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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 manifesto¹, 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".



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.

English version by **Diana Cristiana LUPU**.



C. Barozzi
(Engineer Captain)



E. Pencovici
(Staff Captain)



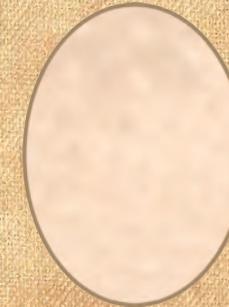
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“Lieutenant Colonel
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“Army Corps
General
Ioan Sichițiu”
Award



“Marshal
Alexandru Averescu”
Award

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21ST CENTURY MILITARY ACTIONS LOGISTICAL SUPPORT

Brigadier General Liviu Marian MAZILU

Chief of Logistics Directorate



Military action, in general, and armed combat, in particular, as social phenomena and as human practices, have always needed technical and material support in order to achieve the set political objectives. Logistics plays a key role in any type of military action, whether it is a war, an operation other than war, or simply a tactical-application exercise. Whenever military structures are used, they must be logistically supported. In a word, logistical support is expressed in the same way, either in peacetime, in times of crisis or at war, as well as in the context of non-military operations. War, in all its complexity of belligerent manifestation, is directly supported by the economic dimension of the nation (or alliance), military logistics being the most important link between the country's economic capacity and its armed forces.

Today's military actions can be very effective, extremely destructive and, at the same time, selective, with high-precision strikes that can cause the adversary to quickly declare defeated, politically and militarily, in an attempt to thus eliminate the side effects of war: major civilian casualties and significant loss of non-combatant personnel. The current global economic system transcends the political and geographical boundaries of states. In a way, it determines the emergence of a new type of war, characterised by increased confrontation in areas other than those that are the essence of armed combat, such as: economic, media, doctrinal etc. ones. Therefore, in modern war, logistics has new valences, considering the reorientation of its development strategies, the quality of the human factor employed, as well as the high technology incorporated in the combat assets. The battle space is fundamentally changing, time is "contracting", the pace is fast. The mobility of forces also increases, the distances expand throughout and in all forms of combat, one of the basic components of war, the logistical support, being placed in the complementary spaces and adjacent to the real combat space. The growing distances



between own combat forces and those of the adversary represent the length of the battlefield for military logisticians. Practically, “modern” conflicts have fully highlighted the role of technological development (high-tech systems integration, battlefield digitisation etc.) as well as of military logistics (material quality and quantity, transport speed, costs etc.).

The specific conditions for Romania’s integration into NATO and the European Union have represented complex processes, entailing important economic achievements as well as obvious advances in the military field, in which logistics is a key component. Therefore, the Romanian military logistics modelling has had as a reference element NATO member states concept, according to which logistics is responsible for the planning and execution of the movement and for the maintenance of the forces high combat readiness. In approaching the concept of logistics, modern armed forces experts start from the idea that it must define all the material and assistance conditions necessary for the successful conduct of military actions.

The principles of the Romanian Armed Forces transformation have been related to the need to achieve combat and logistical support structures that are modular, flexible and mobile, provided with a quick reaction capability. The development of an integrated, flexible and functional military logistics system, able to meet the needs of providing combat units with all categories of equipment and materials (at the right time and place, as simple as possible, and with minimal costs), is in line with the requirements of achieving interoperability with the logistics systems of modern armed forces in NATO member or partner countries. Military logistics, part of the national defence system logistics, is a decisive factor in achieving the goal of military actions as well as in fulfilling the missions of the participating forces and has a number of functional areas, including: supply, movement and transport, maintenance, infrastructure, campaign services.

As far as NATO is concerned, the strategic concept of the North Atlantic Alliance directs security policy towards dialogue, cooperation and collective defence. A firm and, first and foremost, rapid response, executed by specialised forces is needed to deal

with new types of confrontations. To this end, the NATO Response Force (NRF) has been created and operationalised. This force is a high-readiness and technologically advanced one, with components of land, air, naval and special forces, which can be deployed quickly wherever needed. NATO’s Response Force is able to conduct the full spectrum of military operations, anywhere in the world, and consists of diversified capabilities provided by Alliance member nations. The operations have been of a joint and multinational nature, being conducted by forces of the North Atlantic Alliance and/or by forces of coalitions formed according to the economic, political and other interests of the member states.

The implications of this NATO strategy are primarily focused on greater flexibility in the Alliance’s logistics, which is considered to be due to the mobility and multinationality of the forces engaged in providing logistical support. Although logistical support is ultimately, in principle, the responsibility of each nation contributing forces to the military action in question, more and more emphasis is placed on the joint participation in the logistical effort entailed in engaging those forces. It has become obvious and necessary as a result of the experience gained in recent years. It has thus been found, on real grounds, that each nation has more or less limited logistical capabilities that, when combined with those of other nations, result in a newly created logistical capability, which is stronger than that of any single country involved in the effort. What needs to be emphasised, however, is that the nation-specific capabilities, in order to be more than just a sum, need to work together in a coordinated manner, as the required material effort is mainly provided by the partner countries’ own logistical elements, which have the role of permanently maintaining the forces high readiness.

In order to achieve this kind of logistical support, NATO has developed and promoted a number of concepts and structures that have demonstrated their practicality, such as: Host Nation Support (HNS), Resources in the JOA, Mutual Support Agreements (MSA), Logistic Lead Nation (LN), Logistic Role Specialisation Nation (LRSN), Multinational Integrated Logistic/Medical Support Units (MILUs or MIMUs), Third Party Logistic Support Services (TPLSS). The Romanian armed forces have collaborated with the armed forces



of partner and allied states, since accession, through direct or indirect participation in these structures, which has led to an efficient logistical support in the actions undertaken by the Romanian military.

Under the current circumstances, however, Host Nation Support (HNS) is by far crucial in ensuring effective logistical support at the national level. This is a complex process, having a continuous dynamic, adaptable to the conditions of current realities, based on a specific planning process, with an important interagency component, representing the totality of military, economic, legislative and procedural support actions that define the civilian and/or military assistance provided by Romania, in peacetime, in emergency or crisis situations and at war, to foreign armed forces entering, stationing, conducting operations or transiting the territory of Romania.

Following the development of the North Atlantic Alliance's Gradual Response Plans (GRP), which require a rapid NATO response to possible threats on the Alliance's eastern flank, forces will be deployed in a short period of time in any of the GRP variants. In this regard, the host nations (HNs), including Romania, must be able to provide logistical support for the Reception, Staging and Onward Movement (RSOM) of these forces to their final destinations.

The HNS capabilities that Romania makes available to NATO are designed and ensured during the phases of the RSOM operation, starting with the reception, at border crossing points, airports, ports and railway stations, staging, in temporary staging locations, onward movement, based on road and rail infrastructure elements, temporary stationing locations and convoy support locations, and ending with their integration into final destination locations. In addition to the HNS capabilities mentioned above, Romania may provide, upon request, as part of the HNS, a range of goods and services, Class I, Class III and Class IV, transportation, military police escort, oversize convoys escort, catering, utilities, internet, port services, maintenance etc., on a contractual basis or from the resources of the Ministry of National Defence, necessary for the reception and logistical support of the forces, both during the RSOM and in the final destinations. The annual HNS planning processes led by NATO commands, the major

multinational exercises conducted annually/biannually in Romania, and especially the latest events in the Ukraine area have led to the identification of other than planned capability requirements. These capabilities are in the process of rehabilitation/modernisation and it is necessary to continuously adapt the NHS legislation and instructions so that both capabilities and funds can be provided, if necessary, to support, in a timely manner and in as much volume as possible, not only the planned structures but also the structures established following last-minute decisions.

Moreover, the NATO Support and Procurement Agency (NSPA) plays a special role in ensuring support for the Allied forces participating in multinational military operations. The main purpose of this agency is to bring together, in a single organisation, logistical, medical and infrastructure capabilities, services and operational support systems for any of the NATO member and partner nations, and its mission is to provide the Alliance with efficient and cost-effective multinational solutions.

The NSPA has a wide range of capabilities, including providing emergency response in crisis situations, an area in which the Agency has increasingly become a viable option available to national governments and international organisations.

The support that can be provided by this structure includes operational logistics planning, as an integrator of contracts to support NATO operations, real logistical support, infrastructure support and any other logistical services that an Alliance nation would need during operations. The NSPA also handles global coverage contracts for fuel and lubricants, which can relieve nations of the burden of identifying suppliers and negotiating individual contracts needed to support their own forces deployed in other parts of the world as participants in the Alliance's operations.

As a member of the Alliance, Romania may at any time request and benefit from the support of the NSPA in the multinational operations in which it participates, which may allow it to reduce its logistical footprint to ensure the support of its own forces. In this regard, Romania has within the NSPA a liaison officer who facilitates the interaction



between this structure and the Romanian armed forces, an aspect that can be taken into account when planning the support of the forces to be deployed outside the national territory.

In planning logistical support for the forces participating in both multinational operations and operations on the national territory, three structures have a primary role: the Logistics Directorate (strategic level), the Joint Forces Command (JFC), through J4 (operational and tactical level), and the Joint Logistics Command (JLC) (strategic and operational level). Thus, if the Logistics Directorate coordinates the logistical support implementation at strategic level and provides expertise in the field of logistics for concluding MOU (Memorandum of Understanding) and TA (Technical Agreements) with the armed forces of other states, to ensure mutual logistical support, the JFC is the structure responsible for providing logistical support at operational and tactical level, and the JLC provides logistical support at strategic and operational level, including the management of materials and equipment strategic stocks.

The actions of the three entities provide the necessary conditions for the armed forces engaged in military operations, deployed either on the national territory or on the territory of another country, in a coalition, to benefit from the appropriate logistical support at the right place and time. However, the role of the armed forces services and other support commands should not be neglected. Their action is indispensable in translating the support plans into support actions, starting from the strategic level to the lowest tactical level formation, thus ensuring adequate logistical support for the national armed forces.

The missions of the Romanian armed forces executed at the beginning of this century in an allied context, in multinational environments in Kosovo, Bosnia, Afghanistan, Iraq, the Baltic States, Mali etc., have represented permanent challenges in terms of logistical support in relation to everything that means the art and science of planning, namely: design, development, acquisition, storage, transportation, distribution, maintenance, personnel manoeuvre, construction, infrastructure maintenance and rehabilitation, medical support etc.

The elements of the NATO Response Force currently deployed in Romania, in the context of the military invasion of Ukraine, and the integration of national military structures in this force are largely the result of adequate logistical support, developed and exercised since our country joined the North Atlantic Alliance.

In conclusion, although there is always room for improvement, especially in such a complex field, we can say that the Romanian Armed Forces logistical support today, in the specific conditions of current military conflicts, is conceptually and structurally adapted to the forces size, configuration and missions, as a logistics system able to fulfil its basic functions, in compliance with NATO procedures, has been achieved.





OPINIONS ON THE DEFINITIONS AND INTERPRETATIONS OF SOME CONCEPTS FROM RUSSIAN MILITARY THINKING AND THEORY

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There is an abundance of perspectives and interpretations about the practices and actions of the Russian Federation on states and individuals, especially at the information level. However, in some respects, Western perspectives tend to simplify Russian actions and categorise them as zero-sum games. In this respect, the paper tries to interpret the actions of the Russian Federation, especially at the informational level, by defining key concepts, as well as to provide a perspective on how Russian military theorists use the notion of "hostile actions" in the context of designing peacetime operations. Moreover, the complexity of the Russian military theoretical background is highlighted, with brief comparisons between the theoretical forms of some concepts from the Soviet period and the present. The paper also reviews some conceptions of the hybrid form of Russian action, attempts to synthesise certain views of Russian military theorists and, based on Russian strategic culture, to show the levels of action in the context of a series of operations. Finally, the paper proposes an orientation model that addresses a holistic perspective on how the subversive and informational actions of the Russian Federation can influence the policy and security of a state targeting the individual, society and the political system.

Keywords: indirect approach; information warfare; non-military and asymmetric means; active measures; maskirovka;



INTRODUCTION

From 2014 until now, the literature on hybrid/asymmetric threats and hybrid warfare has flourished, attempting in various ways to describe, explain and interpret the ways in which the Russian Federation operates openly and covertly in the international arena. However, in recent years, voices have begun to emerge that introduce the idea that the Western perspective tends to turn the subject of hybrid warfare/hybrid threats into a closer approach to Western strategic culture.

On the other hand, this observation should not be exaggerated in view of the fact that the scientific and analytical papers that approach this subject, publicly, are based on the collection of information from open, unclassified sources. In this regard, the large volume of information and the quality of public information (which may be incomplete, false or compromised) generates the risk of a dichotomy between the directions of research or analysis and the objective reality. Also here, another handicap is given by the impossibility to verify the certainty of the public research or analysis with information obtained from classified sources (HUMINT, SIGINT, IMINT etc.) due to the restrictions related to information protection. Moreover, obtaining an information product relevant to a particular topic (analysis or scientific paper) depends not only on information, but also on a number of personal characteristics such as experience, skills, abilities, knowledge about the topic (Chiru, 2019, p. 71).

All these considered, the present paper expresses some views on the definitions and interpretations of Russian military theoretical concepts and perspectives with the intention of generating an overview. Thus, it will focus on the forms and methods of Russian action, with more emphasis on the specifics of the strategic culture of the Russian Federation and on the ways a conflict would unfold, from a Russian perspective, especially in the information environment. Therefore, we will be interested in observing how Russian theorists perceive the role of information in a conflict, what the targets of a Russian information operation could be, when it can be used

Obtaining an information product relevant to a particular topic (analysis or scientific paper) depends not only on information, but also on a number of personal characteristics such as experience, skills, abilities, knowledge about the topic.



and how information is integrated as a weapon in a series of operations (staged or synchronised). In the paper we will not only focus on the informational element, but we will also explain other concepts such as information warfare, indirect approach, asymmetric and non-military operations. At the same time, we will try to explain the modes of action of Russian military deception (*maskirovka*) along with active measures and reflexive control as part of a series of operations. Finally, we will highlight an orientation model about the Russian action that aims to affect the information environment (informational and cognitive dimension) in order to achieve a change of regime or change the social and political structure.

INDIRECT/NON-MILITARY OPERATIONS OR HYBRID WARFARE/HYBRID THREATS?

Regarding Russian military art and thinking related to hybrid warfare, both military and civilian theorists prefer to avoid using the concept of *hybrid warfare* in favour of other terms such as *indirect approach/strategy*, *non-military measures/operations*, *asymmetric/indirect actions*, *attrition warfare*. From their point of view, hybrid warfare is one of the options when it comes to possible military action. After analysing the particularities of the possible theatre of operations and the context of the conflict, the military action is designed in such a way as to allow, in a fluid way, the switching to various modes of action for the fulfilment of military and/or political goals (Kabernik, 2019, p. 59). In this regard, in the Russian military thinking we can identify three stages in which a state can be found (Ib., pp. 60-61): a) peace – general state, internally and externally, characterised by the absence of hostile actions; b) hostile actions – an ambiguous conflictual state, characterised by the intention to eliminate or suppress an opponent through violent measures or indirect or covert actions whose purpose is to change the social, political or cultural structure; c) war – a social-political state, defined as a combative form of hostile activities (originating in the thinking of Clausewitz and Lenin), internally and externally, where violence is openly and directly used through military operations.

The Western equivalent of “*hostile actions*” would be the spectrum of undercover actions that could be defined as “... *activities such as secretly providing aid to political supporters in other countries*,

misinformation, black propaganda and other types of psychological operations, provocations, sabotage, subversion, assassinations and the support of insurgents, coups and terrorism” (Robinson, 2010, p. 14). However, traditionally – in Western military art and thinking – covert actions are carried out during a declared conflict¹, being cumulated with the direct actions of the armed forces. On the other hand, Russian military theorists add to the two classic states of peace and war, the mentioned state of “*hostile actions*” that does not fit into the logic of the classical war, but which is more than just competition between states, suggesting that states are always malicious (mainly during peacetime), one of the *realpolitik* type. Therefore, hostile actions seek to change the social, political and cultural structure in a certain direction. We can assume that this reasoning shows the Russian Federation’s concern about the outbreak of “*coloured revolutions*” and the tendency of the exacerbated centralisation of power internally.

In Russian military thinking and theory, we can identify a number of opinions, concepts and theoretical approaches that are not always clear, and sometimes they act as a “*fog*” in identifying a pattern of Russian action. This is also stated by Major General (r.) Charis Saifetdinov, who considers that there are certain areas that research and subsequent decisions of the decision-maker (in the Russian Federation) should establish, more specifically a universalisation of terminology is needed (in the context of information warfare), objectives should be clearly defined, the principles of how to achieve the objectives should be substantiated, and finally, the necessary units and resources should be identified and allocated (Franke, 2015, p. 25). Even if some of these issues have been rectified, corrected and/or adjusted by the Russian Federation, it is still unlikely that there will be a complete standardisation of concepts and terms.

Continuing in the sphere of “*hostile actions*” we can notice that, in peacetime, the battle is carried out mainly in the information environment – except for the involvement of special forces

¹ Although there is a rather thin line between the covert action carried out by the security structures in peacetime and war, they need to be differentiated according to context and purpose. For example, in times of war, the common effort of all institutions is focused on gaining victory or just deter the opponent by all means, while in peacetime (in the context of international competition), covert actions are carried out, exclusively, by intelligence organisations and include espionage, the use of psychological or information operations, provocations, subversion, financing and supporting insurgent/separatist/terrorist forces etc.



Hostile actions seek to change the social, political and cultural structure in a certain direction. This reasoning shows the Russian Federation’s concern about the outbreak of “coloured revolutions” and the tendency of the exacerbated centralisation of power internally.



and subversive factors –, including offensive and defensive actions in the field of HUMINT, electronic operations, cyber operations, psychological operations, information operations, misleading of the decision-makers and so on.

In support of this idea, we can highlight some (compressed) ideas of military and civilian theorists such as:

- *Colonel (r.) Sergei Chekinov and Lieutenant-General (r.) Sergei Bogdanov*: they focus on actions in the information environment (information warfare), where non-military and indirect means dominate. The two argue the relevance of the indirect approach in the current context as a tool of the best strategies. They conceptualise the indirect approach as an action aimed at hitting the opponent in its weaknesses, using strategic surprise, quick manoeuvring and exploiting attack opportunities. They consider that while military deception is a common element used in conflict, information influence has reached a level that would allow them even to perform strategic tasks (Ib., pp. 38-39);
- *Major General Ivan Vorobev*: from his perspective, beyond the kinetic attacks and the room for strategic manoeuvre, own ability to deny the opponent's access to correct information also counts. Vorobev separates the concept of information attack or information shock in three directions: a) psychological-information attacks that seek to misinform and deceive the opponent; b) psychotropic attacks that have the function of affecting the opponent's psyche by special means²; c) attacks on the opponent's computers to affect C2 systems. With this separation in mind, the general emphasises the importance of carrying out these attacks in a synchronised and coordinated manner (Ib., pp. 23-24);
- *Colonel Yuri Starodubtsev and Lieutenant-Colonels Vladimir Bukharin and Sergei Semenov*: they, in the context of the information warfare, identify two directions of action: a) influencing the civilians or military personnel of another country by disseminating certain information (probably refers to information distortion) targeting groups or decision-makers;

Colonel (r.) Sergei Chekinov and Lieutenant-General (r.) Sergei Bogdanov conceptualise the indirect approach as an action aimed at hitting the opponent in its weaknesses, using strategic surprise, quick manoeuvring and exploiting attack opportunities.

² Although we do not yet have the conclusions of an inquiry on "Havana Syndrome", the description of Major General Ivan Vorobev shows some similarities with this case.

- b) gaining informational superiority over the adversary by decommissioning information processing and information gathering systems (probably referring to the electronic warfare part) (Ib., p. 40);
- *General Makhmut Akhmetovich Gareev*: he believes that the threats to the Russian Federation are related to information and subversive operations conducted from within the state. In this regard, the main effort of the Russian Federation should focus on destroying the information environment, sources of information and adverse navigation, guidance and C3 systems. To accomplish this goal, Russian forces can use indirect actions to influence the adversary, targeting the political, economic and psychological realms through disinformation. Here, too, the general includes indirect actions in the arsenal of non-military means, corroborating them with information distortion, stratagems, intelligence and counter-intelligence (Thomas, 2016, p. 15).
- *Colonel-General Andrei V. Kartapalov*: he adds to the classical armed forces (ground, air and naval) a fourth related to the information space. From the American theoretical perspective, the general pays close attention to the asymmetric operations performed by a weaker adversary who, facing the problem of limited resources, acts by economic, diplomatic, informational (including "informational blows") and indirect (e.g., military nature) means. Also, from his perspective, the arsenal of combative approaches of the Russian Federation can include asymmetric measures that include the use of special forces, foreign agents, various forms of information weapons and other non-military forms. On the occasion of each conflict, an asymmetric operation will be generated (probably according to the specifics of the conflict) (Ib., pp. 19-20);
- *Major General (r.) I. N. Vorobyov and Colonel (r.) V. A. Kiselev*: the two consider that the strategy of the indirect approach is gaining ground against the strategies that use force, where the indirect approach is characterised by a diversity of forms and methods specific to military action – including information warfare, electronic strikes, anti-satellite operations etc.



Colonel-General Andrei V. Kartapalov pays close attention to the asymmetric operations performed by a weaker adversary who, facing the problem of limited resources, acts by economic, diplomatic, informational and indirect means.



Andrew Koribko explains how the success of a “coloured revolution” involves recruiting individuals using ideological, psychological and informational techniques, and how this process depends on the specifics of the country, the characteristics of leaders, and the power (capability) of government and its subordinate security institutions; “coloured revolutions” are the result of information campaigns targeting the population of a state, and “they must be persuasive in order to reach as wide of an audience as possible”.

They pay special attention to the psychological-information weapons, which are categorised as special weapons and which act on the human psyche in order to influence it (Ib., pp. 30-31);

- *Andrew Koribko*: He attempts to develop a complex and pretentious theory based on the assumption that hybrid warfare has a Western theoretical basis and defines it as an “*indirect adaptive approach*” designed to cause regime change. His thesis revolves around the practices of unconventional warfare and the “*making of coloured revolutions*”. Here, too, he explains how the success of a “*coloured revolution*” involves recruiting individuals using ideological, psychological and informational techniques, and how this process depends on the specifics of the country, the characteristics of leaders, and the power (capability) of government and its subordinate security institutions (Koribko, 2015, pp. 29-30). In his view, “*coloured revolutions*” are the result of information campaigns targeting the population of a state, and “*they must be persuasive in order to reach as wide of an audience as possible (in some cases, it may be more strategic to only reach a certain demographic in order to have them <rise up> and exacerbate existing ethnic fractures within society, for example)*”. (Ib., p. 29).

Perspectives and approaches may continue, especially as some military theorists give particular significance in this context to the SIGINT component or to cyber/information systems; others focus on the initial period of war³, on the ability to forecast future trends or on the forms and means to be used in carrying out an operation; and others give more value to high-tech weapons, the continuous training of troops or the possession of weapons of mass destruction (nuclear, chemical, biological or radiological). All of them are relevant and give clues about the real course of action of the Russian Federation, but we must mention that for a more accurate understanding, each theoretical approach would be worth being researched in itself.

³ A Russian military theorist who has a significant influence on Russian military art and thinking, especially in deep battle theory, is Alexander A. Svechin (1878-1938) who considers that before the outbreak of hostilities the priorities are the understanding of the historical background, setting realistic goals and intensifying troops training. He also argues that each war is a special (or unique) case that requires the development of a specific strategic behaviour that is based on the particular logic of that conflict, avoiding the application of stereotypical models (Sinclair, 2020, pp. 13-14).



However, at certain points we can identify similarities with the Western conceptual approaches, especially in terms of the efficient use of information, both within our own systems and as a weapon against adversaries. In the case of conflict concepts, we are dealing with a theoretical set consisting of the reuse and updating of Soviet concepts and the results of Western research in the field of military theory (Kabernik, p. 54) and intelligence.

What is interesting is that certain key concepts are highlighted and attract our attention, more precisely *indirect strategy/approach, information warfare/attack/shock, non-military means, asymmetric operations/measures*, thus deserving particularisation.

In the case of the *indirect strategy/approach*, we can say that it is an adaptation of the theory of the strategy of indirect approach of B. H. Liddell Hart (1895-1970). Hart’s theory addresses the need for a change in the way of conducting conflicts. Instead of direct fighting between opposing forces, he advocates for a “*strategy of indirect approach which seeks to dislocate the enemy’s balance in order to produce a decision*” and to lure or capture him in a moment where “*his own [adversary’s] effort is turned into the lever of his overthrow*” (Hart, 1929, 2008, pp. 19, 123). Hart’s strategy of indirect approach encourages the exploitation of minimum resistance lines and the limitation of the use of armed forces, where the key element is the high degree of mobility which is doubled by the ability to respond quickly (Ib., p. 138). Also, at the tactical or strategic level, the strategy of the indirect approach seeks to have “*... a plan that can be easily varied to fit the circumstances met; to keep such adaptability, while still keeping the initiative ...*” (Ib., p. 133). Hart considers that in a confrontation “*... the dislocation of the enemy’s psychological and physical balance was the vital prelude to a successful attempt at his overthrow*” (Ib., p. 15). In this regard, the strategy should be designed in such a way as to diminish the opponent’s resilience by exploiting the (strategic) surprise and manoeuvrability and, in the event of a conflict with several opponents, it would be advantageous to focus efforts on to the weak allies of the adversary rather than to attempt a singular, constant, and weary effort to bring down the strongest adversary in the hope that the others around him will give up the fight (Ib., pp. 128, 123).

Even if Hart was Western, we cannot say that the presence of some of his ideas in Russian military theory is a coincidence, especially since,

Hart’s theory addresses the need for a change in the way of conducting conflicts. Instead of direct fighting between opposing forces, he advocates for a “strategy of indirect approach which seeks to dislocate the enemy’s balance in order to produce a decision” and to lure or capture him in a moment where “his own [adversary’s] effort is turned into the lever of his overthrow”.



In the episode of the invasion of Crimea, taking advantage of the strategic surprise, the Russian forces acted with great speed and flexibility, first by transporting special small units to the peninsula, in the context in which they were part of an exercise carried out on the eastern border of Ukraine, which inspected their ability of quick response. Once in the enemy territory, some units even pretended to be part of the local militia by misleading the local population and occupying the Crimean Parliament.

as one author wrote in 1986, Soviet military art was based on the principles of: a) speed and shock (the use of mobility and manoeuvre space), b) concerted effort (the use of superiority in the right place and time), c) surprise and securing, d) maintaining initiative, e) maintaining efficiency in combat, f) compliance with the purpose/objective, g) coordination between forces (Hamilton, 1986, p. 63).

Although, the presented aspects represent only a part of Liddell Hart's perspective, we can notice the similarities between the theory of strategy of indirect approach and the indirect strategy/approach that the Russian military theorists talk about. For example, in the context of the exploitation of the minimum resistance points, the strategic surprise, the dislocation of the opponent's balance and the maximisation of manoeuvrability, the episode of the invasion of Crimea in 2014 highlights these similarities. Taking advantage of the strategic surprise, the Russian forces acted with great speed and flexibility, first by transporting special small units to the peninsula, in the context in which they were part of an exercise carried out on the eastern border of Ukraine, which inspected their ability of quick response. Once in the enemy territory, some units even pretended to be part of the local militia by misleading the local population and occupying the Crimean Parliament (Kofman et. al, 2017, pp. 12-13). This surprise, in practice, had both physical and psychological effects, giving the Russian Federation a tactical, operational and strategic advantage, while Ukraine's response was gradually cancelled. Another example related to the economy of the use of armed forces is the Russian military intervention in Syria in 2015. In this case, the Russian Federation operated (Sinclair, 2020, pp. 15-17): politically, by influencing the Syrian government to refuse access by Western-funded NGOs to territory under the control of government forces; diplomatically, by blocking a UN resolution which could favour the United States of America and expanding partnerships with countries in the region such as Turkey, Saudi Arabia, Iraq and Israel; and militarily, by providing air support, security, weapons supply, specialised training and logistics. In this respect, the troops in the field were limited and composed of naval, air, special forces and independent contractors, also the direct ground clashes were avoided as much as possible, and to compensate for the economisation of use of own forces, the Russians focused on a common, robust, command and control ground system (Ib.).



Russian indirect strategy/approach is a conceptual hybrid that integrates Russian/Soviet strategic culture and Western military theory; Russian military theorists will continue to develop and improve it according to the new technological developments.

Given these examples (not to mention the examples we can draw from recent Russian military exercises), we note that Russian indirect strategy/approach is a conceptual hybrid that integrates Russian/Soviet strategic culture and Western military theory, and that Russian military theorists will continue to develop and improve according to the new technological developments.

Regarding the *information warfare/attack/shock*, we note that, although there are different terminologies in Russian and Western conceptual approaches, the intention will be similar: in the information dimension, the purpose is to destroy, corrupt, usurp the adversary's information and/or the information environment; and in the cognitive dimension it is aimed at affecting human networks and systems that can influence decision-makers, manipulating the content and structure of information and influencing systems that can affect the decision process (FM 3-13, 2016, pp. 1-4). In short, it is about gaining informational superiority over the adversary while own systems are protected.

From this point on, the similarities between Western and Russian thought patterns dissipate because of differences in terminology, structure and role. In Western military thinking (NATO dictionaries, strategy papers, manuals etc.) we find the use of the term *information operations* to describe the capabilities and development of activities that affect the information environment, and the term *information warfare* is used when referring to adverse tactics, activities and capabilities (Giles, Seaboyer, 2019, pp. 6-7). In contrast, Russian military thinking attributes to the concept of information warfare a much wider and more dynamic applicability, using information as a tool, field of operations, or being the target/object to be affected. According to the Russian theoretical approach, information warfare is an umbrella concept under which are subsumed cyber operations, psychological operations, strategic communication, influence operations, electronic warfare, information distortion (disinformation and misinformation, information falsification, propaganda etc.), domains of intelligence (HUMINT, SIGINT, IMINT, GEOINT, OSINT etc.), counter-intelligence, maskirovka (the western equivalent being military deception – MILDEC) and alteration/destruction of equipment (Ib., p. 6). In addition, the organisation and conduct of information warfare is the responsibility of the Russian intelligence community (GRU, FSB, SVR etc.)



The theoretical (and practical) approach of Russia is a defensive-offensive one, and domestically it keeps a strict control of the information flows coming from outside the Russian Federation. The Russian Federation has the capacity to disconnect itself from the external information environment and can influence the pieces of information leaking from the outside so that the Russian population should not have an objective perception of events, both domestically and externally, and thus be vulnerable to the propaganda of its own state.

and the security forces (specialised structures on security and internal order), and the activities of analysis, gathering and dissemination of information are combined with direct actions such as subversion, sabotage and assassination; all this activity aiming civilians, military and decision-makers (Ib., p. 7). In order to identify and exploit the vulnerabilities of the state's media, the Russian Federation has formed "intelligence troops" that are composed, along with intelligence and military officers, of hackers, specialists in strategic communication and psychological operations, journalists and linguists (Giles, 2016, pp. 35-36). One of their important roles is to understand the linguistic and cultural peculiarities of the states targeted by the information warfare. Here, too, it must be said that depending on the objectives and targets, the Russian information warfare is divided into (Ib., p. 9): a) psychological-information warfare, whose target is the armed forces and opposing populations; b) technological-informational warfare, the target of which is the technical systems for collecting, processing and transmitting data and information. It should be noted that both typologies include the use of cyber activities because, in their view, cyber warfare refers to the transmission and transfer of information by any means and in this regard the Russians attribute similar meanings to the action of parasitising/infecting a computer and the action of distorting reality through classical media or social media (Ib., p. 10).

As we can see, the character of the Russian information warfare is an offensive one, but it is also doubled by a defensive one in terms of the domestic information environment. Basically, the theoretical (and practical) approach of Russia is a defensive-offensive one, and domestically it keeps a strict control of the information flows coming from outside the Russian Federation. The Russian Federation has the capacity to disconnect itself from the external information environment and can influence the pieces of information leaking from the outside so that the Russian population should not have an objective perception of events, both domestically and externally, and thus be vulnerable to the propaganda of its own state (Ib., pp. 29-30).

This defensive-offensive approach can be interpreted as an information security system, where the emotions and attention of Russian citizens are channelled to external opponents designated by the Russian Federation in an attempt to prevent riots against the abuses of the authorities, the morale of troops is kept high,

and C4I systems remain protected. At the same time, externally, the perceptions, attitudes and emotions of the populations of other states are exploited through the information warfare in an attempt to generate destabilisation or to change governments or regimes; decision-makers are influenced; key personalities from the targeted states are determined to defect through blackmail, threats or bribery; and the aim is to penetrate, corrupt or decommission the military and governmental systems.

We can approach *non-military means* and *asymmetric operations/measures* together because, although they are discussed as separate terms by Russian military theorists, in practice, we notice that these are concepts that complement each other.

In this regard, Russian military theorists start from the theory of the sixth-generation warfare⁴ where the main objectives are: 1) defeat of the adversary's armed forces on its own territory, 2) destruction of the opponent's economic activity and potential, 3) change or subversion of the opponent's political system (Mattsson, 2015, p. 62). In order to achieve these objectives, an indirect, remote, approach is evident, which will materialise through non-military and asymmetric measures. In support of this idea, they believe that the first step is to take the initiative in launching a psychological warfare, information warfare and recruiting or introducing agents of influence (non-military component) destabilising the victim state from within and create optimal conditions. Subsequently, asymmetric operations are carried out by launching a coordinated attack using special forces, ranged weapons, volunteers and militias to penetrate deep into the enemy territory (Ib., pp. 62-63). However, there are situations in which the use of any armed forces, in any form, can cause greater risks than benefits, so that non-military means are accentuated as part of asymmetric operations, being expressed by:

- discrediting and delegitimising key institutions and decision-makers through constant information flows highlighting the limitations and inability of authorities to manage issues and governance;

⁴ Sixth-generation warfare is a theoretical approach of Russian origin about the phenomenon and trends of war and it refers to the increasingly informational nature of conflicts, the increasingly significant role of high-precision weapon systems, compaction of troops and maximising their mobility etc., but also includes abstract issues such as "contactless warfare", "cultural warfare" or "existential warfare". For a perspective, see: <https://jamestown.org/program/russian-sixth-generation-warfare-and-recent-developments/>.



Russian military theorists start from the theory of the sixth-generation warfare where the main objectives are: defeat of the adversary's armed forces on its own territory, destruction of the opponent's economic activity and potential, change or subversion of the opponent's political system.



- actions to induce chaos among the population that will cause the sensation of rapid degradation of order and stability and the cause of an anti-system trend among the population;
- deception/misleading actions aimed at distracting the opponent or determining it to act or not to act at a certain moment;
- monitoring and evaluation actions that remotely track the opponent's capabilities, mode and time of reaction and reveal its possible vulnerabilities (Duțu, 2013, p. 36).

In this regard, this perspective of emphasising non-military means carried out under the umbrella of asymmetric actions seeks to achieve strategic objectives by substituting the classic use of armed forces, and thus the opponent – not subject to a military threat – cannot provide a symmetrical response (Renz et al., 2016, p. 54). It must be said that we are facing a paradox in the context of non-military means and Russian asymmetric operations/measures because no matter how much they tend to exclude the military component, all these actions are organised and carried out under the auspices of Russian military structures. The arsenal of “remote-controlled weapons” may be composed of organisations, groups or individuals receiving funding and instructions from the Russian Federation, acting against the security interests of the state in which they operate (Ib., pp. 56, 57).

In the Russian military theory of sixth-generation warfare, we note that significant attention is being paid to the use of non-military means. According to the Russian military approach, the role of non-military means would be to weaken and corrupt the adversary before the attack, as part of the initial period of the conflict/war, deploying them in a covered manner and aiming to undermine or diminish the ability of the state to resist (Göransson, 2021, pp. 86, 88). However, this idea lies in the main security obsessions of the Russian Federation, namely the regime changes through “coloured revolutions”. In this regard, the Russian authorities have repeatedly accused the United States of America and NATO of carrying out subversive activities in support of “coloured revolutions” in the Middle East and Eastern Europe. The Russians classified Western actions as “multidimensional hybrid operations”, consisting of political, diplomatic, information, propaganda, financial, economic and military measures acting through political parties, NGOs, migration and private military companies (although their role

as part of non-military measures is not explained) (Ib., p. 89). We must keep in mind that, empirically, what the Russian Federation classified as risks to its security were indications of the actions it had taken against other states, overtly or covertly. There is also ambiguity and conceptual confusion, intentional or unintentional, about non-military means and asymmetric operations/measures that, to some extent, mislead scholars and analysts, generating different interpretations and perspectives without being able to clarify the true forms and methods of Russian actions. We find such an example in the interpretation given by various Western specialists (Mark Galeotti, Roger McDermott, Pavel Felgenhauer etc.) regarding the existence of a “Gerasimov Doctrine” or the underestimation of the Russian Federation's intentions to be able to project its power in the international arena. In fact, the intentions of General Valery Gerasimov do not seek to deepen the non-military, asymmetric, informational etc. means by the army to the detriment of other branches/specialties, but points out that “... Russia needs to create doctrinal and material capability of a highly professional intervention force with the potential to act worldwide, under the protection of a highly effective, modernised nuclear umbrella” (Fridman, 2019, p. 109) to protect its external interests.

Following this synthesis, we notice an expanding conceptual diversity which, in some cases, represents adaptations of Western military concepts, and in other ones, consists in taking over and improving Soviet concepts. It appears that the tendency of the Russian armed forces is to emphasise interoperability, mobility, technologization, flexibility and the economic use of force, in direct proportion to the characteristics of the theatre of operations. Also, to the classical Russian military forces are added the informational and non-military components that can be carried out jointly with military operations or as independent actions (using military techniques with civilian means), with the aim of destabilising a state from inside.

However, caution and carefulness are required in the interpretation of Russian military theory and thinking, because: a) the available strategic documents are abstract and the access to classified documents belongs to a small portion of specialists; b) differences in language and strategic culture are a barrier to understanding their mode of action; c) some Russian approaches may be tainted by biases and conspiracy



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theories resulting from reminiscences of Marxist-Leninist ideological heritage and errors developed by the small circles of Soviet communists from the security structures (Andrew & Mitrokhin, 1999, 2000, 2018).

ACTIVE MEASURES, MASKIROVKA AND REFLEXIVE CONTROL

When we introduce the *indirect approach, information warfare, non-military means or asymmetric operations*, we must keep in mind that *active measures, maskirovka* and/or *reflexive control* are carried out within the lines of operations or in an auxiliary manner. The inclusion of these terms in the spectrum of Russian military actions, overt or covert, is mandatory due to their role, tradition and evolution in the Soviet/Russian strategic culture.

Starting with the *active measures*, from a historical point of view, they were designed by Service A, which was the active measures specialised branch of the KGB Foreign Intelligence Directorate, and the execution was assigned to PR Line (KGB's political intelligence department) officers, who worked from legal (part of diplomatic missions) and illegal residences located in the territories of the states, which were supposed to give the active measures, in theory, 25% of the total activities undertaken (Ib., p. 292). According to a special report declassified by the CIA in 2006, the active measures refer to Soviet operations aimed at affecting the domestic policy of the targeted states, being distinct from espionage actions, and aimed at affecting relations between states, discrediting opponents of the Soviet Union and undermining external leaders, institutions, and values (Bureau of Public Affairs, 1981, p. 1). The active measures were carried out in a subversive/covert manner and used techniques such as:

- Manipulation of written news agencies in the targeted countries by the insertion, by Soviet agencies, of false information;
- Use of falsehoods and disinformation through production and dissemination of false or partially true documents (black and gray propaganda) and by spreading rumours, insinuations and distortions of facts/events;
- Control of local and international communist organisations;
- Dissemination of information through clandestine stations;
- Using economic manipulation by influencing prices (where possible) and disseminating real and false information to local

- businessmen and policymakers in an attempt to direct their investment plans to the interests of the Soviet Union;
- Conducting political influence operations by exploiting contacts in the political, economic and media environments of targeted states. A particular attention was paid to politicians, where that type of operation was trying to build their loyalty toward the USSR, and then use them as private channels with foreign government officials. Once influenced, the Soviet Union falsely gave them the impression of special relevance by inviting them to meet with high-ranking Soviet officials. In reality, through loyal local politicians, the Soviet Union was transmitting mixtures of false, real, and distorted information that favoured the Soviet agenda;
- The use of academics and journalists, so that the recruited academics submitted to Soviet orders, and the recruited journalists indirectly represented the Soviet Union and disseminated communist propaganda (Ib., pp. 2-3).

In this light, *active measures* were a type of actions that we would currently include in the field of psychological operations, information operations and HUMINT. However, within the Soviet/Russian military theory, *active measures* – also called *active operations* – take many forms. In general, they aim to use influence on the domestic and foreign policy issues of the targeted state; implementation of solutions in international issues; misleading, undermining and weakening the opponent; disruption of the opponent's hostile activity; and fulfilling other purposes (Mitrokhin, 2002, 2004, p. 13). When carried out by external intelligence services, in particular, *active measures* extend their scope to the military, economic and ideological aspects of the adversary. The methods used include misinformation, exposure, discrediting, compromising, persuasion, or coercion – exerting psychological pressure on individuals to persuade or persuade them to behave in a certain way – special positive action/pressure – exercising influence over governments, parties or political and public figures using various forms and materials through agents and contacts recruited/cultivated –, clandestine actions etc. (Ib., pp. 13, 67-68). Also, *active measures* play a role in the context of counter-intelligence actions, being different from protection measures, where the goal is to penetrate the logic of the opponent, prevent opportunities



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In addition to the obvious advantages of computer and information interconnection, there have been acute disadvantages, such as: dissemination, between users, of content and information based on emotions; digital enclaving of users based on common representations and beliefs; promoting ignorance towards scientific domain; accentuation of the story to the detriment of real events; glorification of utopian life patterns, dramatization and alteration of objective reality.

for the opponent, increase ambiguity, expose and interrupt hostile activities from the earliest stages, to block the opponent's possibilities of initiative, to frustrate him and to make him act in unfavourable conditions (Ib., p. 251).

From the experience of recent years, we see that there are few differences between past and present *active measures*. The notable differences consist in the experience the Russians have capitalised on, which has led to the professionalisation of *active measures*, a wider use of technology and the use of the permissive information environment of Western states generated by the inadequacy of their own protection systems to current *active measures*. In this regard, summarising the technological element, we will refer to some aspects.

The generalisation of the virtual space and the widespread use of digital platforms that generate content, distribute information and are forums for discussion, all led to the emergence of an alternative/parallel information environment to the classic one. In addition to the obvious advantages of computer and information interconnection, there have been acute disadvantages, such as: dissemination, between users, of content and information based on emotions; digital enclaving of users based on common representations and beliefs; promoting ignorance towards scientific domain; accentuation of the story to the detriment of real events; glorification of utopian life patterns, dramatization and alteration of objective reality etc. (Wardle & Derakhshan, 2017, pp. 12, 13, 15). These trends are a favourable environment for *active measures* (including for the recruitment/cultivation of agents), with the virtual space representing both the channel and the meeting place. Due to this subjectivisation, people prefer to form virtual groups, called *echo chambers*, through which they can express their common beliefs and ideas, without the phenomenon of debate and where they can express their unfettered, radical and uncensored views about life and the world. (Ib., pp. 49-50).

With the subjectivisation of the individual's perception of reality, the role of psychological component has increased as part of *active measures*, and has led to an efficiency in identifying and valuing individuals. Although we cannot indicate exactly the stages used



by the Russians, we can state that before launching *active measures*, the organising institutions carry out extensive research on the targeted state, which establishes the civilisational particularities determined by geography, historical evolution, composition and ethnic origins, religion, economic status and the structure of society (Gordon, 1996, p. 205). However, it should be noted that, at a deductive level, pre-analysis is not carried out before the action plan, objectives and targets that will underpin the conduct of active operations (*active measures*) have been established. Then, information is collected, which is analysed, taking into account the latent attitudes of certain groups or the population on issues related to the political, economic, military and social fields, and then another analysis is performed that tries to identify possible vulnerabilities, having a specific target in sight as the analysis determines the level of dissent, fear and dissatisfaction that will be exploited (Ib.). Depending on the information obtained, a decision is made regarding the methods and techniques to be used, the favourable means of communication, the contents and messages disseminated, the spaces where the *active measures* take place (virtual and/or real), the staff involved (own, clandestine and/or recruited from the targeted state) etc., all the activity to be monitored, evaluated and adjusted (Ib., p. 206). Even with an impressive amount of knowledge about the adversary, the success of active operations is not guaranteed due to the protectionist activities of the security structures in the target state and the linguistic and cultural peculiarities of its population.

Active measures continue to be an instrument of influence of the Russian Federation, which is constantly being improved and which produces effects, generally, in the medium and long term. Although we have only presented theoretical aspects, we cannot attribute to chance some concordances between this theoretical framework and certain events (outbreak of protests, contradictions of statements/decisions of government officials within the same state, exacerbation of false information flows at sensitive moments etc.). Thus, we can see that the intensity of their manifestation is no different from the Cold War period, which obliges us to make greater efforts to defend ourselves.

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Maskirovka is a concept with a long evolution in Russian military thinking and theory that has an extended applicability and adaptability. As Barton Whaley (1969, 2007) points out, the Orientals were the ones who discovered the potential of manipulating information during a war through information blockades, misleading operations, overloading communications with confusing information, until the adversary went mad.

Maskirovka is a concept with a long evolution in Russian military thinking and theory that has an extended applicability and adaptability. As Barton Whaley (1969, 2007) points out, the Orientals were the ones who discovered the potential of manipulating information during a war through information blockades, misleading operations, overloading communications with confusing information, until the adversary went mad. Over time, techniques and forms of military deception have been taken over mainly from Sun Tzu (and not only) and adapted to Western wars (by Antoine Henri Jomini, Carl von Clausewitz, B. H. Liddell Hart).

Turning to the Russian military deception, this is not very different from the Western one, but it has a wide applicability. For example, in intelligence work, *maskirovka* refers to the use of natural conditions, the creation of artificial situations and the use of devices to conceal and camouflage the activity of one's own agents and intelligence officers (Mitrokhin, p. 64). *Maskirovka* is also used in counterintelligence, where it is a set of special measures designed to hide or mislead the opponent as to the true nature of the measures taken by the security structures along with the forces involved and the resources used (Ib., p. 247). In this respect, we note a slight resemblance to what OPSEC (Operations Security) measures would represent.

