianople, a commission composed of the delegates of Wallachia, Moldavia, the Tsarist Empire and the Ottoman Empire proceeded to delimiting the river border between the Ottoman Empire and the Romanian Countries by fixing the existing thalweg at that time. Obviously, natural phenomena contributed over time to its modification, so that, after the Congress of Berlin in 1878, when it was decided to trace the land border between the countries bordering the Danube, a series of incidents at the Romanian-Bulgarian river border occurred. In this context, it is highlighted the strategic and economic importance of the Danube.

Keywords: islands border incidents; Treaty of Adrianople 1829; Geographical Service of the General Staff; thalweg; the Danube;

ISLANDS IN THE DANUBE – A BULGARIAN PRETEXT FOR INSTABILITY AND BILATERAL ANIMOSITIES

At the beginning of 1890, the Consulate General of Romania in Sofia transmitted daily to the Ministry of Foreign Affairs in Bucharest reports highlighting the steps taken by the Bulgarian government on the frequent illegal crossings of Bulgarians in the estates assigned to Romania to cut existing trees on their surface and loot everything it had an economic connotation, motivating that, according to the change in the Danube course, they belonged to the Bulgarian territory. From the discussions with the diplomatic representatives of the Bulgarian government, it was necessary to create a river map of the Danube between Vidin and Silistra (AMAE, Collection Problema 52, p. 23) in order to highlight both the Romanian and Bulgarian islands. Finally, on 4 March 1891, the Diplomatic Agency in Sofia received a table containing the existing islands and forests on their surface from the Ministry of Agriculture, Industry, Commerce and Domains through the Ministry of Foreign Affairs (Ib., p. 111).

On 28 November 1892, the same Ministry of Agriculture, Industry, Commerce and Domains, the Forestry Section, informed the Ministry of Foreign Affairs, by the address no. 65418/27 November 1892, about the report of the Head of the Brăila Forestry Unit, signalling the plundering of the forest fund from the islands and ponds in the county (Ib., p. 124). According to him, the sailors of the river vessels, especially the wind-powered ones, devastated the willow forests. The troops responsible for guarding them could not retaliate against the numerous crews on board the vessels. In this context, the head of the Forestry Unit suggested a more efficient control in ports by the captaincy agencies regarding the origin of the goods existing on board of the vessels from Bulgaria and other countries, as well as the intervention of the Ministry of Foreign Affairs (Ib., p. 134).

During 1893 there were a lot of incidents of that kind. Therefore, the Ministry of Agriculture, Industry, Commerce and Domains, the Forestry Section, brought to the attention of the Minister of Foreign

On 4 March 1891, the Diplomatic Agency in Sofia received a table containing the existing islands and forests on their surface from the Ministry of Agriculture, Industry, Commerce and Domains through the Ministry of Foreign Affairs.

Affairs the legal provisions of Article 31, 34 and 35 of the Forestry Code, which provided for any civil servant or public officer, according to competence, to participate in preventing, detecting and stopping forestry crimes. Shortly after, the Ministry of Foreign Affairs notified the Danube Flotilla Command about the report of the Ministry of Agriculture (Ib., p. 145). On 4 March 1894, the Flotilla Command from Galați informed by the note no. 10193 the Ministry of Foreign Affairs on the controls performed by the captaincies, following the ministry intimation. Thus, the Captaincy of the Port of Bechet reported on the complaint of the brigadier of the Murto Craiova Forestry Unit regarding the forestry crimes committed into the island *"Vărsariu"* by six Turks who were allowed to fish in Romanian waters. The caretaker of the part of the sailing line from Gura Ignatului to Capul Drăgsinului de Jos caught the foresters Ilie Grigorie Știrbu and Gligore N. Roșca with four carts loaded with stakes cut from the Gura Ignatului, a fact about which he notified the Captaincy of the Port of Bechet (Ib., pp. 161-162).

