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EDITORIAL OFFICE
București, str. Izvor, nr. 110, sector 5
Postal code: 050564
Tel.: +4021.410.40.40/1001731;1001732
Tel./fax: +4021.319.56.63
E-mail: gmr@mapn.ro
Web: gmr.mapn.ro

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"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 oficers, 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

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by the Defence Staff

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A LEGACY SINCE 1864

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

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

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

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

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

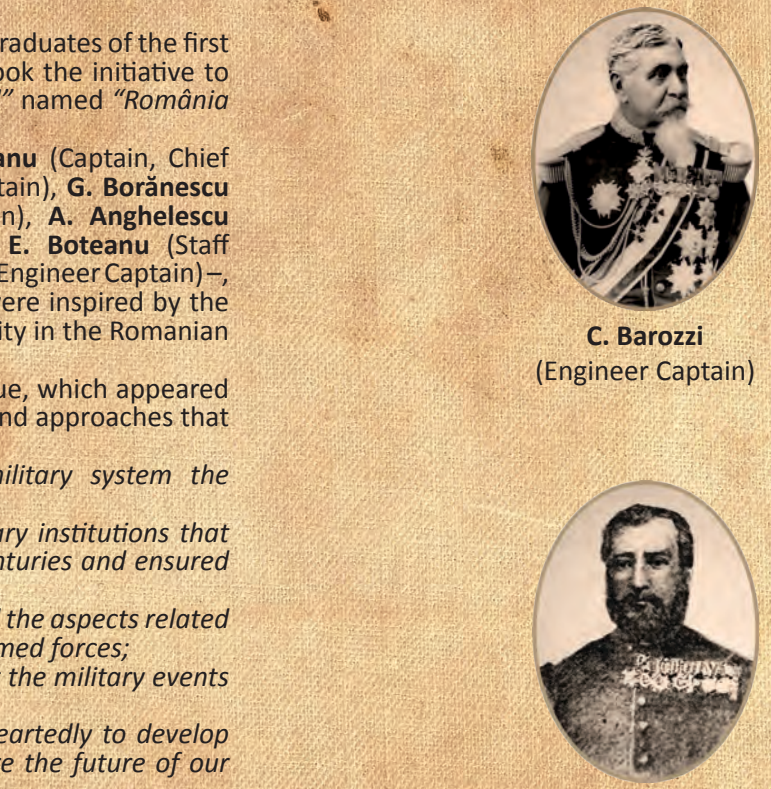
- assemble and examine the Country old military institutions that had made for the glory of Romania for several centuries and ensured our existence;

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

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

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

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



[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)

E. Boteanu
(Staff Captain)

G. Borănescu
(Engineer Captain)

G. Anghelescu
(Staff Captain)

G. Slăniceanu
(Captain, Chief of the Engineer Battalion)

E. Arion
(Artillery Captain)

A. Anghelescu
(Artillery Captain)

The *GÂNDIREA MILITARĂ ROMÂNEASCĂ* Journal Awards are yearly bestowed, by the Romanian Armed Forces Defence Staff, on the most valuable works in the field of military science, published in the previous year

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Brigadier General Dragoş-Dumitru IACOB, PhD

Chief of Training and Doctrine Directorate, the Defence Staff

English version by **Diana Cristiana LUPU**.

The 21st century reality is undoubtedly related to a world that undergoes continuous change. We witness moments in which everything we know becomes extremely fluid, everything is a quest, there are spectacular leaps backed by the unprecedented development of technology and the phenomenon of globalisation. This reality influences all aspects of the social organisation as we know it, the security environment included. At present, instead of certainties, we can see the insecure steps in the shifting sands of all international, state or non-state actors, that, not long ago, seemed to have everything under control. They now rely more on assumptions and scenarios that, more often than not, do not go beyond the hypothesis stage.

Under the mentioned circumstances, the definition of a doctrinal apparatus that can support the fulfilment of the objectives assumed through the national security strategy has become a mission that is not only necessary but also instrumental. Considering the new physiognomy of contemporary society, in which information plays a decisive role at all levels of decision making, the military doctrines of states and military organisations have been tailored to meet both geopolitical realities and information age requirements.

The end of the Cold War marked the beginning of a new global geopolitical and geostrategic development. The transition from the bipolar to the unipolar world was quite an illusion, because in a very short period of time at the scale of history, in less than two decades, the centres of power multipolarity has become the new reality globally, signalling the amplification of already existing risks and threats, as well as the emergence of new conventional or asymmetric risks and threats.

The current security situation at local, regional or even global level is characterised by a visible state of tension and increasing distrust, by the hotbeds of conflict and the differences in the interests of some states in relation to other states, which demonstrate the existence of underlying instability that endangers the states, especially small and medium-sized ones, peace and security.

On the other hand, the revival of nationalism, the amplification of religious fundamentalism, the competition for resources, the global war on terrorism, the increasing technological and economic disparities and the asymmetrical

demographic evolution are all sources of tension that have changed the international system reality and compelled the military environment to adapt its doctrines and strategies to the new reality.

As part of this system of relations, interests and interdependencies between state and non-state actors, Romania has adapted its policies and oriented its security interests in compliance with the strategic principles of NATO and the EU, the most powerful existing military and political-economic organisations.

The integration of our country into European and Euro-Atlantic structures has entailed not only ensuring a security framework but also changing the strictly "national" character of defence. The "collective" and "multinational" defence have been adopted in relation to NATO core missions: collective defence, crisis management and cooperative security. Moreover, the main effort has been directed towards addressing asymmetric threats and risks – terrorism, proliferation of weapons of mass destruction, cyber-attacks, human trafficking etc.

Under such circumstances, the concepts related to the armed forces role and the range of missions to be accomplished have been redefined. Thus, it emerged the concept of "participating in military operations outside the national territory", having as result the expeditionary character of forces. The latest crisis resolution military operations have highlighted the need for at least two services working in theatres of operations, thus resulting the "joint" character of operations. However, in order to accomplish such types of missions, certain operational requirements have to be met as follows: flexibility, adaptability, interoperability, precision etc., requirements fulfilled through a complex, joint and mission-tailored training process.

Therefore, the Romanian Armed Forces doctrinal framework, representing the fundamental principles that guide the military forces actions to meet their objectives, is corelated with the Alliance Strategic Concept and the European Security Strategy, based on principles such as nonaggression, solidarity, collective effort, defensive action, fair burden sharing, risks, responsibilities and benefits of collective defence etc.

At the Alliance level, the military aspects deriving from the Strategic Concept in terms of security are primarily aimed at applying the collective defence principle in a global vision, considering the frequent and unpredictable geopolitical changes in the latest period. In this regard, emphasis

is laid on the use of resources and procedures that limit national defence policies, without affecting the Alliance members sovereignty.

The cooperation with partners in Central and Eastern Europe has brought about changes in the content of NATO's military doctrine with regard to the Alliance's integrated forces, their role and the way they are trained. Taking into consideration its new missions, NATO has resorted, out of necessity but with success, to improving its military capabilities, through internal reforms and through increasing the share of multinational structures, both command and combat ones, especially focusing on the Combined Joint Task Force – CJTF concept. Indeed, the goal of NATO doctrine developed in 2017 states that joint operations underlie NATO's philosophy of achieving its objectives.

In conclusion, whether we refer to the armed forces of a country or the armed forces of a coalition, they will not be able to act together without a joint doctrine and military equipment capable of ensuring interoperability between the military services. Interoperability allows for commanders in different echelons to have a common operational picture. Moreover, at procedural level, it ensures the cooperation between the military services so that the mission can be accomplished.

In this regard, it can be stated that the Romanian Armed Forces are currently undergoing a process of doctrinal adaptation in order to provide the necessary tools for the assimilation of the new categories of technology, the increase in the degree of conceptual and procedural interoperability with the allies, the implementation of the joint processes and procedures and, last but not least, the assurance of the coherence of training, exercises and education, the three pillars of modern armed forces readiness.

HYBRID THREATS AND THE MILITARISATION OF GLOBALISATION: RUSSIA VS NATO

Lecturer Iulia ANGHEL, PhD

Faculty of Communication Sciences, Ecological University of Bucharest

The deterioration of the security climate in Eastern Europe is likely to validate the hypothesis of reopening the rites of succession at the end of the Cold War. The proliferation of hybrid conflicts and the birth of a new type of asymmetrical threat can be thus correlated with a process of militarisation of globalisation.

The article assumes that the main feature of hybrid threats from the most recent history refers to the rising influence of non-state actors and only in the alternative to the emergence of new formulas of power projection, based on non-military or subversive means.

The study proposes a brief look at the security landscape in the area of the two major blocs – NATO and the Russia Federation, in relation to the phenomenon of hybrid conflicts. An approach from the angle of geopolitical theory may prove itself to be useful both from the perspective of the ability to identify the main tendencies of evolution and through the possibility to integrate them in the wide logic of processes regarding arms and militarisation of globalisation.

Keywords: hybrid conflict, militarisation, hybrid warfare, globalisation, Russia.

English version by **Iulia SINGER**.

Introduction

The start of information revolutions in the early 2000s coincided, at global level, with an activation of asymmetrical conflicts, with terrorism as the spearhead of these new unconventional threats. The increased access to information, given the emergence of communication media that leave out the control of state entities, as well as the growing dependence of politics on media players led to distortions of democratic mechanisms. While classical theories of democracy legitimised the state component, the deterritorialisation provided by the digital revolution opened the path for other forms of relationship, association, collective action, propaganda, and ultimately, hybrid confrontation. By its very nature, the new World Wide Web reality will transform into an ideal environment for the genesis, testing, spread and endorsement of malignant organisations, of which the most visible, but perhaps not the most influential, ones will prove to be terrorist structures[1]. The Internet would give them easy access, the absence of censorship, simultaneous opening to extended audiences distributed globally and, last but not least, the ability to influence traditional media logic through the presence of graphic content with a high emotional impact[2]. The rise of new media will also encourage the acceleration of modernisation processes in Eastern Europe, the increasing influence of non-sovereign entities such as pro-democratic lobbyist structures or authoritarian and nationalist-nativist counterparts, fostering the conditions for the possibility of future post-transition electoral revolutions. The substantial change in the political and geostrategic landscape of post-communist Europe was mainly due to the redrawing of fronts and spheres of influence.

While classical theories of democracy legitimised the state component, the deterritorialisation provided by the digital revolution opened the path for other forms of relationship, association, collective action, propaganda, and ultimately, hybrid confrontation.

The media component resulted from the politicisation and empowerment of the new media of communication provided belligerent actors with means of expression that were inaccessible not so long ago. The presence of NGOs and think-tanks placed

[1] Gabriel Weimann, *Special Report. How Modern Terrorism Uses the Internet*, United States Institute of Peace, p. 3, retrieved on 7 September 2018, https://www.usip.org/sites/default/files/sr116.pdf.

[2] *Ibid*, p. 3.

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under Western suzerainty and financing was gradually coupled with the emergence of critical infrastructures serving the doctrine of Panslavism, the secession of some of the former socialist democracies from the old Russian Federation power pole being incomplete, and most of all, reversible. The wave of democratisation started in 1989 did not mean an authentic expansion of the democratic culture and the security influence of the West to the material border of Russia. Even if the dissolution of the Warsaw Pact made NATO appear to be a hegemon, the former cultural, representative, political and strategic affinities of the former communist states would remain in place and facilitate the reactivation of tensions between Russia and the United States.

The wave of democratisation started in 1989 did not mean an authentic expansion of the democratic culture and the security influence of the West to the material border of Russia. Even if the dissolution of the Warsaw Pact made NATO appear to be a hegemon, the former cultural, representative, political and strategic affinities of the former communist states would remain in place and facilitate the reactivation of tensions between Russia and the United States.

In this context, the influence of the Internet would stimulate the emergence of post-territorial political orders, the propaganda processes or the formation of ethnic or national consciousness being much more focused on time and space. By accessing the strategic opportunities provided by the new virtual environment, both NATO and Russia tried to establish cultural neighbouring areas and colonies that were in favour of their own security doctrines. The emergence of subversive propaganda networks was accompanied by the coagulation of classical political message vectors, the continuation in a discrete hypothesis of the *Cold War* being confirmed by the symptomatology of *Coloured Revolutions*.

Inaugurated by the Yugoslav Movement in 2000 (completed by Slobodan Milošević's removal) and continued for more than a decade, the wave of the *Orange Revolutions* thoroughly changed the structure and balance in the neighbourhoods of the eastern flank of NATO, stimulating the subsequent radicalisations of its interactions with Russia. Forcing a manifested split of the former communist space from the security culture legacy spread and propagated through Russia could not be achieved without the exploitation of the structural legacy of the transition. Following the apparent success of the last stage of democratisation and modernisation of the East, a major geopolitical collapse would occur. Russian interventionism in Ukraine and its revelations about the real accounts of a Slavic *oikumene* are directly due to the forcing of the balance of power through the Western cultural expansion of the 2000s.

At the same time, the preliminary existence of a stage of unification and harmonisation of geopolitical interests under the pressure of asymmetric terrorism-like threats can be assumed as a transitive stage. Transactionism and negotiation of influence by empowering

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non-sovereign actors did not represent a novelty for any of the security pillars involved. Starting from the Soviet invasion of Afghanistan (1979-1989), during which the West indiscriminately supported local resistance, and up to recent examples of backing controversial contradictory regimes or para-state structures (Russia's proselytism for the Bashar al-Assad regime), the collaboration of the major security poles with non-state entities, in order to project own power, is a constant feature.

Yet, the expansion of globalisation, modernisation and virtualisation processes provided an innovative tool for hybrid conflict. Without being essentially a fundamentally new equation of war or one dissociated from the practices of regular warfare, the contemporary version of hybrid conflicts calls into question the *multifaceted hegemons*. State actors and even big security blocs tend to use multiple identities, sometimes camouflaging their own actions under the banner of non-sovereign entities, whether malign or benign ones. By using successively the status of sovereign state player and the one of hybrid entity, using the affiliated influence agents as a power-projecting tool, the great actors of the geopolitical scene also provide opportunities for privatisation and liberalisation of the security market[3].

State actors and even big security blocs tend to use multiple identities, sometimes camouflaging their own actions under the banner of non-sovereign entities, whether malign or benign ones. By using successively the status of sovereign state player and the one of hybrid entity, using the affiliated influence agents as a power-projecting tool, the great actors of the geopolitical scene also provide opportunities for privatisation and liberalisation of the security market.

Apart from the influence groups and the civic or economic lobbying structures backed by sovereign state actors, the geopolitical arena is also starting to be populated by autonomous entities. The rise in influence of millenarian movements, radical organisations, virtual communities militating for ethnic or religious extremism inaugurates a multi-polar security arena. Moreover, the borders between sovereign state actors and satellite or affiliated entities become unclear. This duality and fluidity of the big security blocks facilitates the shadow development of a new type of hybrid threat, the more influential the organisations as the promoting structures become difficult to be empowered and governed by the big blocks, be they Russia or NATO.

Although the worsening of geopolitical tensions against the backdrop of developing asymmetries was not an absolute novelty, the failure of attempts to democratise the Arab states in the 1960s offering a prolific casuistry, the example of Eastern Europe continued to be dominated by particular features. The unexpected virulence of Russia's power projecting strategies in the area of the former Soviet colonies

[3] André Barrinha, *Ethical Dilemmas and the Future of European Defence,* 2013, retrieved 7 September 2018, https://www.e-ir.info/2013/10/10/ethical-dilemmas-and-the-future-of-european-defence/.

was stimulated by a series of complementary events. Among the notable elements there are: information revolutions and digitalisation of communication, hypermediatisation of politics, presence of incomplete rites of succession, flawed democratic consolidation or reactivation of ethnic, religious and national identities under the pressure of the second stage of Westernisation[4].

In the alternative, the new post-Guttenberg communication culture favoured the coagulation of new forms of hybrid threat, mainly coming from silent and de-territorialised actors and structures. Movements of ethnic or religious self-determination, radical religious movements or malignant organisations that parasite state structures (the case of failed democracies) exclude the possibility of risk management according to international norms. The possible implications of this double process, the proliferation of non-state actors and the fragmentation of the identity and authority of national sovereign actors are to be discussed.

The gradual inclusion of the former members of the Eastern Bloc in the North Atlantic structures militated for the acceptance of a pacifying geopolitical landscape where collaboration with Russia became not only necessary but also possible, especially in the context of the alignment of security objectives under the asymmetric pressure of the terrorist factor.

New paradigms of security and hybrid threats

On 14 February 2002, NATO Secretary General George Robertson delivered a speech in Warsaw entitled *"Building security in an uncertain world"*[5]*. Lord Roberston's analysis, with a significant subtitle, "On NATO and Russia"*, mentioned some essential milestones of the post-Cold War Alliance security strategy: the success of NATO's intervention in Kosovo, carried out in only 78 days and without human costs for the allied forces, the launch of the global anti-terrorism campaign in response to the 2001 events and, last, but not least, the confirmation of NATO's *"vital role"* as the main guarantor of preserving geopolitical stability in the area[6]. Readdressing the complex issues of relations with the former Soviet space largely anticipated the Prague Summit guidelines, but at the same time, confirmed a seemingly irreversible tendency to suppress the Gorbachev-inherited fractures. The gradual inclusion of the former members of the Eastern Bloc in the North Atlantic structures militated for the acceptance of a pacifying geopolitical landscape where collaboration with Russia became not only necessary but also possible, especially in the context of the alignment of security

[4] The second phase of the diffusion of the Western political and cultural model tends to stimulate strong local reactions, as newly democratising societies regain identity and action milestones with a strong vernacular feature. Samuel P. Huntington, *The Clash of Civilizations and the Remaking of World Order,* Penguin Books, New Delhi, 1997, p. 27.

[5] *"Speech by NATO Secretary General, Lord Robertson, February 14, 2002"*, in *The Polish Foreign Affairs Digest*, vol. 2, no. 1(2), 2002, pp. 7-22.

[6] *Ibid*, pp. 7-19.

objectives under the asymmetric pressure of the terrorist factor. The *"logic of common interests"*[7] *in the fight against terrorism fed the perception of a tabula rasa* moment in the tense relations between Russia and NATO, the dispute over regional supremacy being replaced by a synergy of long-term security interests.

In the same note, the 2005 *National Defense Strategy* highlighted the United States interest in preserving the status quo in Eastern Europe and especially in the Balkans, Russia being mentioned in an optimistic scenario, which did not exclude an escalation of the competition between the major powers, including China[8]. The end of the 2000s would, however, bring about a substantial change in security architecture and spheres of influence at the eastern border of NATO, the crisis in Ukraine in 2010, followed by the annexation of Crimea and Russia's intervention, being considered a starting point in this respect. The case of Crimea would discuss the consequences of an unconventional conflict equation – *the hybrid warfare*. Defined as a set of operations involving the use by the opponent of means of influence, coercion and diversion whose source is difficult to prove and can lead to a paradigm shift through indirect war, the hybrid conflict would be considered the main way to change regimes and to strategically reconfigure the security climate in Eastern Europe[9].

The case of Crimea would discuss the consequences of an unconventional conflict equation – the hybrid warfare. Defined as a set of operations involving the use by the opponent of means of influence, coercion and diversion whose source is difficult to prove and can lead to a paradigm shift through indirect war, the hybrid conflict would be considered the main way to change regimes and to strategically reconfigure the security climate in Eastern Europe.

The term *hybrid warfare* will be used to show a wide range of manifestations: selective military operations, civil insurgency, group and influence structures empowerment, propaganda, cyber terrorism, interventionism and appropriating electoral processes. The novelty of this new type of confrontation mainly referred to two aspects – the reopening of a conflicting relationship between Russia and NATO and the increase in the strategic force of non-state entities. Substantial change of the security climate in post-communist space would generate a number of critical questions.

As far as Ukraine is concerned, the 2014 *Orange Revolution* and the insurgency developed around the *Euromaidan* phenomenon anticipated an intensification of relations between the security poles in the region, even if in the early stages it took place under the auspices of a soft power formula. Moreover, the hybrid character of many of the post-socialist regimes, characterised rather as competitive

[7] *Ibid*, p. 11.

[8] *The National Defense Strategy of the United States of America*, March 2005, p. 5, retrieved on 20 July 2018, http://www.au.af.mil/au/awc/awcgate/nds/nds2005.pdf.

[9] Andrew Korybkow, *Hybrid Wars: The Indirect Adaptive Approach to Regime Change*, Peoples' Friendship University of Russia, Moscow, 2015, p. 57.

authoritarianisms[10] duplicated by formal democratic institutions, became apparent only at the later stages of the transition processes. Against this background, the fragmentation of paradigm announced by the opening of the hybrid conflict between Russia and NATO, after the intervention in Crimea, can be understood as the result of an accumulation mechanism. The increasing influence of national components globally, including among the Eastern members of the NATO Partnership, along with the multiplication of non-state actors capable of exerting political, economic, social, and security pressures[11], created a multipolar geopolitical arena. The continuing expansion of the number of benign and malign non-state entities, along with the diffusion of power from sovereign bodies[12] to new players (NGOs, networks of political, civic, ethnic or religious activism, anti- and para-state organisations) are phenomena that may be linked to a process of militarisation of globalisation[13]. The implications of such a thesis will be detailed in the following sections.