In the military sphere, *maskirovka* is an umbrella concept that is composed of three other concepts such as *camouflage*, *concealment* and *military deception* (which includes the use of truth, falsehood, deception and misleading), and its applicability extends to strategic, operational and tactical levels (Hamilton, p. 65). At the strategic level, *maskirovka* ensures the disorientation of the opponent by hiding the preparations for conducting operations, the strategy that is used, intentions and weapons involved; at the operational level the goals of *maskirovka* are diminished in size and focus on simulations, disinformation, feints and coverage of the preparations for the operations to be carried out; and at the tactical level *maskirovka* focuses on coverage and demonstrations (creation of false fighting positions, camouflage of troops and equipment etc.) (Maier, 2016, pp. 16-17).



Maskirovka, like any military operation, is based on a planning that generally takes into account: initiative, plausibility, consistency, and synchronisation and diversity.

We can also add that there are perspectives that consider that a more consistent applicability of *maskirovka* is encountered at the operational level because, usually, the tasks consist in: masking the movements of troops or when they are withdrawn after they have been spotted by the opponent; altering the opponent's perception and/or deny it the possibility of being able to identify one's own weaponry; distracting the opponent; overloading the opponent's intelligence structures with data and information; diverting the opponent's attention from real threats and simulating the use/lack of force to cover one's own vulnerabilities or to give the opponent a false impression of security; conditioning the opponent with a certain routine/behaviour that would cause him misconceptions; and misleading the adversary into not understanding its ongoing actions and not being able to respond promptly to an incident/event (Dick, 2013, p. 190).

Maskirovka, like any military operation, is based on a planning that generally takes into account:

- Initiative – the preference to penetrate and influence the decision-making process of the target in an attempt to generate confusion, indecision and mistakes;
- Plausibility – plans must be plausible, as a construction, from the perspective of the target;
- Consistency and synchronisation;
- Diversity – in order to prevent standardisation or stereotyping in planning, it is recommended to carry out multiple, credible and related military deception measures so that each can confirm the other and cumulatively contribute to the story of deception (Hamilton, pp. 66-67).

Moreover, within the same plan, according to the Soviet/Russian perspective, it is important to use the optimal category of *maskirovka*, which consists of: camouflage measures, which are classic measures to hide the equipment by using colours, natural vegetation, terrain etc.; imitation, which starts from the use of baits (in misleading) to the use of the electromagnetic spectrum to imitate the radio signals of the opponent; demonstrations of forces, which have a dual-role given by the intention of increasing or diminishing ambiguity about one's



In Russian military thinking, maskirovka is the best way to achieve strategic surprise, generating openings in the defence of the opponent that would traditionally have been obtained at much too high costs; maskirovka is the best way to alter the perception of the reality of adverse decision-makers so as to entice them to make inappropriate or wrong decisions.

capabilities and intentions of simulating the intention to attack the opponent in order to monitor his reaction or make him take an unwise decision; and disinformation, which aims to provide the adversary, through various channels and forms, with erroneous, partially real, false information flows (Ib., pp. 68-69).

Based on the theoretical framework of *maskirovka*, the initiator tries to present a representation of reality, false and credible enough, to attract the attention of the target in dead spots, but also to generate favourable conditions for their own intentions. *Maskirovka* uses mainly strategic surprise and influence – which ensures the preservation of the fighting force, reduces risks and acts as a force multiplier – is a strongly centralised and coordinated process, and the limitations do not exist, regardless if the target is a military, governmental or civilian one, the process is constrained only by the cost-benefit relationship and the related risks (Maier, pp. 6-7). In Russian military thinking, *maskirovka* is the best way to achieve strategic surprise, generating openings in the defence of the opponent that would traditionally have been obtained at much too high costs; *maskirovka* is the best way to alter the perception of the reality of adverse decision-makers so as to entice them to make inappropriate or wrong decisions; and in the tactical field, *maskirovka* is used to protect one's own forces by masking forces and disseminating false or misleading information to direct the effects of opposing weapons in directions irrelevant to the combat action (Ib., pp. 8-9).

As we can see, this term is used more in military matters, as opposed to active measures. However, given its purpose of altering reality and the fact that Russian intelligence operations are designed and executed by a mix of civilian-military personnel, we can assume that *maskirovka* is also used outside the theatre of operations. Its use, as a form of information warfare in the virtual space against civilian targets and decision-makers, reminds us of the ideas expressed by Russian military theorists regarding the use of the indirect approach or the prospect of regime change by non-military/asymmetric means.

Reflexive control (this name is found more often in Western literature) or perception management is a complementary concept

of *maskirovka*, developed since the '60s, and, in general, *maskirovka* and *reflexive control* are carried out together. Unlike the components discussed, *reflexive control* focuses on the intellectual confrontation of opponents, where officers examine the given situation objectively and, based on experience and training, they look for ways to manipulate the tactical field in their favour by analysing the opponent's patterns and tendencies corroborating the information obtained with their own possible action forecasts (Thomas, 2019, pp. 41-42). According to Russian military thought, *reflexive control/perception management* is carried out in the information environment and aims to obtain informational and psychological effects against decision-makers in an attempt to persuade them, through various channels, to abandon the initial plans and act to the detriment of their own interests or objectives (Ib., pp. 4-2). Basically, *reflexive control* seeks to generate the optimal conditions for Russian actions, using *maskirovka* and *active measures*, so that the aim is not to outperform the opponent's military, but to project/simulate a certain image or state of affairs that would distort the objective reality and affect the opponent's ability to predict, anticipate and act by disordering the decision-maker.

However, due to social, political and technological developments, in the Russian conception, *reflexive control* can extend beyond military art, to actions such as misleading or deceiving foreign experts, corruption of computer networks and manipulation of social media and/or public opinion of a state, having applicability in:

- Negotiations – the use of a mix of marketing techniques and reflexive control;
- Deception and military doctrine – the publication of official programmatic and doctrinal documents that project a certain image regarding the intentions and directions of action of the Russian Federation;
- Deterrence – in the context of nuclear arsenals, the parties are trying to convince themselves of the futility of blackmail with the use of force and military pressure;



Reflexive control focuses on the intellectual confrontation of opponents, where officers examine the given situation objectively and, based on experience and training, they look for ways to manipulate the tactical field in their favour by analysing the opponent's patterns and tendencies corroborating the information obtained with their own possible action forecasts.



In the Russian view, reflexive control is a process by which the initiator tries to exploit vulnerabilities in the value system of the opponent, which is composed of "filters", where filters consist of concepts, knowledge, ideas and experience of the opponent. Thus, after identifying a point of minimum resistance, an information weapon (composed of methods and techniques of information distortion) is used, which would have the ability to generate changes in adverse information processes and systems (civilian and military).

- Military exercises – the organisation of military actions that convey messages different from the real intentions and that take place simultaneously in different areas;
- Stratagems – the implementation of sets of measures, interconnected by characteristics such as purpose, place and time, to thwart the opponent's plans using hiding, masking, misleading, deception etc.;
- C4 – parasitising command and control, computer and communication systems with distorted or false data and information that would lead to the execution, by the opponent, of actions that would compromise military and/or political leaders in front of subordinates and convince civil society of their anti-national intentions;
- Psychological-information warfare – modelling the opponent's behaviour by using complex military, political and diplomatic measures;
- Analysis and reflexive approach – the analysis reveals the probable objectives of the opponent and the means by which he wants to obtain them, and the reflexive approach tries to obtain the intellectual superiority over the opponent based on the analysis;
- Internet – manipulating social trends or emotions by determining target groups/ individuals to act in a certain direction. (Ib., pp. 43-46):

The subject of *reflexive control* is widely discussed in both Western and Russian literature, and the definitions, methods and applicability of this concept are more extensive than the details presented. However, we are particularly interested in the relevance that Russian military theorists attach to *reflexive control* in the context of psychological-informational war (or information warfare). In this regard, *reflexive control* has the role of causing the opponent to disillusion himself and to make those decisions that will determine deficiencies in the management of his own systems. In the Russian view, *reflexive control* is a process by which the initiator tries to exploit vulnerabilities in the value system of the opponent, which is composed of "filters", where filters consist of concepts, knowledge, ideas

and experience of the opponent (Pynnöniemi, 2019, p. 219). Thus, after identifying a point of minimum resistance, an information weapon (composed of methods and techniques of information distortion) is used, which would have the ability to generate changes in adverse information processes and systems (civilian and military) (Ib.). It is important to note that when deploying the information weapon, the target is attacked by several attackers/from several directions simultaneously and in this way the victim fails to distinguish between ally and opponent, which ultimately leads to the loss of the notion of threat (Ib., p. 220). In this way, the action of *reflexive control* torments the target as it produces effects in two possible directions: latency in the ability to react to objective and direct threats or subjectivise threats, causing exacerbated reactions and distracting from immediate dangerous events.

Comparing *reflexive control* with *active measures*, we notice that there are similarities in terms of shapes and techniques, both of which concern the cognitive dimension of the target. The most visible difference is the purpose and focus of the actions, so that *reflexive control* is intended exclusively for external targets, while *active measures* have a more general applicability, internal and external. However, there is a nuance that we need to keep in mind: *active measures*, *maskirovka* and *reflexive control* are concepts with a long evolution, so they are designed to be jointly deployed, to complement each other and to adapt to new operational concepts, technologies and needs.

ORIENTATION MODEL

Given the concepts, notions and ideas presented, we further propose an orientation model to highlight the mode of action of the Russian Federation, emphasising the idea of regime change through corrupting/affecting the information environment of the targeted state. We believe that this model can contribute to a clearer understanding of the Russian course of action on the states of the European Union and NATO, given that the use of military force against these states is still a risky move.



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As we mentioned, before initiating actions against a state/states, pre-analyses and analyses are performed to identify their minimum resistance points, subsequently exploiting them in particular. Even if we are talking about EU and NATO states, there are some general vulnerabilities in their democratic systems that facilitate the application of non-military forms and measures, information warfare or the idea of regime change.

In democratic systems, there is a distinction between individual and state, where the two entities have different needs and objectives, and security is perceived in various forms. For example, the state may be interested in ensuring international security, territorial security and some visibility and relevance in the international bodies of which it is a part, but the individual may be more interested in his economic prosperity and in his professional, sentimental or ideological fulfilment. However, the existence of this distinction is the foundation that can lead to the erosion of the power and legitimacy of the state as it can determine: the enclavisation of society, in which individuals feel an increased fidelity to the elements closer to their lives such as family, clan, religious community, region etc.; and the enclavisation of the state, along with its institutions, where its role is limited only to the administrative component (Buzan, 2017, p. 90). Thus, in order to reduce this gap between state and individual/society, the political system plays the role of mediator in the conflict of social relations, political actions being social acts, especially by the fact that there are no clear boundaries that limit the politicisation of social life (Denni & Lecomte, 2004, pp. 21, 25). From this point appear the vulnerabilities that can be exploited by the Russian Federation, especially at the information level.

Political parties contribute to the political education of the individual and thus have the ability to structure public opinion by analysing, for electoral purposes, the situation of the state, proposing topics for political debate and coming up with solutions, but disseminate political battle at all levels of society through any channels (Bréchon, 2004, pp. 119-120). Naturally, society is not a homogeneous and harmonious system, being marked by conflicts generated by the existence of social stratification and the divergent interests of different social groups (Denni & Lecomte, p. 73). But the

more violent the political conflict is expressed in society (in addition to the pre-existing tensions), the higher the chances of extremist parties to appear, and if there are infused, in the middle of the conflict, elements of information distortion, the fears that will arise inside the society or social groups will generate embryonic ideological forms (ultra-nationalism, anti-globalism, religious fanaticism, anarchism etc.) with escalation potential (Bréchon, pp. 80, 110). However, two other problems are generated here: a) political parties are conditioned, in the political offer, by the mood and preferences of public opinion/society, so that the political agenda cannot be too far from these preferences (Ib., p. 92); b) the state may face a long period of disorder in political life, but for the individual, the escalation of a violent political struggle becomes a source of insecurity (Buzan, pp. 83-84) that radicalises it and subsequently changes its value system.

These aspects, in practice, are the basis of Russian ideas regarding the influence of the opponent in the political (decision-making) sphere and of the population. As a first step, they must gain supremacy over the opposing information environment by taking the initiative to determine the information shock. In this regard, the Russian Federation may conduct a series of operations, including *active measures*, *maskirovka* and *reflexive control*, oriented, in the first instance, to the individual and society, and later to the political environment. In this first stage, the operations would aim to block the society's ability to organise ways to mediate social conflicts (Denni & Lecomte, p. 31), causing its fragmentation following the escalation of conflicts that multiply and could no longer resolve naturally.

These forms and measures can be so sudden that the security systems of the targeted state can be subject to strategic surprise and thus react late to Russian information attacks. Then, by exposing individuals to Russian information flows for a long time, this could lead to disruption of the information environment, so as to obtain the desired effects. However, conditioning is not sufficient because the Russian Federation acts simultaneously or in stages (depending on the specifics of the targeted state) in several directions. Specifically, in the first instance, it is quite likely to focus its effort on blocking the access of the population/groups to correct information in order to subjectivise their reality, subsequently penetrating the society with



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The vulnerability of the political environment can be achieved through covert actions such as deception and misleading, blackmail, threat, corruption, but also through more direct actions such as infiltration of influence vectors that generate and maintain a degree of instability, subversion, sabotage and even assassination (wet operations).

active and passive agents of influence (active – intelligence officers/ recruited agents engaged in active measures; passive – influential people who have no direct links to external actions, but are part to them). After ensuring a favourable information environment, the Russian Federation can disseminate false information through various channels, especially social media echo chambers, and ensure that confusion, dissatisfaction, and ultimately radicalisation is established. In addition, the Russian Federation can also target the political environment of the state in order to make it vulnerable so that it can no longer assume its role as regulator and guardian of global social and value unity against destabilising elements (Ib., p. 35). According to the theoretical perspectives presented, the vulnerability of the political environment can be achieved through covert actions such as deception and misleading, blackmail, threat, corruption (figure no. 1), but also through more direct actions such as infiltration of influence vectors that generate and maintain a degree of instability, subversion, sabotage and even assassination (wet operations). Russian information actions could pursue the following already mentioned actions: 1) discredit and delegitimise the state’s institutions and its political environment; 2) induce chaos among the population; 3) mislead and distort reality; 4) monitor, assess the effects and adjust the forms and means if necessary.

Before the radicalisation of the individual, information attacks must ensure the destruction of the citizen’s trust and respect for the pre-existing order within the state and motivate him to act to change/ demolish it. The execution of these information operations can be carried out in the medium and long term to substantiate, at the cognitive level, the mystification of reality/deception. Over time, the first signs of changes in value systems in society and the political environment such as the emergence of extremist parties, ultranationalism, religious fundamentalism, anti-globalism, isolationism, anti-Europeanism, anti-Americanism etc. appear. Once the changes in attitude begin to become visible then individuals and society will determine changes in the political environment – which has also been subject to external influence – and this, in turn, will bring changes in the state apparatus from its structure to the fundamental and organic laws. Of course, in an operation that target a state, various techniques and means

are analysed and used, and the details are consistent and consist of as many particularities as possible that can contribute to the successful completion of Russian “hostile actions”.

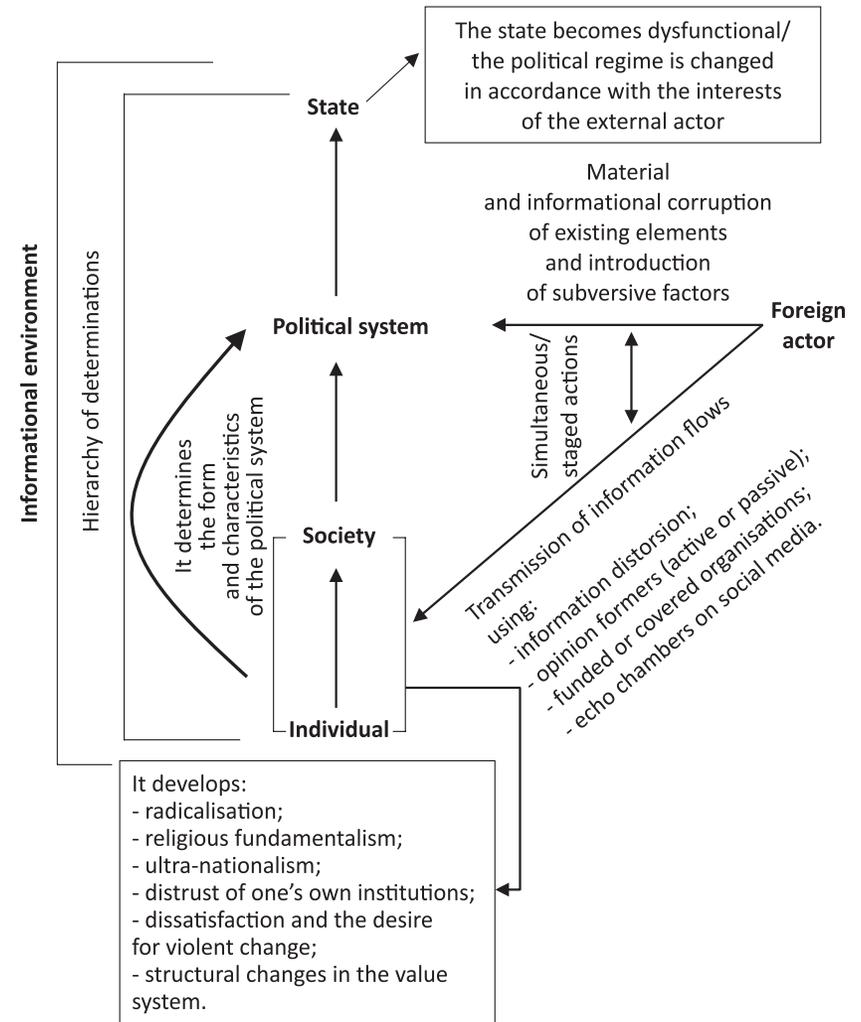


Figure no. 1: Orientation model of how the social-political structure of a state could be changed by the affected information environment (Source: made in own conception)

In this section, we have tried to build an orientation model that is based on some essential, but general, aspects of democratic states. Based on the presented Russian military concepts and perspectives, we have constructed this hypothetical model to highlight how real



are Russian actions to destabilise an internal state or to change its political regime in order to generate the optimal conditions for further interventions.

CONCLUSIONS

The definitions and interpretations presented have the purpose to build a synthesis on some fundamental concepts in the theoretical arsenal of the Russian Federation and to clarify (as much as possible) some ambiguities regarding Russian forms and practices. The paper attempts to draw attention to the conceptual complexity of the Russian military, especially in the context in which some analysts/researchers classify Russian actions as a zero-sum game. As we have presented, both the Russian military perspectives and their concepts are based on a complex planning that encompasses different forms and measures, coordinated or synchronised, where the goals are varied and target the military, civilians and decision-makers. In this logic, whether the Russian Federation launches asymmetric operations, non-military measures or a psychological-information warfare, using forms such as *active measures*, *maskirovka* and *reflexive control*, the actions will pursue the fulfilment of a line of operations to influence the target in desired/predicted directions. Hence, we can say that these actions, although slow in effect, aim to generate optimal conditions for action for the Russian Federation, which leads us to consider the fact that an operation to influence a target can be staged and can be carried out in the long term (referring to a duration of years).

Whether or not they have the material, human and financial capabilities to conduct operations over the years, it must be acknowledged that, in theory, they have an advantage over NATO states because they develop and improve operational concepts based on the initiative, strategic surprise, flexibility and manoeuvrability, influence, misleading and exploitation of minimum strengths. In this regard, we find a very problematic aspect in the fact that “*hostile actions*” are framed between the state of peace and war, something that we do not find in the conception of NATO. The theorising of information warfare in its psychological-informational and technical-informational forms determines another conceptual disadvantage for NATO.

Given that most autocratic states use, to varying degrees, information operations to influence targets in various directions,

we believe that the theoretical and conceptual resizing of military use of information is required at NATO level. Once general tools have been set up, the member states’ security structures can use them, depending on their cultural specificity, to counter or cancel Russian indirect approaches, information attacks, asymmetric operations or non-military measures, but not only.

In the end, we can only estimate that the threats of a military and informational nature will not fade, but will be amplified, leading to even more complex forms that are difficult to counter. Time is an ally for those who know how to use it optimally, so NATO and the EU must use the remaining time to protect their information environment, defence systems, decision-makers and societies from Russian interference.

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Both the Russian military perspectives and their concepts are based on a complex planning that encompasses different forms and measures, coordinated or synchronised, where the goals are varied and target the military, civilians and decision-makers.

Given that most autocratic states use, to varying degrees, information operations to influence targets in various directions, we believe that the theoretical and conceptual resizing of military use of information is required at NATO level.



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THE CHINESE NUCLEAR STRATEGY AT THE BEGINNING OF THE 21ST CENTURY

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At the beginning of the 21st century, the People's Republic of China stands as an emergent global military and nuclear power. The expansion of China's nuclear arsenal and its capabilities is a primary objective of the state's defensive efforts, being concurrent with updating China's overall security strategy. The present paper seeks to provide a glance into Chinese perceptions and concerns for nuclear security and to analyse the key points and developments in the country's nuclear strategy over the past decade. Ultimately, the paper has as the primary purpose to provide a comprehensive insight into the objectives of China and its nuclear forces and strategy.

Keywords: People's Republic of China; People's Liberation Army; nuclear strategy; nuclear arms;



INTRODUCTION

In a manner of specific similarity to the United States of America and the Russian Federation, which in the post-Cold War era have both concurrently modernised and reduced their respective nuclear arsenals, while attributing to them a broader set of deterrent functions to meet the demands of the contemporary global strategic environment, the People's Republic of China has continued developing its more limited nuclear forces, providing them with the key prerogative of nuclear deterrence, albeit with certain “Chinese” characteristics.

The People's Republic of China (PRC or China), unlike the historic nuclear armed states – the United States of America, Soviet Union, France and Great Britain, did not significantly engage itself in the international arena in the decades after the country's first atomic test in 1964, thus becoming an outlier in the system of interstate relations that came to dominate the latter half of the Cold War and the efforts to manage global strategic nuclear stability through a framework of international treaties and informal understandings on the control, limitation and reduction of nuclear weapons systems. After the accession of France to the *Treaty on the Non-Proliferation of Nuclear Weapons* (NPT) in 1991, the PRC renewed its previous interest for its own participation in the treaty, but also reiterated its discontent with the treaty's perceived discriminatory nature due to absence of prohibitions on the deployment of nuclear weapons outside the national borders of the member states and the lack of verifiable information on ongoing levels of nuclear disarmament. Nevertheless, in March 1992, China acceded to the NPT Treaty, marking the country's first foray into what can informally be termed the “*international treaty regime*” on nuclear stability, which constitutes the framework of control on nuclear weapons in the international security system. However, in its application for membership of the NPT, the PRC government put forward a set of requests to all other nuclear-armed states, namely: to unconditionally accept a “*no first use*” (NFU) policy, so as to ensure the security of non-nuclear states in the world,

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As of 2021, China possesses the world's third largest nuclear arsenal behind those of the United States and Russia. Despite the quantitative disparity in the number of nuclear weapons, China has committed to narrowing down the qualitative disparity with the nuclear superpowers and has come to rapidly develop a limited but expanding nuclear arsenal of equal and perhaps superior capability in certain spheres.

to help foster the development of “nuclear-weapon-free zone” (NWFZ), to withdraw nuclear weapons deployed outside respective national borders, and to stop the militarisation of space (Kiriakov, 2016). The mentioned objectives, as it will be demonstrated, have remained of vital importance to Chinese nuclear policy to this day. Subsequently, on 24 September 1996, the PRC also signed the *Comprehensive Nuclear-Test-Ban Treaty* (CTBT). The Treaty, whose signing commenced on 10 September of the same year, came to include 184 states, with ratification from 167 states, three of which are the nuclear powers of France, the Russian Federation and the United Kingdom. However, despite initial intents, the PRC is among the nuclear states that did not in the end ratify the treaty, along with the United States of America. Nonetheless and in accordance with the general notions for nuclear stability in the new era, the PRC stopped nuclear testing, the last known nuclear test having been conducted on 29 July 1996, the year of the signing of the Treaty.

Two decades later and well into the third decade of the 21st century, China has shown a degree of commitment to the ideas of international nuclear stability. However, the country has also demonstrated no intent to enter the strategic dialogue between the United States of America and Russia and the limitation treaties between the two principal nuclear superpowers that defined global nuclear strategic stability in the past, and whom China considers unequal in consideration of its own capabilities. Currently, as of 2021, China possesses the world's third largest nuclear arsenal behind those of the United States and Russia. Despite the quantitative disparity in the number of nuclear weapons, China has committed to narrowing down the qualitative disparity with the nuclear superpowers and has come to rapidly develop a limited but expanding nuclear arsenal of equal and perhaps superior capability in certain spheres.

The paper has as principal objective to discuss, based on arguments, the Chinese nuclear strategy in its present form and the deep changes, which have taken shape in the past decade. The paper further aims to examine the general concerns, notions and security perceptions of the PRC, as presented in official strategic documents, thus providing information on a topic that often lacks in depth in primary source material and that will surely increase in importance for the overarching international security system in the decades to come.

The main thesis of the paper is that, at the beginning of the second decade of the 21st century, the People's Republic of China took drastic steps in transforming its nuclear armed forces. These steps have led to a more concrete and specific doctrine for the utilisation of nuclear force as strategic deterrent, in keeping with China's previous stance of not being seen as a state pursuing an aggressive nuclear policy. The steps have physically transformed the organisation of China's nuclear forces into an official armed forces service, and a broader set of deterrence functions and specific contingencies have been assigned to them, adopting the principles of “active” and “forward” defence. The Chinese nuclear transformation has been backed up by significant strides into developing capable intermediate-range and intercontinental-range ballistic missiles, in an effort to pursue both the capacity to threaten the interests in the Pacific of China's main geopolitical rival, the United States of America, whilst also ensuring China possesses significant deterrence capabilities against the continental United States and its own expanding array of capabilities.

The paper follows the methodology of examining the openly available and published material on Chinese nuclear strategy in the form of white papers, strategic documents, and public announcements by Chinese leadership in forming a coherent picture on the objectives, doctrine and security perceptions of China that have evolved over the past decade. The paper juxtaposes such information with known developments in the qualitative and quantitative characteristics of the Chinese strategic nuclear arsenal and takes into account reactions from other actors in the international arena. The recognised limitations of the paper are related to the candour of the information on the nuclear policy of China, due to the lack of contrasting indigenous analyses and perspectives, and the scarcity of technical details available due to China's state information policies. However, the paper takes into consideration the fact that in the established historical security norms on the objectives of “nuclear deterrence” and strategic stability truthfulness and openness in such provided information to other global actors and especially adversaries is vital in ensuring the above objectives as well as that there is common understanding in averting a potential nuclear disaster. Furthermore, the paper chiefly focuses on nuclear strategy and its development, and as such only limited reference to is made to the specific technical characteristics of the Chinese nuclear arsenal and its capabilities.



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At the beginning of the second decade of the 21st century, the People's Republic of China took drastic steps in transforming its nuclear armed forces. These steps have led to a more concrete and specific doctrine for the utilisation of nuclear force as strategic deterrent, in keeping with China's previous stance of not being seen as a state pursuing an aggressive nuclear policy.



THE NEW CHINESE NUCLEAR STRATEGY AND THE NOTIONS ON THE USAGE OF NUCLEAR WEAPONS

The onset of significant change in the overarching and historical Chinese Nuclear Strategy can be considered to begin with the 2013 update of the *Doctrine for Defence of the PRC*. The new emphasis is on the evolution of the “Active Defence” concept and the adaption of the “forward defence” and “strategic space” strategies in facing the contemporary security challenges for the PRC, as further expanded in subsequent *The Science of Military Strategy* (Fravel, 2016, pp. 3-5). Within the updated doctrine, and with an emphasis on China’s principal strategic nuclear deterrent, the objectives, structure, armaments and readiness of the 2nd Artillery Force (in some sources 2nd Artillery Corps), abbreviated as 2nd AF, which at that point encompassed the strategic missile forces of China, were outlined. The principal objectives of the 2nd AF are stated to be the mission to deter the usage of nuclear weapons against China by other states, and if the need arises, to carry out a retaliatory nuclear strike and to conduct accurate strikes on targets with conventional ballistic missiles. The 2nd AF includes both the nuclear-missile forces, and the conventional ballistic missile forces. At that point in time, the missile inventory included the intercontinental ballistic missiles (ICBMs) from the types DF-4 (10), DF-5A (20), DF-31 (12) and DF-31A (30), as well as an assortment of some 122+ medium-range ballistic missiles (MRBMs) of the DF-16, DF-21/21A/21C/21D types and several dozen CJ-10 cruise missiles (IISS, 2013, p. 287). Within the force structure of the 2nd AF there are six principal missile bases, training and test sites, support and logistics units, education centres and research institutes among others (PRC Defence Doctrine, 2013).

The 2nd AF maintains a state of constant combat readiness, which aims to ensure a quick reaction time and effective response to threats of war and in a case of emergency circumstances. In the case of a nuclear threat to the state, the nuclear missile armed detachments increase their combat readiness and prepare to conduct a nuclear counterstrike, as well as all other activities associated with counteracting the usage of nuclear weapons by an adversary. In the event where a nuclear strike has been carried out against the PRC,

the 2nd AF, individually or jointly with the nuclear forces of the other armed forces services, proceeds to conduct a nuclear missile counterstrike on the military forces of the adversary. Detachments, armed with conventional ballistic missiles, could in an even quicker manner move from a peacetime organisation to a wartime one and conduct precise attacks at medium and long ranges. It has to be of note that previously the operational procedures of the 2nd AF envisioned keeping warheads separate from the launchers. Additionally, the missile launchers assigned to the nuclear deterrent function were dispersed among launchers with conventional warheads. Western observers and the US ones, in particular, are of the opinion that China is moving away from this stance with a larger percentage of its missile forces being kept on high alert for longer periods of time. The causes for such a state of affairs are complex: on the one hand, such steps are economical and optimise the logistical burdens on the 2nd AF, whilst also extending response time and affording a great degree of risk for the survivability of China’s nuclear and conventional deterrent; on the other hand, such a stance of the nuclear forces provides the interesting prospect where the intermingling of conventional and nuclear weapons assures that any attempt by an adversary to reduce conventional strike power could be considered by China as a full-scale pre-emptive attack on its nuclear forces (Brown, 2021).

In December 2013, the Military Sciences Academy of the PRC published the aforementioned *The Science of Military Strategy*. The collective work of 35 Chinese military scientists is an attempt to present how the People’s Liberation Army (PLA) views the military programmes of both China and the rest of the world. This substantial and authoritative publication is at its third iteration, and stands to examine the evolution of Chinese military strategy, to articulate contemporary Chinese military thought, and to present the way forward for the development, deployment and potential utilisation of Chinese military power.

Of note is that the publication is not directly meant for the international public, but more so for Chinese military expert community, which is the main reason why it should be viewed as a direct and detailed document on the perceptions of the PLA on a number of strategic talks. The new edition presents some of the views





Within the publication "The Science of Military Strategy", on the matter of nuclear deterrence and in keeping with the official Chinese position, which has remained unchanged, it is stated that nuclear weapons encompass a limited role in Chinese nuclear strategy. Their only purpose is to deter other nuclear powers from the usage of nuclear weapons as a threatening force and consequently as such against the PRC.

of the PLA on nuclear deterrence, nuclear war, nuclear weapons control, the effectiveness of Chinese nuclear capabilities and the effects of US policy on Chinese nuclear strategy (Kiriakov, Ib.), which will be further discussed in detail.

Within the publication, on the *matter of nuclear deterrence* and in keeping with the official Chinese position, which has remained unchanged, it is stated that *nuclear weapons encompass a limited role in Chinese nuclear strategy*. Their *only purpose is to deter* other nuclear powers from the usage of nuclear weapons as a threatening force and consequently as such against the PRC. Within the document the following key points can be extrapolated:

- China commits to not utilise nuclear weapons against non-nuclear armed states.
- China commits to not retaliate with nuclear weapons against a conventional attack.
- China commits to utilise nuclear weapons only in the case of a confirmed nuclear threat.

These key postulations of the Chinese nuclear weapons policy are presented as the "*special characteristics*" of Chinese nuclear deterrence. Within the document it is also stated that China maintains the no-first-use policy and the deployment of nuclear weapons as a means of defence when such weapons have been deployed against the country, a position that radically contrasts the accepted nuclear doctrines of both the USA and Russia, which to different extents envision a first-use policy. The further statement is made that Chinese nuclear deterrence is based upon the principle of effective countermeasures and that it is purely defensive in its character. It can be thus stated that Chinese strategists consider that the reason for nuclear deterrence is the pure destructive damage inherent within nuclear weapons and their usage against China, it being the unconditional threshold for nuclear retaliation and not their sheer amount and the severity of an attack.

A further encapsulation of the stated nuclear policy of China as expressed within the document is represented by the views and perceptions of the People's Liberation Army related to the *use of nuclear weapons* in the scenario where nuclear deterrence has proven

ineffective. *The Science of Military Strategy* lists what the response would be to an enemy nuclear attack, namely:

- A Chinese suppressive nuclear attack will be limited in scope;
- A Chinese suppressive nuclear attack will be directed against enemy population centres, and not against military targets;
- The principal goal of a Chinese suppressive nuclear attack will be to ensure that an enemy discontinues future nuclear attacks against China.

From these perceived notions, the extrapolation can be made that the Chinese nuclear strategy envisions that a proportion of its nuclear arsenal remains in reserve. The Chinese nuclear deterrence capabilities are further reinforced based upon the military-political concept of "*countervalue*" (or counter-cities), as more applicable for China as a state with a smaller number of nuclear weapons compared to its principal adversaries and even when considering the deployment of nuclear weapons in combat, their principal objective would be to deter the adversary from strikes against China by openly placing enemy populations as the principal targets, instead of target with military value.

China's nuclear weapons capabilities are further defined as "*far smaller*" and with "*far more limited capabilities*" than those of the Russian Federation and the United States of America, but still sufficient to meet the baseline demands for effective deterrence.

Within the publication, *the policies of nuclear arms control and nuclear disarmament* are examined in an extremely positive light, albeit contrasting views in respect to China's own position. It is noted that, on the one hand, nuclear arms control has the notable positive consequences of maintaining the strategic balance, preventing nuclear war from erupting, and reducing defence costs amongst others. On the other end of the spectrum, the control on nuclear arms and disarmament, especially for the larger nuclear powers, is viewed as an important platform for maintaining nuclear supremacy, strategic restriction and the weakening of the capabilities of strategic opponents.

The control of nuclear arms and disarmament are noted as important and vital processes in global military affairs, and corresponding to Chinese nuclear policy and the Chinese development



Within the publication, the policies of nuclear arms control and nuclear disarmament are examined in an extremely positive light, albeit contrasting views in respect to China's own position.



Within the document, an emphasis is placed on the effectiveness of Chinese nuclear policy in deterring a nuclear attack, deriving from the development of the conventional forces of the United States of America. Specifically, the US development and the current outcomes of the "Prompt Global Strike" project are seen as manifesting in capabilities to strike at the Chinese national nuclear deterrent.

of such weapons. However, when these activities are viewed as an element within a larger global military and political rivalry, it is noted that, in the introduction of nuclear arms controls, a large degree of caution must be observed regarding the conditions and motives of opponents and adversaries, as well as the consequences of their own individual actions. It is within this framework of interactions that, at first glance, the paradoxical opinion of Chinese strategists is expressed, namely that China should reinforce its own nuclear forces with the objective of gaining a higher degree of initiative in the nuclear arms control and reduction talks (Ib.).

The discussed publication *The Science of Military Strategy* places special attention on *the influence of the United States of America on the new Chinese policy*. The United States of America are defined as the primary and most important factor influencing the Chinese policies on nuclear security.

An evaluation is provided related to the tendencies in US military policy, which contribute to limiting the number of nuclear weapons. However, it is noted that such tendencies do not constitute a significant departure in their respective nuclear policy. It is further pointed out that the United States of America still retains its policy on a pre-emptive preventive strike (First Use Policy) and that nuclear weapons are kept in a high state of readiness for immediate launch. Chinese strategists note that the US plans for the development of their nuclear forces place under a high degree of scrutiny the dedication of the USA to the eventual universal elimination of nuclear weapons (*Science of Military Strategy*, 2013, pp. 212-252).

Additionally, within the document, an emphasis is placed on the effectiveness of Chinese nuclear policy in deterring a nuclear attack, deriving from the development of the conventional forces of the United States of America. Specifically, the US development and the current outcomes of the "Prompt Global Strike" project are seen as manifesting in capabilities to strike at the Chinese national nuclear deterrent. It is pointed out that such a final outcome would place China in a passive position and would significantly affect its own response capabilities, thus seriously degrading nuclear deterrence. This exact point along

with other texts within the document allude to the apparent lack of confidence in the then Obama-administration's commitment to nuclear arms control and the assurance of international nuclear stability (Kiriakov, Ib.).

FURTHER EVOLUTION OF CHINESE NUCLEAR STRATEGIC CONCEPTS AND NOTIONS

In the immediate period after China's new forays in redefining its nuclear strategy, as observed beforehand, the international security system as well as the relationship of China with its principal adversaries has changed dramatically. In a progressively more aggressive international environment, supplemented by the rebirth of bloc politics, increasing tensions and the general collapse of the international treaty regime on nuclear stability, China's own policy can be stated to further encapsulate a more pro-active approach. On 26 May 2015, the new *Military Strategy of the People's Republic of China* was published, constituting the further evolution and continuation of the bi-annual *China's Defence White Paper*.

In the introductory section of the new strategy, it is pointed out that, in an era when the contemporary world is tackling with unprecedented changes, China finds itself in a key stage of reform. The Chinese people, in their fight to fulfil the "Chinese dream" of reconstituting the glory of the Chinese nation, hope to cooperate with other states for the common good of the protection of peace and common development and prosperity (Tuid, 2015). The idea of China's current and, in particular, future place on the world stage is thus directly intertwined with its continued prosperity and, more importantly, with the ideas that effective national defence will be key in ensuring it.

The creation of reliable national defence and a numerically powerful army is defined as a strategic goal for the modernisation of China and a security guarantee for peaceful state development. The further evolution of Chinese strategic perceptions is expressed within the framework of the military *Strategy for Active Defence*, an idea constituted in the creation of the People's Republic of China and continuously enriched and further evolved.



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At the 19th Party Congress in October 2017, Xi Jinping put out the statement that the modernisation of the armed forces will be completed by 2035, and by 2050, China should be amongst the foremost military powers in the world.

Amongst the *principal strategic tasks of the Chinese armed forces* in the new strategy is the maintenance of strategic deterrence through a nuclear counter-strike. In accordance with the requirements of strategic and nuclear security for the 2nd AF, a set of different measures have been planned, amongst them *“improving the system for nuclear deterrence”* and *“increasing the capabilities for strategic deterrence and nuclear counter-strike, increasing the range for conducting an accurate strike”* (PRC Military Strategy, 2015). Thus, the active trend of further increasing the technical capabilities of the Chinese strategic forces, noted in the last decade, is part of a long-term strategy that extends far into the future. This *large-scale modernisation of the armaments and structure of the Chinese armed forces has been conducted under the leadership of President Xi Jinping* (since 2012, Secretary General of the Chinese Communist Party – CCP and Chairman of the Central Military Commission of the CCP, and since 2013 President of the People’s Republic of China). At the 19th Party Congress in October 2017, Xi Jinping put out the statement that the modernisation of the armed forces will be completed by 2035, and by 2050, *China should be amongst the foremost military powers in the world*. For these ambitious objectives of the armed forces, 150 billion USD were provided in 2017 alone (Yang, 2018), an increase of 7% over the preceding year, a budget that has kept constantly expanding even during the global economic and financial difficulties in 2020-2021 (Da Silva et al., 2020, pp. 2-10).

Subsequently, in July 2019, the Ministry of National Defence People’s Republic of China published its new *White Paper on the “National Defence of China in the New Age”*.

Within the document it is stated that the contemporary international security environment is undergoing significant alterations. On the one hand, the reconstitution and regrouping of international powers is increasing in pace, and the number of emerging markets and developing states is growing, thus the configuration of strategic power is becoming more balanced. On the other hand, the White Paper notes the increasing strategic competition. The document points to the steps made by the USA in updating its own strategies national security and national defence strategies, adopting unilateral policies

and approaches. According to the document, it is this particularity that provokes and intensifies competition between the larger state actors, exponentially increasing their defence spending in a diversity of fields: developments in the nuclear sphere, outer space, cyber and ballistic missile defence, ultimately undermining global strategic stability (*China’s National Defense in the New Era*, 2019).

The principal goal of Chinese national defence, according to the document, remains largely unchanged, but now taking on the more ambiguous definition of being *“detering and counteracting aggression”*. Additionally, and in manner of similarity to the previous publications, it clearly states that the further development of military strategy is in compliance with *“the principles of defence, self-defence and response to an attack, and thus assumes the Active Defence stance”*.

Within the document it is stated that China will always be engaged in the nuclear policy and stance *“not to be the first to utilise nuclear weapons in any time and under any conditions, and unconditionally not to utilise or threaten with the use of nuclear weapons non-nuclear states or zones, free from nuclear weapons”*. China dutifully commits itself to the prohibition of nuclear weapons and their total elimination. The state, according to the White Paper, does not engage in a nuclear arms race with any other state and *maintains its nuclear capabilities to a minimum level, necessary for the national security*. China maintains the nuclear strategy of self-defence, the objective of which is to ensure national strategic security through deterring other states from utilising or threatening to utilise nuclear weapons against China (*China’s National Defense in the New Era*, 2019).

As the *ultimate strategic objective*, the White Paper from 2019 envisions the *complete transformation of the national military forces into a world class force by the middle of the 21st century*. Thus, the strategic and military developments of President Xi Jinping from 2017 and the first notions of such efforts from 2021 are further enforced through the official document of the Ministry of National Defence, which defines the policy of the state in the sphere of defence into the new era.



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The missile forces have been identified as a key component of China's nuclear deterrence strategy for deterring and countering third-party intervention in regional conflicts. The status of these forces called since 2016 the "People's Liberation Army Rocket Force", formerly known as the 2nd Artillery Force, is noted as having been upgraded to a separate type of armed forces service, such as the PLA Land Forces, the PLA Navy and the PLA Air Force, and their renaming is part of large-scale reforms, initiated at the end of 2015.

OUTSIDE PERCEPTIONS AND CURRENT STATE OF THE CHINESE NUCLEAR ARSENAL

According to the US expert community, the White Paper from 2019 directly opposes the United States' National Security Strategy from 2017 and the National Defence Strategy of the Pentagon from 2017, defining US forces in Asia as an aggressive and destabilising factor. The new White Paper is further viewed as an answer to the significant evolution of US strategy from its focus on countering terrorism and extremism to a focus on competition and a possible conflict with Russia and China (Cordesman, 2019). Western observers also express the opinion that the leadership in Beijing has thus provided an open warning that rising strategic competition between the established superpower of the USA and the emerging one of China is of great significance and will define relations between the two states for decades to come (Werner, 2019).

In the 2020 Pentagon annual report to the US Congress on the military and defence programmes of China, the year 2019 is defined as pivotal for the PLA. As noteworthy achievements in 2019, and achievements of concern to US security policy, in the section of the report on *Missile Forces of the People's Liberation Army* it is stated that "The Missile Forces have advanced in the implementation of long-term modernization plans to increase their strategic deterrence capabilities" and "China has fired more ballistic missiles for testing and training than the rest of the world". The missile forces have been identified as a key component of China's nuclear deterrence strategy for deterring and countering third-party intervention in regional conflicts. The status of these forces called since 2016 the "People's Liberation Army Rocket Force", formerly known as the 2nd Artillery Force, is noted as having been upgraded to a separate type of armed forces service, such as the PLA Land Forces, the PLA Navy and the PLA Air Force, and their renaming is part of large-scale reforms, initiated at the end of 2015 (*Military and Security Developments Involving the People's Republic of China 2020*).

The report "Annual Threat Assessment of the American Intelligence Community", issued on 9 April 2021 by the Director of US National Intelligence, expands on Western perceptions and concerns on the development of Chinese nuclear capabilities, stating that China is building larger and more capable nuclear missile forces, which are

more survivable, more diverse and to a higher standard of readiness than in the past, including nuclear missile systems designed to deal with scenarios of regional escalation and intercontinental second-strike capability. The report estimates that Beijing will be continuing the trend of the rapid increase and diversification of the platforms in its nuclear arsenal, with the intention of at least doubling its nuclear assets over the next decade and the construction of a reliable and survivable nuclear triad. According to the report, China is not interested in arms control agreements that limit its modernisation plans and will not accept negotiations that preserve US and Russian nuclear advantages (*Annual Threat Assessment of the US Intelligence Community, 2021, p. 7*).

Overall Western assessments seem to collaborate the stated goals of Chinese nuclear strategy and planning over the preceding decade. By 2021, China is on course to possess a diversified and survivable nuclear triad, as well as a conventional and nuclear ballistic missile arsenal, radically different in composition and objectives from any other world power, and that is geared towards a wide variety of tasks, from the regional to the strategic level. In comparison to the provided missile inventory at the beginning of this paper and the inventory that constituted China's deterrence capabilities at the beginning of its large-scale reforms a decade ago, the current inventory of PLA Rocket Forces is reported by Western observers to include:

- 104 ICBMs: 10 DF-4; 20 DF-5A/B; 8 DF-31; 24 DF-31A; 24 DF-31A(G); 18 DF-41
- 110 IRBMs: DF-21 (dual-purpose);
- 186 MRBMs: 80 DF-21A/E (nuclear); 36 DF-16, 16 DF-17 with HGV, 24 DF-21C; 30 DF-21D ASBM (conventional)
- 297 SRBMs and GLCMs: 108 DF-11A; 81 DF-15B; 54 CJ-10/CJ-10A; 54 CJ-100;
- ~72 SLBMs: up to 72 JL-2. (IISS, 2021, p. 249)

In conjunction with the greatly expanded missile inventory, China has also, despite its public assurances and commitments, continued the steady growth of its quantitative nuclear arsenal to between 272 and 350 warheads (Brown). This is substantially lower than the 1,500 warheads individually deployed by the United States of America





and Russia, and can be seen as an effort by China to not only expand its deterrence capabilities, but to also potentially enter the broader strategic dialog, which it has so far strayed away from, considered detrimental to its own nuclear strategy.