On 20 May 1894, the Ministry of Foreign Affairs notified the Flotilla Command regarding the note of the Ministry of Agriculture, Industry, Commerce and Domains referring to the petition of Osman Husein from Rahova (Bulgaria) on the exploitation by the inhabitants of the Bulgarian communes near the Danube bank of the islands belonging to the Romanian state. Thus, he mentioned the islands *"Ada"* or *"Pirgos"* from Rusciuc, *"Taban"* from Giurgiu, *"Paraschiva"* from Turtucaia, *"Cavanlâeh"* from Rusciuc, *"Adasi"* from Sviștov and the small islands near *"Taban"* and *"Pirgos"* (Ib., p. 172). As a result of the investigations carried out by the representatives of the Ministry of Agriculture, Industry, Commerce and Domains, it was found that the island *"Ada"* located four hours from Rusciuc and the island *"Taban"* located four hours from Giurgiu did not exist! The island *"Ada"* belonged to Bulgaria. The island *"Kossi"* had an area of 25 hectares and was located in the middle of the Danube between two branches of equal width, the navigation being carried out only on the Romanian side. The island *"Parachiva"* (in contrast to *"Paraschiva"*, in the possession of the Romanian state), located near the Bulgarian village Popina, had an area of 40 hectares, being positioned in the middle of the Danube between two branches. The Romanian side had been eroded over the past five years, which is why navigation was possible only in the Bulgarian side, where the depth of the river allowed the passage of vessels (Ib.).

The island "Kossi" had an area of 25 hectares and was located in the middle of the Danube between two branches of equal width, the navigation being carried out only on the Romanian side.

THE GEOGRAPHICAL SERVICE OF THE GENERAL STAFF CONTRIBUTION TO DRAWING A MAP OF THE DANUBE

For the Ministry of Agriculture, Industry, Commerce and Domains representatives it was very difficult to enforce compliance with the forestry provisions, especially in winter, when the ice that was formed between those islands facilitated the access to their territory and thus the possibility to steal wood. Some of those islands modified permanently, which entailed changing the border line established across the Danube River thalweg. There were findings of facts provided in the forestry code, but in order to avoid any misunderstanding, the Ministry's Forestry Section requested from the Flotilla Command a map of the nearby islands (Ib., p. 179). Moreover, the line of the river border between Romania and the riparian states had undergone significant changes compared to the limits established by the Treaty of Adrianople in 1829 (Jelavich, 2000, p. 32). That is why a discussion was required on the new realities on the ground. The geological changes and the deposition of alluvium that influenced the river border line were the main factors of the misunderstandings and non-compliance with the provisions of the Romanian Forestry Code and the fishing regime on the Danube (AMAE, ib., p. 188).

On this aspect, namely a map conforming to the changes occurred after 1829, the year when the Russian General Staff made a map of the Danube River and the existing islands, the Minister of Foreign Affairs informed his counterpart from the Ministry of Agriculture, Industry, Commerce and Domains, in the summer of 1894, that the Ports Inspectorate received an order from the Flotilla Command to develop a map, together with the technical staff and forestry agents from the ministry of agriculture, by going on the field and finding out the changes (Ib., pp. 201-202). Attempts were made on this issue also at the Department of Public Works and the Ministry of War (Ib., p. 202), for a contribution to the topographical effort of drawing the map, which, in the end, had to undergo the verification of a joint commission made up of representatives of the riparian states, in order to establish the river border line.

On 7 July 1894, the Minister of Foreign Affairs received a response from the Ministry of Public Works, Second Division, Ports Office, through the note no. 10385, requesting the postponement of such a complex approach, due to the temporary absence of the director

There were findings of facts provided in the forestry code, but in order to avoid any misunderstanding, the Ministry's Forestry Section requested from the Flotilla Command a map of the nearby islands. The line of the river border between Romania and the riparian states had undergone significant changes compared to the limits established by the Treaty of Adrianople in 1829.