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The birth of hybrid confrontations. Sources, evolutions and manifestations on the Russia-NATO axis

There have been many efforts to define *hybrid warfare*, but despite a growing presence in the debates on the development of modern conflicts, the term still has fluid limits. Generally speaking, the concept refers to the range of non-linear, indirect warfare methods and tactics, aimed at counteracting the force of a conventional actor, most often a state entity that benefits from a superior force. The debates on the origin of the term are still heated, each of the proposed propositions offering complementary interpretation and application opportunities. One of the founding scenarios brought to attention regarding the genesis of modern *hybrid warfare* mentions the Gulf War experience, in the early 90s. This clash of forces in atypical conditions has affirmed the use of a mix of threat and coercion activities unrestricted

[10] Steven Levitsky, Lucan A. Way, *Competitive Authoritarianism: Hybrid Regimes after the Cold War*, Cambridge University Press , New York, 2010, p. 87.
[11] *Strategic Foresight Analysis 2017 Report*, *op. cit.*, p. 27.
[12] *Ibid.*
[13] The militarisation of globalisation points out trends of increasing political instability and escalation of economic, cultural and security tensions following processes such as: technological revolution, distortions and development inequities stimulated by the global market, environmental degradation and migration. David Held, Anthony McGrew, *Globalization/Anti-Globalization: Beyond the Great Divide*, Polity Press, Cambridge, 2007, p. 9.

by the rules of the traditional war[14]. Placing the modern hybrid genealogy in the Gulf War landscape corresponds to a first level of meanings of the term. The outlook for hybrid warfare is linked, in this first stage, with the presence of a dual nature opponent that can use combinations of classic warfare methods and tactics alongside unconventional solutions. The Saddam Hussein regime used both conventional military operations and a complex set of non-linear tactics, combining the kinetic combat and subversion actions getting near, strategically, to the dynamics of some Hamas-like organisations. The multiplication of action plans and the presence of asymmetric war elements, such as the insurgency, prefigured the birth of hybrid organisations and entities. Another aspect highlighting the role of the Gulf War in establishing the modern hybrid warfare typology is the presence of an important media component that directly shaped the perception, dynamics and geostrategic intention of the conflict[15].

The hybrid warfare term received new meanings amid analyses of Hezbollah's activities in the 2006 war with Israel. Waged in only 34 days, between 12 July and 14 August 2006, the Second Lebanon war would highlight the unexpected success of a non-state armed force in front of a military power with a demonstrated capacity to project its own force. Hezbollah's success has been explained by the presence of elements alternative to the military force that could be found in new political, social, diplomatic, information, and, last but not least, cultural components[16]. The expansion of the conservative armed conflict to new, unconventional levels, which can often outweigh the elements of traditional war in terms of importance, based on regular troops, has been called *"comprehensive approach"*. Reuniting in concentric circles *full spectrum* operations, governance strategies and subversive elements such as economic pressures, attracting local support or enhancing international media coverage, the comprehensive approach tried to organise the new manifestations of multi-level conflicts in a coherent framework.

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Although the terms of *hybrid warfare* and *hybrid threat* posed obvious limitations, due to the presence of manifest military actions, while the alternative of the *"comprehensive approach"* could serve

[14] Brian P. Fleming, *The Hybrid Threat Concept: Contemporary War, Military Planning and the Advent of Unrestricted Operational Art*, US Army Command and General Staff College, 2011, p. 13.
[15] Piers Robinson, *The CNN Effect Reconsidered: Mapping a Research Agenda for the Future*, in *Media, War & Conflict*, 4(1), 2011, pp. 3-11.
[16] Russell W. Glenn, *Thoughts on "Hybrid" Conflict*, in *Small Wars Journal*, 2009, p. 2, retrieved on 20 July 2018, http://smallwarsjournal.com/blog/journal/docs-temp/188-glenn.pdf.

more usefully military and security doctrines, the former managed to dominate the debates related to the evolution of modern conflicts[17]. Instrumental in establishing the term monopoly of *hybrid warfare* remains the theoretical contribution of Frank Hoffman. Its definition of *hybrid warfare* underlines the existence of a mix that includes *"conventional capabilities, irregular tactics and formations, terrorist acts including indiscriminate violence and coercion and criminal disorder"* [18]. Accessible to both state actors and non-state entities, hybrid conflict strategies show a narrowing gap between the conventional and unconventional dimensions by the synergy use of psychological and material elements such as armed intervention or insurgency. Hoffman predicted the expansion of hybrid conflicts in two distinct directions: the urban dimension of developing countries and the reopening of tensions in *"challenged areas",* especially in areas with strategic economic potential and maritime access[19].

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The examples provided by Kosovo, Afghanistan, Iraq demonstrated the ability of unconventional opponents to very efficiently use the hybrid techniques of propaganda and persuasion of the local population, together with traditional tools of asymmetric conflict, such as the terrorist attack or the guerrilla warfare. This adaptive movement was also stimulated by the presence of cultural inheritances unfavourable to statehood (the coexistence of divergent ethnic components, disputed borders, acute economic gaps). The emergence of non-state agents with a soft and hard power projection ability (in a mix of conventional warfare and non-linear or subversive tactics) would not have been possible in the absence of processes of renegotiation of political orders, directly driven by the effects of modernisation and mobilisation of latent groups and identities[20]. Frank Hoffman's predictions on the future development of the hybrid wars would be gradually confirmed by the reopening of the rites of succession of Central and Eastern Europe, but also by the emergence of complex inter-community crises within mature democracies or chronically disputed geostrategic landscapes. The rise of populism and the rediscovery of ethnic and religious affinities that have become a competition for statehood would mean

[17] *Ibid*, p. 6.
[18] Frank G. Hoffman, *Conflict in the 21st Century: The Rise of Hybrid Wars*, Potomac Institute for Policy Studies, 2007, p. 8.
[19] *Ibid*, p. 15.
[20] The main causes of modernisation after the Second World War: urbanisation, industrialisation, increasing access to education, secularisation, political mobilisation. Daniel Lerner, *The Passing of Traditional Society: Modernizing the Middle East*, Free Press, New York, 1958, p. 78.

a new anatomy of hybrid threats, where conflict levels and sources of security threats and vulnerabilities multiplied. At the same time, the *4GW (Fourth Generation War)*[21] theory on the narrowing gap between conflict and peace times and the decreasing separation between combatants and non-combatants were validated by the new security dynamics in the neighbourhood of Russia and the Balkans.

The zonal revival of radical political movements, followed by civil contestation phenomena, separatist ethnic agendas and religious militancy with malignant potential, was possible through clauses of simultaneity and proximity of communication. The increasing strategic force of the media actors and the virtualisation of non-state actors paved the way for building a dual functional architecture. The material structure of non-state influence agents, consisting of militants and affiliated organisation chains, is now accompanied by a latent component, formed of indigenous groups or diaspora. These have gradually become new instruments in the exercise and projection of power. Changing the structure of organisations that challenge the monopoly of sovereign states will become a key factor in reconfiguring the forms of manifestation of hybrid threats.

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Founded on the examples of the inflamed political environment of the Middle East, the median age of hybrid warfare theories brought to light several important correlations between modernisation processes, political change and globalisation. Hybrid conflicts in the Middle East became chronic, and that meant a complex set of structural, geopolitical and cultural motivations, which were exposed to a process of accentuation and worsening against the background of the expansion of globalisation processes. The discrepancy between the archaic societal background and the institutionalisation of democracy, obtained in most cases by Western interventionism, reached a critical point when communication reforms occurred, in the 1990s. The cultural dimensions of globalisation stimulated the worsening of social and cultural gaps between centres and periphery,

[21] The Fourth Generation War theory took shape during the 1980s, reuniting previous theses in the form of a definition that underlined the presence of four strategic levels in the course of future armed conflicts: use of massive combat force, firepower, tactical mobility and use of an *"evolved form of insurgency"*, which involved the use of economic, political, social and military networks to influence the opponent. The notable criticisms of the 4GW theory refer to the possible de-legitimacy of sovereign actors by employing means similar to those used by malignant entities and emphasise, at the same time, the unfeasible character of the concept, in a universe of discourse dominated by more and more particular realities. Antulio J. Echevarria II, *Fourth-Generation War and Other Myths,* 2005, p. 5, retrieved on 7 September 2018, http://ssi.armywarcollege.edu/pdffiles/pub632.pdf.

while facilitating the mobilisation of patriarchal margins, which will build new identities, speeches and action vectors. At the same time, hybrid confrontation theories designed based on experiences in the Middle East assumed the existence of a coherent pattern. Starting from the intensity of the Gulf conflict, in 1991, and up to the unexpected resistance of the Hezbollah movement to the 2006 Israeli war, non-sovereign actors or hybrid state agencies made use of the presence of a relatively uniform cultural background. Arab states shared similar economic, social problems and cultural tension lines, the opposition towards the Western model empowering indigenous population, misappropriating religious militancy or activating ethnic radicalism. Subsequent developments of zonal conflict, including multimodal warfare led by hybrid entities such as the Islamic State, will reclaim the initial cultural establishment and organisational model (a modular architecture, based on independent cells, subject to a profoundly publicised proclamation agenda).

The analyses conducted regarding the hybrid nature of the Crimean crisis mainly highlight a shift of the centre of gravity of conflict strategies from the conventional area to a diffuse level. The new discrete front can comprise a tactical variety that includes: sponsorship of political protests and contesting social movements, economic coercion or the capability and distraction of the public agenda through information monopoly.

With the outbreak of the crisis in Ukraine, the senses, meaning and nature of hybrid threats changed. Insurgency and counterinsurgency manifestations experimented in Iraq showed that hybrid warfare is more and more focused on the struggle to attract and enhance the status of legitimate force, beyond material control over critical institutions and critical infrastructures[22], cultural geographies being as important as the physical ones. The unfolding of the Ukrainian scenario strengthened this perception through the perspective of an important theoretical change. The analyses conducted regarding the hybrid nature of the Crimean crisis mainly highlight a shift of the centre of gravity of conflict strategies from the conventional area to a diffuse level. The new discrete front can comprise a tactical variety that includes: sponsorship of political protests and contesting social movements, economic coercion or the capability and distraction of the public agenda through information monopoly[23]. The relatively uniform and resistant-to-change societal background of the Middle East change is replaced this time by divergent cultural legacies and the intersection of contradictory identity flaws. Oscillating between national reference, ethnic pattern or reports by virtue of alternative axes (centre-periphery,

[22] James N. Mattis, Frank Hoffman, *Future Warfare: The Rise of Hybrid Wars*, in *Proceedings Magazine*, November 2005, vol. 132, p. 18.

[23] Michael Kofman, Matthew Rojansky, *A Closer Look at Russia's "Hybrid War"*, in *Kennan Cable*, nr. 7, April 2015, p. 1, retrieved on 21 July 2018, https://www.files.ethz.ch/isn/190090/5-KENNAN%20CABLE-ROJANSKY%20KOFMAN.pdf.

religious-secular or global-vernacular), the local populations in Russia's strategic neighbourhood no longer benefit from unilateral justification agendas.

As far as the Ukrainian case is concerned, hybrid war also becomes a form of projecting a *Pax Slavica*, reiterating in the mirror the principles of a cultural *oikumene* similar to that spread by the West, through the third wave of democratisation. On this background, the function of complementary means such as cultural proselytism, ethnic or religious militancy or street civility is no longer to enable conventional intervention and armed confrontation tactics, whether regular or asymmetrical, but to gradually increase the function of traditional war. The occupation of Crimea by the Russian Special Forces in February 2014, using uniforms without distinctive signs, but which certified the presence of an unequivocal state patronage, was the peak of a propaganda and persuasion operation that started long before the manifest outbreak of the conflict. The key point of the Russian campaign in the Crimea was the use of information warfare and the media, together with cyber-terrorism, fake news and mimicry of local identities. Information offensives thus ensured for conventional units a favourable environment to benefit from a secure and robust manifestation area[24]. The strategy used by Russia in the conflict in Ukraine reopened debates on the novelty, sustainability and usefulness of the concept of *hybrid warfare*.

As far as the Ukrainian case is concerned, hybrid war also becomes a form of projecting a Pax Slavica, reiterating in the mirror the principles of a cultural oikumene similar to that spread by the West, through the third wave of democratisation.

A critical approach began under the auspices of the analyses proposed by Matthew Rojanski and Michael Kofman, who defined the new unconventional dynamics of the crisis in Ukraine as a way of adapting the classic war to the conditions of the modern world[25]. Such a positioning was paradoxically enabled by the discourse of the main belligerent bloc – Russia.

Russia's interest in presenting the intervention in Crimea as a continuation of the classical war and an extension of its legitimate interests in the region was supported by the propagation of a new modern military doctrine. After 2010, it advocated for describing the modern war as *"the integrative use of military force and non-military resources and forces"*. At the same time, the outbreak of information warfare and cultural propaganda are considered fundamental elements

[24] Brian D. Cotter, *De-Escalation and Hybrid War. Mutually Supporting Strategies of Dangerous Brinksmanship?*, in *The Three Swords Magazine*, 31/2017, p. 26.

[25] *Ibid*, p. 4.

for *"achieving political goals without the use of military force"* and for engaging in a favourable perception on the part of the international community, as well as civilians or local populations[26].

The new doctrinal landmarks announced by Russia, as an effort to turn its actions in the Crimea positive, became known mainly through the theses announced by the Chief of the General Staff of the Russian Armed Forces, General Valery Gerasimov. In an article published in 2013, which became one of the most cited sources for Russia's strategic guidelines after 2010, General Gerasimov stressed that *"the very rules of war have changed"*, the role and effectiveness of non-military means *"in many cases have exceeded the power of force of weapons in their effectiveness"*[27]. *The "tendency toward blurring the lines between the states of war and peace"*, as well as the essential increasinginfluence of means such as sabotage, subversive operations or misinformation would, in the perspective proposed by Valery Gerasimov, equate to a non-linear conflict equation. The presence of a term disagreement regarding the nature and conditions of existence of new unconventional conflicts provides useful clues to NATO's doctrinal differences in the relation with Russia. The *"hybrid"* label tends to favour the description of a process in which elements of cultural and subversive nature become dominant to the detriment of classical warfare, while the notion of *"non-linear war"* marks the reserve of the use, in the final stages, of a modern, assumed, therefore legitimate, military intervention. The strategic perspective announced by General Gerasimov will be changed over time.

The "hybrid" label tends to favour the description of a process in which elements of cultural and subversive nature become dominant to the detriment of classical warfare, while the notion of "non-linear war" marks the reserve of the use, in the final stages, of a modern, assumed, therefore legitimate, military intervention.

In a speech delivered in March 2017 in the forum of the Russian Academy of Military Sciences entitled *"Contemporary Warfare and Current Issues for the Defence of the Country"* [28], Valery Gerasimov denounced the hybrid feature of US and NATO interventions in the global strategic landscape, though refusing to use the syntagm *hybrid warfare*, as he considered it was premature to be used as an established term. Moreover, Gerasimov stated that hybrid threats

[26] Michael Kofman and Roger McDermott, *No Return to Cold War in Russia's New Military Doctrine*, in *Eurasia Review*, 3 February 2015, retrieved on 8 July 2018, https://www.eurasiareview.com/03022015-no-return-cold-war-russias-new-military-doctrine-analysis/.

[27] Valery Gerasimov, *"Tsennost Nayuki v Predvidennii" Voenno-Promyshlennyi Kur'er,* no. 8 (476), 7 February-5, 20 March 2013, 1-2.

[28] Valery Gerasimov, *"Contemporary Warfare and Current Issues for the Defense of the Country"*, translated by Harold Orenstein, PhD, Military Review, November-December 2017, retrieved on 7 September 2017, https://www.armyupress.army.mil/Portals/7/military-review/Archives/English/Contemporary-Warfare-and-Current-Issues-for-the-Defense-of-the-Country.pdf

could not unequivocally decide the new geopolitical order, the main substance of contemporary and predictable in the near future conflicts being that of conventional armed confrontation[29]. The reconfiguration of the discourse in 2017 added a new semantic area to what Mark Galleoti called the *"Gerasimov Doctrine"* in 2013[30]. Subsequent developments of Russia's modern security dogma will insist on the founding condition of the armed conflict, with the hybrid conflict label systematically anchored by the interventionist strategies sometimes used by the NATO bloc under a *"foreign flag"*[31].

Another theoretical perspective fuelled by the particular features of the Ukrainian case was provided by the *ambiguous warfare* syntagm, coined by Mary Ellen Connel and Ryan Evans[32], which meant a repositioning of Western literature. The reorientation towards a definition that reconciles both traditional and innovative aspects of modern conflicts was also justified by the persistence of certain difficult to challenge similarities with NATO interventions. The case of Crimea can be considered symptomatic for the transformation of military and security doctrines through the presence of changes occurred in the modernisation and globalisation processes. The phenomena of militarisation of globalisation, noticed in the last decade, correspond to profound changes in the sphere of international relations and can be correlated with four major levels: (1) the technological and information revolution initiated by digitisation, (2) the increasing influence of the global goods and services market, (3) the rise of geo-economic spheres that tend to condition the geopolitical ones, and (4) the proliferation of transnational, non-state or anti-state actors with strong hegemonic features[33]. The change of the features of hybrid conflicts and their shift towards multi-valent formulas can signal a decisive turn of security orders and balances. Through the gradual militarisation of the elements of culture, education, communication, information, identity

Another theoretical perspective fuelled by the particular features of the Ukrainian case was provided by the "ambiguous warfare" syntagm

[29] *Ibid,* p. 25.

[30] Mark Galleoti, *"The Mythical Gherasimov Doctrine and the Language of Threat"*, in *Critical Studies on Security*, 2018.

[31] The failure of the coup attempt in Turkey against the Erdoğan regime was only one of the scenarios that raised suspicions of a Western intervention, carried out under a "foreign flag", Ezgi Basaran, *"Turkey Coup: Who Was Behind Turkey Coup Attempt?"*, July 2016, retrieved on 7 September 2018, https://www.bbc.com/news/world-europe-36815476.

[32] Mary Ellen Connell, Ryan Evans, *Russia's „Ambiguous Warfare" and Implications for the U.S. Marine Corps*", p. 3, retrieved on 30 July 2018, https://www.cna.org/cna_files/pdf/dop-2015-u-010447-final.pdf.

[33] David Held, Anthony McGrew, *Globalization/Anti-Globalization: Beyond the Great Divide*, *op. cit.*, p. 10.

or language, hybrid conflict and threats become the main form of reconstruction of the international political order, which tends to enter a post-nation and post-sovereign logic.

Russia vs NATO. Trends in the evolution of a hybrid confrontation

Since February 2014, Russia has engaged in two distinct phases of its intervention strategy in Ukraine, starting with the occupation and annexation of the Crimea and continuing with the invasion of the Donbas industrial region. The Crimean scenario began as a multimodal campaign, combining the elements of an undercover military operation with a background of misinformation, ambiguity and empowerment of media and communication channels. Even though the annexation was completed by a conventional military invasion, with naval and air support components, the favorable outcome of Russia's actions depended on contextual factors such as the proximity of the Sevastopol naval base and the prior distribution of its own military resources[34]. The particular nature of the relations between Russia and Ukraine and the presence of historically settled affinities regarding values, discursive identities and linguistic communion probably make the duplication, in the near future, of a similar project difficult. Russia's strategy in Crimea can be considered as a form of revealing the real geography of the former communist space, but remains a *"one of a kind opportunity"*, difficult to replicate in other regional circumstances with less favourable cultural affiliation[35]. Against this background, one of the multiple influences of the Crimean conflict on the evolutionary frameworks of Russia-NATO relations refers to the inauguration of a new version of hybrid conflagration.

Russia's strategy in Crimea can be considered as a form of revealing the real geography of the former communist space, but remains a "one of a kind opportunity", difficult to replicate in other regional circumstances with less favourable cultural affiliation

The first stages of establishing the hybrid conflict in its modern form opposed traditional actors, mainly carrying out conventional military or non-linear action, and dual entities, in which paramilitary or civil militias formulas influenced the state structure. The speed and suppleness of the combat response provided by the two components, the traditional one, partly limited by the classic war laws and the subversive one, offering affiliated but under no uniform fighters, caused unexpected costs for security providers and sovereign states. This is the case for the Gulf War, in which the NATO security bloc received major resistance

[34] Michael Kofman and Roger McDermott, *No Return to Cold War in Russia's New Military Doctrine*, *op. cit.*

[35] *Ibid*.

from Saddam Hussein's hybrid regime, the asymmetry of forces not guaranteeing the finality of a crisis that threatened to expand. The adaptation of hybrid attack patterns would mark a new variation with Hezbollah's 2006 experience. The fights in southern Lebanon showed that the paramilitary movement paralleled by inefficient and weak structures of the state could provide a massive increase in combat force, non-state entities of small size being able to condition important regional actors, as Israel was seen. By simultaneously using conventional arsenal and irregular forces, guerrilla tactics, psychological warfare, terrorism and criminal activities[36], Hezbollah demonstrated how a multidimensional organisation could integrate subunits, cells, affiliated groups, or sympathisers into a coherent response force. Hezbollah's experience highlights the advancement of modernisation and globalisation processes, as well as its effects on hybrid conflicts, mainly located in detaching the paramilitary entities from the foundation of the sovereign state. Saddam Hussein's Iraq was seen as a vicious form of statehood, but he had not yet identified the niche of a hybrid organisation, playing both a role of source of sovereignty and a role of subversive force.

The multiplication of non-state entities that acted during the Crimean events under the patronage of the great forces and the doubling of conventional capabilities through elements of psychological, information and technological warfare confirm the change of the terms of the modern war.

The third age of hybrid conflagrations was most usefully illustrated by the unfolding and consequences of the Crimean crisis. Russia's interventionism in a territory over which it had not ceased to project a subtle force since the end of the Cold War underlined the presence of a new profile of the hybrid warfare. The multiplication of non-state entities that acted during the Crimean events under the patronage of the great forces and the doubling of conventional capabilities through elements of psychological, information and technological warfare confirm the change of the terms of the modern war. In the case of Crimea, the unconventional factor surpassed the use of offensive military means. In the case of Ukrainian secessionism, Russia acted as a multimodal force, selectively using the attributes of para-state movements (the Hamas and Hezbollah pattern), the dynamism and the force of adaptation of hybrid states (Saddam Hussein's double hypostasis) and the strategic projection force of a security pole with hegemonic vocation. Hybridisation of a security bloc such as Russia and the states affiliated to its foreign policy is an important sign for the perspective for area and global evolution.

[36] Marcin Andrzej Piotrowsk, *Hezbollah: The Model of a Hybrid Threat*, in *Bulletin*, no. 24 (756), 2 March 2015, p. 1, retrieved on 29 July 2018, https://www.pism.pl/files/?id_plik=19320.

At the same time, NATO received similar impulses of fragmentation and practice of multiple identities. The divergent perception of security risks among member states and their engagement in different degrees of support for a unipolar security policy can also fuel a hybrid phenomenon.