CONCLUSIONS

In conclusion, the summarisation can be made that in the past decade the People's Republic of China has taken the steps to transform its nuclear armed forces. China has thus expanded their qualitative capabilities and also their quantity within a key set of primary objectives that have come to define China's nuclear strategy: to make its nuclear and conventional strategic arsenals (which China views as encompassing the same strategic objectives of deterrence) more survivable, more technologically capable, and capable of achieving a broader set of objectives; to ensure strategic deterrence with its main geopolitical rival, the United States of America, through the ability to strike against targets at long distances; to possess the ability to engage diverse regional targets in a limited conflict. All of these parameters of China's strategy have been very publicly visible and have had an unprecedented level of openness and disclosure, leading to the final conclusion that China is engaging in the strategic dialogue of making its newly built capabilities known, as well as the conditions for their employment, all in an effort to maintain strategic stability and peace through the primary conditions for deterrence, mutual awareness and predictability.

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The summarisation can be made that in the past decade the People's Republic of China has taken the steps to transform its nuclear armed forces. China has thus expanded their qualitative capabilities and also their quantity within a key set of primary objectives that have come to define China's nuclear strategy: to make its nuclear and conventional strategic arsenals more survivable.



THE COMMANDER'S INTENT – MYTH OR REALITY WITHIN THE AIR FORCE? –

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Over the time, spreading the commander's vision at the execution level has required a format as well as a language that could ensure the fluidity of information and their understanding, above all. This has taken shape in the concept that has been coined the “commander's intent”, acknowledged as the key element in providing the necessary framework for expressing the freedom of action, playing the important role of strengthening and encouraging the initiative of subordinate commanders during mission accomplishment.

Keywords: intent; operations order; staff; operations plan; objectives;



CONCEPTUAL DELIMITATIONS

The modern operational environment (AAP-06, 2020, p. 94)¹ is an extremely complex, insecure and changing one, in which the commander is forced to deal with both a versatile opponent and multiple variables such as the terrain, weather conditions, staff morale, physical or mental exhaustion or support/lack of support under various forms. Under these conditions, ensuring the *freedom of action* of subordinate commanders can become the necessary and essential condition for the successful conduct of an operation.

Freedom of action means the degree of autonomy entrusted by the commander of the upper echelon, which ensures adaptation to unforeseen environmental situations and to the actions of the opponent. In the military environment, the best way to ensure it is the commander's intent. Directing subordinates involves ensuring not only freedom of action but also the timing and flexibility needed to streamline operations. A commander who does not synchronise the efforts of subordinate structures merely flirts with disaster, and when strengthening flexibility takes place to the detriment of synchronisation, he ensures only a coincidental coordination of missions and tasks.

For example, if a commander limits subordinate commanders in using a certain course of action, it does not matter how many courses of action the adversary has at his disposal, because he will have a significant advantage anyway. But, if the same commander, through his intent, ensures what his subordinates must do, but not by which means, then they will be able to adapt to any subsequent situation. By his intent, the commander ensures “*the freedom to operate in the general context of the mission rather than the restrictions of a concept of operations or of a scheme of manoeuvre*” (*Doctrina Armatei României*, 2012, p. 120).

Freedom of action means the degree of autonomy entrusted by the commander of the upper echelon, which ensures adaptation to unforeseen environmental situations and to the actions of the opponent.

Commanders must have the ability to synchronise events and actions, thus ensuring the decision-making flexibility for subordinate commanders.

¹ The *operational environment* is defined as a composite of the conditions, circumstances and influences that affect the employment of capabilities and bear on the decisions of the commander.



The use of operations planning has shown that one of the important concepts that marks the development of a planning process, and subsequently its execution, is the *commander's intent*. Even if this concept already exists in the national doctrinal provisions, and the planners can define and locate it, reality shows that there still are ambiguities related to its formulation or communication.

At national level, there are no differences regarding the definition or presentation of the concept. *Doctrina planificării operațiilor în Armata României (Doctrine of Planning Operations in the Romanian Armed Forces)* makes a brief description of the concept, and *Manualul de planificare a operațiilor (Operations Planning Manual)* provides both its definition and its identification elements. Moreover, the same definition is found in the *Doctrina Armatei României (Romanian Armed Forces Doctrine)*, as shown in table no. 1.

Table no. 1: Defining the Commander's Intent

Definition	Source
Commander's intent – the general description of how the tactical problem is intended to be solved.	<i>Doctrina planificării operațiilor în Armata României</i> , Statul Major General, București, 2013, p. 105.
The commander's personal expression of what is being carried out and what he wants to accomplish. It is a clear and concise sentence/phrase about the whole mission, which takes a risk and results in an end state. It brings together own troops, enemy and terrain. It must be understood hierarchically at the level of the two echelons below, as it provides a general and formal framework through which subordinate commanders can plan and conduct operations, including when a plan or design is no longer implemented/no longer unfolds or the circumstances require that subordinates should make other decisions, but in support of the last ordered purpose.	<i>Doctrina Armatei României</i> , Statul Major General, București, 2012, p. 155. <i>Manualul de planificare a operațiilor</i> , Statul Major General, București, 2016, p. 190.

The features of the *commander's intent* are best expressed at national level in the norms of the *Doctrina Armatei României (Romanian Armed Forces Doctrine)*, as follows:

- It must include a brief presentation of the general purpose of the mission, the desired end state and the essential information on how to achieve the end state.
- It represents the direct expression of the commander's will.
- It must ensure the general framework so that subordinate commanders can fulfil their missions.
- It supports the practice of command and control based on the missions and objectives set by the upper echelon.
- It establishes the end state connected with the factors that influence the fulfilment of the mission: the adversary, the operating environment, the terrain, the forces, the future commitments.
- It predicts the expected results after the operation and how they influence the future operations.
- It must be clear so that subordinate commanders can develop their own plans and orders (Ib., pp. 100-105).

At the level of the North Atlantic Treaty Organization, the specific documents governing the planning of operations address this issue separately. Thus, the COPD² presents the commander's intent as being "*the commander's vision for the conduct of the campaign or operation*" (COPD, 2013, pp. 4-52). The same publication emphasises that the foundation of the intent is the personal vision of the commander, expressed in terms of priority, phases, time and space. The intent highlights the nature and purpose of the main actions, leading to the achievement of objectives, without ensuring its format.

In the provisions of the *Allied Joint Doctrine for the Planning of Operations*, the intent represents the basis for operation design and represents "*the clear and concise expression of what the force must do and the conditions the force must establish to accomplish the mission. It is a succinct, written description of the commander's visualization*

² *Allied Command Operations Comprehensive Operations Planning Directive*. At the national level, the COPD provisions of can be found in *Manualul de planificare a operațiilor*.



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of the entire operation and what the commander wants to accomplish” (AJP-5, 2019, pp. 2-3). In addition, the publication also has an approach to its format in the sense that “a generally accepted construct includes the purpose and objective(s)” (Ibid.).

INTENT IN PRACTICE

The commander of a structure is fully responsible for the accomplishment of the mission, and the delegation and transfer of command authority to subordinates and their responsibility to act in accordance with its intent are important elements of decentralisation. By using the principle of *centralised command-decentralised execution*³, commanders give subordinates freedom of action to act in the spirit of the mission assigned, in situations where it is necessary to exploit favourable opportunities, thus encouraging them *to take initiative* and promoting timely decision-making (*Manualul de planificare a operațiilor*, 2016, p. 16).

Intent is an integral part and one of the key elements of this principle and its success is provided only by the *ad litteram* compliance with it. Intent cannot be effective in a military organisation, in which the command and control relations are imprecisely defined or in which, the commander interferes or imposes rules to the decisions-making of subordinate commanders.

The advantages of the commander’s intent are greater in situations where execution is decentralised, because the subordinates’ freedom of action ensures the initiative and even independent actions that lead to the accomplishment of the assigned missions. In fact, the commander’s intent is much more visible at the tactical level than at the operational level, where possible cooperation with civilian organisations also requires the existence of non-military objectives. In this situation, centralisation is needed, which may diminish its importance. Based on these viewpoints, the commander’s intent can be assessed in the light of:

- the level of military art: strategic, operational or tactical;
 - the higher the level is, the greater the importance of intent for reasons of freedom of action is;

³ This principle is presented and detailed in *Manualul de planificare a operațiilor* (2016).

- services: land, air, naval or special operations forces;
 - intent is equally important among each service, but it is likely it is more present in the Land Forces, due to the scale in which it acts; however, this does not detract from its importance at the level of the other services;
- the characteristics of the participants in the operation;
 - a feature is the inter-agency coordination, in which case the intent loses a little of its popularity, as we have shown earlier;
- operational environment;
 - a congested and complex operational environment will result in an intent that is well-grounded in reality. This will be of major importance during the unfolding of actions.

However, despite of its importance, the commander’s intent is not fully understood and, as a result, its use is more closely linked to the obligation of following a format. There are quite often situations in which the purpose, content and implementation are either misunderstood or misused. The fact that the importance of intent is closely related to the level of command, the missions of the structure and the type of operation or the nature of the operational environment is also misunderstood. Perhaps the main reason for these realities is the insufficient knowledge of the whole concept and the adjacent purpose.

For more experienced commanders, actually setting the intent can be a normal activity during a planning process or it can be time and energy consuming for those with less experience. In support of the less experienced, components or phases have been identified to help develop a balanced and useful product, both for the staff and for subordinate commanders. Thus, in one of the publications, the process of developing the commander’s intent comprises four distinctive and perfectly harmonised phases: *formulation, articulation, communication* and *execution* (Vego, 2010, p. 141)⁴.

Formulation of the intent must be the responsibility of the commander and the alternative in which the intent/variants of intents are proposed by the staff or the planning group must not be taken into account. No one but the commander should write the intent (Ibid.).

⁴ In other publications, the development of the commander’s intent includes: formulation, communication, interpretation and implementation (Shattuck, 2010, p. 70).



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In formulating the intent, the commander must take into account the objectives assumed and the state⁵ that must be reached after the assigned mission has been fulfilled, the operational environment, the likely actions of the adversary, the phases and stages of the joint operation and the particularities of all participating forces.

Regarding *articulation*, the commander's intent must be formulated in the first-person, singular, using compelling language (Ibid, p. 142). This requires that the terms unequivocally express the commander's decision and are used in accordance with doctrinal provisions. I believe that complex grammatical constructions should be avoided and the articulation should leave no room for interpretation.

Regardless of the echelon or structure, the intent must reflect the commander's personality and tell subordinate commanders WHAT to do (but not HOW to do it) and WHY they should do it. When possible, commanders are welcome to explain the reasoning behind the intent and how they have reached the decision. The explanation of the reasoning helps subordinates understand the state desired by the commander of the higher echelon upon the end of the action or operation and, at the same time, makes them think their own intent in the same way.

Before *communicating* the intent to subordinates, the commander must visualise it quite clearly in his mind, and it is advisable that he/she discusses it with the chief of staff, the planning group or even subordinate commanders (*Manualul de planificare a operațiilor*, p. 142).

In formulating the intent, commanders must realise very clearly that it will be communicated, in most cases, by completely different means than verbally. In these circumstances, to be able to match the advantage of verbal communication, the *written* intent must be concise so that it can be quickly read, memorised and remembered. For the tactical level, which must focus on the tasks necessary to achieve the objectives, namely on execution, it is indicated that the intent is not long and congested with unnecessary details.

⁵ Not to be confused with the *desired end state*, which represents the political and/or military situation to be reached at the end of an operation, which indicates that the objective has been achieved. (*Manualul de planificare a operațiilor*, p. 196).

The necessary condition for the successful *execution* of the intent is the freedom of action of subordinate commanders (Vego, p. 143). The core of freedom of action implies that a commander does not specify or impose the manner in which subordinates must act. He must formulate and communicate his intent in due time (thus ensuring the time needed to implement it) and make sure that subordinates understood the intent exactly. Subordinate commanders are responsible for determining the way to act, according to the higher echelon commander's intent, so in order to ensure the fulfilment of the mission.

The first three components – *formulation, articulation and communication* – fall under the responsibility of the commander at the higher echelon. Subordinate commanders are responsible for its implementation. It should be noted that, while subordinate commanders have responsibilities in the implementation of the intent, there will be situations in which they must formulate and communicate their own intent to their subordinates, which implies the need to know this concept in detail.

If the first three components are practised during different forms of training (courses, applications, exercises), the *execution* does not benefit from the same optimal training conditions and, possibly, this can only be done in the real conditions of an operation. It should not be overlooked that practising the first three components is also quite difficult, as they are context-based and largely dependent on the experience of the trainers and the personality of the students.

THE NEED FOR THE CONCEPT AT THE AIR FORCE LEVEL

Centralised control and decentralised execution, the fundamental principle of the Air Force (*Doctrina pentru operații a Forțelor Aeriene*, 2016, p. 16), directs and organises the Air Force's effort wherever necessary, by delegating execution authority to responsible commanders at lower levels. The achievement of this principle cannot be possible without the *commander's intent*, meaning the vision necessary to achieve the unity of effort. At the Air Force level, the *commander's intent* must reflect the personal vision of the tactical



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The commander's intent provides the general framework for accomplishing the air tasks and missions. Although the situation may change, subordinates who clearly understand the purpose of an operation and act accordingly to achieve it can adapt to the various changes generated by the operating environment with the adequate risk management.

level commander regarding the way in which the mission will be accomplished (*Manualul de planificare a Forțelor Aeriene*, 2020, p. 30).

Thus, the *commander's intent* provides the general framework for accomplishing the air tasks and missions. Although the situation may change, subordinates who clearly understand the purpose of an operation and act accordingly to achieve it can adapt to the various changes generated by the operating environment with the adequate risk management. In this way, subordinate commanders will be able to fulfil their mission on their own initiative by cooperating with other structures. Thereby, the formulation of requests and approvals for the higher echelon commander is avoided (whose flow of *information-approval-transmission* is time consuming). Thus, the logic of the intent is simple: the higher echelon ensures the freedom of action necessary to carry out the actions while subordinates take action in the spirit of fulfilling the set objectives.

Although the commanders of the various structures within the Air Force have already used a form of sending the intent regarding the mode of action of subordinates, this has never been actually materialised in a proper document. *The elaboration of the decision principles*⁶ used to represent the act of command by which a commander expressed his concept on organising the actions of the structure in order to accomplish the received mission. Today it can be assimilated with the *commander's intent*, but the concept may have been introduced into the language and vocabulary of planners with the publication, translation and use of *GOP – Guidelines for Operational Planning*. The subsequent planning manuals took and modified this concept to the form known today.

At the same time, it is possible that frequent changes at national level of the provisions of the main doctrines or manuals or the emergence of new ones, without ensuring their concordance with the contents of the Alliance, have contributed to a dilution of the essence and importance of this concept.

⁶ This term appeared in the regulations specific to the types of weapons representative to the period of the '80s, obsolete on the date of publication of this paper.

For Air Force structures, the *commander's intent* must be characteristic to the tactical level, in the sense that it must provide the framework for conducting air operations for a well-defined period of time. Since the definition of intent meets the features presented at national level, it is normal and logical, at the same time, that the development of intent should be done at the level of the Air Force by respecting the same phases or components presented above, but with small differences given by doctrinal provisions:

- Regarding the format, at the level of the Air Force it is specified that the intent should include “*both the desired end state and the purpose and can stipulate when, if and how high the risk that the commander is ready to accept should be*” (*Manualul de planificare a Forțelor Aeriene*, 2020, p. 30). At the same time, the intent must indicate the main activities (and their purposes) for achieving the objectives and whether they are carried out simultaneously or sequentially and conclude by connecting the whole operation with the achievement of the objectives and the desired end state (Ibid, pp. 30-31).
- Regarding the place, the *commander's intent* can be found in paragraph 3 of a concept, plan or order of operations (*Tactical Level Commander's Directions*) (Ibid., p. 73), thus ensuring the link between the mission and the concept of the air operation.
- The main points to be taken into account in the development of the intent refer to the knowledge and understanding of the nature of the conflict, of the command-and-control relations specific to the Air Force and the vision of the commander for the use of the available force package.
- Once formulated and communicated, the intent must provide the framework for the development, analysis and comparison of own courses of action. It should be noted that, during the planning process, when developing one's own courses of action, along with the intent, the mission of the structure and the forces available are the same, regardless of the number of courses.

In order to support the planners within the Air Force, *table no. 2* presents the main landmarks that must be taken into account when formulating, articulating, and communicating the *commander's intent*.



Regarding the format, at the level of the Air Force it is specified that the intent should include “*both the desired end state and the purpose and can stipulate when, if and how high the risk that the commander is ready to accept should be*”.



Commander's intent is the effect of what a commander wants to see after completing an assigned mission. In a system based on mission command and control, ensuring intent is the primary responsibility of the commander and an essential means of leading the structure.

Table no. 2: The Main Elements of the Commander's Intent

COMMANDER'S INTENT	MUST	MUST NOT
	- be formulated by the commander;	- be made available to the commander by the planning group;
	- tell subordinates WHAT to do and not HOW to do it;	- over-detail the tasks of subordinates because they will limit their freedom of action;
	- describe the state that must exist after the assigned mission is accomplished;	- set other objectives than those received from the higher echelon and assumed during mission analysis;
	- be the link between the mission and the concept of operation;	- represent a summary of the conception of operation;
	- be concise and clear;	- be a narrative description of the commander's vision of the action;
	- provide the framework for the expression of freedom of action.	- impose actions or missions.

CONCLUSIONS

Military art and science and, logically, the balance between them in planning operations have always been discussed. Going further, the same approach can be applied to the *commander's intent*, in the sense that art is the commander's ability to materialise the vision and science is the ability to transmit that pieces of information so as to ensure the smooth execution of the operation.

Commander's intent is a long-standing concept whose effectiveness has been proven over time. In essence, it is the effect of what a commander wants to see after completing an assigned mission. In a system based on mission command and control, ensuring intent is the primary responsibility of the commander and an essential means of leading the structure.

Practice has shown that the commander's intent is, in fact, a comprehensive view on operations and must provide the logical path that allows each subordinate to act so as to accomplish the mission, while maintaining support relations with other commanders. Understanding the commander's intent ensures the initiative of subordinates, in harmony with the commander's vision. If the events

are not unfolding according to the forecast or the assigned tasks cannot be carried out with the current developments, the intent has the role of ensuring the necessary continuity for mission accomplishment.

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HYBRID WARFARE OR THE “BLACK SWAN” IN THE NEW CONTEMPORARY SOCIETAL CONTEXT

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The current international security situation determined by the new economic, financial, political, military and social context, in terms of the COVID-19 pandemic, is perhaps one of the major challenges that the states have to face in their development and existence. Beyond the concept of consolidated national defence, the need for an alliance and for lifting the barriers between states in the face of the waves of the SARS-CoV-2 Coronavirus contamination is a reality which is difficult to characterise. In this context, we rediscover the meaning of terms such as “uncertainty”, “probability” and “knowledge” as well as the “Black Swan” – a highly improbable event, identified by rarity, extreme impact and surprise, which, despite the unexpected, could have been demonstrated predictable. Hybrid warfare – a trend in the international affairs at the beginning of the 21st century is already one of the intriguing topics of many studies on security or of epic writings about “an immediate future”. The role of the military component in the societal network of the interconnected domains becomes a major one, which requires a reassessment of the military specialist’s skills, in an extended situational awareness, on the critical infrastructure protection societal coordinates.

Keywords: hybrid warfare; military specialist; critical infrastructure; extended situational awareness; resilience; consolidated national defence;



THE GORDIAN KNOT DILEMMA AND THE SYSTEM OF THE CONTEMPORARY SOCIETAL VULNERABILITIES

The issue of the security of a state or an alliance entity, transposed into the coordinates of the stability generating factors, may be a wrong direction in the development of the current policies and strategies in a new contemporary societal context. This statement is based on the reality of the COVID-19 pandemic situation that the international community has been facing lately. Although the subject of the pandemic has reached high levels of concern and a number of solutions have been suggested in order to limit the effects of the crisis, new unpredicted events in the societal sphere are expected. An unpredicted event is more often than not associated with an event that is the least likely to occur, of course, on a pre-established scale of values [(the case of the nuclear power plant – a critical infrastructure, in Fukushima-Daiichi, in the event of 11 March 2011 (*Japan earthquake and tsunami of 2011*), 9/11 attacks (*September 11 attacks*))]. An unpredicted event can be a “surprise” that overturns all the knowledge acquired up to that moment; there is practically a major change that has not been announced nor prepared in the past or, in other words, a “*crisis situation has just begun*”. The Gordian knot dilemma is the variant of characterising an extremely complicated problem situation that apparently has no solution. By knowing the past and identifying situations similar to the crisis initiated as the unpredicted phenomenon, a series of solutions can be formulated, which, unfortunately, do not prove to be a way out of the impasse. This is supported by the dynamic nature of the vulnerabilities of each societal area (analysed individually). The current pandemic crisis situation cannot remain an isolated issue whose solution has been identified in the possibility of vaccination and taking all the necessary measures to limit the spread of the virus. The implications of such a crisis situation can be much greater for an indefinite period of time, in the sense of propagating the “*societal shock wave*” and reconsidering the societal resilience in all areas of society.

The Gordian knot dilemma is the variant of characterising an extremely complicated problem situation that apparently has no solution. By knowing the past and identifying situations similar to the crisis initiated as the unpredicted phenomenon, a series of solutions can be formulated, which, unfortunately, do not prove to be a way out of the impasse. This is supported by the dynamic nature of the vulnerabilities of each societal area.



In order to describe and understand the destabilising phenomena that can occur in a certain PMESII (political/diplomatic, military, economic, social, infrastructure, information and environment) societal field, it is necessary to identify the extreme values for the status descriptive parameters (Roman, 2021, pp. 102-118). By status descriptive parameters we mean the description of those properties by which the analysed topic can be identified in the set it belongs to.

In order to describe and understand the destabilising phenomena that can occur in a certain PMESII (political/diplomatic, military, economic, social, infrastructure, information and environment) societal field, it is necessary to identify the extreme values for the status descriptive parameters (Roman, 2021, pp. 102-118). By status descriptive parameters we mean the description of those properties by which the analysed topic can be identified in the set it belongs to. For example: a physical object can be identified by: shape, colour, size, the material from which it is made, utility etc., all these being features by which the specific object is unique and can be nominated from a multitude of elements it belongs to. The second approach consists in the possibility of quantifying the properties of the subject (in the exemplification: the physical object) where it maintains its purpose or the utility for which it was created or selected from a certain set. The third approach consists in observing the transformations of the properties of the analysed subject, when destabilising factors act on it, under different degrees of influence. Therefore, following the three potential approaches, it is possible to express the guidelines for the protection and security of the analysed subject in relation to the nature and intensity of the destabilising factors that can act upon it. Finally, because of the loss of its properties and of the extreme actions of the destabilising factors on the analysed subject, the latter can no longer exist or can no longer fulfil its functions and meet the purpose for which it was created or selected. The fourth approach consists in identifying the relational links of the analysed subject to other subjects with which it has material or causal (influence) exchanges, entailing different effects. The fifth and last approach refers to the nature of the negative event having an impact on the analysed subject. In this context, an impacting negative event refers to the contribution of one or more influencing factors or actors, which, as a result of the action or lack of action, affect the status descriptive parameters of the analysed subject. Once these aspects related to obtaining or losing the state of safety or security of an analysed subject have been clarified, the study of the set of contemporary societal vulnerabilities can be launched. Thus, we can understand the current situation of the pandemic, as one of the general states of crisis extended internationally, specific to 1914, comparable to the general situation prior to the First World War, the moment of the “Sarajevo attack”. As a whole, the First World

War was a real surprise in the context of the post-Napoleonic wars peace situation, which made any historian believe that the destructive wars had disappeared at that time. In this context, initiating the study of the set of contemporary societal vulnerabilities can be the task or mission appropriate to a specific category of specialists: risk managers. Through the way of substantiating the scientific approach, a risk manager “*employs models of the past to calculate the possibilities of such an event to occur*” (Taleb, 2017, p. 71). In the work entitled *The Fifth Horseman and the New MAD* by Harlan Ullman (2021), the risk manager becomes that visionary who performs analyses of the future or situation analyses in which “*the positive disruption*” can be the right solution to counter threats and challenges posed to the regional and global security. Harlan Ullman identifies seven disruptive elements of the new MAD concept, which “*threaten both the United States and the world, by attacking the societal vulnerabilities, many of which being created – unintentionally and ironically – by the benefits of globalisation and power dispersion*” (Ullman, 2021, p. 19). The set of the network connections between the societal domains graphically represented in *figure no. 1* (Roman, pp. 102-118), by extrapolation in the new context of the “*seven disruptive forces of Harlan Ullman: failed or underperforming government, climate change, cyberspace, social networks, terrorism, explosive debt growth, and drones*” (Ullmann, p. 32), may be the new reality of the beginning of the 21st century.

The reality of the network connections of the societal domains as distinct elements or parts thereof (as shown in *figure no. 1*), based on their interactions from the perspective of the concept of the critical infrastructure protection allows us to put two directions of research and evaluation of a crisis situation in a scientific context (Barabasi, 2017, pp. 3-25). The first direction is based on the specialists’ effort to understand a crisis situation by means of the *inductive knowledge*, while the second direction is based on the *reverse learning knowledge*. The two identified directions of knowledge contribute distinctly to the possibility of assessing the current security environment and are a response to the need for *extensive situational awareness*. This type of knowledge, stated and supported in the *White Paper on Defence* developed by the Ministry of National Defence, provides the formal organisational framework for managing a crisis situation (*Carta albă a apărării*). From a technical point of view, decoding the reality



ROMANIAN
MILITARY
THINKING

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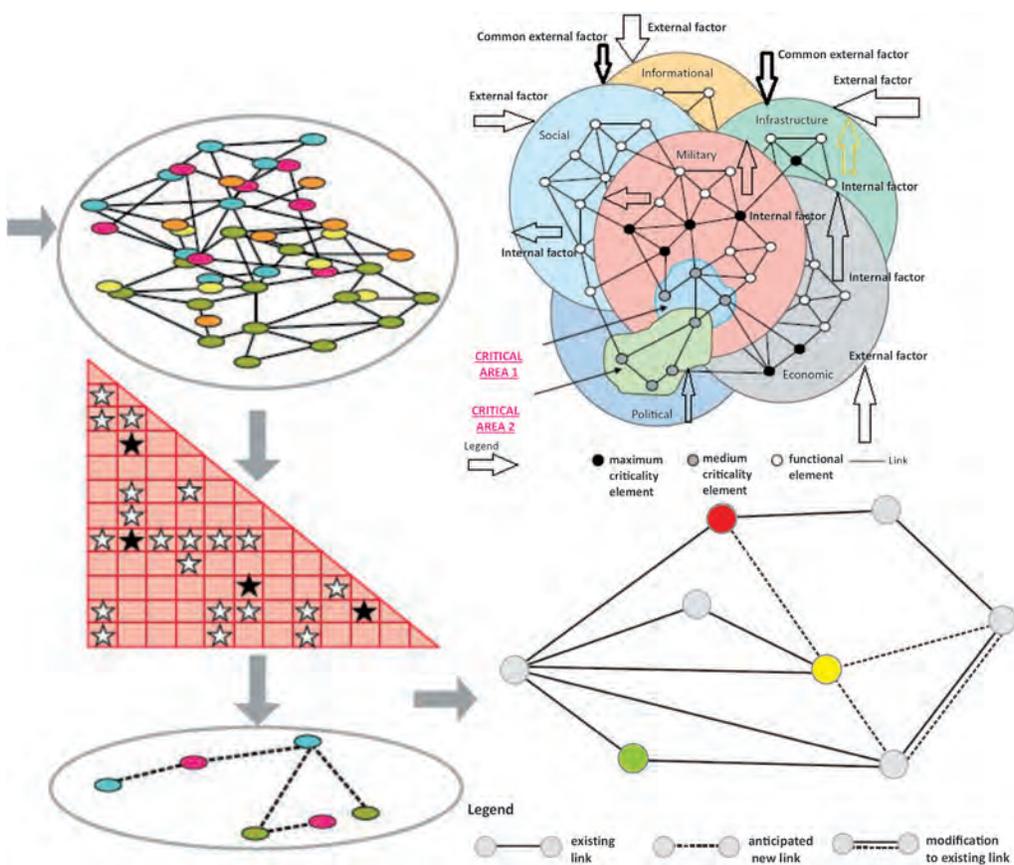


Figure no. 1: The design of the transformations at network level in the societal environment, following the decisions made by the factors responsible for allocating resources (JP2-01.3 Joint Intelligence Preparation of the Operational Environment, 2014, figure V-2, figure III-14, figure V-4).

of the current security environment is one of the great challenges of knowing and managing a crisis situation. The military specialist intervenes and acts in accordance to the actions of a potential aggressor and thus brings together in a single effort three major components of the design of the future conflict: *analysis, planning, decision*. The difficulty of such an approach increases according to the reality of the set of contemporary societal vulnerabilities, which is why the *extended situational awareness* has been required as a response measure to counteract the hybrid threats. This brings the dilemma of the Gordian knot (Ewans, 2018) and the set of societal vulnerabilities to the forefront, namely: *What is the necessary ratio of reactive and proactive behaviour when facing hybrid threats?*

IS HYBRID WARFARE A SOCIETAL WARFARE?

In order to solve a crisis situation, first of all, it is necessary to express the identified problem correctly or to decode the reality in which the dysfunctions and the effects of the actions of the destabilising factors are visible in a difficult to characterise dynamics. Following the conceptual evolution of the *hybrid-type threat* and starting from the disruptive elements of the new MAD concept in Harlan Ullman's view, the imbalance of the network relations in the societal domains is quite obvious, to the point of affecting the existence of the target state, making the countering of such threats a matter of national defence. Compared to the results of the research conducted so far, Nathan Freier's *Quad chart* model develops the dynamics of the hybrid threats through the combined action of four types of threats: conventional or traditional, unconventional or irregular, catastrophic and disruptive (Potârniche, Petrescu, 2019, pp. 77-78). The dimensionality of a hybrid aggression results from its configuration: *"it involves a considerable effort; it must be carried out through a complex process, similar to that of operational planning (the product consists of a series of actions in all areas assimilated to military operations) and which must be conducted by an actor who is at least rational, if not super-rational"* (ib., p. 78).

In order to manage a hybrid aggression (generating a crisis situation), we anticipate the possibility of becoming aware of it by means of two methods or two distinct directions to follow: *inductive knowledge* and *reverse learning knowledge*. For several reasons, we selected the domain of the *critical infrastructure protection* as a reference point in developing the two methods (Roman, Repez, Popa, 2017, pp. 3-21). First of all, the critical infrastructure protection refers to the vital elements of society, in particular to essential goods and services whose stability depends on the anticipatory attitude of the likelihood of occurrence of a risk or a negative event having major impact (Leaua, Ardeleanu, 2014, pp. 145-148). Secondly, the development of the concept of *resilience* is interesting, as being the ability of a subject to fulfil his/her duties or role, in relation to the performance achieved, after having absorbed the impact of the negative event he/she has been subjected to. Moreover, in the calculation of the performance achieved before and after the impact of the negative event, the *context assessment* is fundamental in the critical infrastructure protection. Taking into account the evolution of the societal domains



The critical infrastructure protection refers to the vital elements of society, in particular to essential goods and services whose stability depends on the anticipatory attitude of the likelihood of occurrence of a risk or a negative event having major impact.



The development of the courses of action is the essence of the process of counteracting the enemy's actions. Any course of action supported by the operative art sets, in space and time, the results of the predicted actions (of the enemy) and of the planned actions (of the friendly forces), so as to highlight the decisive points through which the major event or the crisis situation occurs.

in relation to the societal network connections shown in *figure no. 1*, we can deduce that the occurrence of an identified risk for one of the societal domains implies the propagation of the negative effect as a *shock wave* throughout the societal network. On this subject, from the point of view of the military specialist, a negative event may be the result of the action of a hostile or enemy actor. By combining several hostile actions on different societal domains (as societal network connections) an opponent can design, plan and execute destructions other than military, which generically speaking, have been identified as *hybrid aggressions*. The gradual evolution of such hybrid aggressions includes sophisticated processes for identifying the status parameters of a state entity (similar to a physical object) or an alliance (similar to a set of physical objects), their nominal operating values, which by being modified under the action of the destabilising factors can lead to what we call a *societal disaster*. A societal disaster can be the COVID-19 pandemic when the out-of-control phenomenon of contamination could cause significant damage to several societal domains putting them in fatal danger.

Given the limited possibility of identifying the aggressor of a hybrid action, we refer to the operative art in which the military specialist deconstructs past events, makes an analysis of the conflict environment (intelligence preparation of the battlefield) (*JP2-01.3*, p. III-45) and develops the courses of action both for the opponent as well as for the friendly forces. The development of the courses of action is *the essence of the process of counteracting the enemy's actions*. Any course of action supported by the operative art sets, in space and time, the results of the predicted actions (of the enemy) and of the planned actions (of the friendly forces), so as to highlight the decisive points through which the major event or the crisis situation occurs (Wade, 2016). In other words, the EVENT lies at the foundation of such scientific approaches. Therefore, all learning is about how events occur, be they catastrophic or negative, depending on the impact they cause. The critical infrastructure protection research results in two types of behaviour depending on the occurrence of the event: the *reactive behaviour* that is manifested after the event and includes the application of the intervention and disaster limitation procedures, and the second one, the *proactive behaviour* that occurs before the event and includes measures to prevent, counteract threats,

apply rules and measures for the safety and security of the societal objectives. By extension, if we consider the proactive behaviour as a component of the post-event procedures, we can say, similarly to the modelling operations in military action planning, that we are dealing with hybrid threat/aggression countermeasures, in plain words with *"anti-hybrid operations"*. Therefore, the answer to the question *"Is hybrid warfare a societal warfare?"* must be found in the context of planning military operations and critical infrastructure protection or as a joint vision of the military specialist and the liaison officer for the critical infrastructure protection (*Legea no. 225/2018*).

The concept of *consolidated national defence*, viewed from the perspective of the comprehensive and integrated approach, stated in *Romania's 2021 Military Strategy*, cannot be explained independently of the set of the societal network connections shown in *figure no. 1*. This is the reason why a series of conceptual and operational transformations are required, in which the structures of the national security system behave (reactively and proactively) as a true system based on the interagency connections. In this way, the two directions or methods of knowledge development (inductive knowledge and reverse learning knowledge) contribute to the achievement of the *extended situational awareness*. Such awareness involves, by extrapolation, identifying the status parameters of a (societal) domain, so that its operational environment is known, the network connections with the other (societal) domains are nominated and evaluated and the functioning of the societal system or the societal network as a unitary whole is determined. In other words, consolidated national defence is the unification in terms of security and safety not only of the individual societal domains, but rather of the network connections and the transfers between the societal domains, and it can only be achieved through *contextual learning*, similar to defining the resilience within the critical infrastructure protection. Contextual learning can only happen in a multidisciplinary approach to at least two societal domains, as in *figure no. 2* (Nabil, 2011, p. 7) by developing the performance obtained by solving real situations according to the algorithm developed in the LUMAS model – a model developed by Peter Checkland (2000). Thus, by combining the *reverse learning knowledge* and the *contextual learning* we obtain the *extended situational awareness*, which generates the positioning of the EVENT as a central notion of any situation analysis



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or planning and decision-making on developing the courses of action or the concepts for solving a crisis situation. This is the reason why we recommend the LUMAS model to be used in the development of the strategies to combat hybrid threats and to implement the necessary measures and procedures to prevent a crisis situation (figure no. 2).

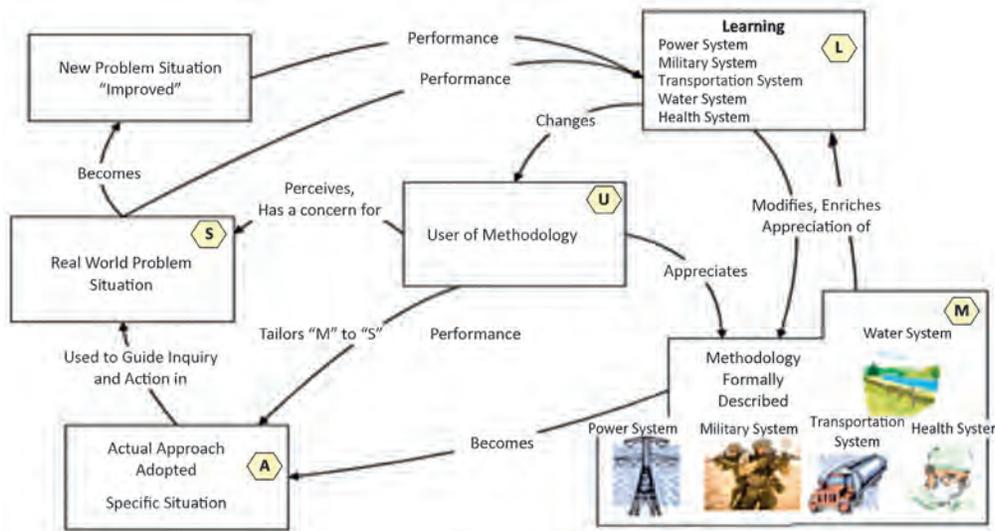


Figure no. 2: The methodology of importing/exporting knowledge underlying the system of educational systems for societal security (Lehaci et al, 2020, pp. 7371-7378)

Learning-based knowledge as a method of managing hybrid warfare or crisis situations can be efficiently achieved only by applying the methodology of importing/exporting knowledge underlying the system of education systems for the societal security. We firmly assert that only this way the notion of NEGATIVE EVENT WITH MAJOR SOCIETAL IMPACT (the centre of gravity in a hybrid-type confrontation) acquires content and can be capitalised in the training of specialists both in the military field and in any other societal domain with responsibilities in the field of safety and security.

**INSTEAD OF CONCLUSIONS
– WHERE IS THE “BLACK SWAN”?**

The concepts of *resilience*, *extended situational awareness* and *consolidated national defence* are the main points of the reference documents in the development of *Romania’s 2021-2024 National Defence Strategy*. This is the reason why we have developed a series

of statements in the present paper that is aimed at supporting the reader “to see beyond the formalities” and to perceive a new reality generated by the nature of the hybrid threats in relation to the current situation of the COVID-19 pandemic, as well as at warning on the notion of *negative event with a major societal impact*. We have placed this type of event at the centre of gravity of a hypothetical hybrid confrontation, due to *the impact of the highly improbable or the Black Swan* (in the concept of Nassim Nicholas Taleb). In our opinion, hybrid warfare, beyond definitions and other explanations, is “an exploitation of the tandem of favourable and unfavourable situations by a potential adversary, by supporting and enhancing unfavourable situations until the success of the negative event with a major societal impact”. The occurrence or the materialisation of such a negative event will have an impact proportional to its expectation rate. In other words, the destructive power of the event in the case of the hybrid warfare will materialise similarly to the appearance of a “Black Swan”. However, as in military operations, there is a scale of the severity of the moments of combat depending on the role of operations: support operations, modelling operations and decisive operations. Following this gradual course of operations, we can talk about the stages of the hybrid warfare as a coherent sum of events that can occur simultaneously or in stages in terms of time and space, having effects or consequences so that the target could not recognise the action conducted against it and even more so could not react accordingly. Achieving or supporting the occurrence of a negative event (regardless of the societal environment intended to be affected) is not only for causing damage and exploiting opportunities, but rather for destabilising the society as a whole, creating ambiguity in order to endanger the process of counteracting the negative hybrid-type manifestations and implicitly the whole decision-making process accordingly. Thus, addressing the “Black Swan” issue, in the concept of Nassim Nicholas Taleb, emphasises the fact that “The inability to predict isolated cases implies the inability to predict the course of history, given the proportion of these events in the general dynamics of the events” (Taleb, p. 18).

A very special situation is generated by the impact of the information and communications technology on the statistical data related to the state of affairs of the societal domains at a given time. Based on these statistical data related to the status parameters of different societal components, there is a tendency to believe in the ability to predict



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historical events, respectively to change the course of history. Certainly, there are phenomena that can be predicted in terms of their evolution, but the sensitive point is reached when the same solving principles are erroneously applied to similar but different domains regarding some particular properties (although water, which is a liquid, has a boiling point of 100 degrees Celsius, any liquid other than water cannot have the same boiling point, even if it is also a liquid). Therefore, as in the case of the hybrid warfare, as we have defined it, no predictions can be made and implicitly no measures to counteract a negative event can be developed. Instead, a contextual knowledge can be achieved by adopting a reverse learning-based attitude, supported by intuitive learning.

In conclusion, Nassim Nicholas Taleb suggests that: “*Since <Black Swans> are not predictable, we must adapt to their existence (rather than naively try to predict them). There are many things we can do if we focus on anti-knowledge, that is, on what we do not know*” (ib., p. 19).

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OPTIONS FOR ENSURING COMMAND AND CONTROL ARRANGEMENTS FOR EUROPEAN UNION OPERATIONS – THE DIMENSION OF COOPERATION WITH NATO –

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The operational dynamics associated with the development of European security and defence cooperation has undergone significant developments in recent years, reflected in the European Union's numerous operational commitments. In this context, the issue of developing command and control arrangements to support an ever-expanding operational agenda has been a constant concern. We can talk about structuring a model used by the European Union in which there are a number of options that this organisation can use in structuring its own operations. In this inventory, the conduct of EU operations using NATO means and capabilities was the approach initially addressed, which continues to be used in the context of the two organisations' commitments in the Balkans. In addition to the operational aspects, the use of this cooperation framework has allowed the deepening of the NATO-EU Strategic Partnership, with a positive impact on strengthening European and Euro-Atlantic security.

Keywords: command and control; Berlin +; capabilities; Althea; Concordia;

English version by Iulia SINGER.



INTRODUCTION

The European Union's security and defence dimension has made significant progress over the last two decades, especially in terms of capability development and creation of the conceptual-regulatory framework reflected in the development of operational commitments. In this context, the definition of command and control ways for military crisis management operations has been an important dimension on which European debates have focused since the early stages of security and defence cooperation. Basically, this topic was one of the red threads that remained on the EU agenda, whether we are talking about the initial stage, associated with the European Security and Defence Policy (ESDP), or the maturity stage, through the Common Security and Defence Policy (CSDP), promoted by the Treaty of Lisbon. The interest given to this topic is revealed from at least two perspectives. The first focuses on the political visibility given to strengthening the EU's profile as a relevant player in the field of security and defence, a level on which the issue of command and control arrangements was perceived as a relevant indicator for assessing Europe's potential for missions and operations.

The second perspective focused on the practical importance of the existence of the mechanisms and structures necessary for the conduct of operations in the absence of which they could not have materialised. In this ongoing process, EU-NATO cooperation in the operational field was the starting point. In practice, the framework established at the beginning of European security and defence cooperation continued to be a constant throughout the development of this component. Regardless of the institutional auspices under which the EU's crisis management profile will develop, the parameters of cooperation with NATO in generating and conducting operations have remained unchanged, being used in ongoing European commitments. In this context, the system developed in 2002-2003, also known as the "Berlin +" Agreements, continues to be a viable option for the EU to implement in its political decisions for launching operations.

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PARAMETERS OF THE GOVERNANCE SYSTEM ASSOCIATED WITH EU OPERATIONS

The specific nature of the security and defence dimension in the EU's institutional and regulatory context also includes all the factors that have influenced the way the EU's command and control arrangements are structured and profiled. Firstly, it is about its intergovernmental profile and, subsequently, the voluntary nature of the contributions, which induces a significant degree of flexibility in defining the framework. CSDP-related intergovernmentalism is also likely to play a key role in member states in developing and guiding this policy of cooperation. Secondly, the coordinates of the ESDP and the CSDP have been aimed at developing a civilian-military profile of European cooperation, which has been reflected in taking up civilian and military capability objectives translated into the types of missions and operations that the EU unfolded. Last but not least, the particularities of the security and defence component concern the parameters of the NATO-EU cooperation relationship, which is mainly in the form of cooperation in operations. In this context, the procedural-functional typology that the implementation of the NATO-EU Cooperation Agreements generated for the development of the control arrangements used by the EU is placed.

All these factors were taken into account in the creation of the European Union's command and control arrangements for EU civilian and military operations, leading to the development of a complex but useful system, illustrated by the launch of a considerable number of operational commitments with missions and tasks covering different types. Basically, we can talk about a set of options that the European Union can use to conduct missions and operations, depending on the political context, the level and type of contributions put forward, as well as the specific conditions in the theatre of operations. Equally, one can speak of a truly unique model in the context of how to develop command and control arrangements at the level of organisations and multinational arrangements involved in crisis management.

The strategic benchmarks for setting missions that CSDP can carry out, which have a decisive influence on the structuring of operational procedures for command and control arrangements, are set out in the Treaty on European Union (TEU) and the EU Global Security Strategy (EUGS). According to the TEU, civilian and military capabilities

generated under the auspices of the CSDP can be used in operations outside the EU, such as: disarmament, humanitarian, rescue, evacuation, military counselling and assistance, conflict prevention and peacekeeping, crisis management operations – including peace and post-conflict stabilisation ones. The contribution to counter-terrorism missions is also considered, including from the perspective of support for third countries in carrying out these missions on their own territory [Art. 43 (1), 2012, pp. 39]. Last but not least, the strategic framework offered by the TEU draws attention to the possibility of implementing a flexible approach to structuring operational commitments. From this perspective, it is foreseen that the responsibility for carrying out missions such as those mentioned can be entrusted to a group of interested member states that have the necessary capacities to carry them out (Art. 44).

At the same time, the EUGS provides further clarification on the need for the EU to be able to respond, in addition to external commitments, to requests from member states, which may be formulated under the conditions of Art. 42 (7) 222 – assistance in case of disasters and man-made incidents. From this perspective, operational tasks related to internally combating, threats such as terrorism, hybrid, cyber ones, threats to energy security, organised crime and the external management of the EU's borders are envisaged. From this perspective, the EUGS also draws attention to the possibility of combined use of CSDP missions and operations, together with other specialised instruments and agencies available to the EU in the field of internal security (EU Global Strategy, 2016, p. 20).

From the perspective of structuring the system of governance at the strategic level of operational commitments, the EU Treaty stipulates the central role of the EU Council, supported by the coordinated work of the High Representative of the Union for Foreign Affairs and Security Policy (HRVP) and the Political Committee Security (PSC). Within this system, the PSC is responsible for monitoring the security situation, and in case of deployment of operational commitments, exercises political control and ensures their strategic orientation (Art. 38). In practice, the Political and Security Committee acts as a decision-making support element for the EU Council, from the perspective of assessing commitment options as well as key operational planning documents. By the same token, the PSC plays a central role in preparing





the regulatory framework needed to launch an operation, namely to make a recommendation to the Council based on the views expressed by the EU Military Committee and the specialised civilian structures. During its operations, the role of the PSC is to keep the Council regularly informed of developments in the fulfilment of its mandate (EU Council Decision 2001, pp. 1-3).

MILITARY COMMAND AND CONTROL OPTIONS IN THE CONTEXT OF EU-NATO COOPERATION

From a chronological perspective, the adoption in December 1999 of the EU's first Global Security and Defence Objective did not incorporate the development of a command and control capability for EU operations. The chosen method targeted the use of NATO capabilities, the negotiations on this topic including laborious steps to develop a framework for cooperation between the two organisations relevant in the operational field.