The activity of the Ministry of Public Works was to be supported by the works carried out by the Geographical Service of the General Staff and that of the Flotilla Command, depending on the pace at which those institutions conducted their activity and the decisions taken by their leaders. The Ministry of Public Works took the necessary steps to receive support from the Ministry of War.

of the hydraulic cadastral service, who was attending an inland navigation congress taking place in The Hague (Ib., 207). Insisting on his approach, the Minister of Foreign Affairs made again, in September, the request that the proposal on drawing the map should be analysed when the representative of the hydraulic cadastral service came back to the office. On 7 October 1894, the Ministry of Public Works, Second Division, Ports Office notified the Ministry of Foreign Affairs, note no. 15723, that the Hydraulic Cadastral Service had been already conducting the specific studies and works in order to draw a river map of the Danube, as well as the geodesic works from Galați to Calărași, Romania, profiles and level curves being raised in front of the main ports (Ib., p. 211). The activity of the Ministry of Public Works was to be supported by the works carried out by the Geographical Service of the General Staff and that of the Flotilla Command, depending on the pace at which those institutions conducted their activity and the decisions taken by their leaders. The Ministry of Public Works took the necessary steps to receive support from the Ministry of War (Ib.). In order to simplify the interinstitutional collaboration procedure, the Ministry of Agriculture, Industry, Commerce and Domains, the Forestry Section, suggested, on 3 October 1894, to the Ministry of Foreign Affairs, by the note no. 67922, that all necessary information should be transmitted to the heads of the forestry units to facilitate the quick access to the data and facts found in the field (Ib., p. 217). The Flotilla Command was also informed about the above-mentioned aspect.

On 9 November 1894, the Ministry of War notified the Ministry of Foreign Affairs, note no. 3016, that the topographic research of the Danube course started in 1894, having the starting point in Brăila (Ib., p. 225). On this occasion, the Geographical Service of the General Staff had the mission to draw up the map of the country, carefully following the topographical works that were performed on the Danube (Ib.). Almost two months later, on 3 January 1895, the Ministry of Agriculture, Industry, Commerce and Domains, the Forestry Section, informed the Ministry of Foreign Affairs that both the regional forestry inspectorates and the heads of the units that administered the Romanian Danube islands were instructed to provide full support to the representatives of the Flotilla Command and the Port Inspectorate, for the establishment and identification of the existing islands (Ib., p. 288).

On 28 March 1895, the Ministry of War, the General Staff, the Third Section, notified the Ministry of Foreign Affairs about the fact

that the works along the Danube, started by the operative officers from the section, required their presence on the territory of the Bulgarian Principality, which called for the intervention of the ministry to the Bulgarian government to allow those officers to place the geodetic and topographical signs. It was also requested the stationing of those officers, namely, Colonel Brătianu Constantin – director of the works, Major Gărdescu Ion – head of geodetic works, lieutenants Scărlătescu Gh., Verescu Theodor, Graur Alexandru – operators, as well as the Romania warship, with all the military personnel, on the Danube banks and waters, between Rusciuc and Silistra (Ib., pp. 291-293). On the mentioned issues, the Sofia Diplomatic Agency took the necessary steps with the Bulgarian government, in April 1895, receiving the requested agreements from the Bulgarian Ministry of Foreign Affairs to conduct the topographic works. The Romanian officers and the crew of the Romanian ship were accredited for stationing in the Bulgarian waters and territory (Ib., p. 298). Shortly after, Major Gărdescu Ion telegraphed Colonel Brătianu Constantin that the Bulgarian authorities in Turtucaia did not allow him to stay on the territory of the southern neighbouring country (Ib., p. 301). However, the topographic works continued on the Romanian bank of the Danube.

On 26 September 1895, the Commander of the Flotilla, General Ioan Murgescu, informed the Minister of Foreign Affairs, note no. 6434, that there were developed a memoir comprising the study of the Romanian islands on the Danube, five minutes, a comparative analysis of the islands ranked in natural order from Vercioarova to Gura Borcei and from the Prut to the Sea and three plans of the Lower Danube. With that note, General Ioan Murgescu delivered the painting of the Romanian islands and the seven maps sent by the Ministry of Foreign Affairs in May 1895 as well as the 12 drawings made by the Russian General Staff in 1830 (Ib., p. 312).