Some critical observations can be deduced against the background of the brief analysis made above. The increase in the risks of manifest conflict in the region may be linked to the more and more volatile nature of security engagements and the rise of non-state actors. Whether there are cross-border economic structures guiding critical capital flows, civic organisations that can directly shape the structuring of politics or media outlets with partisan agendas, the new global equilibria will also depend on the privatisation of the security landscape. The implications of the increasing strategic force of non-sovereign components within NATO and private services, technique and information providers[37] can lead to a multipolar and multimodal geopolitical order. The transformations underwent by recent Russia already show to what extent the detachment of para-state components, corporations, autonomous security agencies, NGOs, think tanks can create successive and sometimes divergent equations of hybrid threats. At the same time, the change in the European states' attitude towards the NATO security doctrine and the persistence of some degrees of different engagement regarding the Alliance's foreign policy guidelines could stimulate regional micro-pacts, as well as reconfigurations of influence boundaries on private rifts. Hybrid conflict is emerging as the main source of global instability, increasing polarisation in Western societies and decreasing the governance potential of classical democratic institutions being directly correlated with the processes of militarisation of globalisation and the emergence of divergent modernities.

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Conclusions

The new age of hybrid confrontations, inaugurated under the auspices of the crisis in Ukraine, has as its main feature the multiplication and modulation of conflict means. In spite of a certain appetite of the media factor for spectacular elements, the point of gravity of Russia's intervention in Crimea is not represented by the actions of fighters without uniforms (the prolific mythology dedicated to *The Little Green Men* topic) or the subversive empowerment of critical infrastructures (institutions, security agencies, the media). What is truly relevant is the widespread intervention of non-military means in influencing, coercing and directing local peoples, as well as the perception and degree of legitimacy attributed by the international community. The Pan-Slavism practiced by Russia is not an element of absolute strategic revolution. The tendencies to secure critical neighbourhoods and to project a soft power are justified by historical and cultural affinities that have subsisted since the end of the Cold War. The innovative factor of the process of manifest reactivation of the role of Russia as a hegemony pole refers to the practice of a hybrid combat behaviour. The use of information warfare elements, cultural proselytism, disinformation, influence agents and, ultimately, traditional military intervention demonstrates the hybridisation tendency of Russia as a security supplier and player. By assuming a dual identity, of sovereign state actor and fluid entity, capable of projecting unconventional and irregular conflicts, Russia also exposes itself to new vulnerabilities. Despite the perception of actions concerted and dominated, at this moment, by a unitary logic, the presence of a hybrid state structure means that the competition of authority is a risk factor. The detachment of certain private actors or strategic structures from the state architecture can stimulate autonomisations of influence propagation projects.

The tensions between economic elites and political power or decision-makers in security agencies show the risks generated by hybridisation. Under these circumstances, the Mihail Hodorkovski case becomes a premonitory materialisation of the centrifuge tendencies fuelled by hybrid strategic behaviours.

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On a different scale, NATO has experienced similar trends since the Iraq War, in 2003. The differences of opinion between the European members of the pact and the pivotal force of the Alliance, the United States, have paved the way for a formula of Western multipolarism. Multiplication of the perspectives within the NATO security bloc and the manifest partisanship attitudes of some European countries in relation to Russia can be explained by the persistence of a hybrid legacy. The democratisation projects that have been promoted by the United States over the past two decades have also involved numerous exemptions from the equations of classical warfare. These formulas of hybrid conflict have entailed certain organisational and structural costs. At the same time, the modernisation processes have influenced even the dynamics of mature democracies. The decentralisation and the rise of some private actors that gradually take over the role

[37] *Strategic Foresight Analysis 2017 Report*, *op. cit.*, p. 29.

of governmental structures in initiating, conducting and conceiving classical or hybrid wars have facilitated, in the case of the US as well, a variation in security lines and strategies. In the long run, the diffusion of decision-making influence to the private sector and the autonomisation of certain strategic industries will most likely generate hybridisation risks.

The privatisation and hybridisation of big security blocs also provide adjacent hypotheses about malignant entities. The rise of unconventional means of conflict and the militarisation of globalisation will have an effect on the dynamics of the terrorist phenomenon or the anti-state or antidemocratic movements. On this background, some questions may arise: *The privatisation of the security issue will also bring about a privatisation of risks and, above all, of hybrid wars? Will the militarisation of globalisation and the transformation of the culture and information elements into instruments of hybrid conflict enable the emergence of new forms of terrorism? Will Eastern European states be subject to acts of secession or democratic decline, amid the multiplication of economic and influence interests of certain private entities?*

The rise of comprehensive approaches and hybrid warfare will not mean the end of the traditional war, but will tend to fuel multipolar and multimodal strategic landscapes. At the same time, the proliferation of non-state entities with strategic potential and the multiplication of poles of influence within major blocks will require new means of regulating and ensuring regional and global security balances.

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THE CYBER DIMENSION OF THE BATTLESPACE

Col BEng Dan POMÎRLEANU

„Division General Constantin Barozzi" Military Topographic Directorate

Starting in 2016, with the NATO summit in Warsaw, cyberspace is considered operational by the North Atlantic Alliance. From a simple computer connected to the Internet to the most sophisticated servers, cyberspace is vital to the security of any nation. In this context, NATO supports member states to strengthen their cyber capabilities to respond effectively to present and possible threats. The present article addresses these threats, vulnerabilities and risks. The author describes the cyberspace, the main actors operating in it and the importance of knowing the opponent's capabilities as close as possible to the reality.

Keywords: cyberspace, information superiority, vulnerability, national security, operating environment.

English version by **Iulia SINGER**.

Introduction

The technologic progress witnessed in the latest decades has generated new possibilities to deliver information, influencing the decision-making process in the defence environment. At the same time, this reality represents a vulnerability related to the protection of infrastructure, which facilitates the efficient information management. Thus, a new operational environment has been born, in that the actions' effects have an increasing impact on the capacity to operate in the physical environment. This is the cyberspace, whose importance is recognised by the recent declarations of the NATO General Secretary, Jen Stoltenberg who insisted that the operations on cyberspace should be as efficient as the ones in the land, maritime and air domains, because any crisis nowadays has a cyber component[1]. The aim of this article is to highlight the main particularities of cyber threats, as a new dimension of the battlespace. Thus, in the first part, the main dimensions of battlespace are presented. Then, the cyberspace is defined, and then its main components and the way it interacts with the physical dimensions are evaluated. Following the presentation of the main actors in the cyberspace, the characteristics and the particularities of the cyber threats are analysed, as well as the influence on operations.

The success of joint operations depends on the integration of all force elements involved to build a coherent unit. This integration ensures the coordination and synchronisation of the force elements' actions according to the priorities setup by a unique command. Because battlespace management is considered a key element of joint operations, the knowledge of the battlespace components and the way they interact are needed for all actors that share the same operational space.

The dimensions of the battlespace

The success of joint operations depends on the integration of all force elements involved to build a coherent unit. This integration ensures the coordination and synchronisation of the force elements' actions according to the priorities setup by a unique command. Because battlespace management is considered a key element of joint operations, the knowledge of the battlespace components and the way they interact are needed for all actors that share the same operational space.

[1] Great Britain, *Forces Network*, News, 2018, available at https://www.forces.net/news/nato-calls-taliban-join-ceasefire.

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The battlespace includes all aspects in the joint operation area where the military actions happen. It consists of five dimensions: maritime, land, air, space and cyber. A dimension has to be seen as a space with specific details and governed by its own rules. None of these dimensions can be considered isolated because an activity in one dimension can have implications on other ones. The cyber dimension requires an agile management to exploit the advantages of the technologic progress in the field of information technology. Information management favours information communication and exploitation at the right time in the right location to support the decision-making and to maximise the freedom of action. Synchronisation with information operations and ISR (Intelligence, Surveillance and Reconnaissance) empowers the commanders to win and to maintain the information superiority. This is generated by the operational advantage resulted by collection, processing and dissemination of an interrupted flow of information and by impeding the adversary ability to do the same[2]. Gaining information superiority is essential because this represents one of the fundamental principles of Network Centric Warfare, the new theory of war in the Information Age, which creates a decisive advantage in the battlespace.

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What is the cyberspace?

The cyberspace consists of the many networks, nodes as well as system data that support their proper running. Even though not all the nodes and networks are connected, there is a tendency to increase the interconnectivity. The networks could be intentionally isolated by different access protocols or by physical separation.

The formal definition of the cyberspace looks different depending on authors, dictionaries or organisations. A definition published in 2010 describes the cyberspace as *„an environment where the digital information is communicated by computer networks"*[3]. At national level, in the Romanian cyber security strategy, the cyberspace is defined as *„the virtual environment, generated by cyber infrastructures including*

[2] United States of America, *Joint Publication 3-13. Information Operations*, Department of Defense, 2014, p. 84.

[3] United States of America, *Joint Publication 1–02. Dictionary of Military and Associated Terms,* Department of Defense, 2010.

the processed, recorded and transmitted information content as well as the actions performed by the users"[4].

The cyberspace can be described as made up of three components: *the physical network, the logical network* and the *cyber-persona*[5]. Each of these components represents a distinct area where the cyber actions are executed.

The *physical network* is defined by a geographical component and the physical network components. The geographical component refers to the land, maritime, air or space location of the physical components. Even though the geographical borders between countries lose their importance in the cyberspace because they can be surpassed by the speed of light without any control, there are elements related to the physical network influenced by sovereignty. The components of the physical network consist of hardware, software and transmission infrastructure (cables, wireless, satellite, optic connections) that support the network as well as the necessary physical connectors (cables, routers, switches, servers, computers). Logical constructions are used to support the integrity and security in that environment. The physical component of the cyberspace represents the main target for SIGINT, MASSINT, OSINT and HUMINT[6]. In the same way, this is the primary layer considered in analysis by GEOINT, which can contribute with target selection in the cyberspace.

The cyberspace can be described as made up of three components: the physical network, the logical network and the cyber-persona. Each of these components represents a distinct area where the cyber actions are executed.

The *logical network* consists of network elements that are connected in a more abstract way than in the physical network. An example in this respect is a database that is hosted in different locations but seen by its users as a single entity.

The *cyber-persona component* represents a higher level of abstractisation compared with the logical network. It follows the rules of the logical network to develop a digital representation of an individual user identity or of any entity in the cyberspace. This component consists of the users connected to the cyberspace. A cyber identity can be related to a real person, defined by the biographical data, email account, IP (Internet Protocol) address, telephone numbers or web address. However, one person can own multiple cyber identities. On the other hand, one cyber identity can be associated with multiple

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[4] România, *Hotărârea de Guvern nr. 271/2013 pentru aprobarea Strategiei de securitate cibernetică a României și a Planului de acțiune la nivel național privind implementarea Sistemului național de securitate cibernetică*.

[5] United States of America, *Joint Publication 3-12. Cyberspace operations*, Department of Defense, 2013.

[6] *Ibid*, p. 19.

real users. A consequence of these associations is that the assignment of responsibilities and the target selection are difficult in cyberspace. Thus, taking into account that the cyber identities can be located in multiple virtual locations, advanced capabilities for intelligence collection and analysis are needed for situation assessment and to obtain the intended effect.

Regarding the relations with the other physical domains of the operational environment, the cyberspace coexists with the classical dimensions – land, maritime, air, space. Moreover, the cyberspace is defined by the aggregation of the electro-magnetic equipment located in the four physical domains and connected by cables or wireless connections with the aim to store, process and interchange information to support the cognitive human dimension and to influence the electro-mechanic objects in the physical space. Thus, the cyberspace is based not only on cable connections to transmit data (the domain of CNO – Computer Network Operation), but also on the connections based on electromagnetic spectrum (the domain of EW – Electronic Warfare).

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Actors in the cyberspace

The main actors which could operate in the cyberspace span from states to individuals, as follows[7]:

- *State actors* have the highest potential to create effects due to the access to the human and material resources. These could be identified among the traditional adversaries but the implication of the allies is possible, too. In order to meet the objectives, the operations in the cyberspace can be directly executed or through third parties.
- *Transnational actors* consist of official and unofficial organisations that are not limited by the geographical limits of the international borders. These use the cyberspace to collect financial resources, for recruiting, planning and executing terrorist attacks in this environment.
- *Crime organisations* that steal information for own usage or for further trade. These organisations could be used as surrogate by state or transnational actors to execute their own cyber operations.
- *Small groups or individual actors*, that could illegally access the computer networks or individual systems. In this case, intentions

[7] *Ibid*, p. 19.

cover a large variety, from the identification of vulnerabilities as a professional challenge to causing damages or to spread social or political messages.

- *Intruders* – these are employees that intentionally or accidentally cause losses for employers.

Characteristics and particularities of the cyber threats

The cyberspace is a subject for aggressions even during the peacetime, for reasonrs regarding identifying vulnerabilities, collecting intelligence or gaining a commercial advantage. Thus, the cyber operations represent a more accessible environment for espionage, subversion or sabotage. The main particularities of the cyber threats refer to the remote target accessibility, the asymmetric effect, actors' anonymity, time aspect and their versatility.

The possibility to perform actions from a distance enables the execution of cyber operations at local, as well as global level due to the independence of cyber activities by the administrative borders. As a result, it is possible to perform cyber operations which have effects in the physical space without force intrusion in that space[8].

The asymmetric effect is a result of the accessibility in the cyberspace for all kind of organisations, as well as individuals. Thus, small organisations or even individuals that have the technical capacity and necessary motivation might sustain attacks with large scale effects, even at strategic level. Such an example is the cyber attack of Estonia in the spring of 2007, when hackers and groups of hackers altered the functionality of facilities in utility and telecommunication domains for three weeks. The impact was a financial and social perturbance of the Estonian society. Among this, one of the most important consequences is that the state cyber attacks were included on NATO agenda. Thus, during the NATO Warsaw Summit in 2016, the cyberspace was declared as an operational domain next to the traditional land, maritime, air and space domains. Furthermore, one of the 2018 NATO Brussels Summit decisions is the establishment of an Cyberspace Operation Center in Brussels as a part of NATO Command Structure[9].

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The time aspect of the actions in cyberspace has two facets. On the one hand, the time necessary to prepare the attacks can be

[8] United Kingdom, *Cyber Primer*, Ministry of Defence, Development, concepts and doctrine centre, 2013, p. 22.

[9] NATO, *Brussels Summit Declaration, issued by the Heads of State and Government participating in the meeting of the North Atlantic Council in Brussels 11-12 July 2018.*

very short, especially when the access way, anonymity, collateral effects or target complexity is not very important. Also, the preparation time can be longer when these factors have to be taken into account. On the other hand, the effects in cyberspace might be instant or intentionally delayed. This feature offers high flexibility to adapt the actions to the overall joint operations' tempo. Thus, when the access to certain targets is difficult, because it cannot be guaranteed at the right time, one can opt for the delayed effect.

Another characteristic of the activities in the cyberspace is the anonymity. Since these activities are difficult to follow and localize in spite of the technological progress, most of the cyber attacks can be denied. Thus, unrecognised attacks with unidentified authors reduce the political risk and the perspective of possible retaliation. A possible reaction is difficult from the point of view of the cyber attacks' victims due to the incertitude in the authors' identification.

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Cyberattacks are also characterised by versatility since their impact can be reversible or adapted so that the degree of their impact over services is variable, upon the author's choice. For example, a cyber attack that interrupts the power supply of an industrial facility can be stopped and the power supply restored. This characteristic can reduce collateral damages and makes cyber attacks to be somehow accepted from a social and political perspective.

Usage of the cyber capabilities in multinational operations differs from the cooperation in physical environments. If, in physical environments, operation planning addresses mostly the physical capabilities, in cyber space, integration focuses on the effects of the national contributions more than on the capabilities themselves[10].

The influence of the operations in the cyberspace

The cyberspace has developed so much that a significant number of activities in the political, economic, social or military domains depend on it, becoming vulnerable because of the interruptions in functioning or of its destruction. The importance of the cyber operations is growing due to the relevance of cyberspace for command and control systems and the dependence by the unprotected networks such as the public Internet.

[10] Sorin Ducaru, *NATO Advances in its new Operational Domain: Cyberspace*, FifthDomain, 5 July 2018 (available at https://www.fifthdomain.com/opinion/2018/07/05/nato-advances-in-its-new-operational-domain-cyberspace/).

In contrast with the physical domains, in the cyberspace, own forces as well as enemy forces can move with speeds varying from the sound speed to the light speed, making the tracking and situation assessment difficult. A cyber force can move from one side of the globe to the other side in milliseconds, covering all operational levels, from tactical to strategic. Even though geographic separations for the cyberspace are possible, depending on the land, air or space limits or of the connections in a node, this characteristic rises difficulties for the allocations of the command level (tactical, operational, strategic). Also, the intercalation of the cyberspace with the physical domains creates difficulties for the command and control of the cyber forces by the main force components (land, maritime, air).

A cyber force can move from one side of the globe to the other side in milliseconds, covering all operational levels, from tactical to strategic.

The influence of actions in the cyberspace and the effects on the military operations are linked to the command and control at all decision levels. Command and control at operational level is the main tool for commanders to organise and synchronise activities for different force categories to fulfil the strategic objectives. However, a command and control system cannot be efficient without a well-developed C4 system (command, control, communication, computers) that covers the entire operational area. Nowadays, without such a system, command and control of the forces for planning and execution of the operations is no more possible.

Command and control systems are based on the communication and computer systems, software and other services interconnected not only by cables but also by wireless connections for data transmission. Because these systems are connected with other global information systems, it can be assessed that they are part of the cyberspace. As a result, the events that appear in the cyberspace can positively or negatively influence the command and control systems which will affect the command and control function exercised by the commander on the subordinated forces.

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Beside the C2, other operational functions like intelligence, logistics, protection depend on an efficient C4 system. For instance, in the intelligence for joint operations doctrine of USA[11], it is emphasised the importance that the architecture that shares intelligence products should use the Global Information Grid. Thus, actions that take place in the cyberspace influence the intelligence process. Similarly, fire systems

[11] United States of America, *Joint Publication 2-0. Joint Intelligence*, Department of Defense, 2013.

have to interact for coordination[12], which creates a vulnerability to the events in the cyberspace.

Operational protection implies the integration of multiple components to efficiently protect the military and non-military power sources. These components include intelligence for warning, information systems protection, missiles and other key facilities. All of these are dependent on C2 systems to run individually or collectively and they are affected by the actions in the cyberspace. Another operational function that needs automation and it is dependent on information technology elements is the logistic support. The automated logistic information systems can be influenced by the events in the cyberspace, as well.

Five of the six operational functions – C2, intelligence, firing, logistic support and operational protection are highly dependent on the access to the cyberspace as well as the actions that happen there.

In conclusion, five of the six operational functions – C2, intelligence, firing, logistic support and operational protection are highly dependent on the access to the cyberspace as well as the actions that happen there. Thus, if the maintenance, operation and protection of that part of cyberspace that supports intercommunication of different systems are not taken into account, then there is a risk to alter one or more of the operational functions, which results in threatening the operational and strategical objectives.

Another effect of operational functions dependence on the cyberspace is the analysis from the adversary point of view. As it was concluded, the cyberspace provides a way to influence one or more operational functions of an adversary which can be attacked directly or indirectly in its centre of gravity. This is why it is necessary to analyse the adversary capabilities to operate in the cyberspace and to consider the own capabilities to operate against it in order to maximise the chance to meet the strategical and operational objectives.

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Conclusions

The battlespace dimensions consist of a physical component and a cyber component. Neither one of the battlespace dimensions can be considered isolated because an activity in one dimension might create implications for the others. For this reason, it is important to determine the way different battlespace components interact with each other in order to ensure an effective battlespace management.

[12] Michael C. Elliot, *Operational Command and Control of Joint Task Force Cyberspace Operations*, Research Report, Naval War College, Newport, USA, 2008, p. 16 [Online]. Available at http://www.dtic.mil/dtic/tr/fulltext/u2/a484515.pdf, retrieved on 20 July 2018.

The information age generates new principles to develop military operations based on interconnectivity between actors and equipment engaged in the battlespace. A key element to create an advantage over the opponent is to achieve information superiority. Thus, the information management is essential to allow the right information to be transmitted to the right person at the right time in a usable format to facilitate situational awareness and decision-making.

The physical component of the cyberspace is the main target for SIGINT, MASSINT, OSINT and HUMINT and the main layer for GEOINT analyses. Thus, multiple intelligence disciplines have to consider different aspects of the cyberspace.

Operations in the cyberspace are planned and executed even during the peacetime at local or global levels, the physical presence not being required in the target space.

The possibility to create effects at the speed of light poses difficulties to establishing a command level for cyber operations (tactical, operational, strategic) and setting up a command and control pattern to the main force components (land, maritime, air).

Taking into account the tendency to interconnect the military communications with the global ones, the actions in the cyberspace create effects on the majority of the operational functions (C2, intelligence, firing, logistic support and operational protection).

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ROMANIAN MILITARY THINKING

THE CBRN DEFENSE MANAGEMENT SYSTEM IN THE ROMANIAN ARMED FORCES

Lieutenant Colonel Lecturer Alexandru HERCIU, PhD

Land Forces Department, Command and Staff Faculty,
„Carol I" National Defence University, Bucureşti

Military operations are planned, prepared and conducted in conditions of CBRN hazards, risks and threats existence. In the hybrid conflict – characterised by complex operating environment security risks – CBRN range is enhanced by the possibility of executing attacks by unconventional and irregular/asymmetric forces, not only in dealing with conventional forces but also on the civilian population in the conflict area, in order to achieve the ultimate goal which is the withdrawal of a joint, integrated multinational extra-regional force.

Based on these considerations, the forces engaged in the hybrid conflict, supported by specialised CBRN defence forces, must be able to manage possible incidents in the area of operations by applying appropriate measures to limit the consequences of CBRN incidents, to save the life of military personnel and civilians and to limit the effects and to contribute to restoring affected environmental factors.

Keywords: CBRN defence, CBRN command and control elements, CBRN cells, multinational force.

Motto:

„CBRN defence staff should be fully integrated into the normal staff planning process at every level of command and across all operations. Their function is to provide CBRN specific advice to the commander to aid the decision-making process and to lead in the production of CBRN IPOE which informs the joint operational picture. Each staff branch should have a member that has received appropriate CBRN defence training and education who can contribute to the production of contingency plans for CBRN incidents, participate in planning and assessments and address functional tasks."[1]

General aspects of CBRN command and control

Command is the act by which the commander, under the laws and military regulations, exercises his authority over the subordinates, by virtue of his rank and appointment. The command includes authority, responsibility and liability for the effective use of force, by using the available resources and planning the engagement, organisation, direction, coordination and control of the military forces to fulfil the assigned mission.