The background to these arrangements can be found in the decisions taken at meetings (Berlin, Brussels, 1996) of the Foreign Ministers of NATO member countries held between June and December 1996. These referred to the framework of cooperation at that time between NATO and the Western European Union (WEU)¹. Thus, the possibility was established for the latter to use allied capabilities (separable, but not separate) for possible WEU-led operations. These guidelines were to be formally reconfirmed at a higher level at the NATO Summit in Washington (23-25 April 1999). The decisions made on this occasion included the adoption of flexible options in providing command-control elements for WEU operations. These were aimed at identifying European command options at NATO level, as well as an allied command to provide the necessary command-control arrangements for the operation.

The decisions made in Washington (1999) also took advantage of the context created by the adoption of the French-British Declaration of December 1998, which stated the interest in "creating an autonomous

¹ An organisation created by the signing of the Brussels Treaty on 17 March 1948 by Belgium, France, Luxembourg, the Netherlands and the United Kingdom, with the defensive aim of ensuring the defence of Western Europe in the event of aggression. Article 5 of the Brussels Treaty stipulated that collective defence would be ensured in the event of aggression against any of the members of the organisation. The WEU continued to operate with a low profile until 2010, with the central role of ensuring collective defence being taken over by NATO.

capacity of the EU to respond to international crises when NATO is not involved" (Chaillot Paper 47, 2001, pp. 8-10). Against this background, the Washington Summit expressed the allied readiness to support the EU's operational commitments through the relevant elements of the NATO command structure. The measures envisaged concerned:

- Ensuring EU access to NATO capabilities in support of the Union's military operations planning process.
- Creating the necessary conditions to ensure the availability of the capabilities needed for EU operations.
- Identify the options for securing the European order from NATO for EU operations, with direct reference to the fulfilment by DSACEUR (Deputy Supreme Allied Commander Europe) of this responsibility.
- Adapting the NATO Planning System (NDPP) to provide the necessary response to EU operations. The aim was to manage, at the level of the force planning system, the fact that most EU member states were also members of the North Atlantic Alliance, and therefore had the same package of forces and capabilities committed to both organisations².

In these coordinates, the following years marked the development of the political framework of the cooperation relationship, starting from the advanced landmarks in Washington and considering the initiation of the process of transferring the WEU *acquis* to the EU. Thus, on 16 December 2002, the *EU-NATO Declaration on European Security and Defence Policy* was adopted, which addressed the possibility of making available the means and capabilities of NATO planning and command to the EU (www.nato.int-1). On these coordinates, on 17 March 2003, the practical aspects were adopted in the form of Cooperation Agreements between the two organisations, known as the "Berlin +" Agreements. The issues regulated through them aimed at:

- Information security issues arising from the conduct of EU operations using NATO means and capabilities.
- The EU's use of allied planning resources and capabilities in its own crisis management operations. To this end, a long-term

² According to the NATO Washington Summit Communiqué. *An Alliance for 21st Century*, <https://www.nato.int/docu/pr/1999/p99-064e.htm>, 15 December 2021. It should also be noted that the Treaty of Amsterdam (signed on 2 October 1997) emphasised the full connection between NATO and the EU, including from the perspective of taking over the latter's functions [Art. J (7 (1) TEU Amsterdam)].



The Washington Summit expressed the allied readiness to support the EU's operational commitments through the relevant elements of the NATO command structure. The measures envisaged concerned: ensuring EU access to NATO capabilities in support of the Union's military operations planning process and creating the necessary conditions to ensure the availability of the capabilities needed for EU operations.



The institutional set associated with the command and control elements was completed in December 2003 by the adoption, at EU level, of a concept document. That was the first step in the development of institutional interaction aimed at the implementation of operational coordination on a permanent basis, including from the perspective of the "Berlin +" provisions.

perspective was envisaged by including the requirements and types of capabilities anticipated to be required for EU operations in the NATO defence planning process.

- EU access to NATO's common capabilities (communications and command) for its own operations.
- Establish the necessary procedures for the provision, monitoring, return and eventual withdrawal of NATO capabilities.
- Defining the central role of DSACEUR as the main commanding option for EU operations using NATO resources and capabilities.
- Structuring the NATO-EU consultation system during an EU-led crisis management operation (Berlin Plus agreement).

The institutional set associated with the command and control elements was completed in December 2003 by the adoption, at EU level, of a concept document (Chaillot Paper 67, 2003, p. 45). That was the first step in the development of institutional interaction aimed at the implementation of operational coordination on a permanent basis, including from the perspective of the "Berlin +" provisions. The main aim was to create an EU cell within the Supreme Allied Command in Europe (SHAPE), doubled by a liaison within the structure of the Allied Southern Command (AFSOUTH) in Naples, responsible for the Balkan perimeter. At the same time, NATO was invited to open institutional liaison arrangements at the level of the EU General Staff (EUMS). Under these auspices, the Chief of Staff AFSOUTH became the Chief of Staff of the EU Command Element, supported by an EU Director of Operations (Rittimann, 2021, p. 1)³.

From the perspective of the operational planning steps, in the case of the EU decision to launch an operation using NATO capabilities, the following sequence was considered:

- The EU Presidency and the High Representative are informing NATO of their intention to launch an operation using allied capabilities. In this context, the request for the NATO agreement to appoint DSACEUR as commander of the respective operation is also formulated.

³ The rationale for creating the liaison element within AFSOUTH was to cover both operational and tactical issues and the issues related to the activation of reserve forces under the responsibility of the Naples Command.



- The EU Political and Security Committee approves the Concept of the operation and initiates the process of drawing up the Joint Action. The documents are also sent to NATO during the consultation process.
- Formulation of the NATO response to accept the EU's request regarding the role of DSACEUR. The reply shall provide the conditions for the completion of the Joint Action required to launch the operation.
- Initiation by the Military Committee of the Military Initiation Directive. The PSC/COPS also issues an additional request for the structuring of the EUOHQ within SHAPE.

OPERATIONAL EXAMPLES

The development of the framework for operational cooperation between the two organisations was also influenced by the security developments in the former Yugoslav space and the humanitarian catastrophe that accompanied the outbreak of war in this area. The hotbed of instability has pulled together the efforts of the two organisations. Thus, in 1995, NATO launched the first crisis management operation in Bosnia and Herzegovina after the end of the Cold War. It was deployed in December 1995, with the official title of the Implementation Force in Bosnia and Herzegovina (IFOR), on the coordinates established by Resolution no. 1031 [S/RES/1031 (1995)] of the UN Security Council. Also known as the *Joint Endeavor*, the NATO Operation was a consistent commitment (approximately 60,000 troops), made up of contributions from member and partner states. The main objectives were to support the process of implementing the military provisions of the Peace Agreement⁴ signed on 14 December 1995, in Paris, and to create the conditions for the return of war refugees. Thanks to IFOR's work, the local security environment has made great strides, best illustrated by the return of a large number of refugees and the holding of general elections in Bosnia and Herzegovina in September 1996.

In 1995, NATO launched the first crisis management operation in Bosnia and Herzegovina after the end of the Cold War. It was deployed in December 1995, with the official title of the Implementation Force in Bosnia and Herzegovina (IFOR), on the coordinates established by Resolution no. 1031.

⁴ The *General Framework Agreement for Peace in Bosnia and Herzegovina*, better known as the *Dayton Agreement*, after Wright-Patterson Air Force Base, near Dayton, Ohio, USA, where they were negotiated in November 1995.



In November-December 1996, a plan to strengthen the security situation was adopted, in which NATO had an operational contribution. IFOR's mandate was implemented until December 1996, when it will be taken over by a new NATO mission (Bosnia and Herzegovina Stabilization Force – SFOR).

Against this background, in November-December 1996, a plan to strengthen the security situation was adopted, in which NATO had an operational contribution. IFOR's mandate was implemented until December 1996, when it would be taken over by a new NATO mission (Bosnia and Herzegovina Stabilization Force – SFOR). Pursuant to Security Council Resolution No. 108⁵, SFOR was to ensure the continuation of IFOR's actions aimed at implementing the military aspects of the Peace Agreement for Bosnia and Herzegovina. Its troops were around 32,000 troops from NATO member states as well as from partner states. In the following years, against the background of the normalisation of the security situation in the area, the SFOR troops would decrease, reaching approximately 12,000 soldiers in the period 2001-2002. In terms of the chain of command, SFOR was placed under the authority of AFSOUTH. In parallel with the development of the multinational commitment on the military dimension, the normalisation of the security situation was also approached from the perspective of civilian issues, in particular through the deployment of the Civilian Police Mission in Bosnia and Herzegovina (UNMIBH). According to the mandate established by the Security Council Resolution no. 1035 of 21 December 1995 (S/RES/1035 (1995)), the role of this mission was to contribute both to the normalisation of internal security and to the training of local police forces.

The escalation of the conflict in the former Yugoslavia led to a strengthening of international engagement in regions of northern Macedonia, where the security situation had been deteriorating rapidly since March 2001. Prompt intervention by the international community led to the signing of the *Ohrid Agreement* (13 August 2001), which paved the way for the launch of multinational operational commitments. The first steps in this direction were taken by NATO by launching Operation *Essential Harvest* on 22 August 2001. This was intended to be a short-term (30-day) commitment to collect illegal weapons from Albanian insurgent groups. The structure of the mission included contributions from European allies, with logistical support provided by the US. The goal was to be achieved very quickly, with the operation ending on 26 September 2001. In the meantime, the Macedonian

⁵ The text of Resolution 1088 can be consulted at <https://www.nato.int/ifor/un/u961212b.htm>, retrieved on 12 September 2021.

authorities were asking NATO to continue its commitment to normalise the security situation. Allied debates led to the decision to launch a new commitment aimed at supporting the international civilian presence (EU and OSCE) deployed in Macedonia to monitor the implementation process of the Ohrid Agreement. The new mission would be called *Amber Fox* and would run from 27 September 2001 to 15 December 2002. Subsequently, the mandate was extended by missions in support of government institutions to take control of security throughout the territory. This approach would be implemented under the auspices of the third operation launched by NATO, which began on 16 December 2002. Known as *Allied Harmony*, the new operation would have significantly fewer staff, in line with previous progress.

From an EU perspective, events in the former Yugoslavia were a distinct point on the agenda of political debates. An additional perspective was induced by the adoption of the Declaration of St. Malo (4 December 1998) (cvce.eu), in which the Franco-British Summit indicated the need to develop the EU's autonomous capacity to be able to make operational commitments in the field of crisis management. Against this background, a year later, the Helsinki European Council (10-11 December 1999) reiterated this message, stressing the importance of developing the EU's capacity to act when NATO is not engaged. In support of this goal, the decision was made to create a Reaction Force with strength of 50-60,000 troops, capable of being deployed within 60 days and with the possibility of being kept in the theatre for up to a year (Helsinki European Council).

In parallel with the development of crisis management instruments, the EU continued, in partnership and coordination with NATO, its diplomatic involvement in the management of the Balkan conflict situation. These steps led to the conclusion of peace agreements in the area and the creation of conditions for the deployment of peacekeeping missions. At the NATO Summit in Prague (20-21 November 2002), the North Atlantic Alliance reconfirmed the agreement on EU access to its own means and capabilities for crisis management operations. This decision was based on the fact that the EU expressed its interest in taking on a greater role in crisis management in the Balkans, during 2002 and was formalised following the Copenhagen European Council (December 2002).



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Allied debates led to the decision to launch a new commitment aimed at supporting the international civilian presence (EU and OSCE) deployed in Macedonia to monitor the implementation process of the Ohrid Agreement. The new mission would be called Amber Fox and would run from 27 September 2001 to 15 December 2002.



At the end of March 2003, the first formula for the implementation of the "Berlin +" Agreements was recorded, with the launch of the first EU military operation in Northern Macedonia. Known as *Concordia*, it was based on Resolution 1371, with essentially three objectives, focused on: supporting the implementation of the Peace Framework Agreement (Ohrid), contributing to the support of international observers, creating security conditions necessary for the implementation of the agreement.

The level of interaction and the convergence of transatlantic efforts in managing the situation in the region was also a distinct item on the agenda of the EU-US Summit in May 2002. Under these auspices, strengthening the partnership in the context of crisis management was addressed with priority, in direct connection with the security developments in the Balkans and in the context of the initiation of EU operational commitments on the civilian component in this area (EU-US Summit).

In early January 2003, the Macedonian authorities called on the EU to consider deploying a military mission in support of the implementation of the Ohrid Agreement and supporting the institution-building process in the field of security reform. According to the provisions of Joint Action 2003/92/CFSP (OJL, 2003, L 34), adopted by the EU on 27 January 2003, the planning process was given the green light on the coordinates of the "Berlin +" Agreements, in order to launch a military operation as a successor to the mission *Allied Harmony*. From this perspective, NATO was invited to accept the appointment of Admiral Rainer Feist, then the DSACEUR, to serve as operational commander of the EU mission. It also called for NATO approval to organise operational command (OHQ) within SHAPE. The entire chain of command associated with the operational commitment was to operate under EU political control and strategic direction, with the operational commander being required to regularly inform EU structures. Through them, NATO would be regularly informed on how to use the capabilities made available to the EU mission. The initiation of the EU approach was also reflected in the acceleration of negotiations on the conclusion of the Agreements, which were finalised on 17 March 2003 through an exchange of letters between the EU High Representative, Javier Solana, and NATO Secretary-General Lord Robertson.

Against this background, at the end of March 2003, the first formula for the implementation of the "Berlin +" Agreements was recorded, with the launch of the first EU military operation in Northern Macedonia. Known as *Concordia*, it was based on Resolution 1371, with essentially three objectives, focused on: supporting the implementation of the Peace Framework Agreement (Ohrid), contributing to the support of international observers, creating security conditions necessary

for the implementation of the agreement. The implementation of the "Berlin +" cooperation framework was reflected in the implementation of the EU's advanced measures in January 2003, with strategic coordination ensured through regular meetings at the level of the Political and Security Committee and the North Atlantic Council. In operational terms, OHQ's associated staff within SHAPE, as well as those in the EU Command Element established in AFSOUTH had double subordination in relation to the two organisations.

At the level of the theatre of operations, the takeover of the main responsibility by the EU operation was followed by the transformation of the NATO presence by reducing the residual presence in NATO HQ Skopje, led by a High Military Representative of the North Atlantic Alliance. To ensure the transition process and effective coordination at the area of responsibility, the *Concordia Force Command (FHQ)* was placed with the NATO structure (nato.int.-2, 2003). All these elements contributed to the transfer process between the missions of the two organisations, the procedure used by most contributing states being to keep important segments of their quotas under the auspices of the EU. *Concordia* ran until 15 December, with an extension of its mandate in September 2003, with around 350 troops. During its tenure, *Concordia* made a substantial contribution to the implementation of the Framework Agreement, which eliminated the risk of instability and conflict being resumed. Also, the implementation of the *Berlin + Agreements* ran smoothly, proving to be a functional solution to ensure the continuity of the commitment. Following the completion of Operation *Concordia*, the European Union launched a civilian police mission, *EUPOL Proxima* (2003-2005), which focused on supporting the reform of the police force and border management.

In the context created by the launch of Operation *Concordia*, the development of EU-NATO cooperation has made significant progress, both in terms of coordination in the conduct of crisis management assistance programs and in terms of strengthening institutional dialogue and consultation. To this end, on 29 July 2003, the two organisations adopted a Strategic Guidance Framework, the main role of which was the "Convergent Approach to Security and Stability in the Western Balkans" (www.consilium.europa.eu). Through this approach, the prevailing option in addressing security challenges is in the context of the evolving operational profile of the EU in the field





The European Council of 12 December 2003 indicated the EU's readiness to play a stronger role in the stabilisation efforts in Bosnia and Herzegovina, including through a military mission. From an institutional perspective, the European Council indicated the need to accelerate the process of implementing the permanent EU-NATO liaison arrangements, on the coordinates proposed by the EU Presidency, which aimed, in practice, at formalising the typology used for Operation Concordia.

of crisis management. There is also a structured agenda to harmonise the potential of the two organisations in terms of supporting the stabilisation process, as well as assisting states in carrying out security sector reform programs. Based on these guidelines, the European Council of 12 December 2003 indicated the EU's readiness to play a stronger role in the stabilisation efforts in Bosnia and Herzegovina, including through a military mission. From an institutional perspective, the European Council indicated the need to accelerate the process of implementing the permanent EU-NATO liaison arrangements, on the coordinates proposed by the EU Presidency (mentioned above), which aimed, in practice, at formalising the typology used for Operation *Concordia*.

Against this background, on the occasion of the NATO Summit in Istanbul (28-29 June 2004), the decision was reached to end the SFOR operation in Bosnia and Herzegovina by the end of the year. Subsequently, appreciations were expressed for the EU's readiness to take on new operational responsibilities in this area, explicitly mentioning the option of using the "Berlin +" *Agreements* to launch a military operation (www.nato.int - 3). This was to complement the EU's civilian police engagement on 1 January 2003. The EU option was presented to the UN Security Council by letter from the Irish Foreign Minister (29 June 2003), who held the rotating Presidency of the European Union. According to it, the EU's strong message of launching a military mission to support the stabilisation process in Bosnia and Herzegovina was reiterated, based on the provisions of the Dayton Accords (S/2004/522).

Responding to the convergence lines outlined at EU-NATO level, the UN Security Council adopted on 9 July 2004, Resolution No. 1551, which confirmed the applicability of the international framework for the peace process in Bosnia and Herzegovina and for an EU military mission (S/RES/1551, 2004), which enabled the beginning of the planning process. Subsequently, the EU Council adopted Joint Action 2004/570/CFSP (OJL, 2004, pp. 10-14) of 12 July 2004 on the launch of the EU military operation under the name *Althea*. The structuring of the planning process, respectively of the command and control arrangements, was done in the same approach used for *Concordia*. Admiral Feist took over as operational commander, C2 elements being secured through the use of NATO means and capabilities. The initial

structure included a number of 7,000 troops to be secured through the transfer of SFOR contributing states to EUFOR Althea. Similar to the decision to reduce NATO's presence, the end of the SFOR mission was followed by the establishment of a new allied structure, NATO HQ Sarajevo. It would be located next to EUFOR Command in Camp Butmir, an additional justified option in terms of coordination between EU contingent missions and NATO HQ tasks in support of defence reform in Bosnia and Herzegovina, the fight against terrorism and supporting the work of the International Criminal Court in The Hague (Bertin, p. 74). Gradually, the staff and structure of *Althea* changed substantially as the security situation in Bosnia and Herzegovina returned to normal. The mission currently includes around 600 EU member states and partner troops, supported by a reserve (shape.nato.int) with a regional geographical profile covering the perimeter of the Balkans.

CONCLUSIONS

Clearly, the analysis of the option of providing command and control arrangements for EU operations through the use of NATO capabilities cannot be unidirectional, as its implications go beyond operational aspects. Thus, the importance of those mechanisms based on the "Berlin +" *Agreements* is valued primarily in the political arena. Their signing, after several years of negotiations, has been instrumental in overcoming differences between some member states and the United States over the development of European security and defence cooperation. The completion of the agreements and the launch of the first EU operations in the Balkan perimeter were limited to the context of that period, deeply marked by the implications of the terrorist attacks of September 11, 2001 and the expansion of the US and NATO operational effort in Afghanistan. In this context, the way in which the concerns of non-member states of both organisations are concerned with how to develop European cooperation in the field of security and defence, as is the case in Turkey, Canada, Norway and, last but not least, the USA. From this perspective, the "Berlin +" *Agreements* played a key role in developing their contribution to the European Union's crisis management operations in the coming years.

Positive reflections can also be seen in the structuring of the framework for participation in the allied command and control arrangements of some EU member states (e.g. Finland, Sweden).



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The importance of those mechanisms based on the "Berlin +" Agreements is valued primarily in the political arena. Their signing, after several years of negotiations, has been instrumental in overcoming differences between some member states and the United States over the development of European security and defence cooperation.



However, there were a number of limitations on the possibility of accommodating highly complex political issues in these cooperation arrangements, which prevented some EU member states (Cyprus and Malta) from participating in the implementation of these agreements.

Equally, the assessment of political relevance cannot exclude the beneficial effects of the constant security situation on the Balkan perimeter. In practice, the conclusion of agreements and the launch of EU missions have ensured the continuity of international engagement in supporting the stabilisation and normalisation process in this region. The coordinates mentioned enabled the premises for the development of the European and Euro-Atlantic course for the states in the area and the substantial reduction of the security uncertainties in this perimeter.

From the perspective of the process of developing European cooperation and maturing the EU's operational profile, cooperation arrangements and, subsequently, ensuring the launch of commitments through the use of NATO capabilities were likely to support this development. It is clear that these corresponded to a distinct stage during the European project in which the level of expertise and the capacity to generate substantial operational commitments were in the embryonic stage. In practice, the definition of operational cooperation arrangements between the two organisations has significantly contributed to overcoming these difficulties inherent in any initial stage, providing the necessary transition interval, strengthened through an effective approach, including in terms of financial and resource implications. Against this background, the definition of operational arrangements has substantially contributed to the development of a true culture of NATO-EU cooperation, underpinning the Strategic Partnership between these organisations by adopting a comprehensive agenda. In the absence of the framework for cooperation created through the "Berlin +" Agreements, it is difficult to assess how the multidisciplinary profile of NATO-EU cooperation could have reached today's level, developed successively through Declarations adopted by the President of the European Council, the President European Commission and NATO Secretary General, 2016-2018.

In terms of technical aspects and operational effects, in the context of the implementation of the EU-NATO cooperation framework, the balance is undoubtedly positive. The supporting elements of this assessment can be seen from the perspective of the fulfilment

of the mandate of the EU missions deployed in the Balkans at the level of which there was no syncope or regressions in strengthening the security situation. Similarly, the lessons learned from the EU's operational commitments reveal the functionality of this cooperation framework and the benefits of the *mil-to-mil cooperation* on the contingents deployed by the two organisations in different locations in the Balkans. The capitalisation of the practice accumulated in the latter aspect will be valued in the coming years, by developing a practice of cooperation between EU and NATO missions in other geographical areas, such as Afghanistan, Africa, the Mediterranean, or in the context of naval efforts to combat piracy. This experience has made it possible to overcome the consequences of political differences which have not affected the use of the "Berlin +" Agreements in other regional contexts, thus providing practical solutions, with applicability in local conditions.

Last but not least, it should be noted that the conduct of operations using NATO resources and capabilities continues to be effective in the context of operations in the Balkans, ensuring the necessary predictability and coherence of security management in this geographical area. At the same time, the progressive development of European security and defence cooperation has contributed to the enrichment of the inventory of options available for the EU to carry out its own operations. In this context, the command and control arrangements are placed, including the capabilities provided by the member states and the creation of the Military Planning and Command Capability at EU level. Also, the approach of this subject in the context of the development of the Common Security and Defence Policy also includes the civilian component of crisis management, context in which the Civilian Planning and Conduct Capability such operations was developed. Thus, the possibility of using the "Berlin +" Agreements strengthens the relevance of issues concerning command and control arrangements in the context of crisis management at EU level, while also offering the prospects for a multidisciplinary and relevant approach in a transatlantic context.



The conduct of operations using NATO resources and capabilities continues to be effective in the context of operations in the Balkans, ensuring the necessary predictability and coherence of security management in this geographical area.

The definition of operational arrangements has substantially contributed to the development of a true culture of NATO-EU cooperation, underpinning the Strategic Partnership between these organisations by adopting a comprehensive agenda.



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THE ROLE OF GOVERNANCE IN ACHIEVING UN GLOBAL GOALS

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Global governance brings together various actors to coordinate collective action around the world. This concept encompasses all the institutions, policies, rules, procedures and initiatives by which states and their citizens seek to bring more predictability, stability and order into their responses to transnational challenges and is largely achieved through international organisations. In fact, the goal of global governance is to provide global policies and services, in particular peace and security systems, justice and conflict mediation, functioning markets and unified standards for trade and industry.

In the current international context, sustainable development is an important goal of global policy, and intergovernmental and governmental agencies as well as private sector companies have a duty to explore different approaches to how national intergovernmental and national strategies, policies and projects address issues. Global governance guidelines are formulated, implemented and evaluated to support the achievement of the 2030 Agenda objectives.

Keywords: global governance; United Nations; good governance; governance; sustainable development; 2030 Agenda;



INTRODUCTION

Global governance has become a term used in all the social sciences. However, the concept of *global governance* raises two sets of unresolved issues. One has to do with the claims of the legitimate exercise of authority, the other with democratic values. Unlike local and national theories of governance, a social contract between citizens and global governance institutions has not yet been sufficiently developed to provide a sufficient basis for legitimacy.

The influence of civil society on international decision-making and the role of intergovernmental organisations and transnational corporations in world politics have a major impact on global governance. The term *global governance* was coined to a greater extent in the early 1990s, becoming a key concept of a political program of international reform, as well as a conceptualised tool in political research. Various issues, analysed at the time by the goal of global governance, referred to “*the role of enterprises in environmental policy, the negotiation and implementation of public health policies, peacekeeping, sexual policies, prohibitions on arms trafficking, regulation of world trade, and last but not least, the reform of the United Nations system*” (Koenig-Archibugi, 2011, p. 393).

The term “global governance” was coined to a greater extent in the early 1990s, becoming a key concept of a political program of international reform, as well as a conceptualised tool in political research.

THE IDEA OF GLOBAL GOVERNANCE IN THE CONTEMPORARY ERA

Although “*global governance*” is an attribute of post-Cold War neoliberal policy, there seems to be no commonly accepted definition of the concept, and disagreement over the nature of governance severely limits its usefulness in analysing politics and international relations. Consequently, we will approach global governance as a useful scientific concept for the implementation of norms and the evaluation of large-scale transformations around the world to achieve the sustainable development goals of the UN 2030 Agenda.



The term “global governance” has become increasingly important as the process of globalisation intensifies, with all its components and the emphasis on the importance and impact of global issues such as population growth and migration, water, food, environmental protection and biodiversity, energy resources, economic development, conflict prevention and resolution or terrorism.

In our view, the term *global governance* has become increasingly important as the process of globalisation intensifies, with all its components and the emphasis on the importance and impact of global issues such as population growth and migration, water, food, environmental protection and biodiversity, energy resources, economic development, conflict prevention and resolution or terrorism. These issues required an international approach, which over time has diminished the role of the nation-state by transferring specific regulatory powers to international institutions.

Although often associated with the concept of governance, political authority, public institutions and their control, the concept of *governance* involves official political institutions that control and coordinate relations between social actors, can implement decisions and policies, have a recognized authority and enter into relations with other levels of governance.

Adil Najam¹ defined *global governance* as “*the management of global processes or phenomena in the absence of a global government*” and Thomas Weiss² considered that “*global governance refers to concrete arrangements for solving global problems involving not only the UN and specialised agencies but also other non-state actors*” (Weiss, 2013, p. 195). Thomas Weiss and Ramesh Thakur defined *global governance* as “*a complex of official and informal institutions, mechanisms, relations, processes between and between states, markets, citizens, organisations, both intergovernmental and, through which collective interests are articulated globally, which establishes the rights and obligations of actors and mediates differences and conflicts between them*” (Ibid.).

According to Rod A.W. Rhodes³, the term “*governance*” is popular, but inaccurate. It has at least six uses, referring to: the minimum state;

¹ Pakistani intellectual Adil Najam serves as inaugural dean of Boston University’s Pardee School of Global Studies.

² Thomas G. Weiss, distinguished researcher in International Relations and Global Governance, with special expertise in United Nations policy, currently a professor at Princeton University.

³ Roderick Arthur William Rhodes, usually quoted as R.A.W. Rhodes, is a British professor of political science at the University of Southampton and director of the Center for Political Ethnography.

corporate governance; the new public management; good governance; socio-cyber systems; and self-organising networks. The author states that governance is the attribute of “*self-organising, inter-organisational networks*” and argues that these networks “*complement markets and hierarchies as governing structures for the authoritative allocation of resources and the exercise of control and coordination*” (Rhodes, 1996).

The international arena of the first half of the 21st century, however, needs a catalyst, still unidentified in our opinion, for the unification of the world beyond borders, to reform or build global institutions that can effectively manage the challenges facing humanity in the near future. Solving this puzzle could be to expand and legitimise global governance. Global governance, being essentially a collective consciousness, a framework that proposes global relations and a common play space that integrates all spheres of a society, including the social, economic, political, cultural and environmental sectors, can ensure, through a unified vision, solutions to the challenges facing humanity.

This can be done, but only if all actors in the system, including states, leaders and political figures, quasi-state actors, the corporate sector and institutions, NGOs, multinational corporations (MNCs) and the financial system work together to form a coherent structure that can greatly influence the foundations of the system. At the same time, Parag Khana, a well-known specialist in international relations, proposed the idea of mega diplomacy. He says, “*We are moving into a post-Westphalian world, a populous world where authoritarian actors are not just governments. There are companies*” (Khana, 2018).

“*In the current context, it is not just about the United Nations, the International Court of Justice, the World Bank, and bilateral relations between the United States and Russia or China. It is about a much more important set of players*”, said Khanna. “*So mega diplomacy would mean forging new coalitions among the .gov world, the .com*”⁴

⁴ A .com is a company that carries out activities mainly through their website. The internet is the key component for such a company.



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world, the .org⁵ world, the .edu world. This is mega diplomacy” (Ibid.). He explains how diplomacy has expanded as a tool in various fields such as armies of private mercenaries, artificial intelligence and technology; humanitarian agencies and non-governmental organisations; education sector, schools and universities; religious institutions and organisations and more.

Given that global governance is the sum of informal, formal values, norms, procedures, and institutions that help states, intergovernmental organizations, civil society, and transnational corporations to identify, understand, and address cross-border issues, we consider their functionality to be a defining challenge, given that international leaders too often fail to agree on resolving regional tensions or disputes, not to mention concerted action to address transnational issues at the intersection of peace, security and justice.

In order to clarify the issues related to the meaning of the notion of governance/government, as well as the context in which they are used, we agreed with Mark Bevir’s⁶ statement that “governance encompasses all government or a network – on a social system (family, tribe, formal or informal organization, a territory or between territories) through the laws, rules, power or language of an organised society” (Bevir, 2012, p. 1).

In terms of governance, we consider that this concept defines the central elements of governance, extrapolating, global governance contextualises the framework of global political, economic, social and idea developments supporting the role of norms in the international order; interconnectivity between ideas, behaviours and policies; cooperation and consensus.

The opinion of many of the international political analysts, of some professors with outstanding publications in the field of political science, is that in contemporary society the process of global

⁵ Non-profit organisation that carries out its activity online.

⁶ He is a professor of political science and director of the Center for British Studies at the University of California, Berkeley, where he currently teaches political theory and philosophy, public policy and organization, and methodology.

governance is subject to many negative manifestations. In this regard, Robert Johansen, Professor Emeritus at the International Institute for Peace Studies at Notre Dame University and a contributor to *21st Century Global Dynamics*, supports the theories of Ahmet Davutoğlu⁷, published in an essay in March 2017, in which warns us of the dangers of “growing populist autocracies, exclusivity, unilateralism [and] selfish pursuit of narrowly defined national interests to the detriment of common values and goods” (Johansen, 2017), which in our view severely affects the idea of global governance.

The essence of the concept of global governance is the need for better cooperation between governments, more fruitful cooperation between governmental and non-governmental actors, more coordination within the United Nations system and a central position of people in politics.

THE UN CONTRIBUTION TO ENRICHING THE CONCEPTS OF GLOBAL GOVERNANCE AND GOOD GOVERNANCE

The UN system has constantly sought, in the 1990s, to clarify and enrich the concept of good governance. Nuances and categorical statements on the advantages and disadvantages of unrestricted market liberalization were introduced. The UN has sought to cautiously temper the aggressiveness of neoliberal ideas applied to the problems of the world economy and to bring into question the effect of increased marginalisation of some member countries as an effect of globalisation.

First, UN added new perspectives to political governance. To the standard notions of traditional democracies, such as multiparty elections, separation of powers, have been added attributes such as universal protection of human rights, anti-discrimination laws, impartial and efficient administration of justice, transparency of public agencies, accountability for decisions by senior civil servants,

⁷ Academician, politician and former Turkish diplomat, Prime Minister of Turkey between 2014 and 2016 and leader of the Justice and Development Party, holder of several political positions.



To the standard notions of traditional democracies, such as multiparty elections, separation of powers, have been added attributes such as universal protection of human rights, anti-discrimination laws, impartial and efficient administration of justice, transparency of public agencies, accountability for decisions by senior civil servants, substantial participation of citizens in the debate on public policies and their alternatives.



substantial participation of citizens in the debate on public policies and their alternatives. One of the most important nuances developed in the UN system was the assertion of the close link between civil and political rights and economic, social and cultural rights, an interdependence now recognised but insufficiently reflected in legislation and applied in practice.

The second feature of the UN vision of good governance is the emphasis on the need to restore the balance between the public and private sectors in the economic sphere. This was a reaction to the ex-departmental approaches of the Reagan and Thatcher administrations that whatever governments do, the private sector will do better, or that free markets, free trade, and capital flows will have a positive effect on all members of society and all states. The intellectual climate of economic thinking dominated by the “*Washington Consensus*” almost made heretical theories that an efficient market economy required the existence of a strong state.

In particular, two of the UN regional commissions, the Economic Commission for Africa and the Economic Commission for Europe, have argued that strengthening the state, not its withdrawal, can boost the effectiveness and legitimacy of economic policies. The UNDP Regional Office for Eastern Europe and the Commonwealth of Independent States recommends “*a strong and legitimate government with sufficient confidence in its legitimacy to enable a strong civil society, and a network of non-governmental institutions and regulations capable of developing a functioning economic system, the strengthening of democratic procedures and the wide participation of the population in public life*” (UNDP, 1997, p. 1).

This perspective was echoed in the World Bank’s internal turmoil, influenced by Joseph Stiglitz, the future Nobel laureate in economics, who said in a 1997 report that “*there is a growing recognition that certain goods and services necessary public services can only be provided through international cooperation. Thus, strengthening the capacity of states will also mean more efficient partnerships and institutions, at international and domestic level*” (World Bank, 1997,

p. 131). Following UN intervention, liberalisation programs in the last decade of the 10th century put more emphasis on the notion of leadership and management, but also on democracy, human rights, access to justice and fundamental freedoms, which diminished the strength of the exponents of the “*minimalist state*” arguments.

In a brief description, for the UN, good governance at the national level means efficiency, accountability, legality, representativeness and transparency. Globally, “*states need to be more aware of their dual role in our global world*”. In addition to the separate responsibilities that all states have for their own societies, states are collectively the custodians of common life on the planet, “*a life that belongs to the citizens of all states*” (United Nation, 2000, p. 13).

The conceptual difficulties are great. As Emmerij, Jolly and Weiss point out, “*both nationally and globally, government is more than government. But for the world, government exists without any world government. Global government is a contemporary formulation that expresses this reality. It can be seen at best as a heuristic tool to describe the confusing and accelerating transformation of the international system*” (Emmerij, Jolly, Weiss, 2001, p. 197).

A milestone in the analysis of these issues was the work of the Commission on Global Governance, a body composed of independent experts, whose final report (*Our Global Neighbourhood*, 1995) was discussed and analysed in the UN system and reflected in subsequent conceptual and practical efforts. The issue was widely discussed in 1999 in the United Nations Development Program (UNDP) Human Development Report, the flagship document of the United Nations Development Program and the UN’s vision for development (1999). Notable, for example, is the launch of the challenge contained in this report, which proposed the notion of the “*invisible heart*” (international solidarity) instead of Adam Smith’s “*invisible hand*” as the core of the imperatives of global governance.



For the UN, good governance at the national level means efficiency, accountability, legality, representativeness and transparency. Globally, “states need to be more aware of their dual role in our global world”.



BASIC PRINCIPLES OF GLOBAL GOVERNANCE – THE 2030 AGENDA

Due to the fact that there is no commonly accepted definition of the concept of *governance*, disagreement about its nature severely limits its usefulness in the analysis of sustainable development policy. As we have seen above, global governance is understood and applied in different ways, from shaping a political agenda to framing global economic structures into a political architecture, to a critical view of global governance as a potentially hegemonic discourse, and as an analytical perspective on world politics. Due to the ambiguity surrounding this concept, in this subchapter we will treat global governance from a scientific perspective by trying to define its usefulness in achieving “*governance of global sustainability*”.

Fulfilling the *2030 Agenda Goals*, as well as other nationally and internationally agreed development goals that support this agenda, is one of the great challenges facing humanity as public sector reforms needed to implement the SDGs continue to be a major challenge annoying in many countries. Thus, the sustainable development of humanity depends to a large extent on society’s ability to design efficient, stable and legitimate systems of governance, at local, national and international level, capable of concretely addressing this challenge.

As the most prominent international organisations such as the UN, the EU or the World Bank argue, effective global governance cannot be achieved without a set of democratic principles, unanimously accepted and implemented by all actors in the global political scene.

Aware of this, the UN Economic and Social Committee (ECOSOC) approved on 2 July 2018, at the proposal of the Committee of Experts on Public Administration (CEPA) and the United Nations Department of Economic and Social Affairs (DESA), *three characteristics, fundamental attributes*, for the effectiveness of global governance: effectiveness, accountability and inclusion.

Global governance is understood and applied in different ways, from shaping a political agenda to framing global economic structures into a political architecture, to a critical view of global governance as a potentially hegemonic discourse, and as an analytical perspective on world politics.

This achievement would be an important starting point, without such guiding principles, as the implementation of the SDGs risks being inconsistent and inefficient. governance, national realities, capabilities and levels of development but respecting national policies and priorities.

The eleven basic principles of global governance proposed by ECOSOC and applicable to all public institutions, including legislative, executive and administrative bodies, the security and justice sectors, independent constitutional bodies and corporations, which may be involved in the implementation of the SDGs are: “*the principle of competence, transparency, useful policies, collaboration, integrity, independent oversight, leaving no one behind, non-discrimination, participation, subsidiarity and intergenerational equity*” (ESC, 2018).

They are designed to help interested countries, voluntarily, build effective, responsible and inclusive institutions at all levels, in order to achieve a common vision for peoples and the planet that can be incorporated into the 2030 Agenda for Sustainable Development.

In this regard, the UN Committee of Experts on Public Administration states that “*principles gain depth and become operational only through the promotion of related strategies and the use of common practices, as an integral part of the evolution of the global governance process in the context of sustainable development*” (CEPA).

The operationalisation of the principles and the undertaking of related strategies, which can become effective in any context, particular or general, thus becomes essential to move to the next step – the implementation of practices. To be useful, under the auspices of good governance, the associated practices will need to be clear, relevant, feasible to implement and based on sufficient empirical evidence of their impact on achieving the Sustainable Development Goals (SDGs). Good governance is a goal of sustainable development in itself, and is seen as an aspiration under Goal 16 of the 2030 Agenda – which supports “*promoting a peaceful and inclusive society, ensuring access to justice for all and building efficient, accountable and inclusive institutions at all levels*” (United Nations – 1). At the same time,



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The 2030 Agenda can be a new way of governing, ultimately defined, not by legally binding international agreements, but by objectives. Goal governance can have great potential, but success will depend on a number of institutional factors, including how states act on their 2030 Agenda commitments and how they strengthen related global governance arrangements vis-à-vis their national and local ambitions.

we must recognise good governance as a means to an end, which is an essential lever for the transformation of the system, which is necessary to achieve all the 17 SDGs⁸.

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Governments accountable and receptive to their citizens, transparent in their reporting on the use of public resources and decision-making, and creating opportunities to participate in the delivery of policies and services. Good governance comes from a set of favourable political conditions in which people have the right to vote, exercise supervision and seek redress from politicians and officials. The real test of good governance is when citizens feel safe and trust in governments to conduct public affairs in the interests of society as a whole, rather than for a privileged few.

As we mentioned earlier, the influence of civil society on international decision-making and the role of intergovernmental organizations and transnational corporations in world politics have a major impact on global governance. As an essential aspect, in order to act in the same direction, the beneficial one, in terms of the link between global governance and sustainable development, it is necessary to define new forms of cooperation between global actors, beyond the traditional negotiations under international law.

⁸ The 17 Sustainable Development Goals of the UN 2030 Agenda can be accessed on the website of the Romanian Ministry of Foreign Affairs. Here is a strict list: *No poverty; Zero hunger; Good health and well-being; Quality education; Gender equality; Clean water and sanitation; Affordable and clean energy; Decent work and economic growth; Industry, innovation and infrastructure; Reduced inequality; Sustainable cities and communities; Responsible consumption and production; Climate action; Life below water; Life on land; Peace and justice strong institutions; Partnerships to achieve the goal* (<https://www.mae.ro/node/35919>, retrieved on 17 February 2022).

The influence of non-state actors, especially transnational corporations, is quite strong and is not limited to simple lobbies during negotiations to adopt rules that do not target their own interests. Thus, new forms of cooperation must increasingly become the key factor for the success of the institutions and mechanisms for establishing common rules and for their explicit implementation in global governance.

CONCLUSIONS

In a rapidly globalising world where virtually everything flows: information, trade, finance and people, good global governance can serve as a beacon to help us effectively address the many challenges specific to contemporary human interaction. But in order to overcome the challenges facing global governance, the efficiency, effectiveness and legitimacy of collective action by the interested parties need to be improved.

In order to face the new transnational political, social and environmental challenges that can have a direct impact on any state, a cooperative, international approach is needed. And strengthening global governance mechanisms, as well as extending and manifesting them where appropriate, can be an effective solution to any critical situation. Globalisation has brought with it both new opportunities and many challenges. Pollution does not respect international borders, while terrorism, drugs, the proliferation of small arms, climate change, the spread of pandemics, and other cross-border issues not only dominate the political agendas of each state, but also require international cooperation to address them effectively. In short, global governance consists of an intentional order that emerges from institutions, processes, rules, formal agreements and informal mechanisms that govern action for the common good.

Simply put, global governance consists of an intentional order that emerges from institutions, processes, rules, formal agreements, and informal mechanisms that govern action for the common good. This should become more and more a custom in the political and economic sphere, in the context of the call for accountability and



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An effective form of global governance, inspired by the goal of serving the common good, which seeks equitable representation of people in decision-making is based on knowledge and social inclusion. Such a government can provide opportunities and benefits that will drive exclusive populism and terrorism back and strengthen the values of human dignity.

transparency, as global governance requires a responsible and moral structure. These two elements, which are essential and indisputable, must be universally recognised as a backbone of the framework between nations and international organisations and bodies for the common good.

Global governance encompasses activity at the international, transnational and regional levels and refers to activities in the public and private sectors that transcend national borders. In this conception of global governance, cooperative action is based on rights and rules that are implemented through a combination of financial and moral incentives. In the absence of a single institution of authority or a global governmental structure, global governance can encompass elements and methods from both the public and private sectors.

An effective form of global governance, inspired by the goal of serving the common good, which seeks equitable representation of people in decision-making is based on knowledge and social inclusion. Such a government can provide opportunities and benefits that will drive exclusive populism and terrorism back and strengthen the values of human dignity. The benefits would probably include practical respect for the human rights of all people, including the right to escape poverty and the basic necessities of life.

To this end, regional governance and home affairs must be trusted and respected in order to maintain the development and management of state infrastructure and the conservation of natural resources. Emerging regional powers must refrain from dominating the playing field and, at the same time, facilitate trade and regional agreements to stimulate global governance by mobilizing people, stimulating imports and exports and managing resources efficiently.

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THE ECONOMIC FACTOR AND ITS ROLE IN THE GLOBAL SHIFT IN DEFENCE STRATEGY AND POWER

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When defence decision-makers tend to look to the future and set objectives for short, medium and long term, they face uncertainties and try to work around multiple scenarios that differ in relation to various fields. One such field is that of economy. And economy has changed as global economic power has shifted. If global economy has shifted so has defence power.

The purpose of this paper is to analyse what economic factors influence long-term defence planning and what decision-makers should try to consider when deciding upon different scenarios. Without rushing to conclusions, we can assume that we live in a highly volatile world, where there is a shift in terms of main global actors. With the evolution of technology, with the impact of the Covid-19 pandemic, with geopolitical shifts, like the situation in Afghanistan, all of these factors can be monitored under the umbrella of the economic impact that they have. The effects are there for us to study and to conclude on how the world that we will live in tomorrow shapes up and what decision-makers should focus on when it comes to thinking strategically about developing own countries' defence power.

Keywords: defence power; decision-makers; defence expenditures; defence resources; global power;



INTRODUCTION

Defence expenditures and resource allocation represent two concepts that, even though interconnected, are different. Defence expenditures represent the specific part of the national budget meant for defence planning, achieving the objectives set up in the military documents and ensuring national and regional security for the states.

Resource allocation represents the means by which defence expenditures will be distributed in order to achieve the objectives mentioned above, in terms of procuring military equipment, developing military capabilities, managing human resources, using financial resources, completing missions and targets etc. Throughout history, the global context has changed the distribution of defence expenditures and their portion in the national budget (as part of the national GDP).

The Cold War meant a record percentage allocated for defence expenditures by NATO states, especially the United States of America and the former Soviet Union, while the end of this conflict represented a drastic reduction in defence budget allocations. It all changed after 9/11. Following the terrorist attacks, defence expenditures increased once again, because of the wars conducted by NATO in Afghanistan and Iraq.

Overall, defence expenditures dropped again in the time frame between 2010-2020, even though following the Wales NATO summit in 2014, an agreement was made by NATO member states to increase their defence expenditures up to 2% of the GDP, following the Crimean crisis. Not all the states committed to the agreement, but the eastern flank states did, and they set up a 10-year framework in which the increase should happen.

At the halfway point, our aim is to study what the options for defence allocation were in the period 2020-2021, knowing that there is a difference between the budget planning and the budget execution. Therefore, we have analysed the current international context on multiple levels, taking into consideration the Covid-19 pandemic,

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the technological development and two geopolitical events, the Afghan crisis following the US troops withdrawal as well as the new alliance between Australia, the UK and the USA (AUKUS), which led to a series of controversies, including or especially in the area of defence resources allocations.

One of the purposes of this paper is to analyse if there still exists a correlation between defence expenditures and defence resources allocation, if the objectives set up at a strategic level changed with the mentioned events and if international agreements and alliances between states regarding security and defence were affected in the time frame in question.

DEFENCE EXPENDITURES DURING THE COVID-19 PANDEMIC

The first factor we will analyse in this paper is represented by the most important event of the past decade, the Covid-19 pandemic. The impact that the pandemic has had on the society has been a major one, with social, economic, cultural and political components unprecedented in the past century. To better understand how the pandemic has affected the level of defence expenditures, we must track a larger time frame in order to observe the evolution of defence expenditures in the context of other major events and impact factors (figure no. 1).