In April 1900, the Ministry of War, Fifth Division, the Navy, notified the Ministry of Foreign Affairs about the finding of the Commander of the 5th Regiment Vlașca on the Bulgarians taking possession of the *"Covanlâc"* island. According to the minute drawn up by him on the spot, *"today, 27 March 1900, following the confidential order of the Ministry of War no. 1440 of 22 March 1900, the undersigned in charge of investigating the possession of the Covanlâc and Cama islands proceeded as follows: 1) On 25 March 1900, the undersigned, accompanied by elderly people who knew these localities very well, were transported*

On 28 March 1895, the Ministry of War, the General Staff, the Third Section, notified the Ministry of Foreign Affairs about the fact that the works along the Danube, started by the operative officers from the section, required their presence on the territory of the Bulgarian Principality, which called for the intervention of the ministry to the Bulgarian government to allow those officers to place the geodetic and topographical signs.

by the Siret gunboat and disembarked on both Islands, collecting all the information necessary to solve this investigation; 2) On 26 March 1900, we went by land to Malu village, which is located in front of these islands, from where, besides the observations made on their situation, we also collected categorical information on the possession of these bodies from old people who had performed the forestry service before 1877; 3) Taking into consideration the current Danube course and the current configuration of these islands, the Austrian map of 1853, as well as all the statements of the people who supported us, providing clarifications in this inquiry, we are fully assured that the current course of the Danube and the configuration of the islands in question are exactly as shown in the annexed documents; 4) Considering the list of the islands provided by the Ministry of Domain, showing exactly the islands and the meadows belonging to the Romanian state, as well as all the information collected in this regard, we have the following results: a) the tail end of the island Cama, shown on both sketches, named Perigos by the Bulgarians who has it in possession, is attached to an island that is in the possession of Romania. The two islands were separated by a Danube waterway just after 1877. At the time of the control, they were united, being highlighted when the water decreased" (Ib., p. 351).

The confidential report on the occupation of the *"Covanlâc"* island, located on the left bank, and at the back of the *"Cama"* island, by Bulgarian citizens, submitted by Lieutenant Boerescu Cesar to the Ministry of War, signalled the presence on the island of some Turkish fishermen who received a fishing permit from the Bulgarian authorities in Rusciuc. At the same time, the back of the *"Cama"* or *"Dinul"* island, named by Bulgarians *"Pergos"*, was occupied by sheep. The shepherds and the four people who had started to build a hut were also allowed by the Bulgarian authorities. From the study of the tables with the name of the islands received from the Ministry of Foreign Affairs and the Ministry of Domains, the two officers did not find mention of the island *"Covanlâc"*; however, they noted that this island was present on the Danube map in 1898 where it was close to the territory of Romania, being listed in 1898 as belonging to the Romanian state (Ib., p. 362). The inconsistency was generated by the minutes of the Ports Inspectorate and the Forestry Inspectorate, which mentioned that *"Pergos"* belonged to Bulgaria (Ib.), although the two officers

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noted that it had got united with the island of *"Cama"*. The proposal of Lieutenant Boerescu Cesar was that, in order to eliminate any possible divergences, a superior representative of the Ministry of Domains would be appointed to make a new recognition of these islands. After completing this process, it was planned to mark the territorial limits by milestones so that the regiment responsible for border guard and forestry workers could have the necessary landmarks to respect the Romanian-Bulgarian border line. A rigorous delineation, one adapted to geological and geographical changes, was beneficial for both the Romanian and Bulgarian fleet.