In general terms, the command is the authority invested in a person to influence events and give orders to subordinates in order to implement decisions, and this can be exercised by a commander or another person on his behalf[2].

The commander is an Armed Forces person invested with the authority to lead, coordinate and control the military forces[3].

The person invested with this authority must demonstrate qualities that are interrelated[4]: leadership abilities, decision-making capacity (including risk management and risk-taking), and ability to exercise control.

The command is the authority invested in a person to influence events and give orders to subordinates in order to implement decisions, and this can be exercised by a commander or another person on his behalf.

1 *Allied Joint Doctrine for Chemical, Biological, Radiological, and Nuclear Defence*, Edition A, Version 1, NATO STANDARDIZATION AGENCY (NSA), March 2012, pp. 3-7.
2 *Doctrina Armatei României*, București, 2012, p. 116.
3 *Manualul de tactică generală a forțelor terestre*, București, 2013, p. 30.
4 *Doctrina Armatei României*, *op. cit.*

The control is complementary to the command and reflects the authority exercised by the commander. The control can be defined as the process by which the commander, helped by his staff, organizes, directs and coordinates the activity of the forces assigned to implement decisions and orders. The basic element of the control is the feedback[5]. The control is mandatory in command and represent the regulation of the operational framework limits in which the forces and combat functions must be directed to fulfil the mission expressed by the commander intention.

Protection against CBRN incidents is vital in NATO and partner countries. *CBRN defence specialists* provide the necessary support for the commander and staff to fulfil the chain of command responsibilities required to carry out CBRN missions at all levels of military art: *strategic, operational and tactical*. Areas where CBRN defense specialists advise the commander and the staff are: military intelligence, operations, resources and communications.

The control can be defined as the process by which the commander, helped by his staff, organizes, directs and coordinates the activity of the forces assigned to implement decisions and orders. The basic element of the control is the feedback.

CBRN defence is an essential part of the planning process. Commanders at all levels must be able to perform their mission in CBRN conditions/environments. To achieve this, CBRN specialists are involved in the planning process since the initial stage in order to assess the danger and to determine the CBRN measures of force protection. Coordination of subordinate commanders to maintain the *"balance"* between operational requirements and CBRN risks is included in the operations design and the issued OPORD in order to highlight the special nature of the operation.

In accordance with the F.T.-8, *CBRN Defence in Operations*, there must be CBRN Defence Armed Forces specialists responsible for the development and implementation of CBRN defence measures at each tactical level and level of military art (strategic, operational, tactical). Responsibilities of CBRN defence specialists require the appointment of officers and non-commissioned officers as experts in the field and require a minimum posts number to provide 24/7 standing support during operations at each level.

CBRN command and control elements

For the emergence of a CBRN hazard during force deployment or in the theatre of operations, a CBRN cell is required at the strategic level with a number of five senior CBRN defence officers[6].

5 *Ibidem*, p. 117.

6 F.T.-8, *Manualul apărării CBRN în operații*, București, 2011, Anexa nr. 6, p. 251.

During operation planning, they are actively involved in the CBRN battle space preparation, vulnerability and threat assessment according to the operating area situation, recommend the information required to draw up the *Priority Information Requirements*/PIR List and the *Commander's Critical Information Requirements*/CCIR. The CBRN cell activity is integrated, at strategic level, with the overall effort to plan the operation and recommends action courses in order to reduce vulnerability and ensure freedom of action and mobility of own forces. One of the most important aspects consists in the planning operations for CBRN consequences management in cooperation with other relevant actors in the theatre of operations.

During the preparation and execution of operations, the cell staff shall check and report, in collaboration with medical personnel, on the presence of CBRN hazards and provide advice and recommendations about the incident effects and the implications of appropriate CBRN defence measures on operations: "*CBRN W&R centres must be established at all levels of command. The CBRN W&R functions and responsibilities should not be confused with the normal chain of command or staff planning process. (...) Commanders and staff at all levels need to assess the impact of CBRN incidents on their plans and decisions using timely, accurate and evaluated CBRN information. W&R is the process by which reports of CBRN incidents are forwarded through the chain of command, and units are warned of the resulting hazards and predicted hazard areas. The process is coordinated by a hierarchical structure of CBRN centres*"[7].

The CBRN cell activity is integrated, at strategic level, with the overall effort to plan the operation and recommends action courses in order to reduce vulnerability and ensure freedom of action and mobility of own forces.

At this level, the CBRN Warning and Reporting System (CBRN W&RS) is being administered within which CBRN incident information is collected, evaluated, updated and distributed and the CBRN predicted hazard areas and their probable effect on operations are predicted. In the event of the occurrence of the CBRN incident, CBRN W&RS coordinates the staff activity in order to estimate the impact on forces and proposes activities in order to continue the operations.

At the operational level, *the CBRN defence planning* is a component part of the joint operation planning and is a continuous, dynamic and complex process of analysing and assessing CBRN hazards, risks and threats, enemy capabilities and intentions, vulnerability of own forces, operational environment and mission variables and determines the ways of efficiently employ the specialised structures in order to

7 Allied Joint Doctrine for Chemical, Biological, Radiological and Nuclear Defence, *op. cit.*, pp. 3-7.

achieve the goals/objectives set, while ensuring their synchronisation in time and space with the operations of the supported forces.

In order to elaborate the CONOPS, CBRN defence specialists review and update the CBRN estimates, focusing on the factors that are believed to affect the course of action and the predicted consequences.

From the point of view of CBRN defence, the execution of the joint operation includes the execution of CBRN support operations that are triggered and executed according to the plan and the design of future CBRN support operations. In order for the CBRN support operations to be successful, *coordination and control* must be effective. The specificity of actions of generally small CBRN echelons that take action throughout the area of operations makes coordination and control of actions more difficult due to the fact that in many situations the distances outweigh the possibilities of the organic link system; that is why I believe that plans and operational orders should establish simple organisational and cooperative relations and a stable link system between the large units/support units and the CBRN defence CBRN subunits, which are materialised/transmitted in the form of details to commanders of CBRN defence structures.

At the tactical level, CBRN specialists apply the principles of CBRN defence: contamination prevention, force protection and recovery. To this end, they carry out the CBRN information management (CBRN Warning and Reporting System – CBRN W&RS), ensure the individual and collective protection of the forces, conduct and execute recovery actions as part of the CBRN consequences management process (CBRN-CM). At the tactical unit level, the CBRN cell coordinates the assignment of CBRN defence subunits to large subordinate units, both in the deep operations area, at contact, but mostly in the general support area of the division – behind, based on MITF-TC factors.

The CBRN cell informs and advises the tactical unit commander about CBRN defence issues. The commander has to make all decisions on CBRN support within its area of responsibility and should coordinate/adjust CBRN support priorities for operations according to the CBRN threat level, time and specialised forces available.

CBRN specialised personnel has the role of providing timely information on the current CBRN situation and ongoing collaboration with the other staff departments for ongoing information on CBRN relevant changes, with CBRN cell/Joint Force, with CBRN subordinate structures and tactical adjacent units.

Final considerations

By sometimes threatening with extinction due to the profoundly anti-human, psychological and space effects, the current CBRN phenomenon leads to a new vision of risk assessment, mass consequences, operational support, and the protection of the civilian population exposed to conditions of uncertainty or production/existence of large areas of chemical, biological, radiological or nuclear contamination by expanding combat activities in populated urban areas.

Considering the elements of analysis presented above, I appreciate that in the current security context, military operations are generally conducted under CBRN conditions/environments. From this point of view, I consider it is absolutely necessary to set up CBRN cells at all levels in the Romanian Armed Forces structures, the activity of these CBRN modules being essential for conducting the actions carried out under the Warning and Reporting System and the CBRN Defence Support Forces during the operation.

If in the operational planning phase of support, the main purpose of the specialists is to integrate the structures, the CBRN W&RS articulation and the balanced/proportional distribution of specialised support forces available based on situation and mission analysis, the transformation of *conditions* into *CBRN environments* requires a gradual, efficient structures reaction according to the planned scheme or in another variant required by the concrete situation and which may generate options and actions that the CBRN cell will continuously evaluate and organise for the fulfilment of the mission, that of maintaining the capabilities of the own forces conducting the operation in CBRN environments.

Knowing, influencing, modelling and dominating the CBRN's special environment to achieve the proposed goals can only be achieved through properly configuring the governing and the action structures as well as correctly defining the relationships between them. The essential role in this respect falling under the responsibility of the CBRN command and control element as an integrator-coordinator element.

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DETERRENCE THROUGH RESILIENCE NATO, THE NATIONS AND THE CHALLENGES OF BEING PREPARED

Guillaume LASCONJARIAS, PhD
Researcher at NATO Defence College

The article points out some defining aspects of resilience in the civilian society, governance and military institutions. Following a brief description of resilience, the author emphasises the importance of the Readiness Action Plan, whose centrepiece, the Very High Readiness Joint Task Force, is supposed to be able to deploy anywhere, on the Alliance territory or elsewhere, to conduct a wide array of missions.

The author presents NATO perspective relating to resilience, showing that it focuses on the core elements maintaining the overall capabilities of a state to conduct its activities in a proper and secure environment. In this context, the author considers the importance of strengthening civil preparedness so that it could retain the confidence in NATO and stick to the core values on which the Alliance is built.

Keywords: deterrence, conventional warfare, armed attack, comprehensive approach, refugees.

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Motto:

"In order more effectively to achieve the objectives of this Treaty, the Parties, separately and jointly, by means of continuous and effective self-help and mutual aid, will maintain and develop their individual and collective capacity to resist armed attack"[1].

Reading the founding document of NATO, i.e. the Washington Treaty, it becomes apparent that the founder members had already thought about the principle of resilience. By committing themselves to be prepared and able to sustain any shock they might suffer (at that time, clearly in the form of an armed attack), the Allies knew that being strong at home would be a source of strength for the Alliance as a whole. And because nations would not only be prepared individually but also benefit from the added protection of the collective defence principle, this would make deterrence a reality.

Surprisingly, it was not until the Warsaw Summit in July 2016 that Heads of State and Government issued an official statement in which they committed themselves to *"continue to enhance […] resilience against the full spectrum of threats, including hybrid threats, from any direction. Resilience is an essential basis for credible deterrence and defence and effective fulfilment of the Alliance's core tasks"*[2]. Yet, the idea had been in the air since at least 2014, with the rise of new threats and challenges that NATO had to respond to. A seminal paper published in the lead-up to the Warsaw Summit, meant to suggest new ideas to stakeholders and diplomats, suggested that *"as part of an overall Western strategy, NATO's objectives should be to deter, contain, respond, and remain resilient to the violent, disruptive, or military efforts of others"*[3]. Deterrence and resilience seem to be two sides of the same coin: while the first encompasses the broad military

[1] NATO, Article 3 of the Washington Treaty, 1949.

[2] NATO, *"Commitment to Enhance Resilience"*, issued by the Heads of State and Government, Warsaw, 8 July 2016, http://www. nato.int/cps/en/natohq/official_texts_133180.htm.

[3] Franklin D. Kramer, Hans Binnendijk, and Daniel S. Hamilton, *NATO's New Strategy: Stability Generation*, Atlantic Council and Center for Transatlantic Relations, Washington D.C., September 2015, http://www.atlanticcouncil.org/images/publications/Na-TOs_new_strategy_web.pdf.

dimension (both conventional and nuclear), as well as the means and capacity to respond to an external threat, resilience deals with the mostly civilian preparedness that fundamentally allows the military to carry out its mission. In other words, reducing societies' vulnerabilities limits the likelihood of an attack, thus reinforcing deterrence.

Whilst there are plenty of detailed publications on deterrence, resilience seems to be the new kid in town. Interrelated with both military, governance and civilian society, it needs to be examined as a whole in order to pinpoint why it specifically matters today, in a shifting and much more uncertain security environment. Looked at in another way, resilience is the homework every nation has to carefully focus upon, in order to be efficient as a trustworthy Ally.

Deterrence and resilience seem to be two sides of the same coin: while the first encompasses the broad military dimension (both conventional and nuclear), as well as the means and capacity to respond to an external threat, resilience deals with the mostly civilian preparedness that fundamentally allows the military to carry out its mission.

A Brief Definition of Resilience

As is often the case with a very popular yet complex concept, there is no common definition of resilience. It originates from the material sciences and physics, where resilience is the ability of a material to *"recover its size and shape after deformation caused especially by compressive stress"*[4]. It was then appropriated by ecology, defining the *"measure of the ability of an ecosystem to absorb changes and still persist"*[5], and later used by Emmy Werner, an American developmental psychologist, who introduced the concept into the realm of human psychology in 1982[6]. From there, the concept became so appealing that it spread into different disciplines, reaching the field of security-related studies in the general sense of being able to *"bounce back"* after a disturbance.

Even in the absence of a single agreed definition, resilience is widely understood as the *"ability of the community, services, area or infrastructure to detect, prevent, and, if necessary to withstand, handle and recover from disruptive challenges"*[7]. Resilience concerns not only

[4] Merriam-Webster Dictionary, *"Resilience"*. Bram Stoker uses the term in Dracula (1897): *"It is really wonderful how much resilience there is in human nature. Let any obstructing cause, no matter what, be removed in any way, even by death, and we fly back to first principles of hope and enjoyment".*

[5] C.S. Holling, *"Resilience and Stability of Ecological Systems"*, Annual Review of Ecology and Systematics 4/1973, pp.1-23.

[6] See the results in Emmy Werner & Ruth Smith, *Overcoming the Odds. High Risk Children from Birth to Adulthood*, Cornell University Press, Ithaca-London, 1992.

[7] According to the definition found in the *U.K. Civil Protection Lexicon*, version 2.1.1, revised February 2013, https://www.gov.uk/government/publications/emergency-res.1.ponder-interoperability-lexicon.

physical entities – services or infrastructure – but also society at large; it underscores the capability of an organisation either to continue working under severe conditions, or to recover from a stoppage or setback as quickly as possible. Academics still debate over the forms of resilience: the simplest conceptualisation is that resilience defines the ability to recover as if the disturbing event had never happened (the *"bounce back"* scenario). Others prioritise the system's ability not only to recuperate, but also to learn from what has occurred in order to adapt and avoid the likelihood of future attacks (*"adaptation"*)[8]. In each case, resilience is a process and a strategy, as it aims at assessing, maintaining and injecting resources into a system so as to keep it functioning in the face of internal or external change. Of course, depending on whether the system is an infrastructure or a society, the resources and the tools needed for resilience are not the same, but they are all subsumed under *"an organisation's culture, attitudes and values"*[9].

This explains why resilience has taken on so much importance among security experts: *"The popularity of the resilience concept […] is closely linked to the emergence of a world of risks rather than threats: Facing a variety of different risks – from natural hazards and the failure of critical infrastructures to terrorist attacks – policy- makers have recognised that not all disasters can be averted, and security can never be fully achieved. As a consequence, the focus has shifted from averting, deterring, and protecting from threats to mitigating the consequences should a disaster occur"*[10]. Resilience aims therefore at being prepared – that is, having thought, planned and exercised in order to *"absorb, recover and then adapt to adverse events"*[11].

Resilience is widely understood as the "ability of the community, services, area or infrastructure to detect, prevent, and, if necessary to withstand, handle and recover from disruptive challenges". Resilience concerns not only physical entities – services or infrastructure – but also society at large; it underscores the capability of an organisation either to continue working under severe conditions, or to recover from a stoppage or setback as quickly as possible.

Responding to New Threats in a Traditional Manner

Resilience can also be seen as a mandatory task for nations in preparing themselves to face a new category of threats. Since 2014 and the return of Russia as an aggressive actor on the international scene, much has been written and said about the *"new character*

[8] Myriam Dunn Cavelty, *Resilience in Security Policy: Present and Future*, ETH Zürich, CSS Analysis, no.142, October 2013, p. 2.

[9] Trusted Information Sharing Network for Critical Infrastructure Resilience (TISN). *National Organisational Resilience Framework Workshop: The Outcomes*. 5th-7th December 2007, Mt. Macedon Victoria, Australia, p. 6.

[10] Corinne Bara and Gabriel Brönnimann, *Resilience. Trends in Policy and Research*, ETH Zürich, Centre for Security Studies (CSS), April 2011, p. 6.

[11] National Research Council, *Disaster Resilience: A National Imperative*, Washington, DC, The National Academies Press, 2012, p.1.

of war" being waged by Putin's Russia. Using a mix of conventional and unconventional means of warfare, and playing on the full spectrum of operations, Russia has put into practice a hybrid strategy that challenges Western nations and societies – including governance and norms – despite their economic, technological, intelligence and military superiority. Leveraging every means to undermine the adversary's credibility, this hybrid form of war ranges from the use of proxies, terrorists groups, cyber-criminals and *"little green men"* to energy blackmail, sabre-rattling and military manoeuvres that extend to out-and-out invasion of a sovereign state. The whole conjugation of kinetic and non-kinetic means is supported by smart, and very effective, information warfare. Ukraine has been a case study for these tactics since 2014. In the same vein, there are now many publications and other documents analysing nations' critical vulnerabilities and means of protecting themselves against these threats[12].

NATO's first response to Russia's aggressiveness in Ukraine was highly political and very conventional. At the Wales Summit in September 2014, the Heads of State and Government reprioritised collective defence as a way to cope with a revanchist Russia, while not willing to drop the other two core task carved into the 2010 Strategic Concept – i.e crisis management and cooperative security.

NATO's first response to Russia's aggressiveness in Ukraine was highly political and very conventional. At the Wales Summit in September 2014, the Heads of State and Government reprioritised collective defence as a way to cope with a revanchist Russia, while not willing to drop the other two core task carved into the 2010 Strategic Concept – i.e crisis management and cooperative security. As NATO Secretary General Jens Stoltenberg said: *"NATO doesn't seek confrontation, we don't want a new Cold War. The Cold War is history, and it should remain history. But we have to be able also in a more challenging security environment to defend and protect all our Allies"*[13]. The Allies agreed on the Readiness Action Plan (RAP) as a way to *"address both the continuing need for assurance of Allies and the adaptation of the Alliance's military strategic posture [by] continuous air, land, and maritime presence and meaningful military activity in the eastern part of the Alliance, both on a rotational basis"*[14]. The centrepiece

[12] See for instance, Keir Giles, *Handbook of Russian Information Warfare*, Rome, NDC, 2016, http://www.ndc.nato.int/download/downloads.php?icode=506 or Guillaume Lasconjarias and Jeffrey a. Larsen (eds.), *NATO's Response to Hybrid Threats*, Rome, NDC Forum Paper 24, 2015, http://www.ndc.nato.int/download/downloads.php?icode=471.
Some nations have put a lot of effort into identifying national critical infrastructure, and then devising ways to protect it. This started with finding ways to protect the population against hazards and disasters, before extending the scope to include any other kind of risk. In the US, the main institutional actor in this field is now the Department of Homeland Security (see, for instance, National Research Council, Disaster Resilience: A National Imperative. Washington, DC, The National Academies Press, 2012 or more importantly, the *US Presidential Policy Directive/PPD-8, Subject: "National Preparedness"*, The White House, 2011.

[13] Jens Stoltenberg, *Doorstep Statement at the Warsaw Summit*, 8 July 2016, http://www.nato.int/cps/en/natohq/opinions_133260. htm.

[14] NATO Newport Summit communiqué, 6 September 2014.

of the RAP is the Very High Readiness Joint Task Force (VJTF), a brigade-size force – with air, special operations forces (SOF) and maritime support – that is supposed to be able to deploy anywhere (on alliance territory or elsewhere) within a couple of days to conduct a wide array of missions and stabilise a nascent crisis. Its visibility grants the VJTF a true political dimension that also reinforces purely military reassurance measures. In actual practice, though, the far more significant outcome of the 2014 Summit was the 2%-of-GDP defence spending pledge (including 20% for replacing matériel), with a view to halt three decades of progressive erosion in defence spending by almost all the European members of NATO.

The 18-month period between the two Summits was very active, as the Allies tried to move from mere political statements to practical application. The objective was to demonstrate that the Allies are determined in their commitment, by military and other means, to defend and protect the Alliance's territory and populations, and that collective defence is not just a mantra but a reality. The aim for the VJTF is to reach its full operational capability by 2017, beefing up the NATO Response Force to a complement of 40,000. Further, with the rotational deployment of multinational battalions in each of the three Baltic states and Poland (known as Enhanced Forward Presence), NATO is surely implementing the first set of measures to demonstrate commitment and thereby boost deterrence.

While the military has been trying to address the complexity of its tasks, some academics have strongly argued the need to go beyond immediate conventional responses, giving renewed impetus to the various components making up a real deterrence posture. They argue that, against hybrid threats and the new challenges of dealing with illegal immigrants, ISIS, cyber-attacks, terrorism and other hazards, a purely conventional response is necessary but not in itself sufficient.

Facing Domestic Challenges

However, while the military has been trying to address the complexity of its tasks, some academics have strongly argued the need to go beyond immediate conventional responses, giving renewed impetus to the various components making up a real deterrence posture. They argue that, against hybrid threats and the new challenges of dealing with illegal immigrants, ISIS, cyber-attacks, terrorism and other hazards, a purely conventional response is necessary but not in itself sufficient. This line of reasoning leads to the logical conclusion that threats targeting all the components of our Western societies can be meaningfully addressed only by a whole-of-society approach.

In a seminal article, appropriately entitled *"Defending the Arteries of Society"*, these authors identified the uncomfortable new reality that our open societies are now the target: *"Practitioners of hybrid warfare are often less intent on seizing and holding territory than destroying or disrupting the ability of societies to function. Antagonists wishing to inflict harm upon a society look to key nodes where critical*

infrastructures connect. […] When war changes, so must defence. New approaches are urgently needed that extend traditional efforts at territorial protection and deterrence to encompass modern approaches to resilience. […] Militaries are still relevant, but many critical requirements are civil. Hybrid responses require arrangements that encompass both civil government organisations as well as key private sector entities"[15]. In this analysis, Kramer, Binnendijk and Hamilton underline not only the new type of threats, but also the greater challenges in dealing with these threats, the bottom line being that we have let our guard down, and have weakened our societies by reducing investments in defence as a whole. The massive cuts in defence budgets since the end of the Cold War, and the civilianisation of once military or state- owned assets, mean that our military relies upon civilian assets unable to sustain or deal with potentially severe disruption.