As figure no. 1 shows, defence expenditures have always evolved according to the global context of a specific period of time and its impact on security policy. (Clements, Gupta, Khamidova, 2021). Therefore, the Cold War brought a significant increase in defence expenditures. Those expenditures then dropped for the 1990-2000 decade and once again increased after 9/11 and later following the Crimean crisis. The graph in figure no. 1 shows that if in the case of 9/11 defence expenditures increased simultaneously for both developed and developing states, the Crimean crisis meant a different story. Following 2014, developed states increased their defence expenditures partially. That can be seen in the V shaped graph signalling other factors that influenced the evolution of defence expenditures in that period of time. For developing states, the increase was constant but it started later than 2014, in 2018. The reason for the delay is that, for most developing states, to allocate 2% of the GDP on defence

was a complex process that happened for the first time and therefore they had to understand what it would actually mean, once the defence budget was allocated, to realistically execute the financial resources that were budgeted.

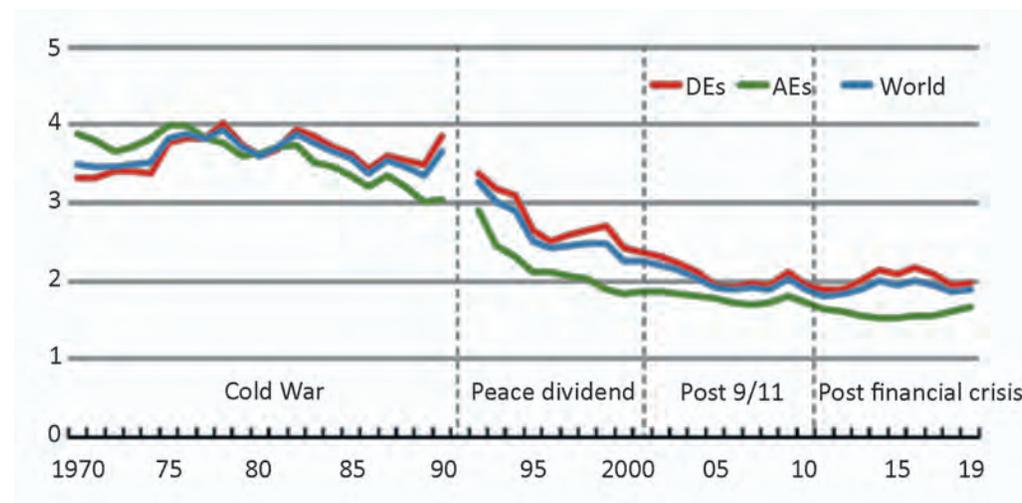


Figure no. 1: Evolution of defence expenditures at global level (1970-2019) (Stockholm International Peace Research Institute)¹

To conclude, by having a look at the overall graph, it can be said that defence expenditures mostly dropped following the Cold War, but recent events have triggered several groups of states, like the ones in the eastern flank, to consolidate their defence budget. Thus, the time interval 2019-2020, before the pandemic, shows a slowly increasing indicator when it comes to defence expenditures, be it a reduced indicator when compared to the time frame 1970-1990.

The question that needs to be asked next is *how the major event of the Covid-19 pandemic has influenced defence expenditures*. According to the Stockholm International Peace Research Institute, in the year 2020, there was an increase of 2.6% in such expenditures, regardless of the pandemic and its negative effects on public spending. According to the same study, even though the global GDP has fallen during the pandemic, the global percentage allocated to defence

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¹ Note: Defence expenditures are analysed in two groups: AE – advanced economies, DE – developing economies. There are no data for certain states in 1991 when the USSR was in the process of dissolution.



expenditures has increased from 2.2% of the GDP to 2.4% of the GDP. An observation should be mentioned when it comes to this increase, namely that certain states like Romania or Portugal have used their military capabilities in fighting the pandemic in the areas of medical assistance, transportation, vaccination campaign and thus a part of the increase in resource allocation for defence can be attributed to this factor.

Overall, we can say that the influence of the pandemic on defence expenditures places us in a paradoxical scenario (Ahlander, 2020). On the one hand, we find that the need to reduce non-COVID spending can adversely affect defence spending, as fiscal consolidation and the maintenance of social support measures during the pandemic are a priority. The health system is theoretically the beneficiary of public spending in the period 2020-2021, while the education system is also reformed, with investments especially in IT support that can enable an online education system. On the other hand, the risks and threats that have led to increased defence spending for a large number of states since the 2014 reference year have not decreased during the pandemic and as a consequence the states will try to continue to allocate at least the same percentage or defence budget. If we add the military assistance in the fight against the pandemic mentioned before, we will be able to argue that in the end, there is no impact of the pandemic on defence spending, which remains constant. However, a certain pressure will be put on the budgets of the states, which will be forced to manage the pandemic, and therefore put in the situation of rethinking what the major priority objectives are and whether the defence and security issues are among them. The statistical data studied so far confirm that defence spending remains a top priority even in the existing pandemic context. As in the case of the major events mentioned above, the geopolitical context is the one that influences the allocation of defence spending. Another important factor is that of technological evolution, which will be addressed in the following chapter.

The risks and threats that have led to increased defence spending for a large number of states since the 2014 reference year have not decreased during the pandemic and as a consequence the states will try to continue to allocate at least the same percentage or defence budget.

DEFENCE EXPENDITURES IN THE CONTEXT OF TECHNOLOGICAL DEVELOPMENT

Technological development has had an accelerated pace over time following the Second World War. If during the Cold War we witnessed the emergence of the third technological revolution with the development of the personal computer and the Internet, specialised literature predicts that starting with this decade we could witness the development of a potential fourth technological revolution. The strategic field of defence has always been a hub for technological innovation and over time defence spending has financed this area in depth. It is easier to see the impact of technological development and spending on this factor in the purchase of major defence equipment (Bellais, 2013, pp. 59-78).

When we analyse the concept of purchasing major defence equipment, we find that this process means much more than a simple purchase cost. We thus talk about the entire management of the introduction of a type of equipment, namely the analysis of the cost during its life cycle. The cost of the life cycle therefore includes, for the defence area, the research and development phase, the acquisition of the respective equipment, its operation and maintenance and as a final phase the removal from the inventory, the so-called disposal phase.

Referring to the importance of technological development in defence spending, we will further analyse the increasing importance of the research and development phase in the defence spending process.

Research and Development (R&D) or the research and development phase has played a central role for most NATO member states, whether we are talking about the USA or other partner states. Most defence ministries have within their own structure a research and development agency to assist the defence industry in the development of equipment needed to serve strategic objectives that come from military defence planning documents. R&D create the premises for the development of new and advanced technologies that can support a multitude of applications. These applications include modern weapons, intelligence systems, medical treatments, equipment to support combatants etc. As technology advances, we see that the proportion of R&D in total defence spending increases, which gives us a new dimension and a new impact factor on the allocation of defence resources in the current economic system.



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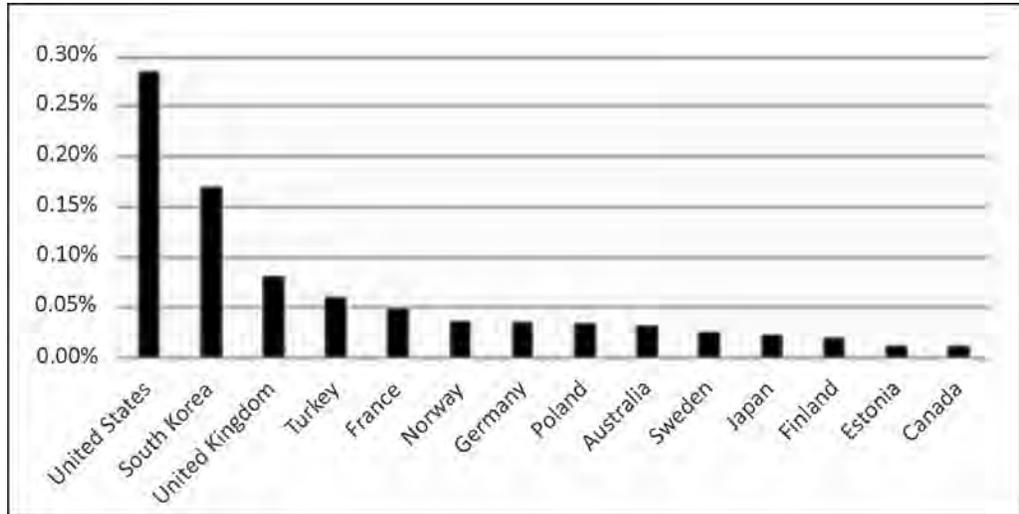


Figure no. 2: The Organisation for Economic Cooperation and Development (OECD) member countries with the highest levels of government defence R&D funding as a share of the GDP (CRS Analysis, 2020)

The figure above shows the significant increase in research and development and the relevance of the technological factor as part of defence spending. Putting this factor into balance with the one from the previous chapter, namely the impact of Covid-19 on the defence expenditures, we can observe the following: although global defence spending remains significant, every industry needs to consider the impact of Covid-19, including the defence industry. The major impact of this health crisis has not yet been understood and known, but entities investing in defence must consider various potential disruptions that may occur in distribution channels, therefore try to prevent logistical problems, ensure cooperation and collaboration with other international actors. Despite the mentioned potential problems, data show that Western countries continue to strengthen and modernise their defence apparatuses, to preserve the research and development processes and to launch acquisitions in the area of major equipment that include: ships, submarines, fighter jets, nuclear capabilities etc. Even the closure of the theatres of war in the Middle East has not reduced the number of risks and threats, therefore to maintain and achieve security and defence objectives remain a priority. That is the reason why defence spending has increased over the past 2 years and there has been an increase in modern defence platforms, which include

Although global defence spending remains significant, every industry needs to consider the impact of Covid-19, including the defence industry.

artificial intelligence, state-of-the-art technology and other innovative means to gain a technological advantage.

Taking the example of several states into consideration, we can see that the United States of America, in the fiscal year 2020, had a budget of \$ 738 billion for defence, a \$ 20 billion increase over the previous year, including new equipment with technological input, such as the space force or other equipment that ended in costing around \$ 146 billion. The Australian Ministry of Defence has also increased spending on the purchase of ships, submarines and other platforms. States such as India and South Korea had already increased defence spending by 8% in 2019 before the pandemic and kept those expenditures at the same level and even beyond during the pandemic. European defence spending, which had increased by 5% compared to 2018, either increased or stagnated during the pandemic. Middle Eastern states also purchased modern military equipment in the 2019-2021 period, with a real technological advance. Therefore, the impact of technological development has led to an increase in defence spending, with states trying to respond to current risks and threats with modern and innovative equipment.

DEFENCE EXPENDITURES IN THE CURRENT GLOBAL CONTEXT

Defence Expenditures in the Context of the Afghan War Closure

We have mentioned in previous chapters the various risks and threats that determine states to invest in defence resources. It is for such reasons that defence expenditures become a larger part of the overall budget. One question that needs to be answered is whether the withdrawal of the United States of America from Afghanistan changed the dynamics of such expenditures, whether it would reduce or increase them.

For the states in NATO eastern flank, it will lead to a strategic change and allocation of resources, which began in 2014 because of the Crimean crisis. Western European countries also have their own achievable targets for which they allocate different percentages from the defence budget, and these allocations have not changed in any shape due to the pandemic and therefore will not change because of the withdrawal from Afghanistan, which does not affect overall defence policy and planning for this group of states too much.



For the states in NATO eastern flank, it will lead to a strategic change and allocation of resources, which began in 2014 because of the Crimean crisis.



It remains to be analysed what is the situation of the USA in terms of its own resources allocated to defence, following the withdrawal from a theatre of war, in which for 20 years the US government allocated record resources, for both consolidation and development of Afghanistan, being an actor with a role in both *hard power*² and *soft power*³.

Most available data show that the impact of the withdrawal from Afghanistan will not have a negative effect on US defence spending, on the contrary (Clevenger, 2021). Current estimates indicate that the withdrawal from Afghanistan will lead to the release of between \$ 20 billion and \$ 50 billion from the defence budget. However, for the next fiscal year, the US Department of Defense has called for a 1.7% increase in the defence budget, which is about \$ 13 billion more. With a focus on the South China Sea, the eastern flank, the development of the space force, the USA will continue to increase defence spending for the third consecutive year. According to the Stockholm International Peace Research Institute, in 2020 the USA spent 39% of its total global defence budget, more than the next 11 states.

With the shift of focus from the Middle East to East Asia, to better understand the risks and threats facing the allocation of US resources in the next period of time, we have also analysed the AUKUS agreement between Australia, the United Kingdom and the United States of America.

Defence Expenditures in the Context of the Development of AUKUS

The de facto AUKUS agreement that emerged in 2021 is the result of finding common interests between Australia, the United Kingdom and the United States of America, which generated a desire for collaboration between the three states at an unprecedented level since the end of the Second World War (Negropont, 2021). In order to achieve it, it was developed an interconnection between the three partners in terms of strategic objectives, development of common defence capabilities, mutual support in the field of defence industry to increase the level

² Hard power describes the political ability of a nation to make use of military or economic assets in order to influence the behavior of actors at international level.

³ Soft power describes the ability to attract and cooperate rather than to force. In other words, soft power represents a concept that entails the choices that some states make based on models and attraction, not based on force.

of security in the South China Sea and to strengthen a potential response in the face of the risks and threats posed by China. We mentioned in the previous chapter the role of technology and its evolution in the allocation of defence resources. The AUKUS agreement is one such example, with the USA sharing its new submarine's nuclear propulsion technology with the other two partners, which led Australia to abandon the purchase of submarines from France, with which it had signed a previous agreement. That act had political consequences, with France withdrawing its ambassadors from the three AUKUS member states. The consequences of those events are difficult to quantify, but within NATO two distinct groups seem to have been created, that of the EU states, which have invested for the past 5 years, starting in 2016, in defence, through the PESCO (Permanent Structured Cooperation) programme, and the group of AUKUS states, whose cooperation will also mean an increase in defence spending. In the case of Australia, for example, this increase will mean a defence budget projected over the next few years, rising from 2% to 4% of the GDP (Jennings, 2021).

Returning to the current geopolitics and the actors that make it up, we can therefore see, from the distribution of defence spending, that starting in 2021 there are actually three groups within NATO, which strengthen their security strategy in terms of regional risks and threats, so that the issue of NATO unity can be raised, under the conditions of such a scenario.

The first group, already mentioned in this chapter, is part of the recent AUKUS agreement created between the US, the UK and Australia, a group that achieves common capabilities and therefore allocates a significant part of its own budgets to strengthen the South China Sea area, as well as to counter the risks and threats posed by China's actions (Kehoe, Tillett, 2021).

The second group is represented by NATO's eastern flank and includes states such as Romania, Poland, Lithuania, Estonia, Latvia that consolidate their defence spending in the context of the actions of the Russian Federation in the area.

The third group is made up of Western European countries such as France, the Netherlands or Germany, which continue to allocate constant resources for defence, do not face immediate risks and threats to their own security, and focus on their short-term efforts to combat the pandemic. However, those countries consolidate at the EU level



The first group, already mentioned in this chapter, is part of the recent AUKUS agreement created between the US, the UK and Australia, a group that achieves common capabilities and therefore allocates a significant part of its own budgets to strengthen the South China Sea area, as well as to counter the risks and threats posed by China's actions.



the EU's Security and Defence Policy, which sets the Union's objectives to develop funds for its own defence capabilities, hence the funds allocated under the above-mentioned PESCO programme. Thus, for the first time, the European Union changes its strategy of being strictly a player involved in *soft power* concepts, into that of becoming a *hard power* actor together with NATO. The collaboration with NATO should be mentioned, because at least at a written level, the EU's actions in the defence area will be conducted strictly as a NATO partner, the two institutions complementing each other.

CONCLUSIONS

The purpose of this paper is to observe what are the topical factors that influence defence spending as well as the allocation of resources for defence. If the Covid-19 pandemic did not affect in its entirety the allocation portion compared to the amounts allocated for the fight against the virus, we can instead see the impact on the way of prioritising the objectives related to the development of an efficient medical system, control measures of pandemics or technological innovations needed to continue growing economic processes. Classical factors such as geopolitical impact or technological development remain the major catalysts for changing perspectives on defence resource allocation, as this allocation changes the international paradigm for the states concerned with defence and security issues faster and more intensely than the pandemic has done so far. Of course, the effects of Covid-19 will have to be studied for a longer period of time, as the data from the 2020-2021-time frame are insufficient to correctly measure the potentially negative effects in the financial, social and political fields, which might be felt over a longer period of time.

Following the directions and trends in which global actors manifested and acted in the 2020-2021 period, we can say that for the decision-makers in the field of planning and defence spending there is a real paradox. Although the pandemic, technological development, global context, the Afghan problem have led to a uniform increase in defence spending, for the first time in many years the allocation of defence resources is no longer uniform, with various NATO member groups having different objectives and thus allocating resources for their own regional needs.

The legitimate question may thus be whether there is still a direct connection between joint defence planning and resource allocation at the level of major international alliances or whether we are witnessing a fragmentation of interests if not at the level of individual states at least at the level of smaller homogeneous groups within larger organisations, in which communication and coordination of joint efforts have reached a minimum in the past two decades.

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HOW CAN THE *RED TEAM* HELP CARRY OUT THE AIR FORCE PLANNING PROCESS?

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Command has always been the responsibility of commanders, regardless of the echelon, its materialisation being based on decision as well as on decision-making process.

The geometry of the operating environment, the continuous transformation of the types of operations and, implicitly, of the way of approaching them have led to the identification of alternatives in terms of supporting the decision-making act. In this regard, the concept (and possibly its materialisation) of Red Team can be a viable alternative.

Keywords: operational environment; capabilities; Red Team; air force planning process; risk management;



DEFINITION OF TERMS

The concept of *Red Team* is represented at the level of a military structure or organisation by a group whose purpose is to support the decision-making process. The specific activity of this team is known as *Red Teaming*.

Generally, the *Red Team* for military structures is an independent group that helps an organisation to improve its effectiveness and that can assist a commander and staff to think critically and creatively (JP 5-0, 2020, p. III-76). More definitions regarding the *Red Team* and its specific activity are presented in *table no.1*.

Table no. 1: Defining the concept of Red Team

Red Team	Source
Red Team – An organisational element comprised of trained and educated members that provide an independent capability to fully explore alternatives in plans and operations in the context of the operational environment and from the perspective of adversaries, and others.	JP 5-0, <i>Joint Planning</i> , CJCS, 2020, p. J-1
Red Team – A cross-functional organisational element comprised of trained members that provides the commander with an independent capability to fully explore alternatives in plans and operations, supporting intelligence, and to enhance staff decision-making through the simulation of critical and creative thought.	Joint Doctrine Note 1-16, <i>Command Red Team</i> , Joint Force Development, 2016, p. I-2
Red Teaming – a function that provides commanders with an independent capability to fully explore alternatives in plans, operations, concepts, organisations and capabilities in the context of the operational environment (OE) and from the perspectives of partners, adversaries and others.	<i>The Applied Critical Thinking Handbook</i> , University of Foreign Military and Cultural Studies TRISA, Ft Leavenworth 2015, p.2

The Red Team for military structures is an independent group that helps an organisation to improve its effectiveness and that can assist a commander and staff to think critically and creatively.



Red Team	Source
Red Teaming – the art of applying independent structured critical thinking and culturally sensitised alternative thinking from a variety of perspectives, to challenge assumptions and fully explore alternative outcomes, in order to reduce risks and increase opportunities.	<i>A Guide to Red Teaming</i> , The Development, Concepts and Doctrine Centre, Ministry of Defence, 2010, p. 1-1

While the Red Team has the role of supporting the planning process by validating the assumptions, the Red Cell plays the role of the opponent, not only in terms of mentality or decision, but effectively through capabilities, strength structure, doctrines or rules of engagement.

Military and non-military organisations responsible for drawing up plans should be able to count on the support of the *Red Teams*, as their critical and creative approach provides an alternative to solving a problem. While the *Red Team* reduces risk in an organisation by providing support for anticipating, understanding and adapting to change, its usefulness is to avoid surprise, identify opportunities and alternatives, support analysis and decision-making. Through its distinctive work, the *Red Team* helps the organisation adapt to change and improve its management functions, with an emphasis on the planning function.

It should be noted that *Red Team* and *Red Cell* structures are not synonymous. While the *Red Team* has the role of supporting the planning process by validating the assumptions, the *Red Cell* plays the role of the opponent, not only in terms of mentality or decision, but effectively through capabilities, strength structure, doctrines or rules of engagement. The *Red Team* does not have the role of an opponent, even if it uses a technique called *adversary emulation* to think or make decisions similar to the opponent, but does not play its full spectrum of actions (Joint Doctrine Note 1-16, 2016, p. 1-6).

RED TEAM PLANNING SUPPORT

Military structures can use *Red Teams* to plan and execute operations, as their way of working allows the overall planning to be viewed from other perspectives. In this regard, the *Red Team* contributes to the joint effort of analysing and solving the problems of the staff or planning group, often serving as a “*devil’s advocate*”, normally focusing on supporting information, operations and planning structures (JP 5-0, Ib., p. J-1).

The working techniques are diverse and different from the traditional approach used by the military planner. Whether it is *structural*, *creative*,

*diagnostic or challenging techniques*¹, the *Red Team’s* tools must ensure the development of creative thinking in support of identifying error-inducing sources.

The *Red Team’s* support during planning consists of active participation in planning groups and the development of their own products that support the planning effort. It should participate from the earliest stages of the process, in order to understand the phenomenon, but also to ensure the time needed to consider specific products before making decisions.

Theoretically, the *Red Team* can be used to support all phases or steps of a planning process, but there may be situations where the characteristics of the team cannot meet the level of planners’ requirements. In these circumstances, I consider that at least for the planning sequence in which the mission of the structure is analysed and the courses of action are established, the use of the *Red Team* is of utmost importance. Also, the comments of the *Red Team* can be used by planners to develop sequels and branches to operations plans. While the *Red Team* can suggest alternatives to the known products of the planning process, the results of its work should be well analysed (may be included or put on hold, as appropriate) before the planning products are completed.

At the level of the Air Force, operations planning is regulated by the existence of various doctrines and manuals, but the main tool is *Manualul de planificare a operațiilor aeriene (Air Operations Planning Manual)*. With the aim of “*structuring and presenting, in general, the air operations planning process in order to facilitate the development of operations, the supporting plans and their annexes by all structures with responsibilities in the planning of Air Force operations*” (*Manualul de planificare a operațiilor aeriene*, 2020, p. 11), the manual intends aligning the specifics of the air forces with the existing provisions at the operational level.

The air operations planning process, specific to the Air Force, comprises six phases and follows the strategic and operational planning process. The phases of the process are (Ib.):

Phase 1 - Initial situation awareness of a potential/actual crisis.

Phase 2 - Tactical appreciation of the strategic environment.

¹ The techniques presented are detailed in *Red Teaming Guide – second edition*, Development, Concepts and Doctrine Centre, Ministry of Defence, 2013, pp. 3-9.



The Red Team’s support during planning consists of active participation in planning groups and the development of their own products that support the planning effort. It should participate from the earliest stages of the process, in order to understand the phenomenon, but also to ensure the time needed to consider specific products before making decisions.



- Phase 3 - Tactical estimate.
- Phase 4 - Tactical plan development.
- Phase 5 - Execution.
- Phase 6 - Transition.

RED TEAM AND AIR OPERATIONS PLANNING SUPPORT

At the Air Force level, the *Red Team* can provide an independent capability to review and improve the work of the planning group. In order to maximise the effectiveness of the team, it is necessary for it to know the planning process and to be involved as early as possible in the process. At the same time, it is imperative that the staff involved in planning should understand both the role of the team and especially the way its staff work and relate.

The best times when the *Red Team* can support the planning process are presented in table no. 2.

Table no. 2: The interaction of the Red Team with the planning process

No.	The phases of the planning process	Phase characteristics	The Red Team's role ²
1.	Phase 1 - Initial situation awareness of a potential/actual crisis	The purpose of the phase is to achieve and maintain an adequate level of knowledge of the situation, to uphold the assessment of the air situation and decision-making, in support of the process of developing the tactical level commander's recommendations for the operational level commander (<i>Manualul de planificare</i> , lb., p. 15).	Alternative assessments of the situation in the area of interest. Recommendations for the commander.

In order to maximise the effectiveness of the team, it is necessary for it to know the planning process and to be involved as early as possible in the process. At the same time, it is imperative that the staff involved in planning should understand both the role of the team and especially the way its staff work and relate.

² As previously presented, the activity of the Red Team will have a specific character, using alternative methods of analysis, thus departing from the patterns of analysis performed by intelligence or operations staff. The role is expressed through possible actions or activities of the team.



No.	The phases of the planning process	Phase characteristics	The Red Team's role ²
2.	Phase 2 - Tactical appreciation of the strategic environment	The purpose of the phase is to understand the strategic situation, the nature of the problem, the desired end state, the strategic objectives and to develop the tactical level commander's proposals for the operational level commander regarding the military response options/OMR (lb., p. 16).	Assessments of the existing situation, from the Air Force's perspective Alternative evaluation of OMR regarding the mission of the Romanian Army from the point of view of the Air Force. If the <i>Red Team</i> did not participate in the CPOE ³ evaluation with the planning group, it should conduct an independent and alternative evaluation of the CPOE developed at the higher echelon. Information and recommendations for the commander.
3.	Phase 3 - Tactical estimate <i>Sub-phase III.A - Mission analysis</i>	The purpose of this sub-phase is to analyse the mission received, to identify the tasks necessary to fulfil it, to determine the key factors and assumptions that will influence the fulfilment of the mission, as well as the limitations on freedom of action (lb., p. 19).	Support for establishing the problem to be solved, factor analysis, identification/analysis of the assumptions (an important element is the validation of assumptions as the situation evolves) and operational limitations (as far as possible). Perform an alternative analysis on the opponent's centre of gravity, capabilities, requirements and especially its critical vulnerabilities.

³ Comprehensive Preparation of the Operational Environment.



No.	The phases of the planning process	Phase characteristics	The Red Team's role ²
			<p>The team can participate in the development of implied and essential tasks, performing risk analysis, developing CCIRs⁴ from own perspective.</p> <p>If possible, the team should participate in the preparation of the mission analysis briefing and post-briefing recommendations.</p> <p>Information and recommendations for the commander.</p>
	Phase 3 - Tactical estimate <i>Sub-phase III.B - Courses of action development</i>	The purpose of this sub-phase is to develop one or more courses of action that will fulfil the mission effectively, based on the directions and orientations of the operational level commander (Ib., p. 31).	<p>Support of courses of actions development by providing perspectives that can normally go beyond the traditional approach of planners.</p> <p>Participate in the analysis of courses of action, focusing on the possible consequences and likely effects associated with each course of action.</p> <p>Advising all parties involved in the war game on how the actions of the Air Force can be viewed at the level of the higher echelon or the structures with which it cooperates.</p> <p>Participate in the wording/ improvement of the criteria for courses of action comparison.</p> <p>Information and recommendations for the commander.</p>

⁴ Commander's Critical Information Requirements.



No.	The phases of the planning process	Phase characteristics	The Red Team's role ²
4.	Phase 4 - Tactical plan development	The purpose of the phase is to develop the air operation plan in accordance with the directions of the higher echelon.	<p>Review of the main elements on which the team expressed its point of view, depending on the evolution of events.</p> <p>Participation in the development of the annexes of the air operations plan, with emphasis on the evaluation elements.</p> <p>Further development of new information and products on the evolution of the operating environment.</p> <p>Inform and advise the commander if the analysis of the team reveals major problems during implementing of the plan.</p> <p>Support the planning effort during the review and adjustment of the plan, through newly created situation assessments and development of directions and information.</p>
5.	Phase 5 – Execution	The purpose of the phase is to implement the air operation plan, as developed and approved by higher echelon.	Given the specifics of the air force regarding the execution as well as the particularities of the air tasking cycle, the opportunities of the Red Team to influence the conduct of air operations is quite limited, the team being able to make its mark in the assessment activity.



No.	The phases of the planning process	Phase characteristics	The Red Team's role ²
			If it is necessary to work on a new plan of operations or to develop branches and sequels to the existing plan, the team's input will be in accordance with the requirements of the planning team and will follow, in a compressed form, the support given prior to air operation planning.

The Red Team ensures the extension of the understanding of the operating environment and can advise the command team in the key points of the planning process.

The elements presented in *table no. 2* contribute to the understanding of the idea of creating and using that organisational element called the *Red Team*, because the benefits of using it are greater than the costs of identifying staff, establishing the size of the structure or specialised training programmes. The statement is supported by the *Red Team's* contribution to the planning process, which can be summarised as follows:

- Ensures the extension of the understanding of the operating environment;
- Can advise the command team in the key points of the planning process;
- Provides a different perspective to process-specific concepts (assumptions, risk assessment, factor analysis, operation design etc.);
- Provides alternative analyses of participating actors, focusing on identifying vulnerabilities and how they can be protected or attacked;
- Makes objective assessments at different times, using various and distinct techniques;
- Performs own analyses, from different perspectives and with various approaches, but all in support of the planning process.

CONCLUSION

The presence of a *Red Team* along with a planning group, working together to plan an operation, does not guarantee the success of the operation. However, it can certainly have benefits over

the decision-making process. The *Red Team*, with the unconditional support of the commander, can successfully support the planning process at the Air Force level, by providing alternatives to the interpretation of the main actors or dynamic situations that characterise the current operating environment.

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THE ANALYSIS OF THE NEEDS OF AVIATION TRAINING PROGRAMS STUDENTS REGARDING LEARNING AND/OR IMPROVING THEIR ENGLISH

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The paper highlights the vital role the English language plays in the aviation industry. Its purpose is to explain the connection between the military specialties and branches that can be chosen by the students who pursue a career in aviation, and the ability to speak, write and understand English. The correlation between these two aspects is further sustained by the analysis of the all-time deadliest air disaster – Tenerife, whose major contributing factor was the communication error based on the English language.

Keywords: aviation; safety; aircraft; communication; lingua franca;



INTRODUCTION

Have you ever wondered why English is so important nowadays? I bet you probably have a part of the answer. As it can easily be seen, in the 21st century, having the ability to speak a different language than yours is a must. Nowadays, it is mandatory for everybody to be able to know at least one international language. It really seems like knowing the English language is not something new, since almost everybody is capable of speaking it these days. And why is that? Why is it so common to speak English everywhere? Well, the answer is pretty simple and it concentrates in the meaning of the word ‘communication’. What would the world be without communication? It has been known since ages that the communication is the key for everything. So it is when it comes to Aviation. How would all the entities that are involved in ensuring the flight by all means communicate if they did not have a common language to understand?

AVIATION ENGLISH AS LINGUA FRANCA

Why did English become the international language? English is the *de facto* global *lingua franca*. It is the language of world trade, the main language in international diplomacy, the language of air traffic controllers, pilots and most academic journals. Furthermore, English is the most common language on the internet, and it is the language that international travelers with different native language use to communicate (the very definition of a *lingua franca*).

English as a *lingua franca* (ELF) is the use of the English language “as a global means of inter-community communication” (Kumiko, 2017). In its most simple definition, ELF is the use of English between speakers who do not use it as their native language, so it serves as a connection or contact language for intercultural communication. I should also stress that this actually includes native speakers of English as well but, of course, they are not the majority of ELF users.

It really seems like knowing the English language is not something new, since almost everybody is capable of speaking English these days. And why is it that so? Why is it so common to speak English everywhere? Well, the answer is pretty simple and it concentrates in the meaning of the word ‘communication’. What would the world be without communication?



On the other hand, there are notable distinctions between English as *lingua franca* and Aviation English (AE), which combines ELF and a variety of English derivatives/dialects. ELF is a much broader construct, which covers many more contexts, situations and speakers than Aviation English and is not a stable variety (Estival, Farris, Molesworth, 2018).

What makes Aviation English different from other varieties of English?

- Beside its primary focus – to facilitate communication between air traffic controllers and pilots – AE is used among the crew members in and beyond the cockpit, on the ground and among aircraft and airport maintenance staff;
- It is heavily regulated by law via the national Aeronautical Information Publication (AIP), the Military Aeronautical Information Publication (MIL AIP), International Civil Aviation Organization (ICAO) or internally, through various organisations. These regulations and policies constrain the language and all those who use it;
- AE has no native speakers, therefore it is a variety that must be learned even by native English speakers;
- Furthermore, like other derivatives of the language for specific purposes, it is a restricted domain used only for the specific purpose of communication in the aviation environment (Moder, Halleck, 2009).

ENGLISH –THE LANGUAGE OF THE SKIES

The Importance of the English Language in Aviation

Throughout time, it has been established that the communication itself has a key contribution to gaining success. Here are some of the features communication has in promoting a security climate and improving the aviation processes:

- imposing an effective leadership;
- developing the management process;
- laying the foundation for the decision-making process;
- setting the basis for coordination and cooperation;
- promoting dialogue, cooperation and peace.

Identified as a major factor of the air crashes, communication seems to be essential for organisational and management performance,



especially in aviation industry. Its core task in the field of aviation is to ensure safety. This is the fundamental reason why the English language was adopted as standard for aviation in 1944. So, in order to ensure safety through effective communication, the aviation personnel must be able to speak, write and understand English. Being viewed as a basic purpose of communication, safety in this case depends on several factors. In *figure no. 1*, there are included the characteristics of the communication in English language that must be taken into account when it comes to safety. As one can see, fluency in English, effectiveness, the speed of sending clear messages and the correct spelling are fundamental in aviation for ensuring a safety climate, which would eventually result in avoiding accidents based on miscommunication, as such accidents unfortunately happened quite often throughout history. All these traits will be further explained in the chapter that addresses *air communication*.

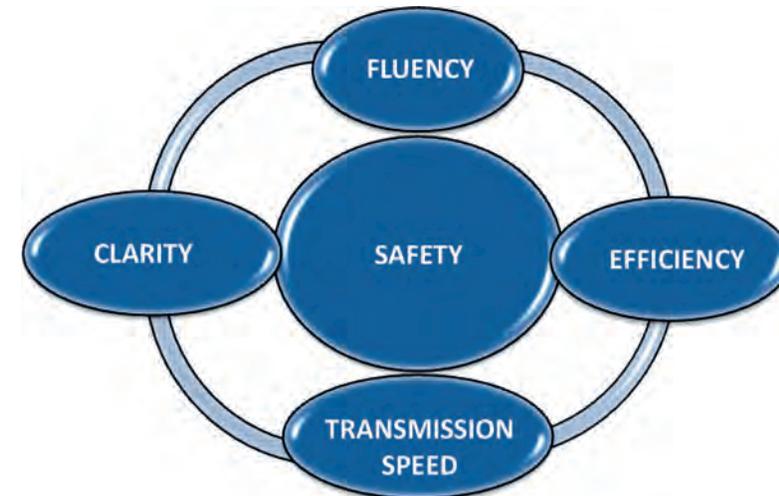


Figure no. 1: main features of spoken English in Aviation

Fluency in English, effectiveness, the speed of sending clear messages and the correct spelling are fundamental in aviation for ensuring a safety climate, which would eventually result in avoiding accidents based on miscommunication.

We cannot speak about air communication if we do not address concepts like *information (message)* and *redundancy*. Addressing the first topic, information in aviation represents “*the faithful, objective reflection of reality regardless of the interpreter and it becomes relevant only after it has been perceived as a phenomenon of knowledge, only after it was agreed by the subjective interpreter, received and decoded*” (Lesenciuc-1, 2017, pp. 25-26).



Redundancy is a concept close to information, which refers to what is predictable in a message. In other words, a highly predictable message is redundant and, at the opposite side of this spectrum, a message with a low level of predictability becomes informative.

Regarding redundancy, the term was first used by Harry Nyquist in 1920 as a reference to the component of the “useless” sinusoidal signal that does not send any information. In this respect, redundancy is a concept close to information, which refers to what is predictable in a message. In other words, a highly predictable message is redundant and, at the opposite side of this spectrum, a message with a low level of predictability becomes informative. Those being said, it is very clear that *effective communication* is mandatory in the aviation operational context. Communication is made effective by the following elements: (1) Precise message; (2) Complete message; (3) Correct message; (4) Clear message; (5) Reliability; (6) Consideration of the Recipient (Anjali, 2018).

English was chosen “the language of the skies” at the *Chicago Convention*, in 1944.

ICAO

The convention for International Civil Aviation, signed in 1944, was adopted in order to promote cooperation and to “create and preserve friendship and understanding among the nations and peoples of the world” (Ibid.). This agreement, or the *Chicago Convention*, as it is mostly known nowadays, established “the core principles permitting international transport by air, and led to the creation of the specialised agency which has helped states to cooperate together it ever since – the *International Civil Aviation Organization* (ICAO, 2021)”. In its mission, ICAO established a series of strategic objectives (S.O.) that are exposed in *figure no. 2*.

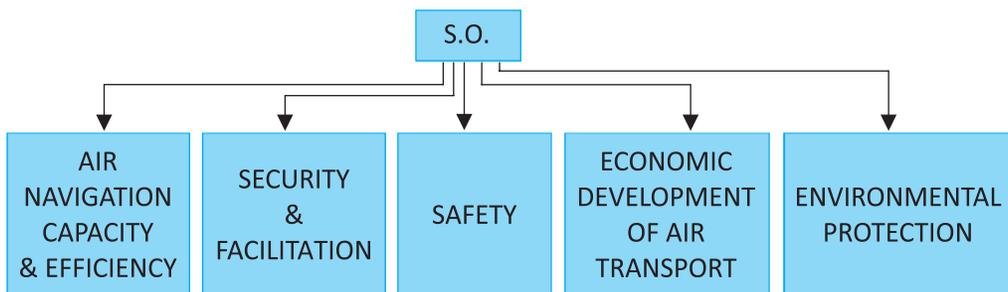


Figure no. 2: ICAO strategic objectives

Aviation-English Language Interdependence Relationship

As mentioned above, the aviation industry could not survive without a common language that could be spoken and understood by everyone engaged in the mission. Since the core task of aviation is to provide safety, sharing a standard phraseology is essential. How could the General Air Traffic and the Operational Air Traffic be phased if there was no mutual vision? Not to mention that the military personnel are required to learn and become proficient in English, considering our country membership of the Alliance.

Together with the English language being established as the international language accepted in aviation, all the facilities, departments and personnel involved in the flight activity use it in order to accomplish their missions. In order to consider an aeronautical activity as successful, the entities involved must perform their professional work at a high level. Such an effect is possible only through well-trained personnel who meet the requirements of their jobs. Being able to speak, write and understand English is one of them. In *figure no. 3*, the relationship between some of the structures involved in the flight activity is outlined, an activity whose efficiency cannot be possible unless a common language is used.

Since it has been established that the main reason why English must be learnt by aviation personnel is to provide safety, the paper further summarises other arguments that support this hypothesis, and which will be further-developed in Chapter 3.

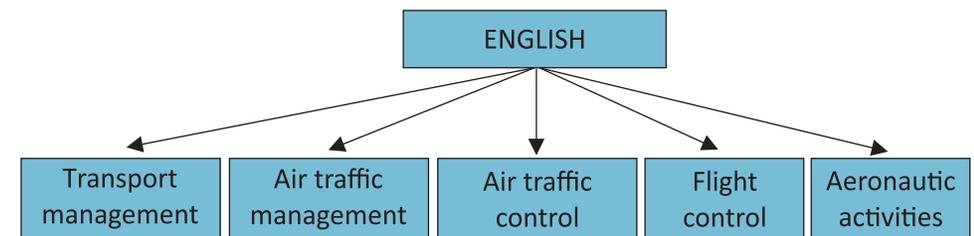


Figure no. 3: The use of English in several departments of the aviation industry

Air Force is a branch of the complex Armed Forces domain and, since the armed forces are characterised by uniformity and similarity, *standardisation* has been an absolutely necessary feature. For this purpose, a standard military phraseology has been established in English, aimed at assisting all Alliance members in aligning with the same



The aviation industry could not survive without a common language that could be spoken and understood by everyone engaged in the mission. Since the core task of aviation is to provide safety, sharing a standard phraseology is essential.



vision. The effect of such a standardisation proactively contributes to the development of healthy and prosperous relationships among the military personnel. In this context, learning and acquiring proficiency in English is required because of the following:

- the need for standardisation – air communication – safety;
- the everyday life in international military bases;
- International missions;
- alignment with NATO requirements.

THE NEED OF AVIATION PROGRAMS STUDENTS FOR LEARNING ENGLISH

Standardisation

When it comes to leading the flight activity until the end, all the branches that military students wanted to pursue are involved. Each department has its own duties and tasks that must be successfully met in order to ensure a safe flight. But these tasks, no matter the specialisation, all lead to the same final purpose. Even if they are so different in terms of meaning and activities, setting a standard phraseology among the aviation personnel made things much easier.

Thus, the ability to speak, write and understand English is compulsory in order to learn and use aviation meteorology, navigation, maps, electronics and avionics, air traffic control regulations etc. Therefore, any branch chosen by a student in the military aviation career requires a high-level of English understanding:

- Pilots;
- Air Traffic Controllers (ATC);
- Weather officers;
- Staff officers;
- Electronic warfare (EW);
- Anti-Aircraft Artillery.

Considering the large number of air disasters that occurred because of the miscommunication, this paper focuses on the radio communication between pilots and air traffic controllers related to the use of English language.

According to ICAO, it is required that the pilots and ATCs show comprehensible pronunciation, clarity in expression, fluency and

delivery of message, together with the capacity to paraphrase in unexpected situations. As ICAO states, “*comprehension is mostly accurate on common, concrete, and work-related topics*” but “*with a linguistic or situational complication or an unexpected turn of events, comprehension may be slower or require clarification strategies*” (Academia.edu, 2021). Regarding the interaction and exchange of information, they have to be capable of providing immediate, suitable and short responses. Dealing with the “*unexpected turn of events*” is mandatory as well and they must check, confirm or clarify all these aspects.

Because the process of communication between the air traffic bodies and pilots happens only over radio frequencies, the importance of sending clear information is vital. However, ATCs and pilots use similar charts and flight plans, and the radar display during the entire flight has a huge significance. Providing a real and accurate image of the radar display is one of the tasks of the personnel involved in the specialty *Electronic Warfare in Aviation*.

The entire communication within and from the pilot’s cockpit involves information regarding: the area over which the aircraft flies, altitudes, headings, weather parameters, particular points of navigation etc. The specific language, the set vocabulary and syntax are known as “*phraseology*”, as mentioned above. When necessary, there were multiple situations, especially the emergency ones, when “*plain English*” was used, described as a non-standard use of standard vocabulary and syntax.

In terms of standardisation, the “*ICAO Alphabet*” was also established, so commonly used among the military. There are some particular aspects in this regulation and they refer to the pronunciation. In order not to be confused, the following rules have been agreed:

- the pronunciation of number 3 is “*tree*”;
- the pronunciation of number 4 is “*fauer*”;
- the pronunciation of number 5 is “*fife*”;
- the pronunciation of number 9 is “*niner*”.

Also, the standard pronunciation of the letters from the alphabet used in radiotelephony is showed in *table no. 1*.



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Table no. 1 – ICAO Alphabet (ICAO, Ib.)

A - Alpha	G – Golf	M - Mike	S - Sierra	Y - Yankee
B - Bravo	H – Hotel	N - November	T - Tango	Z - Zulu
C - Charlie	I – India	O - Oscar	U - Uniform	
D - Delta	J – Juliett	P - Papa	V - Victor	
E - Echo	K – Kilo	Q - Quebec	W - Whiskey	
F - Foxtrot	L – Lima	R - Romeo	X – X-ray	

In the operational dialogue between the air traffic controller and the pilot there are no language barriers – the phraseology is explicit, denotative, does not cause confusion or environmental barriers of a psychosocial nature. *“The only type of barrier that can occur during the communication loop is determined by the technical environment due to background noise in relation with the signal strength.”* (Lesenciuc-2, pp. 16-19)

In order to identify some distinct aspects of the English language used in radiotelephony, it was exposed and example of a routine communication that takes place between the pilot and the en route controller (CRC).

“PLF059: Reporting Center Control, Papa Lima Foxtrot zero-fife-niner at tree-fife-zero.

CRC: Papa Lima Foxtrot zero-fife-niner, Reporting Center Control, roger, maintain flight level tree-fife-zero, report at Kampa.

PLF059: Report at Kampa, Papa Lima Foxtrot zero-fife-niner.”

Taking into account this example, one can easily see that the exchanges are short and the grammar forms are limited. Most verb forms are used in the imperative and a relatively small number of prepositions is employed. The vocabulary is standard and particular. Moreover, the letters and numbers are pronounced according to the ICAO Alphabet. Some studies reveal that in radiotelephony, verbs most frequently occur in the imperative, with some verbs commonly occurring in the -ed or -ing participle forms. The most common prepositions are *to, of, at, and on*, prepositions typically associated with establishing locations, directions, or goals (Academia.edu).

In the example above it is showed the correct order of the call-signs used in air traffic communication. The pilot is the first to state the entity he wants to speak with, the CRC, and after that he states his call sign PLF059, at the very beginning of the conversation.



This order has a major importance, first to identify the addressee and after to identify himself as a speaker, because all aircraft in the air are connected to the same frequency. The use of a common language and frequency is critical for safety, since it ensures that all aircraft and control personnel have early and situational awareness of the aircraft, their intentions and positions. When an exchange is initiated, it is essential that the speaker and the addressee are clearly identified. (Ib.)

The standard term *“roger”* was used by the ATC after receiving, understanding and confirming the information regarding the flight level of the aircraft (FL350, meaning flight level 3,500 feet). After that, the controller provides the instructions *“maintain flight level tree-fife-zero”* and requires the pilot to notify him again when he actually arrives to the mentioned point identified as *Kampa*. Repeating the information *“Report at Kampa”* is essential and is called ‘readback’, whose purpose is to make sure the delivered information was correctly understood.

On the other hand, the next examples show radio conversations that do not follow standard phraseology, a situation that unfortunately lead to multiple air crashes.

“A 915: Mayday, mayday, mayday, uh this is uh Airline nine-one-five, hit birds, we’ve lost thrust both engines, we’re turning back towards airport.

C: okay uh, you need to return to airport? turn left heading of uh two-two-zero.” (Ib.)

This situation highlights the use of plain English, even if there is a standard phraseology for emergency situations such as this one (*“bird strike”*). Moreover, the pilot uses full English syntax, even pronouns and auxiliary forms. The use of *“okay”* is not accepted neither, since the standard term for confirmation is *“roger”*.

“MS126: Reporting Center Control, Mike Sierra one-two-six, I’m deviating a bit right for weather.