To clarify the issue, on 27 July 1900, the Ministry of Foreign Affairs was notified by the Ministry of War, Fifth Directorate, for the establishment of a joint commission consisting of a navy officer and a delegate of the Ministry of Domains to resolve issues related to the possession of Danube islands, establishing at the same time their area and production. It was interesting that the Ministry of War suggested a reasonable compensation for the state that lost, by changing the thalweg, the possession of the respective islands. In the case of united islands, it was respected the dividing channel or, if the channel disappeared through alluvium deposits, there was the possibility of delineation through milestones. However, as Romania had the oldest, largest and richest islands formed on the right side of the Danube Thalweg, the thalweg limit could not be invoked according to the nominal list established in 1830 under the Treaty of Adrianople (Ekrem, 1993, p. 212). In order not to be suspicions, it was mentioned the participation of some Bulgarian delegates to take part in the discussions generated by the possible appeals, so that they could be analysed and resolved by the Romanian and Bulgarian governments in accordance with the provisions of international laws (AMAE, ib., p. 333). In this regard, the appointment of Bulgarian delegates required the intervention of the Minister of Foreign Affairs.

On 10 August 1900, the Ministry of War, Fifth Division, the Navy, delegated Lieutenant (N) Boerescu Cesar to study the Danube islands, as he knew and was aware of the topographical and hydrological works carried out until that date. Another delegate was Lieutenant Stoianovici Constantin, whose mission was to help the members of the commission. The two were to report to the Ministry of Foreign Affairs on 14 August 1900 (Ib., p. 344). At the same time, the Ministry

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of Domains was notified to appoint its representatives. The two officers were remunerated from the Navy budget and the necessary materials were paid by the Ministry of Domains. The representative of this ministry, forestry inspector Ghehaia, together with officer Boerescu Cesar, completed the map of the Danube in December 1900. On 31 January 1901, the map accompanied by two memoirs were sent to the Ministry of Foreign Affairs of Romania to start the necessary arrangements with the neighbouring states that were also riparian states to establish by mutual agreement the Danube River border line (Ib., p. 351 and the following).

Although a diplomatic resolution of the frequent incidents at the river border was attempted, on 23 December 1900, three Bulgarian soldiers from picket no. 24 opened fire on a Romanian sentry of picket no. 5 who wanted to stop a Bulgarian smuggler who was clandestinely passing in Romania (Ib., p. 360).

In April 1901, the Romanian subjects Beitullah Bechir and Iusuf Ibrahim were killed in Romania by Bulgarians Petcu Dinu and Iordan Ivanoff, who, although found guilty following the investigation carried out by a joint commission, received a 5-day sentence based on their statements that the two victims were smugglers who did not respond to their summons (Ib., p. 372). The 2nd Army Corps Command reported to the Ministry of War about the forays of the Bulgarian inhabitants on the *"Gâsca Mare", "Gâsca Mică", "Cinghina"* and *"Bersina"* islands, from where they were stealing wood. For the intercession of these facts, it was sent on patrol between Giurgiu and Turnu Măgurele, the *"Argeş"* military boat that was stationed in Zimnicea. On this occasion, the captains of the ports in the region were ordered to request the presence of Navy ships whenever they found irregularities on the part of Bulgarian and Serbian neighbours. In their support was sent the *"Vedea"* military boat, under the command of Second Lieutenant Coandă Gheorghe, which was stationed at Gruia to execute the patrol service between Calafat and Turnu-Severin (Ib., p. 381).

Another chapter of the Romanian-Bulgarian incidents was the one related to the island *"Bujorescu"*, heavily publicised by the press of the time (Basciani, 2001, p. 23), because it had a major impact on the deterioration of the bilateral relations between Romania and Bulgaria, whose climax was transposed into the asymmetric positioning of the two parties during the Balkan wars (1912-1913).

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INSTEAD OF CONCLUSION

In the international context of the beginning of the 20th century, the incidents on the Romanian-Bulgarian border were less approached by the Romanian historiography being probably considered local events and without much importance. In my opinion, these attacks and animosities show a tendency of Bulgaria to create a state of conflict with its neighbours in order to maintain a pressure specific to a state with expansionist aspirations, aspects confirmed by the Bulgarian government's policy before, during and after the Balkan events of 1908-1919 (Ciachir, 1997, p. 34).

Although my scientific approach is mainly aimed at researching these incidents as much as the editorial space allows me, on a secondary level, I want to pay homage to the Romanian officers from the Geographical and Topographic Service of the General Staff and to the soldiers who served in defending the state border – land, sea, river and air.

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