The truth is that, as NATO nations came to consider themselves at peace in Europe, they kept cutting their armed forces' budgets and resources, thus increasing overall reliance on purely civilian assets. All too familiar examples can be readily found, such as the transportation or communications network in Europe. Today NATO's military relies on civilian assets for movement and transport. Typically, in large operations, around 90% of military transport is accomplished using civilian assets chartered from the private sector. Over 50% of communications for military purposes are transmitted through civilian satellites. And roughly 75% of host nation support to NATO forces is sourced from local commercial infrastructure and services[16]. With the privatisation of formerly state-owned resources and infrastructure, nations have effectively excluded themselves from contributing to decisions that are now guided primarily by profit – especially when deciding to get rid of redundancies. This process has been accompanied by the rise of new technologies, where government and states have had little to no role to play, which further explains the rapid increase of Western vulnerabilities to external attack and internal disruption.

[15] Franklin Kramer, Hans Binnendijk, and Dan Hamilton, *"Defend the Arteries of Society"*, US News and World Report, 9 June 2015, http://www.usnews.com/opinion/blogs/world-report/2015/06/09/russia-ukraine-and-the-rise-of-hybrid-warfare.

[16] NATO, *Resilience and Article 3*, 22 June 2016, http://www.nato.int/cps/fr/natohq/topics_132722.htm?selectedLocale=en.

Resilience Starts at Home

Due to the combination of hybrid threats and the transformation of our societies and economies, what is at stake is national ownership and the possibility for a state or a government to get back in the saddle when a crisis occurs. In this context, NATO's resilience focuses less on society itself than on the core elements maintaining the overall capabilities of a state or a nation to run smoothly – e.g., avoiding economic and societal disruption through resilient infrastructure and governance. NATO's working definition considers resilience as the capability to safeguard government and government entities, together with essential services that help to protect the population and guarantee civilian support to military operations. The aim in this respect is to strengthen *"civil preparedness"*, in order to guard better against the risk of a government's ability to control events being impaired. It is a question not only of retaining the confidence of one's population, but also of sticking to the core values on which the alliance is built – where the social contract demands that the government care for its people.

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This is, again, nothing new for NATO and its member states, as indicated by Article 3 of the Washington Treaty. During the Cold War, and up to the late 1980s, NATO had policies and planning for what was called *"Civil Preparedness and Civil Emergency Planning"*. The Alliance had eight civil wartime agencies, covering shipping, inland surface transport, aviation, insurance, supplies, oil, and refugee movements[17]. The bottom line was to ensure that NATO commanders could rely on civilian assets and commercial markets, to ensure that refugee movements could be coordinated and de-conflicted with military operations, and to ensure continuity of essential civilian operations; all to ensure that military operations could proceed without the risk of the *"home front"* falling apart.

Of course, after almost two decades of lost opportunities, where this invaluable expertise was either dismantled or gradually ceased to exist, it is time to rebuild resilience as a *"strategic task"*[18]. Everybody has to acknowledge that this task starts at home, in each and every nation, with our societies and government being cognisant of their own

[17] More precisely: - Defence Shipping Authority; - Agency for Coordination of Inland Surface Transport in Europe; - Southern Europe Transport Organisation; - Civil Aviation Agency; - Inter-Allied Insurance Organisation; - Central Supply Agency; - NATO Wartime Oil Organisation; - NATO Refugee Agency.

[18] Ralph D. Thiele, *Building Resilience Readiness against Hybrid Threats – A Cooperative European Union / NATO Perspective,* ISPSW Strategy Series, no. 449, September 2016, p. 2.

vulnerabilities in the first place and then working to eliminate them[19]. Because of the existing interdependences between the military, civil and private sectors, it calls for a redesigned framework and concept that fits the new era[20].

NATO has already laid out the groundwork for the necessary improvements and, since the NATO Defence Ministers' meeting in February 2016, there is a shared understanding of the domains that have to be made resilient[21]. Seven areas (systems or capabilities) have been identified as critical:

- Continuity of Government;
- Resilient Energy Supplies;
- Resilient Civil Communications Services;
- Resilient Food and Water Supplies;
- Ability to Deal with Large Scale Population Movements;
- Ability to Deal with Mass Casualties;
- Resilient Civilian Transportation Systems.

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All of these found political support in the *"Commitment to Enhance Resilience"* adopted at Warsaw. This establishes resilience as the basis for effective deterrence by denial. It is not only about building a better integrated, overlapping, redundant, comprehensive and yet flexible form of defence. It is also about being able to convince a potential adversary or competitor that its attack will fail.

Resilience as a New Topic in the PME Syllabus?

Because resilience is seen first and foremost as a domestic task, NATO serves as a clearing house, while taking a close interest in integrating members' and partners' vision of resilience. In other words, NATO helps specify the requirements, but their concrete implementation is up to the nations. To summarise, a good resilience policy can be broken down into six main tasks, spanning from identification

[19] Piret Pernik and Tomas Jermalavičius, *"Resilience as Part of NATO's Strategy: Deterrence by Denial and Cyber Defense", Forward Resilience: Protecting Society in an Interconnected World Working Paper Series*, SAIS and Center for Transatlantic Relations, 2016, p. 3, http://transatlanticrelations.org/wp-content/uploads/2016/12/Resilience-forward-book-pernik-jermalacivius-final.pdf.

[20] HQ SACT, *"Building Resilience across the Alliance"*, Food for Thought Paper, 14 January 2016.

[21] For the following section, see Lorenz Meyer-Minnemann, *"Resilience and Alliance Security: The Warsaw Commitment to Enhance Resilience", Forward Resilience: Protecting Society in an Interconnected World Working Paper Series*, SAIS and Center for Transatlantic Relations, 2016, p. 2, http://transatlanticrelations.org/wp-content/uploads/2016/12/resilience-forward-book-mey- er-minnemann-final.pdf. See also Jeffrey Larsen, *Responding to Catastrophic Threats: Consequence Management and Policies*, New York, Palgrave Macmillan, 2013.

of critical vulnerabilities to implementation of the mandatory measures and planning for uncertainty:

- Invest time and human resources in assessing national vulnerabilities – for instance, infrastructure and different types of networks. One of the best examples is the focus on energy infrastructure and cyber networks, but this is only the tip of the iceberg;
- Develop a coherent policy across the board, with an overall focus on *"shaping, planning and managing resilience in a coherent and coordinated way"*[22]. This has to take into account two dimensions. First, the physical domain – the *"hardware stuff"* – will harness and improve redundancy and robustness of existing infrastructure and networks. The second dimension, which is by nature broader and far more complex to deal with, aims at developing resilience among our own population, taking as an example what the French call *"esprit de défense"*. This deals above all with education and information, at every level and in all possible dimensions;
- Modify, change or make the legislation evolve in certain domains, especially in granting national governments and administrations greater flexibility to deal with the notion of crisis; and avoid the black-and-white separation between what can be done in peacetime and wartime;
- Improve the ability to partner with the civilian and/or private sector. This means that every actor must be aware of what is critically needed, and that there must be channels of communication among those concerned, without putting any constraint on the freedom of entrepreneurship;
- Review, modernise and update planning documents, in order to take stock of new threats and start exercising them accordingly with a view to showing our resilience;
- Connect and link up with other organisations so as to leverage different capabilities, especially in the economic and social domain. Of course, for NATO, this means further developing its links and relations with the European Union, as has already been accepted in the signing of the Joint Declaration at Warsaw. Each of these tasks would require an appropriate level of understanding that is already partially considered by a few nations in their domestic professional military education

[22] HQ SACT, *"Building Resilience across the Alliance"*, p. 6.

(PME) programmes, even if the inevitable tendency to *"stove-pipe"* leads us to forget that resilience is an *"across- the-board"* topic bridging all domains and functions. So is deterrence, which makes it clear that both have to be reconsidered and taken into account as two sides of the same coin.

Of course, one can readily appreciate the complexities and difficulties of adequately *"teaching"* resilience. This means that, if it is considered as a topical issue, it has to be seriously addressed, and that educational programmes must contextualise it by re-introducing the basics of deterrence policy – which have also disappeared in the last two decades. We need to raise our students' awareness – at every level, and not just in the military but also among our diplomats and civil servants – to the fact that resilience and deterrence are fundamental aspects of a well-balanced defence policy. Political decisions could give appropriate impetus in this respect: for instance, NATO Allies could decide to renew their commitment to the defunct agencies NATO once possessed, maybe also extending this dimension to the EU.

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Developing the concept further, in trying to better connect deterrence and resilience, there might be three different and distinct requirements. The first and most evident one is to achieve renewed understanding of our resilience when facing nuclear and WMD threats. The Cold War provides a lot of case studies, especially in being prepared for a *"nuclear winter"*. But some academics have, more recently, rejuvenated the field by thinking of what a possible limited nuclear conflict could look like[23]. The second requirement is the ability to resist and overcome a conventional, state-on-state conflict – an option that was long gone with peace dividends and the end of the Cold War. This used to be NATO's comfort zone, and ensured the continuity of services to NATO Forces deployed anywhere on Alliance territory, which inherently means continuity of government and services within host nations. The pledge made at Warsaw partially fulfils this requirement. Ultimately, and as a third requirement, when facing hybrid threats and measures short of war, the burden is once again on each and every nation's shoulders to ensure they will be able to face attacks on their values and social and economic model. Again, history provides good case studies; during the Cold War, the Alliance and member states actually practised counter-propaganda, used information campaigns to sway opinion away from communist infiltration of Western states'

[23] Jeffrey Larsen and Kerry Kartchner, *On Limited Nuclear War in the 21st Century*, Stanford, Stanford University Press, 2014.

intellectual domain, and engaged in aggressive counter-espionage and similar activities. In our post-modernist era, this is much more problematic.

Again, solutions can be found in some practices that NATO countries struggled with in the past decade, and to which they offered a common response. The most blatant example is the so-called *"Comprehensive Approach"*, which was the alpha and omega of our operations abroad in Iraq and Afghanistan, where the military was only one component of the overall security and defence environment. If one considers that resilience might also be seen – bluntly speaking – as a way to act comprehensively at home, it is surely important that we re-emphasise what was once at the centre of our thoughts and planning and operations.

Far from simply being a catchphrase or an additional buzzword, resilience has become a key notion not just among NATO members but also among certain NATO partner countries. Starting from the need to bounce back and recover swiftly after any shock, the concept now addresses the once forgotten issues of being able to continue operating even in difficult situations. While the NATO working definition emphasises the continuity of service of the government and the basic services to the population in order to support their military when they are engaged in operations, resilience goes far beyond this narrow definition. This is especially striking when considering that most of the research done recently in the resilience domain limits itself to infrastructure and networks – mainly cyber, but not only. There is agreement on the financial impact for already severely depleted defence budgets, and on the interest of trying to fix things by having the private sector on board. However, few publications mention that these costs in terms of *"hardware"* might probably be very limited if compared to those dealing with the psychological aspect of resilience, i.e. the change of mindset and the harnessing of a new defensive spirit. Better educating our elite is therefore not just one duty among many: it is mandatory, if we intend to cope with the current level of threats and challenges that need smart and well-informed people. In this community, the military, through its existing PME and its unique ability to change the syllabus on a regular basis to cope with an evolving security environment, not only provides a model but sets some standards and blueprints. It is therefore important that the efforts carried out in our military are spread further, and also serve to enlighten civil servants and all the actors who have at heart the safety and security of their nation.

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NATO'S JOINT AIR POWER STRATEGY

NATO air forces must be able to defend against peer competitors and anticipate the growing role of cyber and space-based assets, according to a new NATO joint airpower strategy released on 26 June 2018. While air power has played a central role in NATO's collective defence and crisis management for decades, the strategy is the first of its kind since NATO was founded in 1949.

The new strategy lays out the current and future security environment in which allied air forces are likely to operate in. Acknowledging that decades of uncontested air operations may be coming to a close, the strategy cautions that modern air defence systems, cyber and electronic warfare could impact NATO air operations. The document also makes the case for special forces, maritime and cyber units to better support of air power with intelligence, targeting support and post-strike assessments.

NATO's strategy holds that allied air forces must be able to fight in all terrains and environments, including heavily defended and congested airspace. While current NATO air operations will continue, the document provides a blueprint for the development of airpower doctrines and new capabilities. The last comparable document, the Alliance's maritime strategy, was released in 2011

Keywords: strategy, air power, cyberspace, electronic warfare, joint operations.

Article originally featured in NATO News, *NATO Unveils New Joint Air Power Strategy*, see https://www.nato.int/cps/en/natohq/official_texts_156374.htm, 26 June 2018.

PREFACE

1. NATO Joint Air Power (JAP) plays a key role in supporting the accomplishment of NATO's three core tasks – Collective Defence, Crisis Management and Cooperative Security – including the Alliance's strengthened Deterrence and Defence posture, NATO's efforts in Projecting Stability, and NATO's role in the International Community's fight against terrorism. A balanced and innovative approach to JAP, that understands, accepts and mitigates risks, will provide a coherent military capacity, enhancing the development of a credible and flexible NATO posture.

DEFINITION OF JOINT AIR POWER

2. Capturing the collective capabilities and capacity of air, land, maritime and special operations forces, JAP is the ability to coordinate, control, and exploit the air domain in the pursuit of Alliance objectives[1].

KEY CHARACTERISTICS OF JOINT AIR POWER

3. The core attributes of air power, which are unique and contribute to a wide range of effects, are speed, reach and height. Speed enables air power to exploit time and control tempo. Normally unimpeded by terrain, airborne capabilities provide unrivalled reach that permits air power to employ its capabilities at distance, including deep into enemy territory, and isolated locations. Height enables exploitation from an unparalleled vantage point. Ubiquity, agility and concentration are additional qualities that are enabled or enhanced by the three core attributes. Collectively, this combination provides air power with a high degree of flexibility and the Alliance with one of the most responsive and easily scalable tools available.

[1] Within the definition of JAP, Joint is defined as *"activities, operations and organisations in which elements of at least two services participate"* – NATO Term Database.

As a resource-efficient application of power, JAP facilitates a high degree of risk-management in pursuit of Alliance objectives.

4. In addition to its strengths, air power has limitations, such as impermanence[2], payload limitations and relative vulnerability. Accordingly, future air power capability development, supported by innovative thinking and leveraging the benefits of technological progress, should aim to reduce these limitations and their effects.

THE SECURITY AND OPERATING ENVIRONMENT

5. The Alliance is faced with threats and challenges, from state and non-state actors, military forces, terrorism, as well as from hybrid attacks and cyber-attacks, which are more diverse, complex, rapidly evolving and demanding than at any time since the end of the Cold War. This diverse picture is further complicated by easy access to technology, the ability to limit or deny access and manoeuvrability, and the capacity to disrupt Command and Control (C2) networks. Future challenges and threats will be transnational and multidimensional in nature and will likely have long-term consequences for peace, security and stability in the Euro-Atlantic region. Furthermore, for the first time since the end of the Cold War, the Alliance has to be able to conduct operations against any peer-state actor. As a result, the future operating environment may be one in which air superiority can neither be assured at the onset of operations nor, once obtained, be an enduring condition.

The Alliance is faced with threats and challenges, from state and non-state actors, military forces, terrorism, as well as from hybrid attacks and cyber-attacks, which are more diverse, complex, rapidly evolving and demanding than at any time since the end of the Cold War.

6. Warfighting domains are inextricably linked. In the future, these interdependencies will continue to grow. Therefore, JAP will increasingly be able to affect these domains, and conversely, be affected by them. This requires NATO to employ JAP in flexible and interoperable ways, and for JAP to be seamlessly integrated with operations in other domains.

7. As air and space overlay the entirety of the globe, the Alliance must be able to employ JAP capabilities in and around all possible terrain and environments. The development, proliferation and integration of adversary ballistic and cruise missiles, advanced layered air defence, cyber and electronic warfare systems

[2] Impermanence is a limitation imposed by ground servicing, human limitations or rearming.

will change the dynamics of Alliance air operations, which have more recently been conducted in permissive conditions. Forces will need the ability to operate despite the existence and further proliferation of such capabilities, which may result in threat environments ranging from permissive to highly-contested.

8. Future environments will become more congested, and thus challenge the identification of friend or foe. Since military air activities share the same airspace as civil air activities, civil-military airspace coordination and integration will continue to be essential in order to reduce risk and maintain a safe and secure air environment. Furthermore, JAP must be able to adapt to progressive changes in global norms whilst considering specific national interests and sensitivities of Alliance member nations and recognising where appropriate, those of coalition partners. Given the trend that engagements during conflict occur in more densely populated areas, detecting and targeting, while considering the Law of Armed Conflict, will become increasingly challenging as urbanisation continues to proliferate and megacities emerge.

9. Advances in technology create opportunities for increased and improved exploitation of the electromagnetic spectrum (EMS) by the Alliance. However, due to increased risks of its interference or degradation as well as the fact that adversaries will use actions against information systems, emitters and sensors to disrupt Allied operations, innovative approaches will also need to be developed to reduce Allied EMS vulnerability.

10. In the future, the successful use of JAP will be more dependent upon a robust and securely networked environment, including integrated and interoperable networks that will enable JAP to be exploited to the maximum extent. Deployed or remotely operated systems and support operations will use expansive, networked infrastructure which, in return, need to be included in prevention, detection, resilience, recovery and defence from all forms of cyber-attack[3]. The protection of the network

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[3] These include: network crime and insider cyber threats (either espionage or sabotage), including phishing, identity theft, and cyber stalking, as well as financial scams and the theft or misuse of classified information. It also includes attacks on NATO Information Technology and Operational Technology systems as well as the networked software of Alliance weapons systems or platforms.

will become as important as the protection of the platform. Forces will also need to protect against manipulation of data and information, and should be able to validate and verify data to ensure it is accurate, reliable, and derived from trusted sources.

11. Increasing reliance on cyber and space-based capabilities by Alliance forces presents vulnerabilities for adversaries to negate critical NATO capabilities through degradation, denial or destruction, whilst providing opportunities for the Alliance to integrate such capabilities with JAP for kinetic and non-kinetic effect. Both the resilience and exploitation of such capabilities is therefore a critical requirement that future development should address.

JAP's support to the Collective Defence task includes, but is not limited to, conventional deterrence, conventional actions, Integrated Air and Missile Defence, and nuclear deterrence.

JOINT AIR POWER'S SUPPORT TO NATO OBJECTIVES

12. JAP is a key instrument in achieving NATO's three core tasks and other political objectives. As such, JAP provides decision makers with scalable and agile options. NATO's Consultation, Command and Control capability links political intent with military missions and is an essential element of political objectives and military missions. This includes the provision of Indications and Warning to enhance awareness and understanding in support of decision-making. The following structure articulates how JAP supports the three core tasks, and the achievement of political objectives, both now and in the future.

13. **Collective Defence.** JAP's support to the Collective Defence task includes, but is not limited to, conventional deterrence, conventional actions, Integrated Air and Missile Defence, and nuclear deterrence. JAP supports the political and military requirement for situational awareness and understanding while providing the political level with agile means to rapidly change posture, escalating or de-escalating through appropriate measures as required. JAP protects and defends NATO's territory, populations and military forces from attacks, including ballistic missiles. JAP also provides the capacity for operations which can contain or delay an adversary when the Alliance is either surprised or engaged elsewhere. Facilitated through the attributes of speed and reach, support operations such as strategic lift and air-refuelling capacity enable JAP to contribute

to the transatlantic link, demonstrate solidarity and cohesion, and help reassure and reinforce Allies in an agile and responsive way. Finally, JAP's contribution to both conventional actions and nuclear deterrence provide options to address the challenges of facing a nuclear capable adversary in peace, crisis and conflict.

14. **Crisis Management.** JAP provides the political leadership with flexible military options to address the full crisis spectrum – from low to high intensity operations – pre, during and post-crisis or conflict. An urgent crisis, which requires an immediate response to regain the initiative, will often employ JAP as a lead element. JAP also provides reliable capacity to support crisis prevention or early intervention at distance by providing strategic lift, air-refuelling, and support to Joint Information, Surveillance and Reconnaissance (JISR). Its flexibility and agility allow for timely demonstration of NATO's resolve and intent, often as part of NATO's Comprehensive Approach. Furthermore, it supports international event monitoring, and intelligence gathering and decision-making pre, during and post-crisis. JAP provides mobility and combat support for sustained stabilisation and reconstruction in a complex environment.

15. **Cooperative Security.** JAP plays an important role in projecting stability and building the air power related resiliency of partners. Additionally, JAP contributes to Capacity Building by developing host nation support capability, civil-military airspace utilisation, military-to-military relationships, information sharing and building interoperability with NATO's partners and other International Organisations such as the European Union. Air traffic coordination and airspace management with civilian organisations is a key ongoing task to enable air operations. With respect to NATO's interface with civilian organisations and national authorities in connection with Ballistic Missile Defence, this has to be seen in the context of Council approved plans and policies addressing the consequences of ballistic missile intercept and engagement. Finally, the flexible attributes of JAP support arms control, disarmament and non-proliferation, including the possibility to verify and monitor compliance with agreements using JISR.

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ROMANIAN MILITARY THINKING

THE CORE ROLES OF JOINT AIR POWER AND ITS EMPLOYMENT IN A MULTI-DOMAIN ENVIRONMENT

Core Roles

16. The interdependent core roles of JAP are counter-air, attack, air mobility, and contribution to JISR. Each role, enabled and synchronised through a secure C2 layered network, is required to achieve the principle functions of JAP – the coordination, control and exploitation of the air – which provide the instruments for the political level to achieve or support Alliance objectives. Control of the air is the required degree of freedom in the air domain necessary for the exploitation of the air. It enables protection of Alliance interests, population, territory, forces and infrastructure. Exploitation of the air is the use of the air domain to maximise the achievement of Alliance objectives. The proper balance between the core roles is driven by the specific application of JAP in supporting NATO's core tasks. However, maintaining an enduring and robust capacity across each of the core roles is essential to ensure the flexibility of response options available to NATO.