CRC: Mike Sierra one-two-six, Reporting Center Control, right deviation approved.

MS126: Roger.”

This example shows the use of plain English by the pilot, which, in some cases, could be difficult, especially if the pilot is native speaker and the other one is not, like in this case. Even if there is standard phraseology meant to be used in cases like that (*Request weather deviation*) (Ib.), the pilot chose to use contracted forms of the present

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continuous tense, together with a vocabulary that does not exist in standard phraseology.

Similar facts are also established for weather officers, in terms of standardisation. A standard phraseology is used in this field as well, in order to be understood by all users, either the pilot or the ATC. Since the weather plays a critical role in safety, a common language was set up. Some examples of the standard phrases are shown in *table no. 2*:

In order to assess cloudiness in the sky, oktas are used, with the following scales:

Table no. 2: Standard abbreviation used in Meteorology (FA 6.1)

Cloudiness	Oktas	Standard abbreviation
Sky Clear	0/8	SKC
Partially covered	2/8	FEW
Variable (Scattered)	3-4/8	SCT
Cloudy (Broken)	5-7/8	BKN
Full covered (Overcast)	8/8	OVC

Life on Base/International Missions

No matter the country in which one performs their mission, one must share a common language. As this paper has already showed that the English language has been established as language of international use, the military deployed in other countries must be able to communicate effectively. Thus, the English language enables aviation personnel from different countries to communicate quickly and deliver and receive the needed piece of information fluently.

When going abroad, for military purpose, the first thing one has to consider is to survive. How is that possible? With the help of language, of course. Before starting the assigned mission and accomplishing the tasks, they must provide to themselves the basic needs from Maslow's pyramid. The personnel involved in such missions must know at least the basic vocabulary, related to the life on base. One must be able to express their requirements. Finding a house with appropriate standards for one's needs, asking for types of food according to the culture one is part of, changing tickets that are not suitable with one's requirements, asking for help when in need, all these sorts of inevitable situations of communication require the ability to speak and understand English. This is one of the reasons aviation officers

must to take a standard English exam every four years of their career (NATO STANAG 6001) in order for them to be promoted in a higher rank and to meet the requirements of their positions. Furthermore, when applying for a mission abroad, if one does not have the level of English required, the STANAG exam must be repeated and until one does not reach the adequate level of proficiency in speaking, writing, listening and reading in English, one will not be allowed to apply for that position, no matter one's rank or experience.

The importance of the English language is highlighted not only regarding the life on base, but also in terms of international missions. In these times, characterised by the increasing interconnection between human beings and organisations, both locally and globally, the English language has become the language of communication when it comes to the international professional field and research. "Not surprisingly, English also stands as the vehicular language for the military, in an international geo-political scenario marked by the globalization of conflicts beyond national borders and consequently by the integration of armies in multinational and multicultural coalition forces" (Concepcion, 2013). If we take a look at the conflicts in Iraq and Afghanistan, one fact that may be identified is the strategic significance of the ability to manage the information and to send the right message – "Knowledge is power" (F. Bacon). Thus, it looks like military success and efficacy depend on effective communication between those involved in the communication process. Especially nowadays, when the world is dealing with a new form of war – the hybrid one, which almost replaced the traditional one, the media may be used as a political instrument and may also be recognised as a "weapon of mass communication" (Ib.).

Aligning with NATO Requirements

According to NATO, standardisation means "the development and implementation of concepts, doctrines and procedures to achieve and maintain the required levels of compatibility, interchangeability or commonality needed to achieve interoperability" (NATO Standardisation, 2017).

In order to fulfill the tactical, operational and strategic objectives of the Alliance (Ib.), one of the most important contributing factors is the ability to work together. Coherence, effectiveness and efficiency



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are some of the main characteristics that lead to success. To make that possible, it is necessary for all the partners to share a mutual set of regulations and values. One example of such regulation would be the above-mentioned STANAG, which turned the ability to understand English into an essential competence for the professional military career. Those being said, the role of the English language, seen as international language in the military context, is absolutely understood, since NATO promotes dialogue and cooperation between multinational structures in a multi-lingual context.

During the time the KLM was refueling, the Las Palmas airport reopened and was safe for new arrivals. The Pan Am was waiting behind the KLM, which was about to complete the refueling and then take-off. The weather was still sunny at that time, but as time passed, some low-altitude clouds began to cross the airport area and soon turned in fog. By the time KLM finished refueling, the thick fog had already covered the airport.

CASE STUDY – THE ANALYSIS OF TENERIFE AIR DISASTER DUE TO MISCOMMUNICATION BECAUSE OF LACK OF ENGLISH PROFICIENCY

Background

On 27 March, two Boeing 747 were set to fly to Gran Canaria. One of the aircraft belonged to Pan Am, the other one to KLM. Both airplanes were fully booked, as the ones from Pan Am 1736 were going on a cruise and the ones from KLM 4805 were going on vacation. During their flight to destination, the airport Las Palmas was closed for security reasons, as some terrorists had detonated a bomb in Gran Canaria. Due to this fact, both flights were redirected to Tenerife Airport.

Course of events

Because the Las Palmas airport was closed for multiple hours, both aircraft had to wait at Los Rodeos airport (Tenerife), until the one from Gran Canaria would reopen. Meanwhile, the captain of the KLM crew decided to refuel the aircraft, which would prove to be one of the major contributing factors for the disaster that was about to happen.

During the time the KLM was refueling, the Las Palmas airport reopened and was safe for new arrivals. The Pan Am was waiting behind the KLM, which was about to complete the refueling and then take-off. The weather was still sunny at that time, but as time passed, some low-altitude clouds began to cross the airport area and soon turned in fog. By the time KLM finished refueling, the thick fog had already covered the airport.

After refueling, the KLM asked for start clearance. Since KLM was starting their engines, Pan Am asked for start clearance as well. KLM was approved to taxi and hold on Runway 12. After switching



to approach frequency, they requested backtracking on Runway 12 in order to take-off on Runway 30. *“The approach controller cleared KLM to taxi on the runway but to exit at the third taxiway on the left and proceed to the holding position for Runway 30. KLM read this back as exiting by the first taxiway. The approach controller then amended his clearance, directing them to taxi straight down the runway and make a backtrack”* (Aircraft Accident Report).

Having their clearance to backtrack, they continue without exiting any taxiway. At the same time, the Pan Am started the engines and were ready for taxiing, as they received the clearance. They received instructions from the ground controller *“to leave the runway at the third taxiway on their left”* (Ib.). Because of the Spanish accent of the controller, the instructions provided in poor English were difficult to understand. After changing to approach frequency, they were given the same information, being cleared to taxi on the runway. *Figure no. 4* shows the transition to C – 3.

As the Pan Am was turning onto the runway, visibility was decreasing rapidly because of the dense fog, and its value was estimated at less than 100 meters (Ib.).

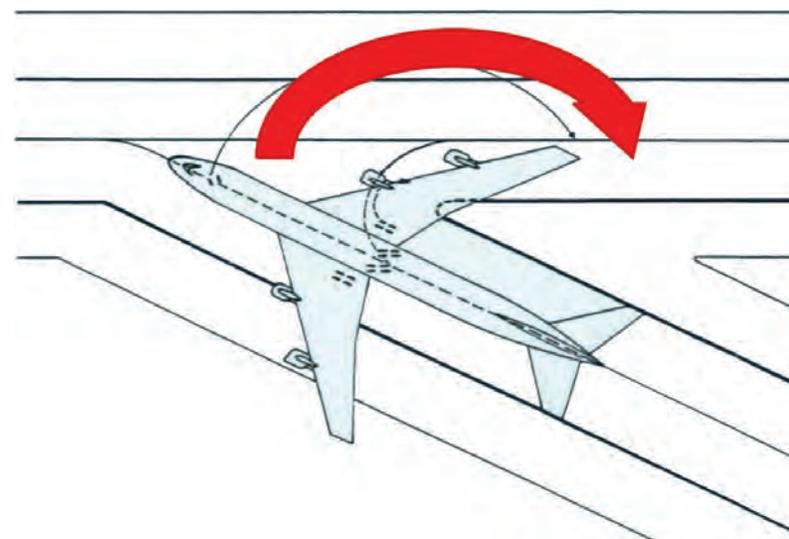


Figure no. 4: The transition to C-3
(adapted after <http://archives.pr.erau.edu/ref/Tenerife-ALPAandAFIP.pdf>, retrieved on 6 September 2021)

Because of the Spanish accent of the controller, the instructions provided in poor English were difficult to understand. After changing to Approach frequency, they were given the same information, being cleared to taxi on the runway.



When asked of their position, the KLM crew said that they *though* they passed C-4. After acknowledging their position, the controller instructed them to make a 180 degree turn at the end of the runway and to call back. *Figure no. 5* shows the runway, the taxiway and the exits named according to the ICAO alphabet (Charlie –1, Charlie –2, Charlie –3, Charlie –4).

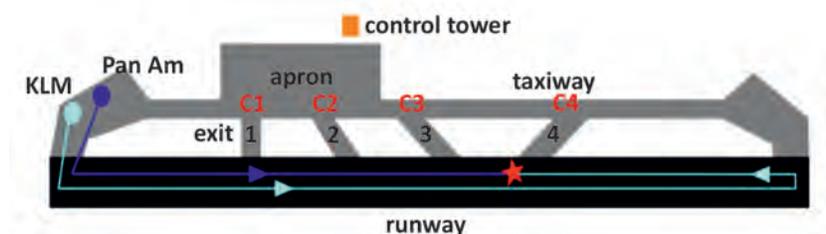


Figure no. 5: Illustration of the Los Rodeos airport

(adapted after <https://simpleflying.com/tenerife-disaster/>, retrieved on 6 September 2021)

KLM completed the 180 degrees turn and lined up to the runway. After that, it received the clearance from the controller that stated as follows: “KLM eight seven zero five you are cleared to the Papa beacon, climb to and maintain flight level niner zero. Right turn after takeoff, proceed with heading zero four zero until intercepting the three two five radial from Las Palmas VOR.” (Ib.). The readback of the pilot, as the transcript of the records said, was “**We are now – uh – takin’ off**” or “**We are now at takeoff**” (Ib.). After receiving this message, the controller answered: “**Okay (pause) stand by for takeoff, I will call you**”. (Ib.)

When hearing the phrase “we are now at take-off” together with the controller’s answer “okay (pause)”, the Pan Am sent the following message: “and we’re still taxiing down the runway – the Clipper 1736”. (Ib.) Because both aircraft and the controller shared the same frequency, the KLM crew could not hear the message that followed the pause after the previous “okay”, so they took it as an approval, not hearing the rest of the instruction “stand-by for take-off”. Continuing to accelerate for take-off, a few seconds later, they saw the lights of the Pan Am which was taxiing on the runway. The impact could not be avoided, and the collision was fatal. *Figure no. 6* shows the collision.

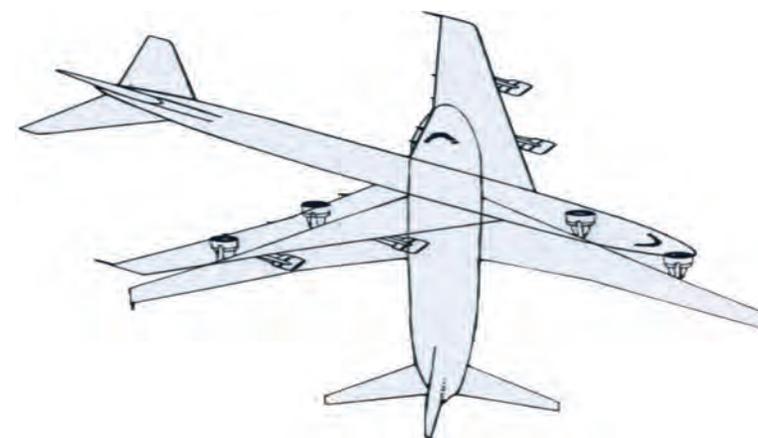


Figure no. 6: The crash of the two aircrafts involved (Ib.)

The Analysis of Miscommunication based on the English Language as a Contributing Factor to the Disaster

As it is already known, the ATC is seen as “*the eye of the pilot*”. Those being said, the safety of the flight, the lives of many passengers and crew depend on the instructions provided by the controller. Thus, the information sent must be correct and clear, transmitted fluently, effectively and accurate, as shown above in the present paper. Any kind of ambiguity in sending the message could lead to critical situations, as it is the one above-mentioned, starting with the distorted voice of the controller, barely understandable, due to the heavily Spanish accent, together with the lack of trust in the instructions he provided, amending his clearance and making a pause between instructions that turned to be fatal and ending with the absolutely avoidance of the use of standard phraseology established, using the plain English instead, as explained earlier. The different between a native speaker and a non-native speaker of English appeared to be critical.

After listening to the records, multiple times after the accident, it still could not be established the exact meaning of the phrase that KLM said: “We are now at takeoff” or “We are now – uh – takin’ off”, neither one of them using the correct phraseology. The use of syntax, prepositions and interjection is a clear sign of using plain English. The ambiguity started from then on, and the controller thought that KLM was at take-off position, not that they were really taking off.



As it is already known, the ATC is seen as “the eye of the pilot”.

Those being said, the safety of the flight, the lives of many passengers and crew depend on the instructions provided by the controller.



One of the major mistakes was confirming with the word “okay” as a readback to KLM. Not to mention that the word “okay” is not used in the standard phraseology, while the pause between “okay” and the rest of the instruction created the biggest ambiguity ever. That because KLM only heard the word “okay”, as Pan Am was interfering with the same frequency and announced that they were on the runway as well, when hearing that KLM is at take-off. Due to the fact that both the Pan Am and the controller who was giving instructions to the KLM to hold were talking at the same time, the KLM did not hear the rest of the message, only the word “okay”, which was considered as a clearance for taking-off.

Moreover, the controller identified KLM 4805 as KLM 8705 several times, demonstrating lack of concentration, and identified Pan Am for the first and single time as “Papa Alpha”, instead of “Clipper” as usual, which was crucial for the event. Again, the disobedience of rules and regulations established for the aeronautical communications led to one of the world’s deadliest air crashes ever.

CONCLUSIONS

As communication is a key-factor in aviation safety, the particular interest in adopting a standard language for all the personnel involved in the aviation industry is fully understood. The main concern regarding military communication is not only related to international security but also to the critical consequences generated by miscommunication based on the lack of English knowledge. Thus, the ability to understand, speak, write and read in English became an essential professional aptitude that was materialised in the absolutely necessary requirement of acquiring and maintain the English level certified by STANAG. Thus, learning and developing the English language must be a core task for the students that are trained in the Aviation program within the “Henri Coandă” Air Force Academy. Reaching the optimum level of English proficiency has to be seen in connection with academic success and professional development. In order to be able to perform any duty in aviation, the knowledge of English language is mandatory, otherwise the personnel would be unable to accomplish any task assigned. As seen in the analysed air crash, the language difficulties, the ineffective communication and the poor usage of English led to the greatest air disaster in history.

To conclude, we believe that the use of standard phrasing and terminology, as well as the conversation with minimum English accent and a high level of fluency and accuracy are compulsory in order to ensure a safe aeronautical activity.

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Thus, learning and developing the English language must be a core task for the students that are trained in the Aviation program within the “Henri Coandă” Air Force Academy. Reaching the optimum level of English proficiency has to be seen in connection with academic success and professional development.



HUMAN PERFORMANCE OPTIMIZATION CONCEPT DEVELOPMENT AND APPLICATIONS IN THE MILITARY FIELD

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In these times, dominated by accelerated cognitisation and sophisticated automation, rapid development of computers and multiplication of forms of communication, the human factor seems to have a secondary role. From our point of view, this is just an appearance, because the new cognitive instruments do not replace, but mirror and simulate aspects of people's higher psychic functions, acting as a multiplier for talented, educated and original minds. The concept of Human Performance Optimization (HPO) represents a systematic effort to use the latest technologies and knowledge to achieve the maximum performance of individuals, teams and/or organisations. At the same time, HPO is an ethical way to optimize technological synapse between the forms of artificial and human intelligence.

Keywords: Human Performance Optimization; resilience; risk factors; countermeasures; technological environment;

INTRODUCTION

Currently, there is intense pressure on human resources due to technological and social progress, as well as the prospect of accelerated development of artificial intelligence, robots and drones with increasingly autonomous functions, along with other emerging technologies. In the military field, an integrative vision of the role of the human factor, taking into account the constant need for improvement, the impact of the technological environment and new forms of conflict, has developed since the first decade of the 21st century.

Technical-scientific progress in the field of national security has forced the reconceptualisation of human performance, considered to be “the ability of the person, as a unit and biological entity, to cope, to adapt to special conditions, conditions that exceed the ‘functional parameters’ for which man is ontologically and genetically conditioned. Exceeding the parameters can be adverse (extreme environmental conditions, high stress, etc.) or intentional (performance sports, physiologically or mentally demanding activities, etc.)” (Marin, de Hillerin, Marin, Vizitiu, Nistorescu & Vizitiu, 2015, pp. 107-113). By definition, the concept of optimising or increasing human performance (Human Performance Optimization/HPO) emphasises the fact that it is addressed to healthy people, an essential particularity that differentiates it from a preventive, diagnostic, therapeutic, regenerative or aesthetic approach: “...is an emerging field that aims to explore medical or rehabilitation therapeutic methodologies, such as strategies, drugs and external artificial prostheses whose main purpose is to compensate for the diminution or lack of a function, in order to increase/augment the physical and cognitive abilities of healthy individuals, beyond the characteristic level of physiological performance in healthy conditions” (Di Pino, Maravita, Zollo, Guglielmelli & Di Lazzaro, 2014, 8: 109).



Technical-scientific progress in the field of national security has forced the reconceptualization of human performance, considered to be “the ability of the person, as a unit and biological entity, to cope, to adapt to special conditions, conditions that exceed the ‘functional parameters’ for which man is ontologically and genetically conditioned.



The HPO concept focuses on physical, cognitive and social performance and has three main interconnected objectives of interest and action:

- professional excellence (zero errors) and the culture of safety at work (zero accidents);
- resilience and endurance (in the case of demanding professions – maintaining the quality of the prolonged professional act and/or in adverse conditions by increasing the functional reserve and the capacity to manage stressors);
- preventive, protective strategies and countermeasures to professional risk and aggression factors (prevention, rapid recovery, active longevity, quality of life).

This vision is both a new chapter in which the human factor is adapted to national security requirements, and a forward-looking approach that takes into account estimates of the role and technology of the military in the 2050s.

ETHICAL APPROACHES AND APPLICATIONS OF THE HUMAN PERFORMANCE OPTIMIZATION CONCEPT

United States of America

The concept of *human performance optimization* was operationalized in 2005, being highlighted in the report “*Human Performance Optimization and Military Missions*” (Russell, Julkley, Grafton, 2005). The merit of this document is the realization of a unitary selection of similar concepts presented in the past years, but adapted to a new post-bipolar security environment, marked by the terrorist attacks of September 11, 2001. In this report, the human performance optimization was defined as “*application and the administration, in a relatively precise, controlled and combined manner, in the short or long term, of substances or devices in order to optimize the performance of a person or military group (units)*” (Ib.).

The consequence of this report was the request to organize in 2006 the conference “*Human Performance Optimization in the Department*

of Defense: Charting a Course for the Future”, whose aim was to develop a strategic plan for the implementation of the concept of “*Human Performance Optimization (HPO)*” at US Department of Defense (DoD) level. There were five working panels – food supplements and other methods of self-improvement, leadership and teamwork, physical training, devices, innovative approaches – whose presentations were used to to develop a general framework, used in the next day, during a simulated conflict scenario (Muza, Roussel, 2018).

Significant progress was made in 2008 with the establishment of the 711th Human Performance Wing (711 HPW), located at Wright-Patterson Air Force Base. The mission of this unit is to promote and develop solutions designed to improve human performance for military personnel operating in the air, space and cyberspace, through research, education and counseling. The main areas of interest are the advanced health assessment (physical, psychological, cognitive, behavioral) and the performance of seafarers, human-machine collaboration, protective and resilience strategies, education and training (AFRL).

The unit responsible for HPO concept implementation in the US Navy is the Naval Medical Research Unit (NAMRU-D), a world leader in aeromedical training and toxicology.

Moreover, an important US institution involved in assessing the evolutionary trends of the security environment, anticipating combat needs for the next 15-30 years, in developing advanced combat programs and which has an HPO dimension is the United States Marine Corps Warfighting Laboratory/Futures Directorate (MCWL). In this body, we highlight the project *The Marine Corps Science Fiction Futures*, which aims to combine the predictions of the evolution of conflicts with creative sci-fi thinking.

Other institutions involved in promoting HPO in the US military are: The 18th Aerospace Medicine Squadron, through human performance training teams (HTPP), the Directorate for Biosystems and Human Performance Training (HPTBD), Human Performance Resource Center-HPRC, an educational component of the Military Health and Performance Consortium (CHAMP), the Brain Fitness Center (Walter



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The concept of human performance optimization was operationalized in 2005, being highlighted in the report “Human Performance Optimization and Military Missions”.



Reed Military Hospital), the Center for Augmented Performance (West Point Military Academy), the Collaborative Technology Alliance for Cognition and Neuroergonomics.

Along with these permanent bodies, multiple military-civilian research partnerships have been developed, especially with universities or corporations.

A new vision of human factor optimization was articulated in 2014, through the implementation of the “*Human Dimension*” program, a component of the Force 2025 vision. The widespread implementation of the HPO is considered to be part of the response to the flexibilization of military forces in a rapidly changing world with complex dynamic and a high degree of uncertainty.

The aim of this initiative was to establish a general framework for the evaluation, integration and synchronization of training and educational, scientific and technological resources, holistic medical approaches and human resources policies, programs, etc. in order to support the military professions. In this document, the HPO was defined as “*a process in which emerging knowledge, skills and technologies are used to enhance and maintain the individual capabilities of the military and military organizations to perform essential tasks*” (Army.mil).

The medical initiatives promoted by President Barack Obama were another opportunity for the integration of HPO into the military, for example the *BRAIN* (2013) and Precision Medicine (2015) initiatives. Although not directly aimed at optimizing performance, a number of military research topics have been able to be advanced and received funding under these initiatives.

In retrospect, we can distinguish three complementary approaches – maximising functional optimization in the case of a biological system, cyborgisation (use of human-machine interfaces, exoskeletons, military robots) or maximising psychological (individual) or sociological processes (teams, larger groups). As will be seen, a separate segment will be represented by programs designed to improve sensory functions, cognitive and emotional balance, initiatives that we will detail below.

The first approach was based on the premise that the physiological thresholds of the cell and the biological tissue are finite and that attempts

to maximize performance can produce irreversible destructive changes, so the emphasis has been on identifying innovative approaches. For example, the *ElectRx* program aimed to improve physical and mental performance by accurately stimulating the peripheral nervous system. This program sought to develop neuromodulation and neurofeedback strategies that would allow for a faster recovery and optimization of performance (DARPA-1).

The “*In vivo Nanoplatfoms*” program studied the development of new classes of adaptive biocompatible nanoparticles that allow for distributed, persistent, and risk-free monitorization both inside the human body (biological, in extension) and in the environment (DARPA-2). Another project, “*Safe Genes*”, explored the possibility of creating a set of modular and adaptable solutions to implement genomic editing technologies, including the correction of genetic defects or the insertion of genes that generate better phenotypes. (eg by using CRISPR – Cas9 technology) (DARPA-3).

Probably the most visible and scientifically interesting are the programs designed to optimize performance by cyborgization. The *HAPTIX* program envisaged the development of neural interfaces used for bionic prostheses to provide feedback via a peripheral nerve implant (DARPA-4). This program complements the “*Revolutionizing Prosthetics*” initiative, in which two types of anthropomorphic bionic modular prostheses (DARPA-5) have been developed.

Another program is “*Restoring Active Memory*” – *RAM*, which aims to create a wireless implantable brain-computer interface, which can be used for both restorative purposes (medical, in the case of veterans with neurological injuries), as well as augmentative. Although some remarkable progress has been made, especially in the field of high-accuracy encephalographic analysis and microelectrodes, hippocampal implantable neuroprostheses are not yet used in medical practice (DARPA-6).

We also emphasize the *Preservation of the Force and Family Task Force (POTFF-TF) (USSOCOM)* program for the US Special Forces (SOF) military, dedicated to SOF fighters in their dual capacity as members of their own families but also of the military “*family*”. This program



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The most important civilian US agency involved in HPO research is the National Aeronautics and Space Administration (NASA), especially through The Human Research Program (HRP). Particular interest is given to the factors that influence the health and performance of cosmic crews in conditions of prolonged isolation, exposure to cosmic radiation, biological effects generated by microgravity, etc.

aims to achieve a holistic integration of all the factors that contribute to achieving and maintaining performance over a period of two or three decades (considered to be the operational life of an SOF fighter). This program involves psychologists, marital consultants, coaches and trainers, doctors, priests, etc., in order to achieve a “preventive maintenance”, in other words, early identification, awareness, prevention, building resilience and strategies, coping, social and family reintegration, so as to prevent the occurrence of chronic problems.

Particular emphasis is placed on the psychological dimension, in particular the development of stress resilience and the improvement of collective cognitive and behavioural performance. Given that the profile of SOF missions involves long periods of family separation in sometimes very different geographical areas, involves clandestine and high-risk missions, the aim is also to optimize “social performance” in the form of establishing and maintaining open and fruitful relationships, especially within families. The HPO component mainly refers to performance nutrition, sports medicine, elements of sports psychology. The existence of a component that addresses spiritual performance, designed to “improve essential spiritual beliefs/identity, values, awareness, relationships and experiences” (Ib.) inside and beyond the religious experience, is remarkable.

Of particular interest is the possibility for other states or hostile entities to use various techniques to increase the performance of fighters, able to offer superiority over conventional military. In this regard, we note the statement of Undersecretary of State Bob Work (USA) in 2015 on the development by other countries of “Enhanced Human Operations” (Work, 2015).

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Other civilian US institutions involved in various human performance optimisation niches are Sandia National Laboratories,

Lawrence Livermore National Laboratory, Center for Applied Brain and Cognitive Sciences (a consortium between Tufts University and the U.S. Army DEVCOM Soldier Center).

Early exposure to this culture of improved performance since college education has a facilitating effect on the adoption and enrollment in HPO programs during military service. We mention some of the HPO centers in the American academic environment: the Fighter Human Performance Research Center (University of Pittsburg), the Human Performance Laboratory (Conneticut University), the Department of Health and Human Performance (Hudson University), the UCSF Center for Human Performance from California), Center for Advanced Bioengineering for Survival (GeorgiaTech), Brain and Cognition Research Laboratory (University of Illinois), etc.

Canada. In 2017, the report “Identifying Ethical Issues of Human Enhancement Technologies in the Military” (Girling, Thorpe, Auger, 2017) was published by officials from the Defense Research and Development Canada (DRDC). The main message of this document is that HPO applications in the military environment require a review of the policies, legislative environment, sets of values and codes of ethics currently in use, without which they will not be fully evaluated and operationalised by the armed forces. Defining the ethical framework from the conception of these technologies will allow a faster and risk-free implementation, so that the armed forces can maintain their competitiveness in front of their opponents. The report mentions 34 emerging HPO technologies, categorised by authors into three broad categories: physiology, computational/cognitive, automation/robotics.

Launched in 2018, *The Innovation for Defense Excellence and Security* (IDEaS) (DND) program consists of several sections dedicated to human performance optimization, such as: increasing cognitive performance, predicting and optimizing military personnel performance, performance optimization in extreme weather environments.

In 2021, Defense Research and Development Canada (DRDC) released the report “Soldier Information Presentation and Cognitive



Load” (Hollands, 2021), which mentions various ways to improve the efficiency of military personnel by reducing the degree of physical and cognitive load and increase resilience, protection and mobility.

In the civil field, there is interest in the epidemiology of cognitive augmentation among students and the consequences on health, academic performance and ethics (Kudlow, Treurnicht Naylor, Xie, McIntyre, 2013, pp. 360-365). In this regard, we also highlight the establishment, in 2007, of an important center of neuroethics – The National Core for Neuroethics at the University of British Columbia (UBC).

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The United Kingdom has adopted the *OPSMART/Optimizing Human Performance Through Stress Management and Resilience Training* (Army.mod) program in 2018, with the aim of early detection of psychological abnormalities, increasing mental resilience, optimizing quality of life. The importance of developing mental resilience is emphasized, which has the role of helping to regulate psychological stressors and emerging emotions generated in conditions of operational stress, such as information and sensory overload, complexity, fear, anxiety, sleep deprivation, fatigue, time pressure. and extreme weather conditions.

In 2020, the UK Ministry of Defense, together with the Bundeswehr’s Office of Defense Planning, released the report *“Human Augmentation - The Dawn of a New Paradigm”* (MoD, 2020), which looks at issues related to human performance optimization, necessary technologies, ethical and legal issues, implications for society and for defense. The main emerging technologies that can be used for augmentative purposes and relevant to military institutions are mentioned.

In 2021, the British Army published the report *“Future Soldier”* (British Army, 2021, p. 9), which outlines the directions for modernisation for the coming decades. One proposal envisages a plan for *“Health, performance and well-being”*, with the aim of gaining dominance in the physical, cognitive and social planes. The implementation will be carried out using specialised multidisciplinary teams (Force Mental Health Team), able to promote the mental health, well-being and performance of the military.

France, a member of the select club of nuclear nations, has the full spectrum of military specialties capable of operating in any physical environment and anywhere in the world. We mention, in particular, as an institution of excellence in the field of HPO, the Institute of Space Medicine and Physiology (MEDES), involved in the selection, training and post-mission recovery of French or the European Space Agency/ESA astronauts.

In 2014, in the report *“The impacts of technological convergence on disarmament and arms control agreements”* (FRS, 2014), prepared by the Fondation pour la Recherche Stratégique in Paris, we find a section in which are discussed the methods to improve physical and cognitive performance and also the potential applications in the military field. Mention is made of research conducted by DARPA (USA), but also by France, such as exoskeletons, new pharmacological options with applicability in increasing stress resilience and neuro augmentation, brain-computer interfaces, new developments in neuroimaging and real-time performance monitoring, etc.

In 2016, the journal *Études de l’IRSEM* of the renowned Institute for Strategic Research of the Military School of Paris (Institut de Recherche Stratégique de l’Ecole Militaire) dedicated issue 42 (Colin, 2016) to debating the sociological impact of the increase use in military of the HPO (originally, *“L’Homme augmenté, réflexions sociologiques pour le militaire”*). A number of areas related to performance improvement are also specified, such as synthetic biology, advanced biotechnology, regenerative medicine, bioinformatics or artificial intelligence.

In 2019, officials of the French Ministry of the Armed Forces (Ministère des Armées) stated that they intend to carry out research programs for *“augmented soldiers”* in order to achieve *“operational superiority of the armed forces in a challenging strategic context”*, while respecting the rules governing military, humanitarian law and *“the fundamental values of our society”* (E&T, 2020).

Germany attaches great importance to the social and academic impact generated by the use of nootropics, the approach being from the perspective of public health and academic ethics.



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Germany is home to one of the most advanced HUP centers in Europe - The European Astronaut Center (EAC), located near Cologne. This ESA Center of Excellence is involved in the selection, training, medical support, supervision of astronauts, but also their families during training and in flight.

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In the military field, we note the report *“Human Performance Optimization and Enhancement”* (MCDC), published in March 2021. It was carried out in a multinational program under the coordination of CDR. Dr. Christian Haggemiller of the German Institute for Defense and Strategic Studies. The report seeks to provide a reasoned view and a stratification of potentially augmentative technologies from the perspective of interoperability and utility for modern armies in the context of possible conflict scenarios. Particular attention is paid to the standardization of terminology and ethical and legal issues from the perspective of the implementation of augmentative technologies.

Israel is another state that has made significant investments in military performance improvement programs, supported by the import of state-of-the-art military equipment from the United States, the domestic defense industry and the exceptional research and technological base. A particular note is the psychological training techniques based on traditional cultural elements and the use of emerging technologies (artificial intelligence, military robotics, drones).

In academia, we note the interest in establishing an ethical and regulatory framework for neuro-augmentation, brain-computer interfaces, artificial intelligence, cybercrime (CSRCL), etc. The ethical dimension of neuroaugmentation is specifically analysed by a neuroethics subcommittee of the Israeli Academy of Sciences. Notable are neuropsychological research aimed at understanding the emotional underpinnings of the Israeli-Palestinian conflict, as well as the conditions that would facilitate a stable peace.

Australia has established, since 2017, through The Defense Science and Technology Group (DSTG), together with several local universities, corporations and other government agencies and stakeholders,

a consortium dedicated to applied research in the field of human performance for various specialties called the *Human Performance Research Network* (HPRnet). This network of experts is a pool for interdisciplinary teams participating in research projects focused on the application of HPO in the military and international cooperation. The areas of interest are vast, including optimising physical and cognitive performance, increasing resilience, fighting in extreme climatic environments and conditions, optimising nutrition and sleep, performance genetics, etc.

The Australian Navy has its own program dedicated to maintaining health and quality of life, called the *Navy People Wellbeing Program* (Navy.gov). This program has many of the features encountered in HPO – concern for mental health, quality of life, psychological resilience, optimization of physical performance, leisure, etc.

Within the **North Atlantic Alliance**, in 2009 the symposium *“Human Performance Enhancement for NATO Military Operations”* was organized in Sofia. The purpose of the meeting was to explore the theoretical possibilities and ethical limitations associated with the HPO concept that can be applied in NATO operations.

The conclusions of this meeting highlighted the fact that performance-enhancing technology is not yet operational, no concrete research proposals are made, no ethical framework is established and no synergies are developed at the level of NATO Member States in this direction. The recommendations sought to clarify some theoretical issues and reduce the operational gap: establishing separate performance scales for fitness and health, developing a minimum ethical framework, implementation of HPO medical research programs between NATO member states, establishing a foundation from the implementation of HPO programs in the military environment (Sofia, 2009).

In 2017, the workshop *“Human Performance Programs in Special Operations Forces”* was held, hosted by NATO Special Operations Headquarters (NSHQ) (WHOOP, 2017). Decision-makers and scientists from 25 countries participated, with discussions evolving around



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In the autumn of 2022, in collaboration with the NATO Center of Excellence for Cold Weather Operations, the symposium "Human Performance and Medical Treatment and Support During Cold Weather Operations" (events.sto.-2) will be held, which aims to develop activities biomedical research for operations in the Arctic and in adverse weather conditions.

the establishment of common organizational platforms, terminology and indicators to be used in order to improve or start new human performance optimization programs for SOF operators.

In October 2021, the symposium "Applying Neuroscience to Performance: From Rehabilitation to Human Cognitive Augmentation" (events.sto.-1) was held in Rome. The scientific activities of this symposium focused on applications of the neuroscience in the military, the identification of emerging neurotechnologies, collaboration between researchers from NATO Member States in the field of applied neuroscience and neurotechnology for military personnel, other demanding professions or extreme environments.

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Several elements of interest included or associated with the HPO concept were also discussed at other NATO symposia: Human-Autonomy Teaming: Supporting Dynamically Adjustable Collaboration (NATO STO, 2014), Improving Human Effectiveness Through Embedded Virtual Simulation (sto.nato-1, 2014), Assessment of Augmentation Technologies for Improving Human Performance (sto.nato-2, 2017).

It is also relevant that at the beginning of 2022, on the website of the Science and Technology Organization (sto.nato-3) we can identify no less than 14 ongoing projects related to or with an HPO component. The topics addressed by these projects are diverse and have a pronounced multidisciplinary character, such as: monitoring pilots' stress through brain-computer interfaces, countermeasures to prolonged cognitive load and/or sleep deprivation in operational conditions, "operational ethics", use of technology blockchain in the case of portable / mobile medical sensors, identification and prevention of organic damage caused by the use of high speed marine vessels, etc.



At European Union level, the concept has been debated mainly from the perspective of the ethical and legal framework. A first report, published in 2008, entitled "Converging Technologies and their Impact on the Social Sciences and Humanities (CONTECS)" (Andler et al., 2008), funded by the European Commission, mentions techniques for improving human performance as having an increased scientific, economic and political potential.

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In 2009, the *Human Enhancement* report, prepared by the Science and Technology Options Assessment, a body in the European Parliament, deepened the community's interest in HPO. Human improvement is defined in this report as "modification in order to improve individual human performance through methods based on science and technology in the human body", emphasising the distinction between non-augmentative restorative and preventive interventions, therapeutic and non-therapeutic augmentations (aesthetic or functional) (STOA, 2016).

The interest in optimizing performance also materialized in the form of projects that explored various elements of interest for the future of European society. Thus, the *ENHANCE* (FP6) project (Cordis-1) examined the ethics of performance improvement in four areas of application interest – neuro-augmentation, life extension, emotional enhancement, and physical performance. The aim was to understand the ethical and philosophical framework associated with the use of dual-use technologies, beyond a therapeutic approach.

The *EDC* (Cordis-2) project investigated ethical and socio-political issues encountered in neuroscience, including performance optimization as non-therapeutic, non-restorative and non-preventive methods.

The *ETHICBOTS* (Cordis-3) project addressed cybernetic issues related to cyborgization in an interdisciplinary manner, with research



The FABRICED (Cordis-6) project focused on the extent to which a number of emerging biotechnologies and technologies used for therapeutic purposes can be adjusted and reconverted as methods of augmentation (emotional control, cognitive improvement, improved physical performance). The ethical impact was studied from the perspective of individual autonomy, the nature of humanity and social justice and from the perspective of the health system.

including experts in artificial intelligence, ethics, philosophy of science, psychology and cognitive science.

The *EURON* project (Cordis-4) assessed various aspects of the use of robotics for human augmentation, including those related to invasive cyborgization through implantable brain-computer interfaces. Of particular concern was the unwanted scenario in which HPO technologies would allow for higher-than-human performance, which would be the privilege of only a small group.

The *ENHANCEMENT ETHICS* (Cordis-5) project discussed ethical issues from the perspective of the ethics of virtue and sought to identify and explore the philosophical dimension of the ownership of biological material relative to the idea of increasing human performance.

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Another major European project developed under the H2020 FET Flagship Project is the *Human Brain Project*, designed to stimulate and accelerate neuroscience, artificial intelligence and brain-machine interfaces (Human Brain Project). Two niche projects have been associated with this ambitious megaproject.

BrainScaleS (Brain-inspired multiscale computing in neuromorphic hybrid systems) (BrainScaleS today, 2020-2023), conducted between 2011 and 2015, involved 19 groups of researchers from 10 EU countries. The project aimed to understand and emulate the function and interaction between multiple temporal and spatial scales involved in information processing in the brain.

ROMANIAN ENDEAVOURS IN THE FIELD OF HUMAN PERFORMANCE OPTIMIZATION (HPO)

The terms “*nootropic*” and “*nootropic substance*” were introduced into the medical vocabulary by the Belgian doctor of Romanian origin Corneliu Giurgea, who synthesised piracetam, the first pharmaceutical substance with nootropic properties, in 1964, for the Belgian Union Chimique.

Professor Corneliu Giurgea was a visionary who foresaw the development of the idea of neuroaugmentation from an empirical practice, almost clandestine, to an accepted medical niche. Professor Giurgea might be considered one of the forerunners of the neuroaugmentation field: “*man will not passively wait millions of years until the evolution it will give him a better brain*”.

Currently, in the non-military field, we can mention the role of the National Academy of Physical Education and Sports (NAPES) in sports training and research on the factors that conditions human performance. Faculties of Physical Education and Sports, from all over Romania, in addition to their main tasks, teaching and training, have developed specialized centers for the study of human performance. As an example we can mention the Research Center for Human Performance (University of Oradea, University of Pitești), Research Center for Human Performance (University of Bacău), Center for Consulting and Assistance for Human Performance (Brăila).

In the field of psychology and neuroscience, we emphasize the impact of the Institute of Philosophy and Psychology “*Constantin Rădulescu-Motru*” of the Romanian Academy, as well as the Center for Personal Development, Counseling and Experiential Psychotherapy. We can mention also the Program of in-depth studies of Applied Psychology in the field of National Security from the Faculty of Psychology and Educational Sciences/University of Bucharest and the International Institute for the Advanced Studies of Psychotherapy and Applied Mental Health within the “*Babeș-Bolyai*” University, Cluj-Napoca.



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A special moment in the evolution of this field was represented by the selection process of the two Romanian cosmonauts, Dumitru Prunariu and Dumitru Dediu, the first performing the flight into the space (Intercosmos 40), in May 1980. Also, during this period, together with the Institute of Normal and Pathological Physiology, the biomedical and psychological experiments “MIOCARD”, “RHEO”, “INFORMATION” and “IMMUNITY” were elaborated (Prunariu, 1982).

After Romania’s acceptance in the Euro-Atlantic structures, the National Institute of Aeronautical and Space Medicine “Gl. Dr. Av. Victor Anastasiu” from Bucharest, was modernized and brought to international standards, being able to carry out the medical evaluations of Romanian and allied pilots. Research in the field of aerospace and human performance in special conditions are shared with international community at national and international congresses, as well as in the Journal of Aeronautical Medicine and Psychology, established in 1997 (www.inmas.ro).

Continuing in the same field of evaluation of human performance in special conditions, we can mention the Center for Hyperbaric Medicine and Diving in Constanța, this being an institution that can perform evaluations of diving and hyperbaric medicine, including hyperbaric therapies (medicinahiperbara.ro).

Within the institutions in the field of national security, an institution with a role in psychological assistance is the National Military Center for Psychology and Behavioral Health within the General Directorate of Human Resources Management of the Ministry of National Defense. Reorganized in 2014 and 2018, this institution carries out activities meant to prevent and combat operational stress specific to military missions, by psychological training of personnel and early identification of sensitive cases that can cause psycho-behavioural disorders.

Another institution with responsibilities in the field of behavioural optimization is the Psychosociology Center of the Ministry of Internal Affairs, which has the “tasks to exercise the psychological act” and it is “vested with regulatory authority, guidance, coordination and control in the field of psychology” (www.mai.gov.ro).

Other Romanian organisations involved in sports performance research are the National Institute of Sports Medicine (psychodiagnosis and care), the Research Center for Sports Problems and other departments and faculties of physical education. The activity of these organizations is supported by the Romanian Commission for Sport Psychology, a member of the Romanian Sports Science Council and of the European Federation of Sport Psychology and Body Activities.

ASPECTS RELATED TO THE APPLICATION OF HPO CONCEPT IN ROMANIA: STARWALKER CENTRE OF COMPETENCE WITHIN THE INSTITUTE OF SPACE SCIENCE (ISS), MĂGURELE, ROMANIA

The STARWALKER Centre of Competence is a collaborative scientific-technological platform aimed at stimulating and consolidating at the national level the field of Countermeasures associated with human spaceflight with human crew in adverse conditions, by developing appropriate solutions to counteract the physiological and psychological adverse effects caused by prolonged exposure to MICE (Micro-gravity, Isolated and Confined Environment). According to the constitutive document, the purpose of the STARWALKER Centre of Competence, which is based on national/international interdisciplinary collaborations both in the scientific and industrial sectors, addresses a particular niche as stated: “*assisting, training and recovering the human crew (astronauts) before/during/after prolonged space flight through assisted informational feedback, neuromuscular and mental control training*”.

The STARWALKER Centre of Competence was set up as a result of a project funded by the Romanian Space Agency (ROSA) within the National Research Development and Innovation Programme STAR – Space Technology and Advanced Research. The legal host of the STARWALKER Centre of Competence in Space Technologies in Support of Space Flight with Human Crew is represented by the Institute of Space Science (ISS) through the Space Applications for Human Health and Safety Department located in Măgurele, Romania.



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The projects developed within the STARWALKER Centre of Competence integrate the interdisciplinary expertise of experts in engineering sciences, human medicine, natural sciences, social sciences, while carrying out the entire engineering effort according to the Systems Engineering (SE) methodology, as a standard approach of the European Space Agency (ESA) in balancing the stakeholders' needs with technological progress and complexity.

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The main objectives of the STARWALKER Centre of Competence are the following: to develop the national scientific and technological capacity to participate in manned space flight activities; to engage the Romanian research and industry community, and assist the latter in participating in ESA Programmes; to promote interdisciplinary public education and awareness activities in the targeted research field; to disseminate the results in scientific publications, conferences, thematic workshops and seminars; to establish contacts and cooperation with entities in Europe and in the world.

The human performance applications developed in STARWALKER have strong potential for technology transfer for the realization of commercial products and services in the field of countermeasures to the space sector and, at the same time, to society in the form of terrestrial *spin-offs*. Among the communities that may benefit from STARWALKER results in society, we can mention the following target groups with an interest in increasing human performance: entities with demanding professions (army, firefighters, special forces, divers etc.); sport community; medical community on disease prevention and the health recovery of the workforce etc. Examples of *spin-offs* are applications designed to improve human performance in extreme conditions, especially resilience to physiological stress and maximal cognitive load for a long time in adverse conditions, rehabilitation and post-traumatic motor recovery, optimization in sports performance, deepening information management at the level of biological organisms etc.

Particular attention was drawn to the methods of neuromuscular assessment, training, recovery before/during/after space flight, being applied a specific training methodology based on various



The Embedded Emotion Assessment Application aimed to create a video analysis solution with low energy consumption, designed to assess facial expressions in order to estimate the extent of adaptation to the daily schedule and to determine the psychological status of astronauts involved prolonged human space flights.

types of real-time feedback (visual, auditory, haptic etc.) provided to the movement of the human subject to improve muscle strength, movement accuracy and quality. This type of methodology has been studied for a long time and is being evaluated in order to be tested in simulated space flight conditions.

Other activities aimed at developing an innovative myotonometer (i.e., *Mustone*) that characterises the mechanical properties of striated surface muscles by measuring mechanical impulse propagation along the muscle fiber (proximal and/or distal monitoring), as well as participating in international experiments in analogues of microgravity as Dry Immersion.

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The interest in evaluating the performance of astronauts was also reflected in other activities of identification and classification of non-invasive and non-contact indicators that allow the detection of language disorders. These indicators have been proved useful in assessing the degree of emotional impaired performance in real space flight conditions. The research involved specific investigations on the discussions of American astronauts in the *Mercury, Gemini and Apollo Programmes*.

Other activities focused on the connection between motor activity or mental exercises and brain functioning under different conditions depending on the quality and quantity of information provided to subjects (with/without feedback).

It were undertaken also initiatives to implement parallel computing methods using methods specific to artificial intelligence with low resources and time benefits designing technologies appropriate to the conditions and requirements imposed by their use in space flight.

A recent direction of research is the possibility of using non-invasive transcranial stimulation methods (magnetic, electrical, ultrasound or laser) for the therapy of pain during space flight and in accelerating post-flight neuromuscular recovery.