Achieving a desired degree of control of the air at a certain place and/or time is primarily gained by opposing the adversary's air power through counter-air operations. These operations, which may be offensive or defensive in nature, and kinetic or non-kinetic, are key to enabling the freedom of manoeuvre of air and surface-based forces in all domains.

17. Achieving a desired degree of control of the air at a certain place and/or time is primarily gained by opposing the adversary's air power through counter-air operations. These operations, which may be offensive or defensive in nature, and kinetic or non-kinetic, are key to enabling the freedom of manoeuvre of air and surface-based forces in all domains.

18. JAP's decisive influence can be exercised through its attack role, which can be executed on very short notice. Attack has the capacity to generate effects from the tactical to the strategic level through the threat or the use of force, by kinetic or non-kinetic means, including conventional and nuclear deterrence capabilities.

19. JAP's speed and responsiveness support a wide range of air mobility functions in support of NATO's core tasks. Such functions include the deployment, sustainment, relocation, and recovery of military or civilian personnel and materiel, including those engaged in Special Operations.

20. It is fundamental to gain and maintain situational and strategic awareness in order to support proactive decision-making, increased flexibility, and effectiveness. JAP's continuous contribution to JISR allows for the rapid collection of information and the awareness and understanding necessary for decision-making, planning, preparation and execution of operations at all levels.

Joint Air Power Employment in a Multi-Domain Environment

21. The increased complexity of modern warfare requires NATO to be prepared to fight as a joint force in a multi-threat environment in order to achieve desired effects in all domains and at the strategic, operational and tactical levels. Coordination, control, and exploitation of the air are critical to the success of Allied and joint operations. Since JAP includes elements operating in the Air, Maritime, Land and Cyber domains, supported by Space, it represents one of the strongest drivers for the integration of multi-domain operations, including the capacity to conduct C2 from the air.

JAP contributes to Land, Maritime and Special Operations by gaining and maintaining the desired degree of control of the air in order to affect its exploitation. This enables freedom of manoeuvre in the Land and Maritime domains.

22. JAP contributes to Land, Maritime and Special Operations by gaining and maintaining the desired degree of control of the air in order to affect its exploitation. This enables freedom of manoeuvre in the Land and Maritime domains. Conversely, JAP relies on Land, Maritime, Cyber and Special Operations capabilities, which assist in intelligence collection, including support to targeting, attribution of actions and confirmation of effects of air operations on the ground, in the air, at sea or in cyberspace, in addition to the provision of critical infrastructure support. Strategic basing, strategic lift, air-refuelling, and maritime manoeuvre and mobility allow for the deployment and sustainment of joint forces at strategic distance and enable the exploitation of air power attributes.

23. The ability to understand and therefore operate effectively in cyberspace is essential in modern warfare. JAP relies, and will increasingly rely upon, modern, resilient, multi-level information networks, which could be challenged by state and non-state actors. Increased reliance on Cyber domain capabilities may present vulnerabilities for adversaries to affect this critical enabling capability with cyber or kinetic activities. However, JAP must be sufficiently robust and resilient to operate in a degraded

or denied cyber environment. Moreover, national contributions to cyber operations can further enable effective JAP applications. The effective integration of Cyber into JAP operations will leverage the Alliance multi-domain approach in a synergistic way both in kinetic and non-kinetic effects.

24. There are strong dependencies between JAP and national space-based capabilities, even though NATO neither owns nor controls them. JAP relies upon multiple functions provided by space assets, including but not limited to early and timely warning, space ISR, satellite communication, and the provision of Position, Navigation and Timing information. This air-space dependency requires JAP to consider the space environment, in particular the vulnerabilities of space-based systems. However, as JAP must remain employable with degraded or no space support, space requirements and vulnerabilities are essential elements to be considered during the planning of NATO operations and must therefore be drivers for capability development.

The ways that will enable the transformation of JAP comprise the following essential elements: Interoperability and Integration; C2; Infrastructure and Logistics; Education and Training, Innovation and Adaptation; and Strategic Communications (StratCom).

JOINT AIR POWER – ESSENTIAL ELEMENTS FOR TRANSFORMATION AND CAPABILITIES AND CAPACITIES

25. The ways that will enable the transformation of JAP comprise the following essential elements: Interoperability and Integration; C2; Infrastructure and Logistics; Education and Training, Innovation and Adaptation; and Strategic Communications (StratCom). These essential elements outline how the transformation of JAP will achieve political objectives and emphasise the need for continuous adaptation across the spectrum of Doctrine; Organisation; Training; Materiel; Leadership; Personnel; Facilities; and Interoperability (DOTMLPFI). Due to the complexity of JAP, this spectrum has to be expanded to capture the capability and capacity needs of C2, Innovation and Adaptation, StratCom, and Policy and Concepts.

26. Expressed as capability and capacity needs across this extended spectrum, this approach will ensure the relevancy, effectiveness and utility of JAP both now and in the future, in all phases of peace, crisis and conflict, in both permissive and contested environments. These capability and capacity needs are further

specified within a separate supplementary document[4] to this strategy to help identify actions to implement the Joint Air Power Strategy, with an emphasis on defence planning.

Doctrine

27. In order to effectively execute this strategy, and to emphasise the inter-dependency of domains, evolving NATO doctrine must address the following challenges, which necessitate integration between the different domains: civil-military coordination, peer-state actor's capabilities and activities, degraded environments, asymmetric/hybrid activities, proliferation and urbanisation. Set against the context of the challenges and speed of the operations in the current and future security environments, the coordination and synchronisation of C2 including doctrinal interoperability will be essential in order to enable timely and seamless integration of offensive and defensive activities as well as all other JAP roles.

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Organisation

28. NATO's operational organisation must be agile, resilient, scalable and adaptable in order to fully support the seamless transition from peacetime to conflict or, in worst case, a strategic surprise. The organisational structure must persistently leverage NATO and national capabilities in a federated approach in order to achieve Alliance objectives. The structure must also be able to bring together all the elements of JAP into a coordinated and coherent framework under the umbrella of robust, resilient and interoperable, securely networked and adaptable C2-structures.

Training

29. The successful execution of this strategy will require appropriate education, training and exercise at all levels from individual to organisational. Synchronising air power within a joint campaign will require an adaptation of the NATO Education, Training, Exercise and Evaluation Policy to include joint competencies aimed to provide understanding on all aspects of the military instrument of power, and develop inter-agency,

[4] NATO Joint Air Power Capability and Capacity Needs – a NATO unclassified document that is intended to inform NATO Defence Planning Process (NDPP) cycles and decisions.

inter-governmental, and multi-national capabilities. Training and Readiness should include aspects of high intensity warfare against a peer-state actor in a degraded environment across all domains. Specific emphasis should be placed on space, cyber, JISR to include analysis and dissemination, EMS operations, asymmetric and hybrid threats, and civil-military coordination. Interoperability through language skills and cross-cultural awareness, including federated strategic understanding by the persistent leveraging of regionally specific expertise, will support JAP's ability to operate effectively across the joint force.

30. NATO certified education and training programs will need to be utilised to better integrate human capital with unmanned and/or autonomous[5] JAP capabilities. Education must leverage opportunities to integrate technology into joint operations and to contribute to the development of new concepts, doctrine and legal frameworks.

Future training environments must take advantage of technological advances to balance live, virtual and constructive opportunities and exploit the potential to permit persistent synthetic training in complex environments.

31. Future training environments must take advantage of technological advances to balance live, virtual and constructive opportunities and exploit the potential to permit persistent synthetic training in complex environments. A realistic training environment will incorporate a wide variety of characteristics such as military, civil, political, governmental and non-governmental organisations, while maintaining the military principle of *"train as you fight"*. NATO must be capable of rapidly adapting training environments to incorporate lessons learned and intelligence output.

Materiel (including Infrastructure and Logistics)

32. The complexities of coordinating and operating in an increasingly urbanised environment present challenges in distinction between combatants and non-combatants. JAP capabilities must enable detection, distinction, identification and tracking in this environment as well as fusing and correlating information to improve situational awareness at all levels.

33. Due to the through-life-cycle system costs[6] of modern capabilities, as well as the increasing challenges to the security

[5] The degree of autonomy permitted is subject to further political approval.

[6] In this instance, life cycle costs are defined as the sum of all recurring and one-time (non-recurring) costs over the full life span or a specified period of a good, service, structure, or system. It includes purchase price, installation cost, operating costs, maintenance and upgrade costs, and remaining (residual or salvage) value at the end of ownership or its useful life.

of global supply chains, innovative logistics and procurement capabilities will need to be developed. However, even though NATO leverages technology and develops a smaller and more cost- effective footprint, it will be essential to account for mass to ensure sufficient capacity remains to execute all roles of JAP. With respect to the development of medium to long-term capabilities, a subtle and balanced approach between quantity and quality should be adopted.

34. Data management and networked capabilities will require secure infrastructure and must be capable of handling large volumes of data. JAP's effectiveness is enhanced when resiliently linked to these capabilities. JAP-related systems, procedures and platforms must be agile, flexible and scalable to manage the emerging requirement and maintain resiliency in a degraded or denied operating environment, including cyber-attack.

Data management and networked capabilities will require secure infrastructure and must be capable of handling large volumes of data. JAP's effectiveness is enhanced when resiliently linked to these capabilities.

35. JAP's innovative approach to logistics and procurement processes requires efficient, cost-effective, scalable and responsive support including dedicated logistics chains that facilitate appropriate and timely positioning. It must be flexible to meet the needs of the different core tasks in a range of challenging climates and environments. Capabilities of interchangeable modular design, stockpiles of replacement components as well as easily repairable standardised equipment across the Alliance will improve support to JAP.

36. Innovative high-end technology gives the Alliance the option to consider reducing the size of future logistics footprints. The geographic span of the Alliance requires a forward-thinking and situationally adaptive approach towards the development of appropriate supply and transportation networks necessary to support all NATO core tasks. This implies that the lines-of-communications should be globally monitored and secured over cyber, land, sea and in the air. Setting up transit, base and port access agreements, leveraging national transportation networks, and enhancing the capability to transition personnel and materiel between multiple-modes of transportation will be critical to the fulfilment of military objectives. Emerging technology gives the Alliance the option to consider the required logistics footprint as well as leverage automation for increased speed of logistics operations.

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Leadership

37. Since JAP is part of NATO's response to each of its core tasks, leadership should embrace the inclusion of all aspects of JAP, ensure that air power is integrated from the outset of the campaign planning process, and understand multi-domain capabilities and limitations when developing comprehensive campaign plans. This will necessitate a deep understanding of the advocacy of air power and its articulation to key decision-makers. Furthermore, NATO leaders will need to consider the potential of peer-to-peer conflict and the associated increased risk of attrition, the challenges associated with an evolving security and dynamic operational environment, the role of technology to support pro-active and accelerated decision-making, and the link between StratCom and the application of JAP.

NATO leaders will need to consider the potential of peer-to-peer conflict and the associated increased risk of attrition, the challenges associated with an evolving security and dynamic operational environment, the role of technology to support pro-active and accelerated decision-making, and the link between StratCom and the application of JAP.

Personnel

38. In order to execute this strategy and fully enable the NATO Command and Force Structures for all core roles, sufficient trained personnel will be required as agreed in the Peacetime Establishment and Crisis Establishment structures. Personnel must have the capability to operate in a multi-cultural environment and understand their role in the Joint Campaign. Due to the criticality of JAP-supporting enablers such as space assets, cyber, and EMS operations, a growth in the demand for Subject Matter Experts in these areas is anticipated and will need to be considered.

Facilities

39. JAP is dependent on adequate and secure basing. From well-established to austere, this basing is required to accommodate the forces necessary to achieve all deployment, operating and sustainment objectives. Accordingly, enhanced coordination between military and civil authorities, including shared access to airspace and infrastructure, will be a required capability.

40. JAP infrastructure, capacity and the strategic logistic lines-of-communication must be protected to retain the ability to support multiple simultaneous activities, including support to operational and training missions. This must include the capability to maintain functionality in a degraded operating environment and in all anticipated climatic conditions.

Interoperability

41. Achieved through common doctrine, procedures and technical means, and enhanced by cultural awareness, interoperability[7] spans the entire expanded DOTMLPFI spectrum, and is essential for JAP's success. Since Allies and partners will deliver capabilities to NATO at differing generational and technological levels, the integration of upgrades to legacy communication, identification and information systems, including technical validation and verification processes, will be critical to further enable enhanced interoperability.

42. Shared and flexible use of airspace with civilian actors including dual military-civilian use of facilities in peacetime, improved cultural awareness in both joint and multinational context, improved common standards and effective exploitation of space and cyberspace are key for NATO's JAP capabilities and integration. JAP must consider on-going civil aviation modernisation programs and their impact on the ability of NATO's JAP to access and operate in such airspace.

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43. JAP's interdependent and functionally integrated forces require persistent capabilities to conduct federated networking. This will enable the most efficient use of resources, maximise effects on an adversary's forces and capabilities, and minimise the risk of collateral damage and fratricide. Federated networks, open-architecture-based systems, standardised procedures, standardised materiel and standardised training of personnel, and modular and plug-and-play type capabilities will improve interoperability while reducing single point of failure vulnerabilities. In order to achieve the desired level of integration without creating vulnerabilities, the Alliance must complement interoperability through the use of encryption, segmentation, and segregation.

[7] Interoperability is defined in AAP-6 as *"the ability to act together coherently, effectively and efficiently to achieve Allied tactical, operational and strategic objectives".*

Further Elements outside DOTMLPFI

44. In addition to those aspects considered within DOTMLPFI, the following additional essential elements must also be considered.

Command and Control

45. The ability to command and control JAP, based on human capacity that is augmented and assisted by information technology, is a requisite capability to ensure the level of flexibility and agility necessary for effective JAP employment. Future networks must support the collection, processing and distribution of significant amounts of data to facilitate timely command and control of JAP. Supported by standing Joint Air C2 capability and supporting tailored command structures, a high level of interoperability and deployability, including procedures, training and exercises, will be key to sustainable, effective and affordable Joint Air C2 network capabilities and structures. In the current and future security environment, resilient, interoperable, and redundant C2 systems that utilise and provide persistent federated networks and data analysis tools are required in order to assist leaders with decision-making and the timely comprehension of complex challenges.

NATO must strive for improved policies that will drive collaboration, integration, and partnership with other nations to ensure that pertinent intelligence may be shared in a timely manner.

46. In order to seamlessly adjust to rapidly changing situations, Joint Air C2 capabilities must be able to synchronise and coordinate the efforts of a wide range of entities while providing clear military direction and guidance through unity of command. Joint Air C2 capabilities must also facilitate close coordination with relevant civil aviation authorities when transitioning from peace to crisis or conflict.

47. Comprehensive and persistent situational awareness and understanding is required for effective and informed decision-making pre, during and post-crisis. Therefore, NATO requires agile, coordinated multi-domain ISR as a permanent task, with a standing Joint Air C2 structure in place to oversee its operation. The Alliance should acquire the capability to analyse and rapidly disseminate various JISR products that are releasable to a multi-national audience. NATO must strive for improved policies that will drive collaboration, integration, and partnership with other nations to ensure that pertinent intelligence may be shared in a timely manner. Furthermore, to enhance accuracy, capabilities for reconnaissance and surveillance must be tailored and take advantage of cost-effective technologies.

Policy and Concepts

48. In order to execute this strategy effectively, NATO must identify, adjust and improve policies and concepts related to JAP, such as those related to aircraft cross-servicing, Space, EMS exploitation, and movement of resources across Alliance internal borders. In parallel, the ability of the Alliance to share intelligence and information is being improved through policies, which will persistently provide adequate, accurate and timely intelligence and information to support NATO's Air decision-making process. However, it will be essential that Allies remain committed to implementing and adhering to these policies.

Innovation and Adaptation

49. JAP should evolve through two types of innovation: conceptual innovation, in order to improve and enhance the use of organisational structures and the interoperability of existing and new resources; and technological innovation, in order to create, maintain or expand advantages over adversaries. JAP should exploit a diverse commercial innovation market and capitalise on government-funded innovations.

50. Advancements in new technologies to defeat emerging threats may require upfront investment to realise longer term cost-effectiveness. JAP must be able to employ scalable, sustainable and multi-role capabilities to provide the necessary range of effects. Advances in machine learning, human machine interfaces, and data clouds, all offer the potential to enable the evolution of JAP across an information centric, multi-domain construct. Machine learning provides significant potential savings over the human learning process in terms of cost, speed and effectiveness. The improved human machine interface and use of data clouds offer the potential for capabilities comprising mixed forces of manned and unmanned systems.

Machine learning provides significant potential savings over the human learning process in terms of cost, speed and effectiveness. The improved human machine interface and use of data clouds offer the potential for capabilities comprising mixed forces of manned and unmanned systems.

51. JAP should continue to exploit potential lower cost capabilities such as directed energy in support of counter-air operations and unmanned and/or autonomous systems across all core roles. Striving to maintain technological advantage can mitigate risk through the accurate delivery of effects. However, when leveraging advanced technology, sufficient quantity of assets, including low technology such as swarming drones, must be maintained to execute all roles of JAP. Acquisition of commercially developed capabilities, especially networked capabilities, must occur in a flexible and timely manner and balance potential cost savings against the risks of supply chain cyber intrusion.

52. In addition to the need for resilience, JAP must advance its capability to recover from hostile actions and maintain operational capabilities in a degraded environment. Furthermore, JAP capabilities must be able to continue to operate in a Chemical, Biological, Radiological and Nuclear contamination environment. JAP capabilities must exploit and operate in the EMS. In addition, Joint Air C2 capabilities, JISR and individual capabilities must consider cyber interference. Finally, resilience against asymmetric/hybrid threats including Improvised Explosive Devices and layered defence are critical capability areas for JAP.

In addition to the need for resilience, JAP must advance its capability to recover from hostile actions and maintain operational capabilities in a degraded environment. Furthermore, JAP capabilities must be able to continue to operate in a Chemical, Biological, Radiological and Nuclear contamination environment.

Strategic Communications

53. The core attributes of air power provide the Alliance with a highly flexible and scalable set of responses to threats and crises. Its use is highly visible and very frequently the kinetic weapon of first choice; it is also often the first military element to be deployed to deter potential adversaries or reassure allies. At heart, the employment of air power sends messages, and it is therefore critical that the communication aspects are fully considered and integrated into the planning and execution of air power operations. Well planned and coordinated StratCom enhances the operational effectiveness of air power; by acting as an amplifier for air power capabilities and their effects, it can deliver a broader cognitive effect against an adversary in order to deter them and/or undermine their will to fight. Accordingly, winning the information war can be every bit as important as winning the war in the air.

54. Integrating StratCom into air power operations is also essential in order to combat disinformation and to maintain freedom of action. The more prominent air power becomes in an operation the more likely it is that it will be targeted by disinformation campaigns designed to distort or to malign the Alliance's intent and/or quality of execution. Adversaries, especially those in the asymmetric environment, are acutely aware of the impact of air power which is often essential for success. Therefore, limiting its use will be a central element of adversarial information operations; notably, this will include claims of civilian casualties, or the exploitation of events involving civilian casualties. NATO cannot afford to have its air power capabilities unnecessarily constrained and this makes it even more essential that the communications aspects are taken account of in planning and execution of air operations. Effective StratCom is a critical requirement in diplomatic and informational environments to protect NATO's freedom of action in the air such that the Alliance can maximise the effects from its airborne capabilities.

THEORETICAL CONSIDERATIONS IN SUPPORT OF UNDERSTANDING THE SECURITY CHALLENGE POSED IN EUROPE BY THE REFUGEE AND ILLEGAL MIGRANT CRISIS

Alexandra SARCINSCHI, PhD
Senior Researcher,
Centre for Defence and Security Strategic Studies,
"Carol I" National Defence University

The author starts the present approach from the premise that the thorough understanding of the security challenges posed in Europe by the refugee and illegal migrant crisis is hindered by the existing conceptual confusion related to the terms "refugee" and "illegal migrant", ignored by a part of the mass media that prefers disseminating impact messages at the expense of official statistics.

On the one hand, the present article is an attempt to clarify the aspects related to the terminology that is specific to crisis analysis, and, on the other hand, it is a succinct radiography of the phenomenon that, in the author's opinion, has many facets to be studied: from statistical data, through migration models and the psychosocial representation of refugees and migrants up to the policies and strategies intended to manage the crisis.

Keywords: crisis, illegal migrants, asylum seekers, fundamental attribution error, radicalisation.

English version by **Diana Cristiana LUPU**.

Introduction

Over the past five years, Europe has become a scene for emphasising the trends that were not predicted in the last wave of enlargement of the European Union. Among them, the most important are: the re-emergence of *hard security* in the foreground of the political security discourse, the intensification of Eastern-style hybrid actions destined to destabilise the EU space, the development of so-called *illiberal* democracies and, last but not least, the onset and amplification of the refugee and illegal migrant crisis in Europe.

In this article, we will focus on the latter trend as it is one of the most intense challenges to European security in all its dimensions, with important repercussions in the medium and long term. In this respect, we will briefly analyse the multiple facets of the crisis, from the conceptual dimension (since the use and dissemination of specific terms without accuracy give rise to confusion in the explanation of the phenomenon) to the security challenges (both for the countries and institutions of Europe, and for the population of refugees and illegal migrants).

Starting in 2015, the European Union member states have been confronted with a significant increase in the number of refugees and illegal border crossings, as a result of the humanitarian crises in Asia and Africa. Nevertheless, the number decreased in 2017.

Refugees, Asylum Seekers, Migrants

Starting in 2015, the European Union member states have been confronted with a significant increase in the number of refugees and illegal border crossings, as a result of the humanitarian crises in Asia and Africa. Nevertheless, the number decreased in 2017. The decrease during the last year was significant, resulting in the emergence of voices, such as the one of Guy Verhofstadt, a Member of the European Parliament, who states that *"we are not living a migration crisis but we are living a political crisis on the back of migrants"*[1]. If it were true, it would mean that the problem of those who have already arrived in the EU member states is solved, and the Union has the best management tools at hand. Unfortunately, the situation is far from being as described, the Union being still in the process of adapting

[1] According to Guy Verhofstadt post on Twitter on 03.07.2018, URL: https://twitter.com/guyverhofstadt/status/1014087561730580480, retrieved on 05.07.2018.

its policies and systems to be able to respond to this challenge. Moreover, statistics are misleading, as many of the organisations dedicated to migration issues do not make a clear distinction between immigrants, on the one hand, and refugees and asylum seekers, on the other hand, merging data on these categories into common statistics.