In the near future, together with universities and medical partners, it is desired to create a Centre for Occupational Health and Human Performance which will incorporate in its structure a department for health, countermeasures and performance in space flight and extreme environments (ESCAPADE). The centre considers in particular interdisciplinary research projects and applications in the field of medicine, psychology, engineering, sports, ethics. Particular attention will be paid to the development of strategies for the prevention and ethical monitoring of professional performance in order to raise awareness, identify and prevent neuro-psychological burnout at work, and to define organizational culture and institutional health strategies intended for the prevention of non-communicable diseases and individualized optimization of professional performance in the case of active persons (usual, demanding, special professions).

CONCLUSIONS

Based on the analysis performed, we believe that it is necessary to develop a particular national vision, to be substantiated on research that responds to intrinsic needs, as far as that goes the development and implementation of programs to optimize human performance for demanding professions. The existence of a Romanian civil tradition in the field of sports performance, corroborated with the capitalization of the original techniques of training and psychological protection represents a significant basis for the application of the concept of *Human Performance Optimization (HPO)* in one national HPO program. All this can be complemented by specific training methods and, possibly, the integration of some methods of traditional Romanian medicine, together with the experience of specialists, civilian and/or military doctors accumulated in international missions.

Given our approach, we advance the proposal to establish civilian and military institutions (departments, research laboratories, centers, institutes) dedicated to implementing the concept of *Human Performance Optimization* for demanding professions of particular importance.

The concept of *Human Performance Optimization* is an interdisciplinary field that can serve as a “*technological crucible*”

for cutting-edge research in medicine and psychology, technologies applied in emerging fields of artificial intelligence and related industries. Accelerated technological development has increased the likelihood of materialization of “*technological surprises*” based on niche breakthroughs, generating asymmetries in the information market. The ramifications of the mentioned fields are vast and present a special commercial and military potential.

The development of *countermeasures to the specific aggression factors* aroused by the demanding civilian and military professions, is another direction of capitalizing on the concept of *Human Performance Optimization*. This pragmatic approach, encountered in the case of special professions (astronauts, deep-sea divers, climbers, extreme sportsmen, Arctic explorers, etc.) can generate innovative solutions capable of “*revolutions*” in the field of weapons systems or can contribute to reaching a maximum threshold of human performance (*used in enhanced human operations*).

A more general approach allows the development of *countermeasures* in case of common situations frequently encountered in the professional environment (chronic or longer sleep deprivation, prolonged cognitive load, neurovisual fatigue, decreased operative performance during prolonged activities, decreased ability to struggle due to physical fatigue, etc.).

In particular, we emphasise the importance of epidemiological research and the identification of legislative and organisational measures, as well as countermeasures in the case of burnout syndrome. Although frequently invoked and studied in relation to the medical profession, it can be encountered (and, to the same extent, underdiagnosed) in the case of other professions, civil or military, of responsibility, precision and with major socio-economic impact.

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The concept of Human Performance Optimization is an interdisciplinary field that can serve as a “*technological crucible*” for cutting-edge research in medicine and psychology, technologies applied in emerging fields of artificial intelligence and related industries.



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STUDIES AND PROPOSALS FOR THE DEVELOPMENT AND USE OF THE ROMANIAN MERCHANT FLEET DURING PEACETIME AND WARTIME (1938-1940)

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After becoming an independent state, which was followed by the return of Dobruja to the Romanian state, Romania became a littoral country. Therefore, the need arose to create, along with the Danube merchant fleet, a maritime one, with state and private capital, to contribute to the country's budget, by transporting goods not only for domestic needs but also for the needs of other countries or companies. At the same time, it was considered necessary to build a military naval and river fleet to defend the Danube and the Black Sea, which proved useful during the National Reunification War (1916-1920), as well as to provide support for the collective security system existing in the 1930s (Romanian-Polish, Little Entente and Balkan Pact).

The development of the state merchant navy in Romania dates back to 1895, when Grigore Manu¹ was given the task of organising a maritime navigation service, an action that got materialised in a law adopted on 7/19 June 1888. The first voyage of a ship operated by the Romanian Maritime Service took place on 14/26 August 1895, when “Medeea” left Brăila for Istanbul, carrying 25 passengers and 600 tons of cargo. A few days later, on 26 August/8 September, “Meteor”² made the first voyage with the same destination. Starting on 14/26 September it was to operate regular passenger transport services between Constanța and Istanbul (Ghica, 1939, pp. 149-150; Samba, Historia).

Keywords: Romanian Maritime Service; merchant navy; “Sulina” vessel, Ministry of the Air and the Navy; international regulations;

¹ General Director of the State Monopolies Administration (1886-1896). He played an important role in the establishment of the merchant river and maritime fleet in Romania. He initiated and developed the River Navigation Society and the Romanian Maritime Service.

² A 560-t mixed ship, bought by the Romanian Maritime Service from Great Britain, to ensure transport from Constanța to Istanbul. It was operational until 1897.



In 1897, following the acquisition of “București”, “Iași” and “Dobrogea” vessels, within the Romanian Maritime Service it was established a special shipping directorate, the first maritime route being Brăila, Istanbul, Gibraltar, Rotterdam, served by the cargo ship “București”. Under the circumstances of the development of the country and the trade with European countries, in 1908 it was established the Ports and Waterways General Directorate, an institution that brought together all port and navigation services: Hydraulic Service, Maritime Ports Service, Romanian River Navigation and Romanian Maritime Service, which were part of the mentioned structure until 1930.

Starting in July 1929, the Ports and Waterways General Directorate was transformed into the Ports and Waterways Autonomous Administration, which retained the previous Directorate structure and services. In compliance with the Autonomous Administrations Law on 4 May 1934, the Ports and Waterways Autonomous Administration was transformed into the Ports and Waterways Commercial Administration, having the same organisational structure and operating on the basis of the Regulation for the operation and financial management of the Ports and Waterways Commercial Administration, sanctioned by the “High Royal Decree no. 2358” on 8 August 1934.

The year 1936 marked a major change in the concept of merchant navy organisation, following the establishment of the Ministry of the Air and the Navy. In compliance with the new legislative framework, the Romanian River Navy and the Romanian Maritime Service were transferred from the Ports Commercial Administration to the newly-established ministry, which was successively led by Nicolae Caranfil (13 March 1936-1 January 1937), Radu Irimescu (7 January 1937-10 February 1938) and Paul Teodorescu (31 March 1938-10 May 1940), being responsible for the coordination of all air and maritime activities and services.

After the end of the National Reunification War and the achievement of national unification, in the context of the country's economic recovery, in 1924 it was established the sea line the Danube-the Western Mediterranean, served by 4 “Ardeal”-type ships (“Alba Iulia”,

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“Ardeal”, “Peleş”, “Suceava”), operating transportation between Constanța and Haifa and, after “Transilvania” and “Basarabia” ships entered into service, up to Egypt, in Alexandria.

Arriving in Constanța on 26 June 1938, “Transilvania” ship, after two test sails and the crew training along the Black Sea, officially started its first Constanța-Alexandria voyage, on 12 September 1938. “Basarabia”, which arrived in Constanța on 26 September 1939, started its first voyage to Alexandria on 13 October 1939. Those ships, both modern and luxurious, replaced “Dacia” and “România” ships, which had sailed from Constanța to Alexandria, being earmarked, after only a month, for the newly-established sea line Constanța-Cyprus. In the autumn of 1938, the Romanian Maritime Service had 5 passenger ships, 7 mixed ships (passengers and cargo) and 2 cargo ships, serving the existing sea lines. As for the revenues achieved from the operation of the available ships, they constantly increased: from 141,531,709 lei, in the fiscal year 1934/1935, to 214,639,303 lei in 1938/1939 (AMNR, *Microfilme collection*, roll P 3. 1161, c. 109).

The obtained results were the consequences of the constant increase in the number of vessels and in their tonnage, the opening of new lines of maritime communications in the Black Sea and in the Mediterranean basin. In the year 1938/1939, the vessels belonging to the Romanian Maritime Service made 125 voyages, covered 381,957 miles, operating in 46 ports located in 17 states, the transports being executed not only from and to Romanian ports but also between ports in states other than Romania, depending on the received requests. In 1939, there were regular voyages operated by the six existing sea lines (Ib., roll P 3.1164, c. 729-730), as follows (*table no. 1*):

Table no. 1: Operating vessels and sea lines in 1939

Line	Operating vessels	Ports
I and II	“Transilvania”, “Basarabia”, “Dacia”, “România”, “Regele Carol I”	Alexandria, Port Said, Tripoli, Istanbul, Izmir
III – Cyprus	“Dacia”, “România”	Larnaca
IV – the Aegean	„Durostor”	Piraeus, Salonika, Styliis, Katakolo

Line	Operating vessels	Ports
V – the Western Mediterranean	“Alba Iulia”, “Ardeal”, “Suceava”, “Peleş”	Malta, Genoa, Marseille
VI – the Levant	“Ardeal”, “București”, “Oituz”, “Peleş”, “Suceava”	Beirut, Haifa, Jafa, Tel Aviv
VII – the West	“Bucegi”, “Carpați”, “Suceava”	

THE GEOPOLITICAL AND GEOSTRATEGIC CONTEXT OF THE NEW PROGRAMME FOR THE DEVELOPMENT OF THE ROMANIAN MERCHANT FLEET

The international situation in Europe, worrying starting in 1938, as the Nazi Germany occupied Austria (12 March 1938) and Czechoslovakia was dismembered (15 March 1939), unfolded unfavourably up to the state of war, starting on 1 September 1939, when Poland was successively attacked by the German and Soviet armed forces (17 September), in accordance with the provisions of the Molotov-Ribbentrop Pact of 23 August 1939. Although neutral in relation to the ongoing conflict on its northern border, Romania, through its political and military leadership, was aware of its insecurity, especially as the two aggressor states, Germany and the USSR, had an unfriendly attitude towards the Romanian authorities that, in compliance with the international rules of neutrality, allowed not only civilian and military Polish authorities but also a large number of troops and civilians from the occupied and divided country to enter Romania. On 30 August 1939, two days before the outbreak of the Second World War, the ships of the Romanian Maritime Service were in various situations in the ports in which they operated (Ib., roll P 3. 1164, c. 693), as it can be seen in *table no. 2*.



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Table no. 2: State of ships on 30 August 1939

Vessel name	Tonnage	Where they were, their state	Out of the country	Destination	Expected to come back to the country
POSTAL SHIPS					
"Transilvania"	6672	Beirut			3 September
"Basarabia"	6672	Constanța – stationing	31 august	Alexandria	10 September
"Dacia"	3419	Haifa		Beirut	2 September
"România"	3151	Constanța	3 September	Beirut	16 September
"Regele Carol I"	2369	Galați	-	-	-
MIXED SHIPS					
"Alba Iulia"	5695	Constanța – unloading	21 September	Marseille	26 October
"Peleş"	5695	Towards Piraeus		Marseille	27 September
"Suceava"	5695	Constanța – maintenance work	-	-	-
"Ardeal"	5695	Constanța – unloading	19 September	Port-Said	15 October
"București"	2499	Galați – loading	6 September	Port Said	6 October
"Oituz"	2525	Beirut	-	Port Said	18 September
"Durostor"	1309	Salonika	-	Piraeus	5 September
CARGO SHIPS					
"Carpați"	4336	Brăila –unloading	20 September	Hamburg	20 November
"Bucegi"	4330	Haifa – unloading	-	-	2 September
"Sulina"	5700	Under construction at the Shipyard in Palermo	-	-	-
"Mangalia"	5700				
"Cavarna"	5700				
"Balcic"	5700				

At the same time, the privately owned seagoing vessels, sailing under the Romanian flag, were in the following situation: "Carmen Sylva", owned by the "Capato & Macri" Company, in the Orient; "Danubius", owners, the Lowensohn Brothers, abroad; "Siretul", "Prahova" and "Oltul", owned by "Ing. Vlasov" Company, on voyage, America-Poland and America-Italy; "Câmpina", "Steaua Română" and "Oltenia" oil tankers, owned by the "Steaua Română" oil company, on voyage: Italy-America, Italy-Genoa, London (Ib., p. 692).

In 1939, the ships of the Romanian Maritime Service operated three sea lines, as follows:

Line I: Constanța-Istanbul-Piraeus-Alexandria-Beirut, with "Transilvania" and "Basarabia" vessels, which were considered insufficient. It was estimated that a third vessel was needed so that two of them could be used constantly, one having to undertake maintenance, repair and cleaning procedures. Thus, the main and auxiliary engines of the ships could be preserved for a longer period of time.

Line II: Constanța-Haifa-Tel Aviv was served by old ships, "Regele Carol I", "România" and "Dacia", which, although they met the requirements, still had low profitability.

Line III: the Danube-the Western Mediterranean, Brăila-Sulina-Istanbul-Malta-Napoli-Genoa-Marseille-Barcelona, temporarily interrupted because of the Spanish Civil War (1936-1939), was served by two "Ardeal"-type vessels, considered obsolete and high fuel consumers. For the navigation on the Danube between Sulina and Brăila, it was desired for the vessels to have a smaller tonnage so that they could benefit from 40-60% lower taxation, in compliance with the norms established by the European Commission of the Danube. In order to develop the merchant maritime fleet, it was considered to establish the fourth sea line, the Danube-the Levant, served by three new "Sulina"-type vessels, and on the fifth line, the Danube-Archipelago (the Aegean Sea), "Durostor" ship to be replaced with a new "Sulina"-type one. Finally, Line VI, the Danube-the West, irregular in 1939, served by "Carpați" and "Bucegi" ships, needed two more 7-8,000-ton vessels to operate regularly, both equipped with refrigeration systems and built with a draft of at least 25 feet to provide safety of navigation in the Atlantic Ocean.



Line I:
Constanța-Istanbul-Piraeus-Alexandria-Beirut, with "Transilvania" and "Basarabia" vessels, which were considered insufficient.

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It was estimated that 7 new vessels were needed, with a tonnage between 3,500 and 6,500 tons. They had to be joined by 3 oil tankers and 2 small-draft vessels in order to annihilate the competition of the Hungarian line “Detert”. Although there were several offers for the construction of the ships needed for the Romanian Maritime Service, it was considered that an association of Galati Shipyards with the German company “Otto-Wolf” was appropriate, given that the necessary components were made in the country and the costs were paid in lei. On the other hand, it was considered appropriate to build “Sulina”-type ships, which were manufactured at Italian shipyards (Genoa and Palermo), considering their profitability, determined by consumption and shipping charges.

The need for vessels on the Danube-the West line was filled with “Mangalia” cargo ship, but the first Romanian ship to operate on the Constanța-New York line was “Sulina”, which arrived in the great North American port on 25 September 1939 to load materials ordered by the Romanian state, intended for the Ministry of the Armed Forces and the Ministry of the Air and the Navy.

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STUDIES AND PROPOSALS TO DEVELOP THE MARITIME MERCHANT FLEET

The problem of the shipbuilding programme for the Romanian maritime merchant fleet was brought to the attention of specialists in the field, so that in the 1930s, with the economic recovery, after the crisis of 1929-1933, several studies were developed which were subjected to decision-making and taken into account in 1937, when the order was launched at the “Cantieri Navali Riuniti”, based in Genoa. The programme was well appreciated in 1938 by Rear Admiral Cesar Boerescu (Păvăloiu, 2005, pp. 33-34), then Chairman of the Romanian Maritime Service Steering Committee, who considered that: “The four <Sulina>-type vessels, under construction in Palermo, are mixed ships, having a small net tonnage, low consumption and high economical speed, as well as large cargo capacity. This is how the above-mentioned cargo ships should be built”. (AMNR, Microfilme collection, roll P 3. 1173, c. 719).

Even in the context of the outbreak of the Second World War, of the uncertain situation of Romania, determined by the revisionism that got manifest in some neighbouring states, supported by Germany

and Italy, the Romanian Maritime Service conducted studies regarding the development of the merchant fleet of the Romanian state. Thus, on 27 October 1939, Rear Admiral (r.) C. Boerescu, Chairman of the Romanian Maritime Service Steering Committee, and Commander (r.) Gh. Constantinescu, Director of the Service, sent General Paul Teodorescu the study: “Preliminary Considerations for the Preparation of an Investment Programme Meant to Develop Our Maritime Merchant Fleet” (Ib., c. 704-714) (Annex no. 1), which included a history of the institution established in 1886 and preliminary considerations for the preparation of an investment programme meant to develop Romania’s maritime merchant fleet. It was a comprehensive and ambitious document, with arguments that were considered viable, but also debatable, in the context of the unpredictability of the geopolitical and geostrategic situation in the short term.

Given that the document was extensive, the Ministry of the Air and the Navy requested the two authors to summarise the content, so Director Gheorghe Constantinescu prepared another document, entitled “Considerations on the General State of the RMS Fleet and the New Constructions Programme” (Ib., roll PII 3. 1170, c. 353-365), in which he showed that, at the date of drawing up the document, the structure he led had 4 passenger ships, 5 mixed (passengers, cargo) ships, 4 cargo ships and 4 ships under construction in Italy, of which 8 were over 25 years of operation, 4 – 13 years, and 2 – a year. The author of the study estimated that, with regard to the displacement of 110,000 tons, most ships were old, with steam engines, developed a low speed, generated high operating costs and therefore a low profitability, entailing subsidies from the state.

It is worth noting the signing of the contract for the construction in Italy of 4 mixed vessels, considered modern and profitable, in a well-planned operation. However, it was estimated that the construction programme was partially completed, considering that another fast ship, “Transylvania”-type, would be needed, as well as special ships for the transport of cattle and refrigerated food. The proposal of the author of the study was to build another “Transylvania”-type passenger ship, 5 cargo ships of 8,000 tons, 3 oil tankers of 5,000 tons and 2 of 10,000 tons, the costs of the programme being estimated at 1,696 billion lei, and the duration of execution at 2-3 years.



The study: “Preliminary Considerations for the Preparation of an Investment Programme Meant to Develop Our Maritime Merchant Fleet” included a history of the institution established in 1886 and preliminary considerations for the preparation of an investment programme meant to develop Romania’s maritime merchant fleet. It was a comprehensive and ambitious document, with arguments that were considered viable, but also debatable, in the context of the unpredictability of the geopolitical and geostrategic situation in the short term.



According to the author of the study, *“The aim of the service, in addition to the transport of passengers and cargo by sea, is to contribute to the development of the entire national economy by ensuring the indigene goods outflow. It cannot be achieved if one of the main factors of economy – transport – cannot be influenced at will. In the case of maritime transport, the fright – or the cost of transport – depends on the market and the tonnage supply at that moment. Consequently, we need a sufficient number of ships to be able to meet, to a large extent on our own, the needs of our market. Currently, we transport only 10% of the country total export by sea. The influence will not be felt unless we acquire 50% of it”.* (Ib., c. 3540355).

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Moreover, it was considered that the failure in achieving the fleet renewal programme could generate the risk of losing the transport market, as much as it was, its regaining being possible with high costs. The proposed programme did not aim to immediately develop a transport market, but rather to maintain the existing one, under the conditions of the new international regulations related to navigation in high seas and in harbour berths. A necessary aspect to be approached was the one regarding the activity of the Romanian Maritime Service fleet in the event of war, being nominated the ships that will be requisitioned according to the mobilisation plan and presenting the hypotheses in which they were to be used:

- a) Closed Bosphorus and the fleet of the Romanian Maritime Service located in territorial waters (military transport of troops and materials, aircraft carriers, hospitals, auxiliary cruisers);
- b) Closed Bosphorus, and the fleet of the Romanian Maritime Service left outside in the high seas or in friendly ports (military transports for allies);
- c) Free Bosphorus (transports from Romanian ports to Allied ports).

The author of the study was aware that other hypotheses of action were possible, which required other solutions, which were to be examined so that appropriate measures could be established. The document was studied by Rear Admiral Nicolae Păiș, who, on 8 August 1940, in the context of the events of that tragic summer for Romania, put the following resolution: *“The issue of developing our merchant fleet will be examined after Europe, so troubled today, becomes calm again”.* (Ib., C. 70).

Political and military developments both in 1939-1940 and in the years that followed disproved the hypotheses of action predicted by Gheorghe Constantinescu, and the proposed programme could no longer be implemented in the context of the ongoing war, when most resources were intended for military production and support for the costs generated by the participation in military operations.

CONSTRUCTION OF “SULINA”-TYPE VESSELS – PART OF THE PROJECT MEANT TO DEVELOP THE MERCHANT FLEET OF ROMANIA

On 4 September 1937, during a meeting of the government led by Gheorghe Tătărescu, at the proposal of Radu Irimescu, then the Air and Navy Minister, it was approved the *“Government Journal no. 2631”* regarding the construction of four mixed vessels at *“Cantieri Navali Riuniti”* in Genoa, armed and completed in Palermo, for the Romanian Maritime Service, costing 67,787,506 Italian lire, a sum of money that was to be paid by the Italian-Romanian clearing (AMNR, *Ministerul Aerului și Marinei, Direcția construcții navale collection*, file no. 3734, p. 10). The four vessels were to be named *“Sulina”*, *“Mangalia”*, *“Cavarna”* and *“Balcic”*, this being the order in which they were to be delivered by the constructor. In compliance with the government decision, the Ministry of the Air and the Navy had to advance the instalments from its budget, and their repayment was to be made through the budget credits provided in the budgets of the Romanian Maritime Service for the years 1938/1939 and 1939/1940, with a delay of one year. The government’s decision was strengthened by the *“High Royal Decree no. 3591”* on 30 October 1937. On the same day, 4 September 1937, between the Romanian Maritime Service and *“Cantieri Navali Riuniti”* was concluded *“Contract no. 806”* for the construction of the four vessels, the price being paid in 17 instalments, starting with the year 1937/1938 and ending with the year 1942.

The payment for the construction of the four ships ordered in Italy was a complex and complicated activity, which generated discussions and disputes between the Ministry of Finance, the National Bank of Romania, the Ministry of the Air and the Navy – Shipbuilding Directorate and the Romanian Maritime Service. To resolve the issues, on 5 October 1939, the head of the Shipbuilding Directorate proposed a solution for the source of funding – from the National Defence Fund



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Under the political and military circumstances of the summer of 1940, the Romanian Maritime Service considered it necessary to pay in advance the amount of 22 million Italian lire (114,325,200 lei), thus saving significant sums resulting from the avoidance of interest and insurance payments, which generated some contradictory discussions with the Ministry of the Air and the Navy, the dispute being resolved by paying the amount of 114,176,063 lei to the account of the Romanian Maritime Service, together with all the documents that were transmitted in such situations.

and the National Navy Fund, which was approved the next day, during a meeting of the Interministerial Delegation for the armed forces equipment, which included the following ministers: national defence – General Ioan Ilcuș, the armed forces equipment – Ion Stănescu, the air and the navy – General Paul Teodorescu, finance – M. Constantinescu – and the Chief of Staff – General Florea Țenescu.

As it results from the minutes of the meeting on 6 October 1939, those present decided that the Ministry of the Air and the Navy should pay in the form of a subsidy to the Romanian Maritime Service the sum of 367,286,995 lei, the equivalent of 67,787,506 Italian lire, the price set for the four vessels ordered at the “*Cantieri Navali Riuniti*” in Genoa (ib., p. 11).

During the same meeting of 6 October 1939, it was approved that, by the spring of 1942, the payment schedule should be as follows (table no. 3) (ib., p. 10):

Table no. 3: Payment schedule for the four vessels built in Italy

Budgetary year	Number of instalments	Date of payment	Sum (lei)
1937/1938	1	—	79,007,035
1938/1939	5	15.06.1938, 15.09.1938, 15.12.1938, 15.03.1939	78,604,060
1939/1940	4	15.06.1939, 05.09.1939, 15.12.1939, 15.03.1940	75,350,700
1940/1941	4	15.06.1940, 15.09.1940, 15.12.1940, 15.03.1941	57,162,600
1941/1942	4	15.06.1941, 15.09.1941, 15.12.1941, 15.03.1942	57,162,600

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“*Sulina*”, the first vessel in the series of four ordered in Genoa, was placed under the command of Captain Mișu, with Apostoia as chief mechanic, who assisted in its completion at the shipyard in Palermo, and along with the representatives of the Romanian Maritime Service, signed the documents for taking the ship. After completing the receiving procedures, “*Sulina*” was launched to Constanța, where it arrived in the port on 25 September 1939, at 10.30.

The official reception of the vessel took place on 26 September 1939, in the presence of General Paul Teodorescu³, Minister of the Air and the Navy, Admiral Cezar Boerescu, Chairman of the Steering Committee, and Commander Gheorghe Constantinescu, Director General of the Romanian Maritime Service.

After a voyage to the United States of America in 1940, when it transported materials for the Ministry of the Armed Forces Equipment, in 1941, the ship was leased by the German Black Sea Naval Command, executing war transport. On the morning of 20 May 1942, it was torpedoed and sunk. By receiving the other ships in the spring of 1940 (“*Mangalia*”, “*Cavarna*” and “*Balcic*”), the Romanian Maritime Service made a significant leap in the naval transport capacity, which was short-lived, as all of them were lost in the following years.

The construction of the mixed ship “*Mangalia*” was achieved, as in the case of the other three, based on the request formulated by the Romanian Maritime Service, following the discussions and negotiations with the constructor stipulated in the initial contract. The construction was supervised by engineer A. Teodoru, starting in November 1938, when he was sent to Palermo by the Romanian Maritime Service, in compliance with the provisions of article 12 in the contract (AMNR, *Ministerul Aerului și Marinei collection*, file no. 2467, p. 329). Arriving in the country and received in Constanța in April 1940, without the pomp accompanying the arrival of “*Sulina*”, “*Mangalia*” received the Certificate of Nationality, signed by King Carol II, and then it started the first and only transport between Constanța and New York, where materials necessary for the equipment of the Romanian Air and Naval Forces were loaded (Annex no. 2). In case of mobilisation, each of the four “*Sulina*”-type vessels could be transformed and adapted to

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³ Details about the personality of the Minister of the Air and the Navy in Valentin Ciorbea (2013). *Generalul adjutant Paul (Pavel) Teodorescu (1888-1891). Vocația creativității. 125 de ani de la naștere*. Constanța: Editura Ex Ponto.



meet the war requirements and transport 1,500 people, 2,000 horses, 150 carriages, 50 trucks, 120 caissons. Moreover, 2 cannons x 120 mm and 4 anti-aircraft cannons could be installed on it.

LOSS OF ROMANIAN MERCHANT SHIPS DURING THE SECOND WORLD WAR

Initially stranded in New York in the summer of 1940, later requisitioned in the summer of 1941 by the US authorities, “Mangalia” ship was permanently lost, and the cargo was partially sold, under the bureaucratic procedures of the Romanian state and the immoral actions of foreign traders and bankers involved in the recovery of the ship and the cargo.

The other merchant ships were mobilised, some of them transformed and adapted to the war at sea, being used in missions to transport troops and materials in the Black Sea, according to the concept of the German Command installed in Constanța, based on the “Lease Contract no. 11.011”, signed by the Romanian Maritime Service as shipowner, through the agency of the Navy Undersecretariat of State, on 20 October 1941, with the German War Navy, represented by the “German Admiral Black Sea” Command as beneficiary. Through the mentioned document, the Romanian state leased, only for the ports accessible to the vessels in the Black Sea, Istanbul included, the following ships: “Ardeal”, “Peleş”, “Suceava”, “Carpați”, “Oituz”, “Sulina”, “Cavarna” and “Danubius”, valid during the period of hostilities in Russia, each of the party having the obligation to denounce it separately, with a 10-day notification. The German War Navy assumed the responsibility to keep the Romanian crews and the national flag, to pay the crews, the insurance, the taxes and the maintenance work. In the event of partial or total loss of any vessel, the German state undertook to restore the vessel to its original condition or to replace it, at the latest one year after the conclusion of the peace, with a similar vessel of equal value, age, tonnage, type, class etc. Most of the vessels, namely: “Cavarna”, “Sulina”, “Balcic”, “Câmpina”, “Carol I”, “Oituz”, “Peleş”, “Suceava”, “Danubius”, “România”, “Durostor”, were sunk by the Soviet Naval and Air Forces, and “Alba Iulia”, which was miraculously saved, was requisitioned by the “liberators” in 1944, after Romania got along with the Entente. The only ship that remained under the Romanian flag after 23 August 1944 was “Ardeal”.

In the context of Romania’s political orientation towards Germany in the summer of 1940, with the installation of the government led by Ion Gigurtu, as well as that of the measures taken by the Romanian state against the British ships on the Danube and the expulsion of some British oil workers from the country, the authorities from London decided to detain at Port Said, Alexandria and Haifa the ship “Bucegi”, the oil tankers “Oltenia”, “Steaua Română” and “Câmpina”, which were later requisitioned and used by the British, while the ships “Siretul”, “Prahova” and “Olt”, belonging to the Al. Vlasov Company, were sold. Each of the mentioned ships had a glorious and tragic history, their crews doing their duty, most of them making the ultimate sacrifice.

The years 1940-1941 were marked by the loss of some ships, as they were requisitioned by the US and British authorities, and 1942-1944 by the loss of those engaged in operations in the Black Sea. Basically, the period 1940-1944 marked the first major loss of the Romanian merchant fleet, which was meant to meet the security and defence needs of Romania, confirming, in this case too, that the studies and plans for the use of forces and assets, developed in peacetime, become useless under the circumstances of the inherent changes in the geopolitical and geostrategic field, in the relations between states and in the structure of political and military alliances.



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Annex no. 1

Preliminary Considerations for the Preparation of an Investment Programme Meant to Develop Our Maritime Merchant Fleet (Excerpt)

The Romanian Maritime Service (RMS) commercial programme requires:

- a) The establishment of the directions for action;
- b) capital.

RMS at present:

Directions for action and the state of the ships:

Line I: Constanța-Istanbul-Piraeus-Alexandria-Beirut, served by 2 vessels: "Transilvania" and "Basarabia". Another vessel is necessary for the following reasons: the other two can be cleaned and repaired; the main and auxiliary engines can be maintained.

Line II: Constanța-Haifa-Tel Aviv, served by the old ships "Regele Carol I", "România" and "Dacia", being temporary, no new vessel is necessary.

Line III: the Danube-the Western Mediterranean, Brăila-Istanbul-Malta-Naples-Genoa-Marseille, served by 2 "Ardeal"-type mixed vessels.

Considering its military importance, it is necessary to restore the route that ended in Barcelona, which was previous to the Spanish Civil War, served by 3 ships.

New ships to replace the existing ones should become operational for the following reasons: high consumption; large tonnage; therefore, they cannot enjoy the 60% discount.

The general specifications for the construction of the new units are established.

Line IV: the Danube-the Levant, served by 3 old ships that are to be replaced, in 1939-1940, with 3 new "Sulina"-type vessels.

Line V: the Danube-Archipelago. As "Durostor", which serves it, will be returned to the Royal Navy, in 1939-1940, it will be replaced with a new "Sulina"-type vessel.

Line VI: the Danube-the Occident, an irregular line, should be transformed into a regular one, given the development of the Romanian food industry. It is served by "Carpați" and "Bucegi" ships. For the regular operation, there are necessary minimum four 7,000-8,000-ton ships, equipped with refrigerators and having a maximum draft of 25 feet. The mentioned tonnage is appropriate, benefitting from the reduction of the EDC taxes. Moreover, it is sufficient to ensure its profitability in free operation.

In summary, the following are necessary: for the Western Mediterranean line: three new 3,500-6,500-ton vessels; for the Danube-the West line, four 7,000-8,000-ton vessels.

In addition to the modifications and new motor vessels, for the development of the RMS, it is necessary to procure the necessary naval

equipment as follows: construction of 3 oil tankers: 5,000 t., 1,000 t., 1,000 t., for the state royalty export; purchase of 2 small vessels, in order to eliminate the competition in the East with the Hungarian line "Detert", especially in terms of DOV traffic. By establishing this line, "Cetatea Albă" ship, being built in Severin could be used. As early as 1937, the RMS was asked by the Ministry of Foreign Affairs to set up the Danube-Constanța-Trabzon line, it being postponed because of lack of tonnage. The line is to be established, being served by the ships withdrawn from the Levant and Archipelago line. Regarding the capital needed for these investments, offers were made by: Runciman-London Company, Burmeister Company, Mr. Wernersson and Galați Shipyards in association with Otto-Wolf Company, which is also the most advantageous, because: ships are built in the country; are payable in lei. The proposed cargo ships must be built in the "Sulina" type, because they are more profitable and economical in terms of taxes and consumption.

Preliminary Considerations for the Preparation of an Investment Programme Meant to Develop Our Maritime Merchant Fleet.

In order to prepare an investment programme, the directions for action and the capital must be established. In 1920, the Danube-Archipelago (Aegean) line was opened, estimated since 1896, as shown in the above statement of reasons, and in 1934, after the acquisition of the four old "Transilvania"-type mixed vessels, the Danube-the Western Mediterranean line was opened, with stops in Istanbul, Piraeus, Izmir, Malta, Naples or Genoa, Marseille, Barcelona, Algiers. After the entry into service of "Transilvania" and "Basarabia" vessels, they were both reserved exclusively for the service of Line I Constanța-Alexandria, and the old passenger ships for Line II – Constanța-Haifa, established for the emigrants from Poland and Central Europe. Currently, the RMS serves, through its ships and vessels, the following lines:

Line Constanța-Istanbul-Piraeus-Alexandria-Beirut, with the 2 vessels "Transilvania" and "Basarabia". For this line that links Central Europe with Egypt and Syria, another "Transilvania"-type vessel is absolutely necessary, because the continuous tear and wear of the two passenger ships, without time for cleaning and repairing them, results in their main and auxiliary engines fatigue, not to mention the possibility of an accident that could make one of them unavailable for a period of time. The third "Transilvania"-type vessel should be ordered in advance, at the same shipyard, if possible, to have appropriate engines and spare parts. If it is not possible, the construction of the third vessel should be contracted to a first-class shipyard that uses the same type of engines and auxiliary equipment.

Line Constanța-Haifa-Tel Aviv for the emigrants from Poland and Central Europe, served by old "Regele Carol I", "România" and "Dacia" ships. This line is temporary and there is no need to be supplied with special ships as, once the third passenger ship is operational, Line I will be also used to transport emigrants, and the old ships that currently serve it will be withdrawn, having 40 years of service.



3. Line the Danube-the Western Mediterranean, Brăila-Istanbul-Malta-Naples-Genoa-Marseille, served by 2 "Ardeal"-type ships. Before the outbreak of the Spanish Civil War, the end point of this line was Barcelona, reaching Algiers, and being served by 2 "Ardeal"-type ships. The stopovers will have to be resumed and, consequently, 3 vessels are necessary for this line, to replace the old "Ardeal"-type ships, which have high tonnage and consumption. This line has not only commercial but also military importance, and must be maintained and equipped with vessels having the appropriate tonnage for this line. "Ardeal"-type ships, which serve this line, can load 6,500 tons, but they have high consumption and a net tonnage of 5,660 EDC, for which port taxes are paid. The new vessels that would be built should have 6-6,500 deadweight tonnage (dwt) and a maximum net 2,100 tonnage. "Sulina" has 5,700 dwt. The net tonnage is 2,021. In order to enjoy the 60% discount for the ships that regularly operate on the Danube, they must have at least 6 passenger cabins. The general specifications for the 3 units to be built have already been established.

4. Line the Danube-the Levant with a stopover in Istanbul-Piraeus-Tripoli-Beirut-Haifa-Port Said and Alexandria, served by 3 mixed vessels with a high loading capacity for timber, the main export item on this line. To serve Line IV and Line V, 4 "Sulina"-type vessels have been built, which will become operational during 1939/1940, replacing the 3 old ships that currently serve Line IV, and "Durostor" ship that serves Line V.

5. Line the Danube-Archipelago (Aegean) was served by "Durostor", which was returned to the Royal Navy and will be replaced with "Sulina" when it comes back from America.

6. Line the Danube-the West, irregular, served by "Carpați" and "Bucegi" ships, having 7,150 dwt, should be optimised, transforming it into a regular line. The RMS regularly operated, for a number of years, the Danube-Rotterdam line, but, when less quantities of coal were imported from the West, this line changed. Instead of loading coal while returning, general goods were loaded, in Antwerp and Liverpool, based on the convention with Johnston Line, with direct bill of lading and 45% discount on CFR (the Romanian Railways). However, the discount on CFR is also enjoyed by the British goods brought by the Johnston line ships and, following the Italian Legation in Bucharest request to grant the same CFR treatment to Italian goods, based on the "most favoured nation" convention, it was put an end to the convention with Johnston Line and to the transport of general goods from Liverpool.

However, the development of the Romanian food industry requires a regular line the Danube-the West, although the export of cereals and timber to England and the West is sporadic and irregular, therefore it cannot be counted on, although the return freights are not found continuously and at regular times. For the regular operation of the Danube-the West line, a minimum of four 7,000-8,000-ton vessels, equipped with refrigerators and having a maximum draft of 23 feet, would be needed in order to be able to cross

the Sulina Bar without hauling. We count 8,000 dwt as a maximum tonnage for a regular Danube-West line, for the following reasons:

1. The higher the capacity, the more difficult it is to complete the cargo, the loss of time can give rise to irregular departures and arrivals and the ships would no longer benefit from the reduction of EDC fees on the Danube.

2. Even if full cargo is found, the overcapacity of ships prolongs the loading and unloading time and the line would require more ships to be operated regularly, so more capital to invest.

3. During the summer, it is not much cargo in the Danube for the West. For high-capacity cargo ships, over 8,000 dwt, shipowners are obliged to look for cargo in other directions, Argentina, Australia, India. However, the Romanian state is not qualified to invest capital in order to facilitate the export of other countries.

4. Return cargo is harder to find if the ship's capacity is too large. Coal consumption in the Mediterranean countries has been reduced by the use, both at sea and on land, of fuel oil, engines, electrification of railways and the use of waterfall energy etc. A too low tonnage would be not enough to ensure a return on normal freight, if the ships were to be used freely, which is the case. Of course, both passengers and freight prefer regular and fast lines, but if a regular line could not be maintained because it would be deficient, ships should have sufficient tonnage to ensure their profitability, in free operation, where the freight is located. Large cargo ships are cost effective, even with low freight, which is why 10,000 dwt cargo ships are being built.

In summary, for the Western Mediterranean line, three 5,500-6,500-ton vessels are needed to replace the old "Transylvania"-type ones, and for the Danube-the West line, four 7,000-8,000-ton vessels to replace "Carpați" and "Bucegi" ships, and to establish a regular line in order to favour the export of Romanian industrialised products.

But replacing old ships with modern vessels while maintaining the current line scheme is not enough. It is necessary to provide the naval equipment for the development of the Romanian Maritime Service. Firstly, 3 oil tankers must be built, as a starting point, through which at least the state royalty can be exported. Currently, the contract with "Pertofina" prevents the state from exporting its royalty with its tankers, but this contract will end in a few years and the construction of at least 3 tankers must be foreseen, of which one of 5,000 tons for the Mediterranean and two of 10,000 for the West. Finally, we must also take into account the competition we face in the East from the Hungarian Detert shipping line. In this respect, despite the DOV agreement concluded with the Danube shipping companies and the Adriatic Company, the Hungarian Shipping Company is a serious competitor.

In issue no. 2414 on 20 September current year, "The Shipping World" magazine published an interesting article regarding the vessels under Hungarian flag that transport goods between Budapest and the ports in the Levant. The small vessels were built following the model of German coast vessels in the North Sea and then Baltic Sea, which transport goods



between the ports on the Rhine and those in Eastern Prussia. Following this model, in 1934, it was built at Ganz Co. Budapest, by the Hungarian River Navigation Society, the vessel "Budapest" having a capacity of 480 dwt, and 2 Diesel-electric engines, 350 HP together, with 10 knots speed and 2.3 m draft, namely 7.5 feet.

The results being satisfactory, the freight no longer being reloaded in Galați from barges into sea vessels and vice versa, the above-mentioned Hungarian company built in 1936 the second vessel "Szegeđ" of 527 dwt, with the same draft and speed. In 1937, the third "Tisza"-type vessel with a 1,000-ton capacity and 800 horsepower was built. It now serves the Budapest-Sulina-Istanbul-Alexandria line. In the current year, 2 Hungarian companies, "Orient Line" and "Hungarian Breight Shipping Co", contracted a 1,100-ton "Tisza"-type vessel to Ganz, which shows that the operation of this type of ship is profitable, avoiding the transshipment of goods, which involves expenses, loss of time and damage to packages. The Hungarian vessels associated under DETERT Company are serious competitors for us in the Levant, in terms of DOV traffic. It is, however, necessary to purchase 2 small vessels in order to be able to sail up to the Danube at least as far as Budapest. By creating this line, "Cetatea Albă" ship, being built in Severin, could be used.

In addition to the mentioned lines, the RMS was requested by the Ministry of Foreign Affairs, since 1937, to open the line the Danube-Constanța-Trabzon. However, because of the lack of tonnage, the RMS postponed the opening of the mentioned line until the 4 vessels ordered in Italy and earmarked for the lines the Levant and Archipelago arrived in the country, thus the old ships that are to be withdrawn from this line being used on the line the Danube-Constanța-Trabzon. Moreover, the road connecting Trabzon and Bazergan, on the Turkish border, and Tebriz in Iran was not completed. During the meeting with the Turkish delegates at the Ministry of Foreign Affairs in the autumn of 1937, they did not agree with the Turkish Black Sea Shipping Company to operate the line the Danube-Trabzon together with the RMS, arguing that the mentioned line could deprive the port and city of Istanbul of a considerable part of shipping. Currently, the goods that come from Iran via Trabzon are transported to Istanbul using the vessels of the Turkish shipping company. From Turkey, they are transported on the road to Central Europe and by sea in Greece, Italy and the West. In 1938, the Ministry of Foreign Affairs notified the RMS, asking if the decision to establish a passenger and cargo line between Brăila-Constanța-Trabzon was maintained. It was answered that it was maintained in principle, but the RMS could not establish the line until the four vessels ordered in Italy arrive in the country, when the vessels that operate the Danube-the Levant line remain available to serve the Danube-Trabzon line. Finally, the Galați Shipyard, in association with Otto Wolf Company, suggests building vessels in the country, payable in lei, which has the advantage of developing the shipbuilding industry and of the RMS using lei-paid vessels, which can generate forte currency through the freight. The vessels under construction in Palermo are to be paid in 5 years in Italian-Romanian clearing,

which helps circulating the sums of Italian lire blocked in Italy. We have considered the directions for the RMS development and the procurement of the necessary capital for the needed investment in this regard. Moreover, the competition the RMS faces in its directions of activity has to be taken into account. Our competitors in the ports of the Maritime Danube, in the ports of Greece, Turkey, Syria, Palestine, Egypt and Italy are the Greeks, Italians and, to a lesser extent, the French and the Russians. Considering the existence of the 2 passenger ships, "Transilvania" and "Basarabia", built at Burmeister&Wain Copenhagen, and the ongoing construction of the 4 cargo ships at Cantieri Navali Reuniti, Palermo, the Italians have decided to modernise their old naval equipment that is currently used to serve the ports at the Danube and in the Levant. It happened the same in 1905-1906, when the passenger ships "România", "Împăratul Traian" and "Dacia", 18-mile speed, were built for the line Constanța-Alexandria, which connects Paris, Vienna and Berlin with Cairo. This passenger line used to compete the Austro-Hungarian Lloyd line Trieste-Alexandria. This company, subsidised, built 2 large passenger ships, Wien and Heluan, 18-mile speed, using fuel oil as combustible. Currently, the grandiose programme to renew the Italian merchant fleet, set by the Duke, as it is written in the maritime journal "Mercati d'oltremare" in the August issue this year, has determined the 4 large Italian navigation companies: Italia, Lloyd Triestino, Adriatica and Tirrenia to associate under the name of "Finmar" and order the construction of 44 modern vessels, amounting to 250,000 gross tonnage. For the line Italy-Piraeus-Rhodes-Alexandria, "Calitea" and "Calino" passenger ships were launched.

From the comparison of the characteristics of these 2 vessels with those of the vessels "Transilvania" and "Basarabia", it results that they have higher tonnage and speed, but have fewer passenger cabins and load less cargo. Consequently, the Italian vessels are more economical in terms of port and consumption taxes and more profitable in terms of passenger and freight income. The 4 "Sulina"-type vessels under construction in Palermo are mixed ships, with a low net tonnage, low consumption and economical speed, but with a large cargo capacity. This is how the above-mentioned cargo ships should be built. The "Sulina" vessel was sent to New York to bring materials to the Ministry of the Armed Forces Equipment and to the one of the Air and the Navy.

The results of this serious attempt will be seen when it returns.

CHAIRMAN

RMS STEERING COMMITTEE

Commander Gh. Constantinescu

RMS Director

Rear Admiral C. Boerescu

(AMNR, *Microfilme collection*,
roll P 3.1173, c. 704-714)



Annex no. 2

MATERIALS ON BOARD OF "MANGALIA" SHIP IN JULY 1940

Consignee, commodity value (lei)	Materials (unit)	Quantity
Ministry of the Armed Forces Equipment (106,076 million)	Zinc	672,015
	Copper	896,178
	Barbed wire	6,370,389
	Toluene	249,550
Ministry of the Air and the Navy	Oil	1,748,820
	Pump parts	8
	Electrodes	1,186
	Aircraft parts	1,099
	Oil	1,454
	Machines and tools	1,196
	Tools and grinders	624
	Vice jaws and lathes	45
	Lathes equipment	1,572
	Ball bearings	98
	On-board devices for aircraft control	4
	Ball bearings	791
	Aircraft engine parts	1,211
	Ethyl glycol	4,950
	Nichoilseal	4
	Engine parts and metal plates	4,646
	Nickel and chrome plating equipment	2,826
	Copper pipes	4,163
	A small package of diamonds	-
	Steel bars	31
	Cyclohexanol	4,750
	Kitchen electrical equipment	1,172
Refrigerator electrical equipment	1,412	
Ministry of Foreign Affairs (2,0 million)	Typewriters	427
	Ribbons	80
R.M.S. (2,840 million)	Marine oil	156,690

Consignee, commodity value (lei)	Materials (unit)	Quantity
Ministry of National Economy (17,2 million)	Nut processors	145,085
Arta Film	Films	300
Astra Armament București (8,418 million)	Copper wires and bars	330,690
International Hovatur Corp. București	Agricultural machinery spare parts	788
TOTAL (136,534 million minus the value of the goods destined to M.A.N.)		10,604,254=4,403. 8 T

(AMNR, *Ministerul Aerului și Marinei (Ministry of the Air and the Navy – M.A.N) collection*, file no. 5530//1940-1941, p. 91)

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DOBROGEA DEFENCE SYSTEM ORGANISATION AND ACTION IN THE YEARS 1939-1941

Costin SCURTU

King "Ferdinand I" National Military Museum, Constanța branch
DOI: 10.55535/RMT.2022.2.12

The European political events of the fourth decade of the twentieth century had bad repercussions on Romania's security system, which led to the intensification of measures to prepare the economy, population and territory for defence so that the Romanian army was able to counter possible aggression on the national territory. Dobrogea was to know, in its turn, the transformations of the Romanian territory defence system: the 9th Infantry Division was located on the southern border of Dobrogea, and the 10th Infantry Division was located in the Delta and Tulcea County area. In those circumstances, the then-mayor of Constanța, General (r.) Teodor Nicolau, took measures to protect the population in case of possible bombing, building high-capacity underground shelters.

Keywords: World War II; Dobrogea; 9th Infantry Division; 10th Infantry Division; anti-Soviet front;

English version by Iulia SINGER.

No. 2/2022

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The political events in Europe in 1938 had bad consequences on Romania's security system (Petrache, 2009, p. 6)¹, so military decision-making structures had to intensify measures to prepare the economy, population and territory for defence so that the Romanian army should be able to repel possible aggression against the national territory.

The rapid destructuring of the entire security system created by Romania in the interwar period made the situation critical. Dobrogea would know, in its turn, the transformations of the defence system of the Romanian territory. On 10 February 1938, by Decree no. 828, a new organisation of the Land Army was established for peace, as follows: seven army corps, 21 infantry divisions and nine motorised brigades. Of the 21 infantry divisions, nine were intended to cover the border: four on the western frontiers (1, 16, 17, 19), four on the eastern frontier (8, 12, 14, 15) and one (D. 9) on the southern border of Dobrogea. The other 12 infantry divisions, the 1st and 2nd Motorcycle Brigades were scheduled to be stationed inside the country (AMR, collection 333, file no. 1757, pp. 5-35).

On 3 March 1939, the *Law for the active and passive anti-aircraft defence of the territory no. 938* was passed. The General Surveillance and Alarm Service of the Territory was also reorganised, subordinated to the defence groups against operational aircraft. As a result, it was requested the organisation of the underground shelters and the increase in the passive defence works at the school institutions based on the orders of the Ministry of National Education no. 1700 of 1938. The measures requested and applied by the mayor of Constanța, General (r.) Teodor Nicolau (1878-1952), consisted of:

- a) setting up underground reinforced concrete shelters in the vacant place next to the school, used for the market, or in another more suitable place;

¹ General (ret.) Ion Tutoveanu, former Chief of the General Staff, remembered that the 1935-1938 class from the Military Infantry School was called "the disarmament promotion".

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MILITARY HISTORY

The political events in Europe in 1938 had bad consequences on Romania's security system, so military decision-making structures had to intensify measures to prepare the economy, population and territory for defence so that the Romanian army should be able to repel possible aggression against the national territory.



The mayor of the city took measures to protect the population in case of possible bombings, building high-capacity underground shelters (for 500 people). Also, on his initiative, a defence dam was built in the north of the city.

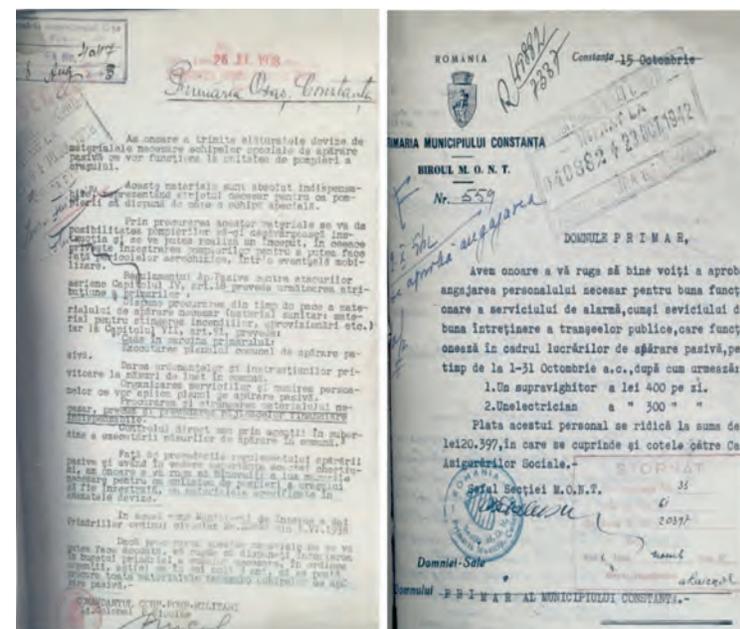
- b) placing sandboxes in the corners of bridges, provided with shovels;
- c) installing fire extinguishers to put out or locate fires until the arrival of communal firefighters;
- d) constructing a fixed staircase for climbing the attic;
- e) manufacturing fire hydrants and water vessels;
- f) creating stretchers with sanitary stretchers;
- g) making kits equipped with everything needed for health care;
- h) applying – in due time – fireproof materials on the woodwork of the roof of this building and purchasing such material;
- i) laying a layer of sand in the attic, about 2-3 cm;
- j) installing a telephone in case of alarm to get help immediately.

The coordinating role was played by the Communal Committee for Passive Defence of Constanța (DJAN, Report to the Mayor of Constanța, 1939). The mayor of the city took measures to protect the population in case of possible bombings, building high-capacity underground shelters (for 500 people). Also, on his initiative, a defence dam was built in the north of the city².

By Ordinance no. 16253 of 20 June 1939, the conditions for bathing on the beaches of Constanța were established. It was stipulated that, in Mamaia, it was forbidden to bathe (military) troops, horses or wash any kind of vehicle. The reference was made concerning the hydro-aviation military structures, which were based in Siutghiol, in the vicinity of Mamaia resort. However, they were allocated a separate bathing place, north of Hotel Rex, near the village of Mamaia.

² General (r.) Teodor Nicolau was the commander of the 36th Infantry Regiment “Vasile Lupu” between 1 July 1914-10 May 1915. He was decorated in the First World War. At the age of 59, on 19 September 1938, by Royal Decree no. 3237, he was appointed as mayor of Constanța. On the day Armand Călinescu was shot (1940), to prevent a riot and acts of vandalism in the city, mayor Teodor Nicolau went to all the regiments in the city, sounded the alarm, formed guards and sent them at the Prefecture, City Hall and Post Office. No special events took place in the city. He was dismissed from the position of mayor of Constanța in 1940, when the legionnaires came to power. At the time he left from office, Constanța City Hall had in the accounts of the National Bank the amount of 18 million lei, and in its own warehouses 100 wagons of wheat, stored for possible periods of crisis. (Bota, 2016).

Another ordinance, no. 349 of 14 September 1939, stipulated the theoretical and practical training of passive defence of the population every Sunday³.



Documents on applying the measures for organising Constanța's passive defence⁴.

On 31 March 1939, by Law no. 1493, the technical facilities of the Ministry of the Army Procurement and the Ministry of National Defence were organised in the form of autonomous public administrations. Among many other issues of military organisation, the project of the military port of Tașaul, near Constanța was discussed.

The Minister of Procurement, Victor Slăvescu, would get to know the problems of the Army after he became Minister, on 1 February 1939,

³ Passive defence training courses were to be held in the “Tranulis” cinema, Tăbăcăriei neighbourhood, School no. 4, the Workers’ neighbourhood, the I.Gh. Duca School, Anadolchioi and M. Koiciu neighbourhoods, the Mixed School no. 13, Viile Vechi, DPM and SPM, School no. 6, Viile Noi neighbourhood, the Mixed School no. 17, Km. 5 neighbourhood, the Mixed School no. 18, Medeea neighbourhood, the Mixed School no. 15, Brătianu neighbourhood, the Mixed School no. 14, Movilița neighbourhood, the Mixed School no. 19. The courses began on 17 September 1939, for two hours a month, between 11:00 and 13:00. Those who skipped classes were liable to a fine of 500 to 2,000 lei or imprisonment from one day to one month. SJANC, Constanța City Hall Collection (1878-1950), file 16/1938; 61/1938, 85/1939, 95/1942.

⁴ Report to the mayor of Constanța, 1939. Source SJANC, Constanța City Hall Collection (1878-1950).



ROMANIAN
MILITARY
THINKING

On 31 March 1939, by Law no. 1493, the technical facilities of the Ministry of the Army Procurement and the Ministry of National Defence were organised in the form of autonomous public administrations.



In 1932, the Romanian military aviation resembled "a museum worthy of competing with a perfectly organised exhibition, with no less than 25 types of cells and more than 15 types of engines".

concluding that the situation was about eight years old⁵, due to the participation of some decision-makers from the royal camarilla⁶. On the eve of his appointment as minister, there was a "state of slackness and lack of coordination" in the ministry (Slăvescu, p. 316), so Victor Slăvescu began conducting inspections at large units and units to personally check the condition of the weapons, the training and commanders. The first destination was Dobrogea (10 July 1939), where he was greeted by General Nicolae Macici, commander of the 9th Infantry Division ("mediocre impression as intelligence and understanding") (Ib., p. 407; Spănu, 2017, p. 31), alongside whom he travelled to the Quadrilateral. In Bazargic he inspected: a division of the 18th Artillery Regiment ("savage officers, calm and confident colonel") (Ib.), 12th Roșiori Regiment, commanded by Colonel Bossie ("mediocre impression") (Ib.), 40th Infantry Regiment (Colonel Pârnu – "good impression") (Ib.), and in Silistra, the 36th Infantry Regiment (Colonel Basta – "poorly settled") (Ib.). He returned in a week and, together with General Macici and engineer Chiriac, visited the stage of the works at the port of Tașaul, then the 13th Artillery, 18th Artillery and 34th Infantry Regiments, which gave him a "good impression". (Spănu, pp. 28-35).

As a result of the mobilisation of the Romanian Armed Forces, decreed by the Romanian General Staff on 1 September 1939⁷, "starting with 23 September this year, the 2nd Army was established, according to the order of the General Staff no. 11251/39" (Neagoe, p. 15), as stated in a report by its commander, Major General Nicolae Ciupercă⁸.

⁵ In 1932, the Romanian military aviation resembled "a museum worthy of competing with a perfectly organised exhibition, with no less than 25 types of cells and more than 15 types of engines" (cf. Zaharia, Botoran, 1981, pp. 141). For some aspects of the arms business, see also Nicolescu, 2005, pp. 591-596. In fact, Victor Slăvescu writes that Ionel and Vintilă Brătianu greatly neglected the issue of armaments (Slăvescu, 1996, p. 344), a statement all the more important as the two were his party colleagues.

⁶ The fall in disgrace, in 1934, of future Marshal Ion Antonescu, military attaché in London, was, to a large extent, the consequence of the protests against such royal arms business. Of course, at that time, there was no ministry of military procurement.

⁷ The Polish treasure that transited Romania, after the country was occupied by the Germans and the Soviets, was loaded on an army-guarded train, transported to the port of Constanța, loaded by bank employees aboard the small armed tanker "Eocene", which arrived at Istanbul and then to Beirut, under French rule. From there, after France agreed to host it, it was loaded on three cruisers and arrived in Toulon in early October, then at the branches of the Bank of France in Nevers and Angers.

⁸ Major General Nicolae Ciupercă was the head of the Operations Department during while General Alexandru Averescu was in command of the 2nd Army during the First World War.



Realitatea ilustrată, 12 September 1939 (Pogăciș, Historia).

During the war, the Romanian armed forces owned an extremely wide variety of aircraft, armoured vehicles, artillery and means of transportation, a variety that brought great difficulties in terms of spare parts, maintenance and supply of ammunition and other consumables.

Victor Slăvescu undertook a new inspection at the 2nd Army, in southern Dobrogea (4-5 November 1939), at: 12th Roșiori Regiment, 10th Infantry Division, 23rd Infantry Regiment, 20th Artillery Regiment ("excellent impression") (Slăvescu, pp 446; Spănu, p. 32), 9th Infantry Division, 40th Infantry Regiment and 18th Artillery Regiment ("very good impression") (Ib.), and other military units would be checked.

In 1939, the 132nd Signal Company was founded, which operated under the 9th Dobrogea Infantry Division. It had a staff of 6 officers, 30 non-commissioned officers and 229 soldiers. At the beginning of World War II, the company had 4 officers, 7 non-commissioned officers, and 203 soldiers. The commander of the company was Ion Eremia, during the whole war, with a short interruption, in the period January-April 1943, when Captain Stelian Șerbănescu was in command (then called the 132nd Signal Detachment). During the war, the broadcasting company gradually changed its structure and name, depending on the unfolding of events.



ROMANIAN
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Starting on 18 September 1939, the General Staff began to redeploy large Romanian units in a circular defence disposition. The procurement efforts were hampered by delays on the part of the great powers and the tendency of intermediaries to take advantage of Romania's situation by raising prices.

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According to the Germans, the Soviet action of 1940 against the borders of Romania had to be initiated after the negotiation of peace in the West. The circumstance surprised several European governments, which expected such an outcome, but did not believe it would occur so quickly. Brugger, the French representative in Belgrade, informed (on 29 June 1940) that the Germans had only been notified a few hours before the ultimatum was sent to Romania, and the same happened with the Italian government.

The Yugoslav General Staff had the information that, to avoid more claims on Romania, it "would have gotten certain promises from Germany and, thus, the setting up of Russian bases in Galați and Constanța was avoided. It is hoped that this attitude of Berlin will calm the Hungarians and Bulgarians" (Faur, 2010, p. 404). After the border was moved on the Prut River in June, other territorial divisions followed on 30 August 1940, and in September Romania also lost northwestern Transylvania and southern Dobrogea. It should be noted that, after the Soviet ultimatums of 26 and 28 June 1940, Snake Island was not taken over by the USSR, and during the war, between 1 August 1941 and 25 August 1944, Snake Island was in the subordination of the German commander, Admiral Schwerzes Mer (Bușe, 2005, p. 152).

By the decrees of 5, 6 and 8 September 1940, the form of leadership of the Romanian state went through essential changes. The king, namely the new king, Mihai I, formally remained the "Head of the Army", but his possibilities of intervention to command the Armed Forces were insignificant. The entire responsibility for the military as well fell under General Ion Antonescu, who was also minister of national defence between September 1940 and January 1941 and September 1941 and January 1942⁹.

⁹ General Ion Antonescu also took on the function of "Commander-in-Chief" of the army, a body that had been foreseen since the interwar period, but it was stipulated that it would be fulfilled by a general appointed by the king. Such a delegation could be made by the leader, but he preferred to leave the Vice President of the Council of Ministers, Mihai Antonescu, in charge of the leadership of the government, while he, the military man, would devote himself exclusively, at least in the first part of government, to leading military operations.

The Treaty of Craiova was signed on 7 September 1940, by His Majesty the King of Romania's envoys – Alexandru Cretzianu and Henri-Georges Meitani, respectively by His Majesty the King of Bulgaria's envoys – Svetoslav Pomenov and Teokhar Papazoff. The signatory parties agreed that, within three months of the delivery of the instruments of ratification, they should proceed to the compulsory exchange of population in Durostor and Caliacra counties. The document was ratified on 13 September 1940, by General Ion Antonescu, as President of the Council of Ministers, and not by the King of Romania, Mihai I, a contracting party to the treaty. The two countries carried out bilateral population exchanges. The Bulgarian side stated that, with the incorporation of southern Dobrogea, Bulgaria "will never again make any claim against Romania, considering the Dobrogea issue settled forever" (MAE, p. 354)¹⁰. The entire evacuation operation had to be carried out with the help of the army.

The evacuation of South Dobrogea by the Romanian authorities and the setting up of the Bulgarian ones were to take place between 20 September and 1 October 1940, with the date and time for each stage being specified to prevent any direct contact between the troops of the two countries. The territory taken over by Bulgaria was about 7,700 km².

After the territorial seizures against Romania, the large operational and tactical units that had been deployed in the temporarily occupied territories withdrew to the inside and changed their structure. An important issue was establishing the relationship between the General Staff and the Ministry of National Defence. After General Ion Antonescu came to power, the command of the Armed Forces was taken over exclusively by the General Staff (AMR, General Staff Collection, p. 298). Thus, on 12 September 1940, the 2nd Army subordinated the 2nd Army Corps, with its headquarters in Bucharest (for a while in the Constanța garrison as well), and the 3rd Army Corps, with its Buzău garrison headquarters (Neagoe, 2011, pp. 11-14).

In the religious life of Romania, there was also the first sign of change, with the decision of the Ministry of Cults and Arts of 9 September 1940, entitled "Historical cults protected and authorised to function", which stated: "Seeing the new order that was given

¹⁰ At that time, there were 58,000 and 59,000 Romanians in Caliacra and Durostor counties, respectively, and in Tulcea and Constanța counties – 23,000 and 26,200 Bulgarians, respectively.



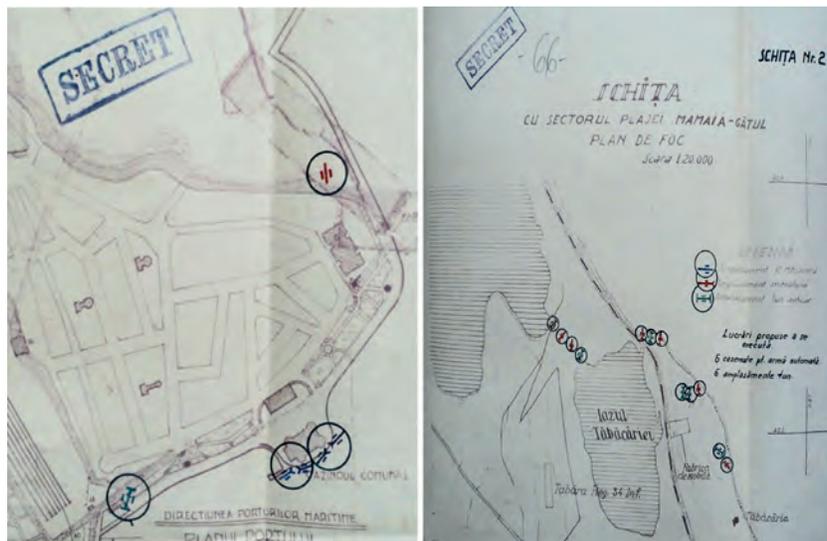
ROMANIAN
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THINKING

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to the Romanian State, which became fascist, Christian and totalitarian [...], the Romanian State also protects the authority and functioning on its territory of the following historical cults: a) the Romanian Christian-Orthodox cult, which is the dominant religion in the State [...]". The decision was signed by Minister Radu Budişteanu (*Culte istorice*, 1940).

On 22 September 1940, based on the "Armed Forces Reorganisation Project", initiated by the head of state, Ion Antonescu, and applied by the Romanian General Staff, the command of the 2nd Army was disbanded, the 2nd Army Corps being made available to the General Staff, and the 3rd Army Corps became subordinate to the 4th Army.



The secret plan of defence organisation in the Port of Constanța. Blueprint of Mamaia beach with the mouths of fire (SIANC, 1938).

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¹¹ According to the convention made at the level of the defence ministries of the forces of the member states of the Warsaw Pact, the 2nd Army participated with operational groups in several exercises of command and front staff, on the map, in the garrisons of Mangalia, Constanța and Neptun, as well as on the territory of the Republic of Bulgaria – "Shield – 82", "Balkans – 86", "Balkans – 88", being, each time, appraised for cohesion, way of working and just decisions adopted (Ib., p. 14).

organisation, mobilisation and training of troops and commanders, as well as drafting the operation plans (AMR, collection 332, pp. 21-23).

On 5 November 1940, the 53rd Squadron moved operationally to Pipera airfield, with Romanian pilots training with German instructors from the Military Air Mission. On 24 January 1941, the 53rd Fighter Squadron moved to Constanța, on Mamaia airfield, with the mission of defending Dobrogea and southern Basarabia. With this deployment, the 53rd Squadron pilots were placed on the front line in the event of a Soviet Union attack on Romania.

By applying the anti-Jewish legislation, the Jewish population was separated from the other Romanian citizens from a legal, political and social point of view. Banning the Jews from the Romanian society also meant banning them from the Armed Forces. Under the *Decree-Law on the Military Status of Jews*, adopted in December 1940, all Jews were excluded from military service and pre-military service, forcing them to pay military taxes and perform public service¹². Jewish physicians, pharmacists, veterinarians, engineers, and architects requisitioned in the Armed Forces during prolonged periods of recruitment or war were required to wear speciality uniforms, but with distinctive signs to mark their ethnicity (*Regulamentul asupra Decretului-lege relativ la Statutul Militar al Evreilor/Regulation on the Decree-Law on the Military Status of Jews*).

The Eastern war (1941-1944) was, from one end to the other, a national and anti-communist one. In the real conditions of that time, Romania struggled to restore its historical borders in the East, on the Nistru River, lost in 1940. In the name of the "holy war", after the liberation of Basarabia, the Romanian soldiers (and Dobrogeans from November 1942) reached Stalingrad.

In June 1941, Romania renounced neutrality and went to war alongside Germany. On 22 June 1941, the Barbarossa Plan defined

¹² For the military status of the Jews, see *Legislația Antievreiască* (ed. Lya Benjamin), Editura Hasefer, București, 1993, doc. 25: Decretul lege relativ la statutul militar al evreilor/Decree-Law on the Military Status of Jews (4 December 1940); doc. 29: Decizia Ministerului Apărării Naționale nr. 23325 din 27 ianuarie 1941 privitoare la medicii, farmaciștii, veterinarii, inginerii și arhitecții evrei folosiți eventual în serviciile Armatei/Decision of the Ministry of National Defence no. 23325 of 27 January 1941, concerning Jewish physicians, pharmacists, veterinarians, engineers, and architects who may be employed in the Army; doc. 43, Regulamentul Ministerului Apărării Naționale nr. 2030 din 12 iulie 1942 asupra Decretului-lege nr. 3984 din 4 decembrie 1940/Regulation of the Ministry of National Defence no. 2030 of 12 July 1941 on the Decree-Law no. 3984 of 4 December 1940, p. 159.



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During the German anti-Soviet campaign in the East (1941-1944), the Romanian General Staff was formed in two echelons, out of which the 1st Echelon operated intermittently under the name of General Headquarters and had operational duties, leading the forces on the front.

the beginning of German-Romanian-Soviet hostilities. Until 26 July 1941, it was carried out the plan of operations of the “General Antonescu” army group, within the “South” Army Group (Field Marshal Gerd von Rundstedt), for the liberation of Basarabia and northern Bucovina (*Report No. 59,240 of 9 August 1941*), Romanian territories which had been occupied by the USSR in the summer of 1940¹³.

During the German anti-Soviet campaign in the East (1941-1944), the Romanian General Staff was formed in two echelons, out of which the 1st Echelon operated intermittently under the name of General Headquarters (*Istoria Statului Major român*, 1994, p. 57; Apostol, Giurcă, Chiriac & Baltă, 2000, pp. 152-153) and had operational duties, leading the forces on the front (those that were not under German command).

The plan was the use of the Romanian Royal Navy, based on the Order of Operations no. 44 of 21 June 1941, issued by the Military Navy Command. Given the superiority of Soviet forces, the plan was to adopt a defensive attitude with the main purpose of defending the sea and river coast, gravitating with most forces and means in the areas of Galați, Tulcea and Constanța. Offensive actions during this period were limited to the Danube Delta, to fix or destroy Soviet forces acting on the Chilia branch. On 28 June 1941, the 2nd Army consisted of the 2nd Army Corps, the 1st Border Guard Division, the 4th, 9th, 10th Infantry Divisions, the 7th Cavalry Brigade and the “Danube” Detachment.

Regarding the organisation of Dobrogea’s defence, the following forces were deployed in the region:

- Land Forces – the 2nd Army Corps, commanded by Major General Nicolae Macici, consisted of the 9th and 10th Infantry Divisions. The 10th Infantry Division was directly subordinated to the General Headquarters.
- Forces subordinated to the Romanian Royal Navy Command, commanded by Rear Admiral Eugen Roșca, were composed of the Sea Division, the Danube Division, the Sulina Maritime

¹³ A. Hitler’s message to I. Antonescu – appreciations regarding the goal accomplished by the Romanian troops, for which the head of state received “the most sincere thanks for the brave attitude and activity carried out both on the Prut and in Northern Bucovina. In this first phase of the war, it successfully contributed to restraining the enemy forces before them”. Arhivele Naționale Istorice Centrale/Central National Historical Archives (hereinafter, ANIC), PCM-CM collection, file 24/1941, pp. 3-6, the original text of the document, with the handwritten signature of the Führer; Arimia, V., Ardeleanu, I., Lache, Șt., *Antonescu-Hitler*, I, doc. no. 18, pp. 110-112.

Detachment, the Marine Engineering Regiment, the Marines Regiment, the Marine Artillery Regiment.

- Air Force – 101st and 102nd Squadrons from the Seaplanes Fleet, 16th Fighter Surveillance Squadron and 53rd Fighter Squadron.
- Troops of border guards and gendarmerie in the area, which were mobilised and consolidated.

In the Royal Navy, in 1941, there were two education institutions: the Naval School (naval officer school) and the Specialty School (petty officer school).

The commander of the 10th Infantry Division, Brigadier General Ionel Glogojanu (1888-1941)¹⁴, ordered the setting up of the following defence disposition: West Tactical Group – 1st Battalion/23rd Infantry Regiment; Centre Tactical Group – 38th Infantry Regiment; Eastern Tactical Group – 33rd Infantry Regiment; 1st Tactical Detachment Sulina – Marines Regiment; The artillery of the division – 3rd and 10th Artillery Regiments – was stationed at Garvăn and Isaccea.



Brigadier General Ionel Glogojanu

After August 1941, the General Secretariat of the Ministry of National Defence was in charge of turning the decisions of the Minister of National Defence into orders and guidelines, signing documents for the Minister of National Defence, and coordinating, according to the guidelines and on behalf of the Minister, the common work of all state under secretaries established in the autumn of 1940: of the Army, of the Air and Navy and of the Armed Forces Procurement and Administration (General Secretariat of the Ministry of National Defence, p. 15).

However, the Basarabia campaign brought to light a painful fact: the poor training and procurement of the armed forces. The Romanian propaganda on the Eastern Front demanded that some of the Church’s litanies and prayers were adapted to the requirements of the war, namely that those words like Agarians (Turks, invading enemies)

¹⁴ During World War II, Brigadier General Ionel Glogojanu took part in the fighting in Odessa, and after the division entered the city, he was appointed military commander of the city. He died on 22 October 1941, following an explosion in the Odessa military command building, which was mined by Soviets who were withdrawing. http://enciclopediaromaniei.ro/w/images/4/47/Ion_Glogojanu.jpg, retrieved on 28 September 2021.



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The general action plan at the beginning of the war stipulated that the Dobrogea forces would carry out defensive actions to defend the maritime and fluvial coast. The command of the combat actions belonged to the Romanian Royal Navy until the completion of the bridgeheads by the enemy, in case of sea landing or in case of forcing the Danube.

were replaced by Bolsheviks, a sign that showed the important shift in the collective mind of a country engaged in an exhausting war (Bănică, 2007, p. 118)¹⁵.

Colonel Dumitru Arăpașu wrote: *“The 10th Infantry Division, in which I served, was deployed [...] in the north of Dobrogea, on the Danube, including on the northernmost arm of the Delta, in front of the Moldavian SSR. Since I had just taken a specialisation course for surveillance unit commanders, I was at the head of such a unit in front of the division. This allowed me to carry out broader and more in-depth surveillance and to better understand the conduct of military operations.*

[...] On a cloudy, low-visibility morning, in the spring of 1941, a camouflaged Soviet military ship attempted to enter the Delta under the pretext of hydrological research in Romanian territorial waters. The commander of the division, Infantry General G. Avramescu (later commander of the 4th Army, between 1944 and 1945 – A/N), asked General Costin Ionașcu, the commander of the artillery (future chief of staff between 1945 and 1947 – A/N), to open fire if the ship did not obey the order to withdraw.

[...] I gave this order and the shot was fired. The projectile fired from the nearest gun, an old Debange cannon, a veteran of the fortifications of the First World War, transported with difficulty with an ox cart, unfortunately took the whole cannon with it. It had not been operated for a long time. The ballistic effect was zero, but the noise was impressive. The result: the spy ship withdrew, convinced of the effectiveness of our artillery’s fire plan. The experience could have been useful for us if we had had the opportunity to replace this long-gone asset” (Arapu, 1990; Hentea, Historia).

The general action plan at the beginning of the war stipulated that the Dobrogea forces would carry out defensive actions on the maritime and river coast. The command of the combat actions belonged to the Romanian Royal Navy until the completion of the bridgeheads by the enemy, in case of sea landing or in case of forcing the Danube.

¹⁵ Dudu Velicu was the personal secretary of Patriarch Miron Cristea and the chief of staff of the director of the Special Intelligence Service, Eugen Cristescu.

Here are some of the measures taken to strengthen the morale of those who joined the military, but also of those who remained behind the front (AMR, collection 332, file 62, pp. 109-110): *the Decree-Law to help the needy families of the enlisted personnel*, of 21 February 1941¹⁶: *“Art. 1. The families of those enlisted as part of troops (soldier, private, corporal, sergeant), deprived of their means of subsistence, have the right to receive the family allowances provided in the present decree-law” (Monitorul oficial al României, 1941).* Considering the severe lack of workforce in agriculture (Firoiu, Marcu, 1984, p. 431)¹⁷, through the provisions of art. 5 of the mentioned decree, the families of the beneficiaries of financial aid were also granted the right to receive aid for *“carrying out agricultural work during the absence of the enlisted person and for aid in kind, as possible”* (AMR, 5475 collection, file 2878, p. 4.), a series of norms regarding the application of the framework available in the armed forces, on 30 May 1941 (Seserman, Moșneagu, Tase & Mureșan, 2012, p. 92)¹⁸.

By the decree of 25 June 1941, among the 52 militarised enterprises there were the Maritime Ports Directorate, the Romanian Maritime Service and the Constanța Shipyard. With the outbreak of fighting, the entire region of the Danube Delta was declared an area of operations, and German troops were stationed in the ports of Sulina, Constanța and Tulcea.

On 21 June 1941, the Sea Division included: The naval maritime force, consisting of destroyers, torpedoes, gunboats, a submarine, and torpedo boats; the defence of the port and the Constanța area; coastal artillery groups Constanța (then Mangalia); the seaplane fleet with 20 seaplanes. They were supported by monitors and river ships squad and the Tulcea tactical group from the Danube Division,

¹⁶ The Decree-Law established two types of quotas: the main quota, which was intended to cover the general expenses of the household of the concentrated person; Additional quota, intended to cover the maintenance expenses of all family members in charge of the concentrated one. These quotas were paid through the military units in which the beneficiaries were employed, who, at the request of the authorities, were meant *“to give an account of the use of the aid received”*. (AMR, 5475 collection, file 2878, pp. 4-5).

¹⁷ By Decree no. 2741 of 1 October 1941, for the wartime work regime, the leave and the Sunday rest were suspended. In May 1941, Decree Law no. 1403 for the organisation of national work was drawn up, and in November 1941, the establishment and organisation of the General Inspectorate of Camps and Colonies of Compulsory Public Work (Decree No. 3205) was legislated, with mandatory forms for each inhabitant of the country.

¹⁸ According to them, the transition to the available framework could be done *“at any time of the year, when there is a surplus of officers, non-commissioned officers and petty officers, compared to the necessary staff”*.



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The occupation of the islands near the northern branch of the Danube, in front of the Basarabia shore, had no tactical value, “[...] one could not dig shelters nor tranches in those islands because after more than twenty centimetres water would come out and they could not be protected by our artillery, located south of the Delta, twenty kilometres away and outside its battlefield”.

as well as the Sulina maritime detachment, having the mission of defending the Danube Delta (Rădulescu, Bitoleanu, 1998, pp. 446-447). One of the first missions carried out was the operation of mining the offshore area of the port of Constanța.

“At the beginning of the war, on 22 June 1941, at 4 a.m., wrote Colonel Dumitru Arăpașu, A/N [...], when the first shot was fired, I saw Soviet soldiers jumping through the windows of their barracks in Reni and other localities, when normally these should have been evacuated a long time ago.

[...] The Danube forces could not adopt other position but the defensive one, given their lack of troops and the importance of the obstacle (the Danube was very wide there). This did not mean that there was no attempt to make this attitude more active, especially on the part of the commanders, who sought to be noticed even at the cost of big and unjustified sacrifices” (Hentea, lb.).

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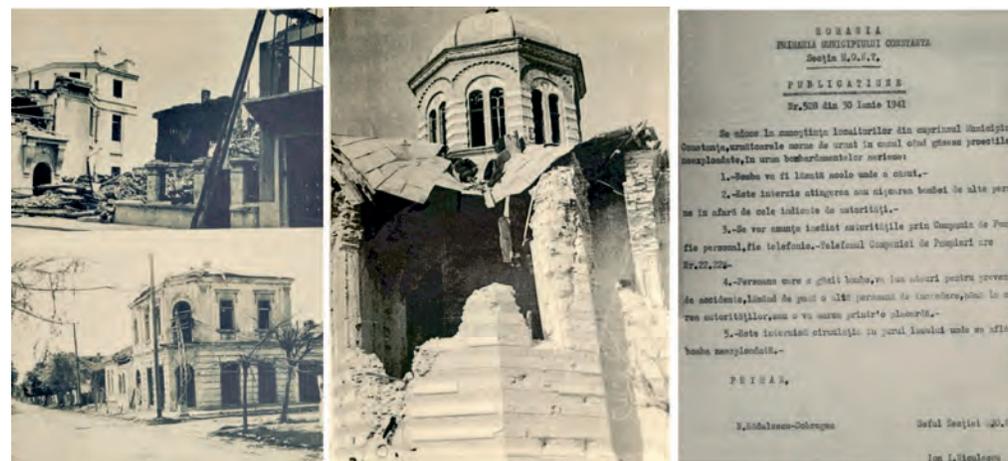
The day before the start of the campaign, the 53rd Squadron received the order to deploy at the Buzău airfield, from where it was to accompany the Romanian bombers. This decision proved to be a mistake because the city and port of Constanța were the priority targets of Soviet bombing aircraft.

The General Prosecutor of Constanța was informed of the destructions following the eight Soviet bombings on the night of 22-23 June 1941 and the public order measures taken on 1 July 1941.

¹⁹ “... Such an island, whose occupation had no tactical reason, was invaded by order of the division commander by a company of the infantry regiment that had the garrison at Tulcea. The Soviets, who knew the order of battle of the Romanian regiments at the border, sent a message with propagandistic intentions through a megaphone: «Captain Palon, withdraw from the island before the evening, or we will bomb you in the morning and you and all your company will die like idiots». This was reported to the division commander, Brigadier General Ionel Glogojanu. As expected, he replied that he would not give up any meter of land. If this first operation could be justified, the repetition of similar orders for other companies, after it was reported that there were no survivors left in the first company, cannot have another explanation for me ...”. lb.



There were 15 casualties among the German army and several killed and wounded civilians, 20 buildings were damaged. On the morning of 24 June 1941, air strikes continued, launching bombs and damaging 3-4 buildings, including the local Police Headquarters, which moved to the suburb of Anadalchioi, and the legion of gendarmes moved to Basarabi village after the building was destroyed and 25 gendarmes died. An empty oil tank in the harbour was hit. Also, the Romanian military vessels outside the port were attacked (DJAN, Report to the General Attorney, no. 15351 of 1 July 1941).



The effects of the bombings on Constanța in the summer of 1941 (SIANC, 1941).

“Especially at the beginning, Colonel Dumitru Arăpașu (A/N) remembered, RATA fighter jets were cumbersome, not flexible and ineffective. They had to leave the airspace when the Messerschmitts appeared, even though these were smaller in number. When these planes appeared, we did not feel nervous anymore; I had named them ‘bumblebees’” (Hentea, lb.).

Dobrogea was further attacked by a large number of Soviet Union bombers. The 53rd Squadron had 20 alarms, carrying out combat actions throughout the day. The fighting was exhausting, with some pilots having five or six sorties. On the morning of 25 June, between 03.00 and 05.30, several locations were bombed in Constanța. The damaged buildings were guarded by teams of gendarmes (DJAN, Raportul către Procurorul general, no. 15351, ib.).



The Hawker Hurricane, flown by Lieutenant Horia Agarici on the morning of 23 June 1941 (Rador, 2016).

On 4 July 1941, the pilots of the 53rd Squadron covered the Chilia Nouă – Lacul Central sector with six aircraft. The battle was fought with 14 Soviet aircraft of which two were shot down: one by Captain Emil Georgescu and the other considered as probably shot down by Lieutenant Horia Agarici. Between 16 and 20 July 1941, 15 missions took place in northern Dobrogea and southern Basarabia, with no Soviet aviation being encountered. It was clear evidence that the main objective of the Romanian-German fighter aviation fighting in Basarabia – namely to gain air supremacy – had been achieved.

Between 16 and 20 July 1941, 15 missions took place in northern Dobrogea and southern Basarabia, with no Soviet aviation being encountered. It was clear evidence that the main objective of the Romanian-German fighter aviation fighting in Basarabia – namely to gain air supremacy – had been achieved.



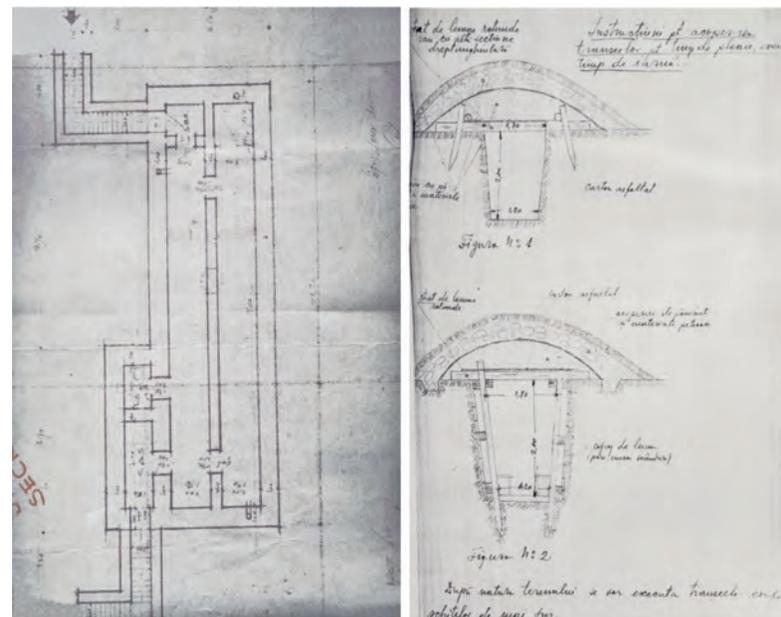
The rescue of a child by a German soldier in the summer of 1941 (SIANC, 1941).

On 14 August 1941, the 53rd Squadron returned to Constanța from Tecuci and between 15 and 27 August 1941, it carried out daily patrol missions in the region of Constanța – Cernavodă Bridge. The mayor of Constanța was informed by the prefect, on 19 August 1941, that the air defence school train had arrived at Constanța train station on 17 August 1941 and that the public had not been notified about it. Also, on 20 August 1941, at 4 pm, it was scheduled to make a demonstration of passive defence in the port of Constanța (DJAN, Report no. 1589, 19 August 1941).



The effects of the bombings on Constanța in the summer of 1941 (SIANC, 1941-2).

These measures were aimed at reintegrating various citizens into the country's general war effort. On 9 November 1941, the Romanians were summoned to the "plebiscite public assembly" (referendum), "so that each could speak in keeping with their thoughts on the acts of government committed by Marshal Antonescu". On this occasion, the Patriarch's remarks were broadcast on the radio, urging people to support the "zeal and assiduity of the Marshal" (Moisescu, 1941, pp. 601-603).



The blueprint of an underground shelter in Constanța. Instructions for covering trenches in rainy or winter weather (SIANC, 1939-2).



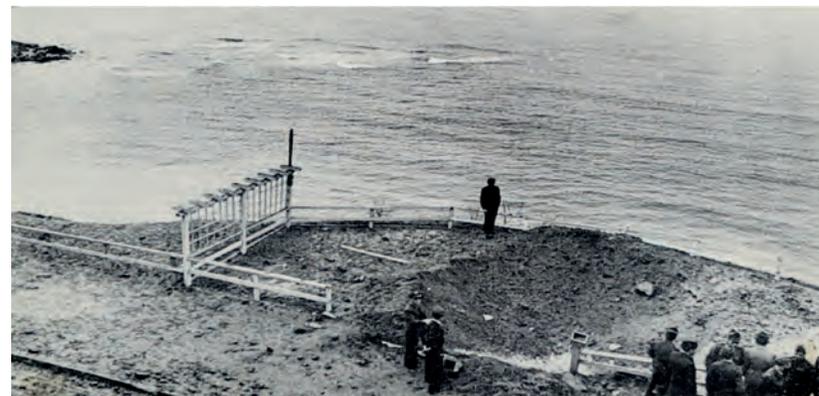
The vast majority of inhabitants from Dobrogea, but also from Ialomița and Călărași counties were to be concentrated and mobilised in the large land unit, to fulfil military obligations. On 21 June 21, it had the following organisational structure:

- Division Command – deployed in Constanța;
- 34th Infantry Regiment – deployed in Constanța;
- 36th Infantry Regiment – deployed in Cernavodă;
- 40th Infantry Regiment – deployed in Medgidia;
- 13th and 18th Artillery Regiments – deployed in Constanța;
- Division subunits (9th Field Artillery Company, 9th Air Defence Company, 9th Motorised Company, 9th Transportation Company, 9th Trucks Company, 9th Antitank Company, 9th Ambulance Vehicles Company and 246th, 247th, 248th, 249th Position Artillery Sections) – deployed in Constanța;
- 9th Pioneer Battalion – deployed in Constanța;
- 9th Cavalry Squadron – deployed in Cuza Vodă.

The strength of the division was 11,718 soldiers, of which 376 officers, 430 non-commissioned officers, 8 civilians, 10,904 enlisted personnel and soldiers.

On 16 August 1941, the air alarm was sounded at 4.10 am, enemy aircraft dropped 10 bombs, one fell in the port, on the CFR “*Salvamar*” line, destroying it on a length of 15 m, the second on the ground next to the border guards’ barracks, with no damage, others fell on Ferdinand Avenue, penetrating all the tree stories of a building, but without exploding, and the other in a yard, over a German kitchen, which was destroyed, but there were no casualties. Two bombs fell on the same boulevard, damaging a house and destroying a German car, injuring two German soldiers, one bomb fell on Eternității Street, damaging a house and injuring four people, and another bomb fell on Egalității Street, without exploding.

On the night of 17 to 18 August 1941, the alarm was sounded in Cernavodă, where the enemy planes dropped two bombs in the pond on the territory of Ialomița County. Other air alarms followed in Dobrogea. Impressive ceremonies were organised to welcome the units coming back from the front: the train station and the streets were decorated; local authorities and the population came out to greet the troops; small gifts (cigarettes, food, flowers) were handed at the train station.



The place where an enemy projectile exploded on the beach, 1941
(SJANC, Constanța City Hall Fund).

Thus, on 26 October 1941, when the 2nd Border Guard Regiment returned to the Cernavodă garrison, the town hall of this locality informed the Constanța prefecture that all the public authorities in the city and the population made special arrangements to welcome the soldiers of this unit. The local patronage council of social works collected money from the rich to buy small gifts for 2,500 soldiers. On 30 October, at the initiative of Colonel Măzăreanu, the commander of the unit, a memorial service was held in front of the Heroes’ Monument, mentioning all the fallen soldiers. The activity was attended by civilian and military authorities, widows of those killed in the war, schools and the population.

It was insisted on rapidly adapting the human factor to the actual situations in the theatre of operations, by moving from defensive to offensive. Coastal batteries were fixed on concrete sites, mobile artillery was used, and the defensive system was enhanced by the organisation of a minefield.

Romanian military and merchant ships cooperated with the German Naval Command “*Admiral Schwartzes Meer*” in escort missions of convoys in the western Black Sea basin and in transports to supply the front towards the Crimean coast (Rădulescu, Bitoleanu, 1998, p. 448).

In the Second World War, the Dobrogea division reached the area of the Don River Bend in the autumn of 1942. Troops subordinated to the 3rd Army moved to a defensive position between Kletskaia and Sukhoi Doniek, the defence strip having a frontal development of 148 Kilometres.



In the Second World War, the Dobrogea division reached the area of the Don River Bend in the autumn of 1942. Troops subordinated to the 3rd Army moved to a defensive position between Kletskaia and Sukhoi Doniek, the defence strip having a frontal development of 148 Kilometres.



The involvement of military forces and structures and the interest in organising and defending Dobrogea indicate that this part of the country is a strategic geopolitical region with an opening to the Black Sea.



Air defence machine gun of the Port of Constanța (photo Horst Grund)

In short, the involvement of military forces and structures and the interest shown in organising and defending Dobrogea indicate that this part of the country is a strategic geopolitical region with an opening to the Black Sea. We must also mention the strategic actions planned by the senior officers of the Romanian armed forces, as well as the courage of the Romanian military who fought in the air, naval and land conflicts. The international consequences of the Second World War also included the movement of Romanian troops in the areas of conflict, which led to their heroism being appreciated and recognised. The period between 1939 and 1941 has remained in our history as a page that must be remembered, and not at all forgotten!

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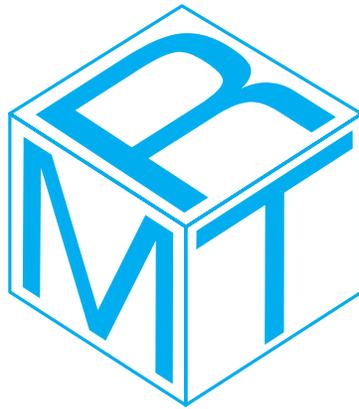
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**HIGH ROYAL DECREE NO. 3663
THROUGH WHICH “ROMÂNIA MILITARĂ”
BECOMES THE OFFICIAL JOURNAL
OF THE GREAT GENERAL STAFF**



“Art. I – The official journal named “România Militară” is founded at the Great General Staff, starting 1 January 1898, in which all officers within the Armed Forces will find military studies, which interest their training.

Through the agency of this journal, all officers, belonging to all branches, who are in active duty, will be able to publish their personal papers and the ones that interest the Armed Forces”.

Carol – King of Romania
Issued in București on 8 December 1897



**Order “Meritul Cultural”
in the rank of “Knight”,
F Category
– “Promotion of Culture”
(Presidential Decree no. 646
on 24.08.2004)**



**Order “Meritul Cultural”
in the rank of “Officer”,
F Category
– “Promotion of Culture”
(Presidential Decree no. 483
on 30.06.2014)**



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