UN statistics show that, despite the image built by the media and the rise in absolute value of the number of refugees in recent years, they represent a small proportion of the total population of migrants, about 10%[2]. Moreover, unlike in the case of international migrants, Europe ranks third in the world in terms of the total number of refugees after Asia and Africa, although the media exposure of this issue creates an erroneous perception of the place occupied by the European continent in the top of refugee entrances. However, for Europe, whose population is over 740 million inhabitants[3], more than 500 million of them being in the EU member states[4], the approximately 2.6 million illegal border crossings starting in 2015 represent a significant number of immigrants and potential refugees[5].

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Fully overlapping the terms immigrant and refugee is not correct as far as terminology is concerned.

Sociology and human geography operate with the following definition of *migration: "phenomenon consisting in the movement of crowds of people from one territorial area to another, followed by the change of domicile and/or employment in a form of activity in the arrival area"*[6]. In explaining the phenomenon, international norms are added to the mentioned theoretical reference point. Thus, the UN defines a *migrant* as an individual who lives in a foreign country for more than a year, regardless of the causes (voluntary or involuntary) or the means (legal or illegal) used to migrate[7]. As for the European concept, a *migrant* is defined as a person that either establishes usual

[2] United Nations, Department of Economic and Social Affairs, Population Division, *Population Facts*, no. 5/2017, p. 2, URL: http://www.un.org/en/development/desa/population/publications/pdf/popfacts/PopFacts_2017-5.pdf, retrieved on 15.06.2018.

[3] Worldometers Website, URL: http://www.worldometers.info/world-population/europe-population, retrieved on 10.07.2018.

[4] Eurostat, *Population and Population Change Statistics*, URL: http://ec.europa.eu/eurostat/statistics-explained/index.php/Population_and_population_change_statistics, retrieved on 15.06.2018.

[5] According to the statistics published by Frontex (URL: https://frontex.europa.eu/along-eu-borders/migratory-map), if, in 2014, the number of illegal border crossings was 282,923, in 2015 it grew to 1,822,175, and in the following years it has decreased: 2016 – 511,046; 2017 – 204,718; 2018 (January-May) – 45,219 illegal border crossings.

[6] Traian Rotariu, *"Migrație"*, in *Dicționar de sociologie*, Cătălin Zamfir and Lazăr Vlăsceanu (coord.), Editura Babel, București, 1998, pp. 351-353.

[7] David Bartram, Maritsa V. Poros and Pierre Monforte, *Key Concepts in Migration*, SAGE Publications Ltd., 2014, pp. 4-8.

residence in the territory of a member state for a period that is, or is intended to be, of at least 12 months (having previously been resident in another member state or a third country), or having previously been usually resident in the territory of a member state, ceases to have the usual residence in the territory of a member state for a period that is, or is intended to be, of at least 12 months[8].

The main typology uses the criterion of legality*: migrant having a legal status* (migrant that legally enters the country and remains there obeying the norms and rules for admission); *illegal migrant* or *having illegal status* (person who does not have a legal status in the transit or destination country, and who does not meet any of the conditions for entering the country or whose visa is expired). For the International Organisation for Migration (IOM), the syntagma *"having illegal status"* is preferred to the attribute *"illegal"*, as the latter has a criminal connotation and it is seen as *"denying the migrant as a human being"*[9]. However, in European context, the term *illegal migrant* is used without being added a negative connotation and is defined as *"a citizen of a third country who is present in the territory of a Schengen state and who does not meet the entry conditions stipulated in the Schengen Border Code or other conditions for entering, staying or residing in that particular member state"*[10].

In European context, the term illegal migrant is used without being added a negative connotation and is defined as "a citizen of a third country who is present in the territory of a Schengen state and who does not meet the entry conditions stipulated in the Schengen Border Code or other conditions for entering, staying or residing in that particular member state".

IOM also introduces the element of constraint in the definition of another type of migration – *forced migration*. It is defined as a migratory movement in which there is a coercion element, including the threat to life, either for natural causes or for anthropic ones (e.g. the refugees and internally displaced persons, the persons displaced because of natural or ecological disasters, chemical or nuclear ones, famine or even development projects)[11].

Therefore, we have come to the issue of *refugees*.

The term *refugee* is defined, based on the *UN Charter*, the *Universal Declaration of Human Rights* and the other existing documents up to that date (1951), in the *Geneva Convention relating to the Status*

The term refugee is defined, based on the UN Charter, the Universal Declaration of Human Rights and the other existing documents up to that date (1951), in the Geneva Convention relating to the Status of Refugees.

[8] European Commission, *European Migration Network (EMN) Glossary of Terms relating to Asylum and Migration*, October 2014, p. 5, URL: https://ec.europa.eu/home-affairs/what-we-do/networks/european_migration_network/glossary/index_a_en., retrieved on 06.02.2018.

[9] International Organisation for Migration, Bureau in Romania, *Glosar asupra Migrației, Seria Drept Internațional al Migrației*, no. 25, 2011, URL: https://www.oim.ro/ro/resurse/glosar, retrieved on 06.02.2018.

[10] European Commission, *op. cit.*, October 2014, p. 172.

[11] Richard Perruchoud, Jillyanne Redpath-Cross (coordinators), *"Forced Migration"*, in *International Organization for Migration Glossary on Migration, 2nd Edition*, 2011, URL: https://www.west-info.eu/files/iom.pdf, retrieved on 06.02.2018.

of Refugees[12]. Article 1, which defines the *refugee*, was amended in the 1967 Protocol, but the second paragraph remains its essence, being partially present in the glossaries made by the IOM or the European Commission, the only difference being that, at European level, it is emphasised the condition of the person belonging to a third country or even the status of stateless[13]. Unfortunately, some refugees cannot go back to their country of origin or they do not want to do so, especially when the main cause for leaving the country was war or ethnic, religious or tribal violence.

Therefore, are refugees part of the category of migrants or not?

The New York Declaration (UN, 2016) uses the syntagma *"refugees and migrants"*, establishing that they are distinct categories of people who *"face a desperate ordeal"*[14]. The special recognition of this status is motivated by the fact that they need a sanctuary other than their *"home"* (their returning home endangers their life), and the asylum negation can have deadly consequences[15].

The New York Declaration (UN, 2016) uses the syntagma "refugees and migrants", establishing that they are distinct categories of people who "face a desperate ordeal". The special recognition of this status is motivated by the fact that they need a sanctuary other than their "home" (their returning home endangers their life), and the asylum negation can have deadly consequences.

Unfortunately, eluding the difference between the two terms, refugee and migrant (immigrant), diverts attention from the special status of the former category, established by international legislation, and can significantly diminish the population support in the countries of destination as well as the protection policies related to refugees.

[12] According to UNHCR, *Convention relating to the Status of Refugees, Geneva, 28 July 1951* (text published in *Monitorul Oficial* no. 148/17 July 1991, URL: http://www.unhcr.org/ro/wp-content/uploads/sites/23/2016/12/1951_Convention_ROM.pdf, retrieved on 06.02.2018), the term *refugee* shall apply to any individual who *"(1) has been considered a refugee under the Arrangements of 12 May 1926 and 30 June 1928 or under the Conventions of 28 October 1933 and 10 February 1938, the Protocol of 14 September 1939 or the Constitution of the International Refugee Organisation; Decisions of non-eligibility taken by the International Refugee Organisation during the period of its activities shall not prevent the status of refugee being accorded to persons who fulfil the conditions of paragraph 2 of this section; (2) As a result of events occurring before 1 January 1951 and owing to well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country; or who, not having a nationality and being outside the country of his former habitual residence as a result of such events, is unable or, owing to such fear, is unwilling to return to it. In the case of a person who has more than one nationality, the term "the country of his nationality" shall mean each of the countries of which he is a national, and a person shall not be deemed to be lacking the protection of the country of his nationality if, without any valid reason based on well-founded fear, he has not availed himself of the protection of one of the countries of which he is a national"*.

[13] European Commission, *op. cit.*, October 2014, p. 230.

[14] UN, General Assembly, *Resolution Adopted by the General Assembly on 19 September 2016. New York Declaration for Refugees and Migrants*, A/RES/71/1, URL: http://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_RES_71_1.pdf, retrieved on 06.02.2018.

[15] UNHCR, *Refugees and Migrants – Frequently Asked Questions*, 16 March 2016, URL: http://www.unhcr.org /afr/news/latest/2016/3/56e95c676/refugees-migrants-frequently-asked-questions-faqs.html, retrieved on 06.02.2018.

The refuge from danger and the application for asylum are general rights, not illegal claims, as they could be considered because a confusion in terminology (between refugees and illegal migrants). The problem is all the more complicated, the more we understand that the choice of migrants is not always accompanied by free will, in some cases the access of a person or family to decent living conditions depends on the decision to go to another country. The definition provided by the IOM for *forced migration* is not comprehensible enough to allow for renouncing the distinction between refugee and migrant, as there is no definition that is universally accepted and regulated at international level. Therefore, the UN uses and promotes the use of the syntagma *"refugees and migrants"*, but it is not valid for all international organisations, many statistics including refugees and asylum seekers in the series of data referring to international migration.

Another term that is useful in the analysis of refugee and illegal migrant crisis is that of *asylum*. Again, the *Universal Declaration of Human Rights*, the *Geneva Convention relating to the Status of Refugees* (1951) and the *Protocol relating to the Status of Refugees* (1967) establish the general framework for the development of national legislation related to asylum. The definition of asylum provided by the EU makes reference to the Geneva Convention, based on which an individual seeks protection: *"form of international protection given by a state on its territory. It is granted to a person who is unable to seek protection in his/her country of citizenship and/or residence, in particular for fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group, or political opinion"*[16]. Before a person is granted asylum, he/she has to be granted the status of refugee or to benefit from auxiliary protection[17].

The Universal Declaration of Human Rights, the Geneva Convention relating to the Status of Refugees (1951) and the Protocol relating to the Status of Refugees (1967) establish the general framework for the development of national legislation related to asylum.

Asylum issues have been a concern for the European Union since the '90s, when the first steps were taken to develop and implement *the Common European Asylum System (CEAS)*. However, since 1999, when the system was implemented, and up to 2015, when the largest wave of refugees and illegal migrants was registered, Europe has not been subject to such migratory pressure. Thus, although CEAS has been continually improved, the last two years questioned the system integrity[18].

[16] European Commision, *op. cit.*

[17] European Commission, *Who Qualifies for International Protection*, f.a.q., URL: https://ec.europa.eu/home-affairs/what-we-do/policies/asylum/refugee-status_en, retrieved on 06.02.2018.

[18] European Commission, *Communication on the Delivery of the European Agenda on Migration*, Brussels, 27.09.2017, URL: https://ec.europa.eu/home-affairs/sites/homeaffairs/files/what-we-do/policies/european-agenda-migration/20170927_communication_on_the_delivery_of_the_eam_en.pdf, retrieved on 08.06.2018.

ROMANIAN MILITARY THINKING

Following the refugee and illegal migrant crisis, the EU implemented the *European Agenda on Migration* (2015), which includes a series of immediate actions to manage the migration phenomenon, in its aggregate, making fewer direct reference to asylum seekers and refugees. However, even the European institutions agree that the Union should make the transition from ad-hoc response systems to a stable framework for managing this problem and, in addition, to harmonise the existing differences between the member states in regard to not only the conditions for the immigrant reception, but also the recognition of the refugee status. The last summit debating this topic (28-29 June 2018, Brussels) was not concluded with a strong commitment of the member states to establish permanent structures for the reception of immigrants, thus indicating a tendency to abandon the humanitarian desideratum that led to widely opening the doors of the Union to receive and manage the flows of illegal migrants.

Between the Refuge from Terror and the Attraction of the Developed World

An article published in 1993 in the *Annual Review of Sociology* focuses attention on a sensitive question: Can the increasing importance given to the protection of refugees by international organisations be an indicator of the weakness of nation state?[19].

In a globalist approach, introduced in the study of migration by sociologist Saskia Sassen in 1988[20], some distinctions between refugees and immigrants are established, depending on their movement direction – migration from the centre to the periphery and within the centre, migration from the periphery to the centre and within the periphery[21] –, based on the existing structural differences between the three areas of the world system (centre, semi-periphery, periphery) in terms of salary, price and labour effectiveness. The mentioned article also debates the *push-pull* theory in international migration[22], making a distinction between planned migration and the spontaneous flows of refugees, between the composition of immigrant and refugee networks[23]. Providing the example of the refugee crisis and the UN intervention in Africa and Asia starting in the'70s, a common characteristic of immigrants and refugees is invoked: before becoming immigrants or refugees, the particular population moves internally, and after arriving in the country of destination, they usually start a secondary migration, seeking better living conditions or a larger community of refugees to join. Moreover, the networks that help the immigrant and refugee movement are similar, consisting of friends or people having the same socio-cultural characteristics, excepting the case of illegal facilitators or traffickers in human beings.

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It is noted that, although the realistic perspective initially assumes that immigrants and refugees are distinct categories, the developments of *push-pull* model suggests a significant similarity between them[24]. On the other hand, its origin, Ravenstein's theory in 1885, cannot be entirely confirmed nowadays, especially with regard to migration laws[25].

Another explanatory model that includes not only immigrants but also refugees is that of Anthony H. Richmond (1988), according to which it cannot be made a clear distinction between the economic and social-political determinants of people movement, an approach having multiple variables being necessary[26]. In Richmond's opinion, there are few examples in which the causes of migration can be either economic or political, in modern world the individuals decisions being influenced by a multitude of actors (states, multinational corporations, international organisations, religious leaders etc.) and inter-relational

[19] Jeremy Hein, *"Refugees, Immigrants, and the State"*, in *Annual Review of Sociology*, vol. 19, August 1993, pp. 43-59.

[20] According to Ilie Bădescu (Ilie Bădescu, *"Migrația internațională ca problemă socială. Studiu de caz: migranții pentru muncă în Italia"*, in Dorel Abraham (coord.), *Studiu privind "Afirmarea identității și integrarea socio-culturală a emigranților conaționali pentru muncă în zonele metropolitane din Spania și Italia"*, București, 2008, URL: http://sociologia-azi.ro/wp-content/uploads/2013/10/Raport-final-studiu-Migratie-Spania-si-Italia.pdf, retrieved on 09.02.2018), it was only in 1988 when the theory of international system, developed by Immanuel Wallerstein, was employed in the analysis of international migration. The paper to which Professor Bădescu refers is Saskia Sassen, *The Mobility of Labor and Capital. A Study in International Investment and Labor Flow*, Cambridge University Press, 1988.

[21] *Ibidem*, pp. 44-45.

[22] Theory developed in 1885 by Ernst Georg Ravenstein (1834-1913), according to which migration follows a *"push-pull"* pattern, meaning that, if there are unfavourable living conditions in a certain place, the inhabitants will be pushed to emigrate, and they will be pulled by the favourable living conditions in another place.

[23] Jeremy Hein, *op. cit.*, p. 49.

[24] *Ibidem.*

[25] For example, the *"feminity"* migration law, which states that there are fewer male migrants than female ones, is invalidated by the UN statistics that have shown, even since 1990, an increase in the number of male migrants. Thus, in 2017, of the total of 257,715,525 migrants worldwide, 48.36% were women and 51.64% were men. Source: UN Department of Economic and Social Affairs, Population Division, *Workbook: UN Migrant Stock by Age 2017. Table 1. International migrant stock at mid-year by age and sex and by major area, region, country or area, 1990-2017*, 2017, URL: http://www.un.org/en/development/desa/population/migration/data/estimates2/ estimates15.shtml, retrieved on 11.06.2018.

[26] Anthony H. Richmond, *"Sociological Theories of International Migration: The Case of Refugees"*, in *Current Sociology*, Sage Publications, vol. 36, no. 2, 1988, pp. 7-25.

factors having global coverage (social, economic, religious, ethnical, political etc.).

Another conclusion drawn by Richmond is that the idea of the distinction between the voluntary and involuntary movement of the population can neither be sustained. He thus suggests the distinction between proactive and reactive migration, as the human individual is permanently influenced by direct coercion, manipulated opinions or value systems. As for refugees, Richmond states that they represent the prototype of political migrants, even if *"the historical circumstances in which the legal definition of ‹refugee› was formulated in the UN Protocol limits its applicability in the contemporary global system"*[27], although he does not demonstrate the latter statement.

It is interesting that, a decade previously the emergence of the refugee and illegal migrant crisis in Europe, in another paper, Richmond states that the theme of refugees will also be a serious problem in the predictable future, a problem whose solution should not be a short-term one[28].

The solutions brought to attention are general and unilateral, as they address only the causes and the population that react to the particular factors, a key aspect being lost: the country of destination and its population that will react to another type of structural constraints and facilitators, both internal (public policies, resources destined to refugee flows etc.) and external ones (refugee and illegal migrant flows, conditions imposed by international organisations etc.).

It is evident that, besides a theoretical approach to the issue of refugees and illegal migrants, Europe is the scene of two important phenomena: on the one hand, the increase in the European countries attractivity for the populations in conflict and/or pauper areas and, on the other hand, correlated to that phenomenon, nationalist, especially the extremist one, revival, whose discourse opposes to the previously mentioned phenomenon.

When Different Worlds Meet: the Fundamental Attribution Error and the Issue of Refugees and Illegal Migrants

It is evident that, besides a theoretical approach to the issue of refugees and illegal migrants, Europe is the scene of two important phenomena: on the one hand, the increase in the European countries attractivity for the populations in conflict and/or pauper areas and, on the other hand, correlated to that phenomenon, nationalist, especially the extremist one, revival, whose discourse opposes to the previously mentioned phenomenon. Two civilisations are face to face, and they seem to act following a pattern inspired by Samuel P. Huntington's

[27] *Ibidem*, p. 16.

[28] Anthony H. Richmond, *Globalization and the Refugee Crisis*, CRS Working Paper Series, no. 1, York University, 2005, p. 10.

book, *The Clash of Civilisations and the Remaking of World Order*[29], in which, the more the interactions between the Christian Western world and the Islamic world will be, the stronger the tensions between them will be.

Nevertheless, Huntington's theory is considered by some authors as being built on a fundamental attribution error[30]: The Western world is dedicated to the idea of nation state and the democratic principles, while the Muslim world is devoted to religion, without being open to ideas such as pluralism and liberty.

In this context, David Brooks, Associate Professor at Yale University and journalist at *The New York Times*, contradicts the US politologist and states that his rationale represents a fundamental attribution error caused by the context: Huntington states that the Muslims do not desire peace and pluralism as they are understood by the Western world, but Brooks invalidates it and states that these principles have existed among the Islam adepts, not having the necessary circumstances to become visible. Under the current conditions, in the countries with a Muslim majority, it has been activated, supported by endogenous or exogenous factors, another set of identities, as valuable and authentic as the religious ones[31].

According to Brooks, both Western and Muslim populations cherish the fundamental rights and freedoms, but in their own cultural contexts, which makes Huntington himself the victim of this fundamental attribution error and, complementing Brooks, of stereotypes.

Huntington's theory, as well as the hypothesis that the increase in the contacts between the two civilisations will accentuate the conflict, seems to be supported by the fact that between the two postures (Huntington – 1997 and Brooks – 2011), in the countries in Europe (the Russian Federation included as over 70% of its population lives

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[29] Samuel P. Huntington, *Ciocnirea civilizațiilor și refacerea ordinii mondiale*, Editura Antet, Oradea, 1998.

[30] Attribution theory studies the *"mechanism through which we assess our and the others behaviour depending on the causes perceived by us; it takes into account the way we explain human behaviour based on the information about a particular person, processed in a personal manner"*. According to Elena Zamfir, *"Atribuire"*, in Cătălin Zamfir and Lazăr Vlăsceanu (coord.), *Dicționar de sociologie*, Editura Babel, București, 1998, pp. 55-57.

[31] David Brooks, *"Huntington's Clash Revisited"*, in *The New York Times*, 03.03.2011, URL: http://www.nytimes.com/2011/03/04/opinion/04brooks.html, retrieved on 23.05.2018.

in the European part of the country[32], although the geographic references place it in Asia) there were 13 terrorist attacks claimed by Islamist extremists, 4 in the USA and 3 in Turkey. Between 2011 and 2015, there were 11 such attacks in the mentioned countries and, starting in 2015, the year when the refugee crisis is considered to have emerged, the number of attacks increased to 39 in only 3 years (1 January 2015 – 31 December 2017)[33]. This type of simplistic theories that the dramatic and catastrophic events are attributed to the actions of some groups focused on destroying and then dominating the entire world are made public even in official declarations (Prime Minister of Hungary, Viktor Orban, declared, in March 2017, that the refugees are the *"Trojan horse of terrorism"*).

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The opposite is also true. For example, Kenneth E. Miller's study, *5 Myths about Refugees*, published in *Psychology Today* (on-line edition), focuses on the main country of destination for the current wave of refugees and illegal migrants, Germany, and on the main populations involved (Syrians, Iraqis and Afghans)[34]. The author concludes that, despite the magnitude of the messages conveyed by the far-right politicians, statistics show that the refugees are less willing to get involved in criminal actions compared to the native population in the countries of destination. Moreover, not only certain categories of the local population are more prone to deviant behaviours than refugees, but also the refugees are more fearful than their hosts, because, starting the end of 2014, the number of attacks against the refugee shelters has tripled[35].

As for the terrorist attacks that have largely altered the psychosocial representation of the problems faced by the EU member countries, the official investigations that followed and whose conclusions were published in the press showed that the attacks were carried out by French, Belgian or Danish third-country nationals, in the second or third generation in those countries, who were beneficiaries of the Western educational system and were supposed to have integrated into

[32] According to the statistics published by the UN, on 1 July 2017, the population density was 16.2 people/km² in Eastern Europe (33.5 people/km² in Europe), while in Russia it was 8.8 people/km². Source: UN Department of Economic and Social Affairs, Population Division, *World Population Prospects: The 2017 Revision, custom data acquired via website*, 2017, URL: https://esa.un.org/unpd/wpp/DataQuery, retrieved on 12.03.2018.

[33] A statistic made based on the synthesis of the international press and online encyclopaedias (BBC, *The Express* and *The Guardian*, UK; Fox News, USA; Esri, international provider of geographic system software; Wikipedia, online open encyclopaedias).

[34] Kenneth E. Miller, *"5 Myths about Refugees"*, in *Psychology Today*, 23.01.2017, https://www.psychologytoday.com/blog/the-refugee-experience/201701/5-myths-about-refugees, retrieved on 07.03.2017.

[35] *Ibidem.*

the respective societies, but in fact they were recruited and radicalised by various terrorist organisations, especially the Islamic State (IS)[36].

In a previous analysis[37] related to the psychosocial representations of the threats to the European Union member countries we have shown that the perception of the terrorist risk in the countries having a large number of refugees and asylum seekers (Germany, France, Sweden[38]) is more reduced than in the countries where their number is significantly smaller and whose governments opposed the implementation of the refugee transfer and resettlement quotas system in the EU (Hungary and Poland)[39]. It is noted that the representation of terrorism and immigration, correlated as the main problems the EU has to face, has decreased starting in the end of 2015 and the beginning of 2016 respectively, the concern for social-economic problems having increased, as it is shown by the European Commission Eurobarometer series[40].

The Illegal Migration and Refugee Phenomenon – Political Negotiation Instrument

According to a study conducted by Myria Georgiou and Rafal Zaborowski (London School of Economics and Political Science), from the acknowledgement of the emergence of the refugee and illegal

[36] Manni Crone, Maja Felicia Falkentoft and Teemu Tammikko, *European Citizens, Not Refugees, behind Most Terrorist Attacks in Europe. The Terrorist-Migration Nexus and Ways forward for Schengen Border Policies*, Danish Institute for International Studies, Copenhagen, 2017, URL:http://pure.diis.dk/ws/files/910914/Report_05_Europes_Refugee_Crisis_Web.pdf, retrieved on 12.02.2018; Peter Bergen, *"Bergen: A Pattern in Terror – Second Generation, Homegrown"*, *CNN*, 24 May 2017, URL: https://edition.cnn.com/2017/05/24/opinions/homegrown-terrorism-opinion-bergen/index.html, retrieved on 06.03.2018; Krishnadev Calamur, *"Are Immigrants Prone to Crime and Terrorism? Donald Trump Portrays Immigration as a Threat to Public Safety, but Research Paints a Very Different Picture"*, in *The Atlantic*, 15 June 2016, URL: https://www.theatlantic.com/news/archive/2016/06/immigrants-and-crime/486884, retrieved on 06.03.2018.

[37] This theme was extensively presented in the chapter *"Tendințe în migrația internațională și fluxurile de refugiați și solicitanți de azil"*, in *Evaluare strategică 2017: noi provocări într-o lume tot mai fracturată*, (coord.) Florian Cîrciumaru, Editura U.N.Ap. *"Carol I"*, București, 2018 as well as in *"Multiple perspective, o singură realitate? Cazul refugiaților din Europa"*, in *Impact Strategic*, no. 1/2017, pp. 31-43.

[38] UNHCR Statistics, *The World in Numbers*, 2015, http://popstats.unhcr.org/en/overview, retrieved on 07.03.2017.

[39] According to the statistics published by PEW Research Centre, *Spring 2016 Global Attitudes Survey*, 2017, http://assets.pewresearch.org/wp-content/uploads/sites/2/2016/07/14095942 Pew-Research-Center-EU-Refugees-and-National-Identity-Report-FINAL-July-11-2016.pdf, retrieved on 12.03.2017.

[40] European Commission, *Standard Eurobarometer,* no. 78/2012-88/2018, http://ec.europa.eu/commfrontoffice/publicopinion/index.cfm/Survey/index#p=1&instruments=STANDARD&yearFrom=1974&yearTo=2017, retrieved on 11.03.2018.

migrant crisis in Europe (2015) and up to the beginning of 2016, there could be identified three stages related to the crisis reflection in the European mass media: *careful tolerance* (July 2015), *ecstatic humanitarianism* (September 2015) and *fear and need for security* (November 2015)[41].

In the initial stage, the *"front page"* was occupied by both Mediterranean tragedies and the European Council decision to relocate the refugees from Greece and Italy, as well as by the decision of Hungary to build a fence on the border with Serbia. It was thus built an image of Europe that wanted to help the refugees being also concerned about the potential negative consequences of the crisis[42].

In the second stage, the media narrative changed radically, the emotional component being emphasised. Europe appeared to be a space of solidarity in the face of the asylum seekers drama.

Finally, the third stage was marked by the terrorist attacks in Paris (November 2015), and the articles on refugees did not refer to relief measures but to defensive ones, while Europe appeared to be in shock because of the actions attributed to refugees[43].

The mentioned study can be completed with some observations regarding the period January 2017-June 2018, when the illegal migration phenomenon became even a *weapon* for some of the involved countries that, through diverse threats, seek to solve other problems, thus contributing to the fragmentation of the common political will that should exist in terms of crisis management. An example is the case of Turkey that, as an important gateway to Europe for the flows of illegal migrants[44], threatens to unilaterally cancel the *Declaration on Stopping the Illegal Migration Flows via Turkey to the EU* (18 March 2016) if it does not become a European Union member state[45], following the allegations of human rights violations and the rule of law failure.

[41] Myria Georgiou, Rafal Zaborowski, *Media Coverage of the "Refugee Crisis": A Cross-European Perspective*, Council of Europe Report, 2017, p. 8, URL: https://rm.coe.int/1680706b00, retrieved on 19.04.2018.

[42] *Ibidem.*

[43] *Ibidem.*

[44] According to the UN statistics, at the end of 2017, Turkey hosted more than 3,500,000 refugees and illegal migrants. Source: UNHCR, *Fact Sheet Turkey*, October 2017, URL: https://reliefweb.int/sites/reliefweb.int/files/resources/UNHCRTurkeyFactSheet-October2017.pdf, retrieved on 14.02.2018.

[45] Andrei Ionașcu, *Turcia respinge orice altă variantă în afara integrării depline în Uniunea Europeană*, 19.01.2018, Mediafax, URL: http://www.mediafax.ro/externe/turcia-respinge-orice-alta-varianta-in-afara-integrarii-depline-in-uniunea-europeana-16934297, retrieved on 19.01.2018.

The breach of the agreement would mean the illegal migrants free access to European countries. So far, Turkey has managed to provide enhanced reception conditions and to open organised, safe and legal channels for Syrian refugees to Europe[46].

Italy did not preserve its humanitarian rhetoric at the beginning of the crisis either. Since the parliamentary elections this year were won by the *5 Star Movement*, an extremist party that opposes the reception of refugees and illegal migrants, measures have been taken against this phenomenon: from banning the landing of humanitarian ships with migrants in any of its ports[47] to refusing to sign the text related to security and free trade of the Conclusions of the European Council (28-29 June 2018) if the requirements related to the management of the flow of immigrants arriving by the Mediterranean are not met[48].

Although representing a step forward in crisis management, the conclusions of the meeting represented also a compromise between the idealist, humanitarian, and the practical view: it was emphasised the necessity to identify and differentiate the illegal migrants that would be sent back to their countries of origin from those that needed international protection to whom the solidarity principle would apply[49]. Currently, Austria's taking over the presidency of the EU Council calls into question the direction of this crisis management evolution: towards the humanitarian dimension or, according to Austrian officials[50], towards a radical solution that would lead to the cancellation of asylum applications in Europe, which is contrary to the provisions of the *Geneva Convention relating to the Status of Refugees*.

Currently, Austria's taking over the presidency of the EU Council calls into question the direction of this crisis management evolution: towards the humanitarian dimension or, according to Austrian officials, towards a radical solution that would lead to the cancellation of asylum applications in Europe, which is contrary to the provisions of the Geneva Convention relating to the Status of Refugees.

[46] European Commission, *Factsheets Compilation 2016-2017*, European Agenda on Migration Factsheets, p. 43, 2017.

[47] Teodora Marinescu, *Ambarcațiunea cu peste 600 de imigranți, respinsă de Italia, a ajuns în portul din Valencia*, 17.06.2018, Mediafax, URL: http://www.mediafax.ro/externe/ambarcatiunea-cu-peste-600-de-imigranti-respinsa-de-italia-a-ajuns-in-portul-din-valencia-17258019, t la 17.06.2019; Mihai Drăghici, *Echipajul navei umanitare Lifeline anunță că nu a primit autorizație pentru a ajunge în Malta*, 26.06.2018, Mediafax, URL: http://www.mediafax.ro/externe/echipajul-navei-umanitare-lifeline-anunta-ca-nu-a-primit-autorizatie-pentru-a-ajunge-in-malta-17307306, retrieved on 26.06.2018.

[48] Gabriela Baczynska, Noah Barkin, Richard Lough, *EU Cuts Migration Deal after Marathon Talks, Differences Remain*, 28.06.2018, Thomson Reuters, URL: https://www.reuters.com/article/us-eu-summit/italy-blocks-eu-summit-agreement-until-migration-demands-met-idUSKBN1JN3AP?il=0, retrieved on 28.06.2018.

[49] EU, *European Council*, 28-29/06/2018, URL: http://www.consilium.europa.eu/en/meetings/european-council/2018/06/28-29, retrieved on 29.06.2018.

[50] I. B., *"Viena: Trebuie anulate solicitările de azil în Europa"*, Hotnews, 10.07.2018, URL: https://www.hotnews.ro/stiri-international-22558789-viena-trebuie-anulate-solicit-rile-azil-europa.htm, retrieved on 10.07.2018.

It is evident that there is no unique model to be applied in all European countries as far as the illegal migration and refugee phenomenon management is concerned. The EU suggests the goal of integrating third persons, without European norms expressly call for the harmonisation of national legislation and rules in the field but only for the refugee and migrant flows management. In 2016, the European Parliament adopted a strategic procedure related to the situation in the Mediterranean and the need for a *"holistic approach"* to the migration issue[51].

Subsequently, problems became evident as there were exposed the flaws in the European asylum system, in the community solidarity when faced with the refugee and illegal migrant flows, as well as in the external frontiers protection. These are only a few of the challenges the EU currently faces. Thus, we consider it would be extremely difficult for the member states to identify, agree and implement a single policy regarding the refugee integration and the illegal immigrant population management.

In a causal chain, the incapacity to integrate immigrants will result in new challenges for both the country of destination and the country of origin. Integration is a difficult and long-lasting process, as refugees and illegal migrants, more often than not, want to preserve and affirm their ethnic and cultural identity, rejecting the traditions in the country of destination.

Possible Risks in the Medium and Long Term

The magnitude of the refugee and illegal migrant crisis has also been increased by the *"collective inability to acknowledge and rapidly diminish the deteriorating circumstances in a certain region and to prevent the emergence of the crisis that can lead to mass migration"*[52]. In a causal chain, the incapacity to integrate immigrants will result in new challenges for both the country of destination and the country of origin. Integration is a difficult and long-lasting process, as refugees and illegal migrants, more often than not, want to preserve and affirm their ethnic and cultural identity, rejecting the traditions in the country of destination. Of course, it is not about assimilation based on acculturation but rather on integration in the sense promoted by the EU, as a dynamic, biunivocal process of mutually accommodating all migrants and residents in those particular countries[53]. In this case,

[51] European Parliament, *The Situation in the Mediterranean and the Need for a Holistic EU Approach to Migration*, Strasbourg, 12 April 2016, URL: http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P8-TA-2016-0102+0+DOC+XML+V0//EN&language=EN, retrieved on 14.03.2018.

[52] Allied Command Transformation, *Strategic Foresight Analysis. 2017 Report*, NATO, 2017, p. 37, URL: http://www.act.nato.int/images/stories/media/doclibrary/171004_sfa_2017_report_hr.pdf, retrieved on 07.03.2018.

[53] European Migration Network, *Asylum and Migration Glossary 3.0*, October 2014, p. 163, URL: https://ec.europa.eu/home-affairs/sites/homeaffairs/files/what-we-do/networks/european_migration_ network/docs/emn-glossary-en-version.pdf, retrieved on 06.02.2018.

migrants become more permeable to radicalisation, which, in a vicious circle, will result in increasing tension in the society of destination, possibly, between it and the country of origin, and, subsequently, in perpetuating the failure in integrating migrants.

In this regard, we can discuss the discrepancy between aspirations and reality in the country of destination. A result of such a situation is the one signalled by the European mass media: the asylum seekers desire to return to their country of origin. There was such a tendency in Finland, where thousands of refugees decided to renounce their asylum applications and get back home voluntarily[54], and in Germany, where insalubrious refugee camps, insufficient financial aids, and the difficult process of analysing the asylum applications make refugees want to get back home[55].

Another effect is the increase in the potential radicalisation of the population of illegal migrants, asylum seekers and refugees, by overlapping the dissatisfaction of everyday life and the propagandistic messages of Jihadist groups. At the beginning of 2018, the mass media published three sets of articles on the particular issue, without directly referring to the refugee crisis: one by the UK *Jane's* Intelligence (February)[56], one by the Italian Intelligence services (February)[57], and a declaration of the Europol Executive Director, Rob Wainwright (March)[58].

Thus, in a report dedicated to the development of terrorist risk in Europe, *Jane's Terrorism and Insurgency Centre* concludes that, in a 5 to 10-year time horizon, the countries on the continent will be faced with an increased terrorist threat from condemned persons having radical orientation, fighters abroad returned to their countries of origin, and other returned people having direct links with the IS. The report does not make any reference to the *"terrorists infiltrated"*

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[54] Roxana Măciucă, *Mii de refugiați irakieni pleacă din Finlanda și se întorc în țara lor*, Mediafax, 13.02.2016, URL:http://www.mediafax.ro/externe/mii-de-refugiati-irakieni-pleaca-din-finlanda-si-se-intorc-in-tara-lor-15073865, retrieved on 10.07.2018.

[55] Ioana Bojan, *Tot mai mulți refugiați irakieni se întorc în țara lor, dezamăgiți de viața în Germania*, Mediafax, 28 January 2016, URL: http://www.mediafax.ro/externe/tot-mai-multi-refugiati-se-intorc-in-irak-dezamagiti-de-viata-in-germania-am-cheltuit-11-000-de-dolari-si-ne-am-intors-acasa-cu-mana-goala-15002659, retrieved on 10.07.2018.

[56] Jane's, *Terror Risks in Europe to Increase in 2018 as Islamic State's Foreign Fighters Return*, 13.02.2018, URL: http://www.janes.com/article/77853/terror-risks-in-europe-to-increase-in-2018-as-islamic-state-s-foreign-fighters-return-jane-s-by-ihs-markit-says, retrieved on 15.03.2018.

[57] ANSA, *"Concrete" Jihadi Risk in Italy – Intelligence*, 20.02.2018, URL: http://www.ansa.it/english/news/2018/02/20/concrete-jihadi-risk-in-italy-intelligence-4_6bb00fab-cd63-4d91-a9d3-d0531d39b0f9.html, retrieved on 15.03.2018.

[58] Rob Wainwright apud Europost, *Thousand Dedicated Jihadists Waiting to Return to Europe*, 21.03.2018, URL: http://www.europost.eu/article?id=22290, retrieved on 21.03.2018.

in the refugee flows, issue covered by the European mass media between 2015 and 2016, but to the *"returning foreign fighters* (that A.N.) *will inject capability, ideological rigor and added extremism to existing radical Islamist networks in Europe"*[59].

The report of the Italian Intelligence services also refers to the foreign fighters, noting that the Jihadist terrorist threat is *"concrete and present"*[60], Italy being the target of IS hostile propaganda and of radicalised individuals, including some Italian speakers *"Islamonauts"* (reference is made to the so called *"internauts"*, capable and active internet users). In this case too, it is emphasised the danger represented by the terrorists *"raised"* in Italy, having autonomous motivation and inspiration, or being piloted by *"terror directors"*[61].

The third mentioned source, the declaration of the Europol Executive Director, makes reference to the foreign fighters or the European citizens that have been radicalised in their country of origin. Among the problems signalled by Rob Wainwright the following can be mentioned: Approximately 30,000 people in Europe are potential members of a terrorist network, most of them radicalised via the Internet and inspired by the IS (this does not mean that they act on the order of the organisation); over 1,000 foreign fighters are waiting to return to Europe and, last but not least, over 6,000 Europeans have left, starting in 2014, to join militant groups and one third are still unknown[62].

In this context, it is necessary a discussion related to another facet of the refugee and illegal migrant crisis in Europe, namely that of the extremism directed towards these categories of population. Previously, a reference has been made to the article written by the US psychologist Kenneth E. Miller and to the surveys related to the opinion of the population in the country of destination about the Muslims. At least in Germany, the European country most targeted by asylum seekers, over the past two years there have been many attacks against immigrants. Thus, in 2016, there were 3,533 attacks against the refugee and immigrant hostels (2,545 attacks against the people in this category and 988 attacks against their residences), 217 attacks against the organisations and volunteers that help refugees, and 560 attacks resulting in casualties[63]. At the end of 2017, there were 251 far-right

n 2016, there were 3,533 attacks against the refugee and immigrant hostels (2,545 attacks against the people in this category and 988 attacks against their residences), 217 attacks against the organisations and volunteers that help refugees, and 560 attacks resulting in casualties. At the end of 2017, there were 251 far-right extremist attacks and other 995 politically motivated attacks against the immigrant and refugee shelters, of which 169 violent attacks.

[59] Jane's, *art. cit.*, 2018.
[60] ANSA, *art. cit.*, 2018.
[61] *Ibidem.*
[62] Europost, *art. cit.*, 2018.
[63] BBC, *Germany Hate Crime: Nearly 10 Attacks a Day on Migrants*, 26.02.2017, URL: https://www.bbc.com/news/world-europe-39096833, retrieved on 18.02.2018.

extremist attacks and other 995 politically motivated attacks against the immigrant and refugee shelters, of which 169 violent attacks[64].

The presented analyses are extremely important for the understanding of a part of the range of security challenges generated by this crisis in the European countries. On the one hand, the challenges draw attention to the severe issue of foreign fighters, and, on the other hand, they make reference to the hypothesis that not only European citizens but also refugees and immigrants can be easily manipulated by the Jihadist propaganda, as the basic causes of extremism are, more often than not, social, although the refugees flee exactly from the terrorist organisations areas of operation. However, up until they are attracted by extremist organisations, both illegal migrants and asylum seekers can be used as *"weapon"* in a potential psychological war conducted by the Islamic State, in which they as well as European citizens are victims.

Final Considerations

The issue of refugee and illegal migrant flow management has generated, in Europe, a crisis that has shown that the European unity is not unwavering. Some member countries did not only refuse to implement the transfer and relocation system (Poland, Slovakia, Hungary), but they also built fences at their borders (Hungary with Serbia and Croatia; Macedonia with Greece) or they even temporarily closed their borders (Croatia with Bosnia and Herzegovina, Croatia with Serbia). Moreover, it has become evident the tendency to polarise the political discourse from an area of liberal pluralism to one of the so-called illiberalism, represented by the far-right ascension.

Europeans have been influenced not only by such type of discourse, but also by the confusions in terms promoted by part of the mass media as well as by the opinion polls conducted by different specialised institutes. As it has been previously mentioned, the negative image of the refugees has been also created by their association with the term *illegal migrant*, which does not allow the public to understand the distinction between those whose life is endangered by war and persecution, and those who seek better economic conditions.

Moreover, the public image of refugee and illegal migrant crisis has been partially built through prejudices, stereotypes and conspiration

[64] Daily Sabah, *Far-right Violence against Refugees Persists in Germany*, 25.12.2017, URL: https://dailysabah.com/europe/2017/12/26/far-right-violence-against-refugees-persists-in-germany, retrieved on 18.02.2018.

theories, which have resulted in the population in the country of destination radicalisation, as it can be seen in the way the crisis has been reflected in the European mass media, from the affirmation of humanitarian principles to fear and even defensive measures. The refugee and illegal migrant population is not spared the danger of radicalisation as a result of the existing discrepancy between their aspirations and the objective conditions they find in their dedicated camps in the countries of destination.

The European Union and its member states will be further faced with the issue of refugee and immigrant integration, which, although can be considered an opportunity for the countries having an old and decreasing population, is not easy to manage, considering all the mentioned aspects. Societal integration will entail both systems (the population of the host country and the refugee and immigrant population) undergoing mutations in terms of communication, function, culture and norms. Considering the great difference between the norms and values of the two systems, the major challenge will be the optimisation of the mentioned aspects. Up until such level of integration is achieved, we consider a first step could be the two populations attempt to mutually adapt, as the unrestricted access to information, especially to that having a scientific nature, when effectively managed by national and European authorities, could represent a catalyst for breaking the barriers of prejudices and associated stereotypes.

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CYBERSPACE IN ARMENIA: LIMITATIONS AND CASES OF CYBER SECURITY VIOLATIONS

PhD Hasmik GRIGORYAN
Researcher at Dublin City University, School of Law and Government

The author of the article briefly approaches some aspects of interest regarding the cyber space in Armenia, especially as an important platform for information and expression of civil society. At first, cyber space and cyber security are defined. Then, a series of threats against the cyber space are mentioned, underlining the fact that the state has recorded various cases of data protection violations as well as blocking or removing content on digital platforms. The author then presents the legal framework on cyber security and data protection, as well as a series of cyber attacks on civil society representatives or on international organisations and state institutions. Finally, the need to reform the legislative framework of the cyber security sector is highlighted.

Keywords: cyber space, cyber security, hacking, personal data protection, cyber control.

Introduction

Digital space is one of the platforms where civil society sector exchanges with information or raises various political or social problems. According to Deibert and Rohozinski[1] digital tools are the fasts and the furthest reaching tools, that may have unprecedent effects. However, at the same time the same digital tools maybe controlled by governments[2] or undesired content on websites can be blocked[3].

Armenia is one of the post-Soviet countries where civil society uses digital tools actively. However, the country has also a low ranking in terms of cyber security. In 2017 it was ranked 111th out of 165 countries in the Global Security Index. The country has also various cases of data protections violations, as well as blocking or take down of contents in the digital platforms.

In this paper, I first define cyberspace and cyber security. I then proceed to explaining the legal framework related to cyber security in Armenia and the cases of hacking or cyber control in Armenia.

Freedom Voices in Cyberspace

Cyberspace has become an important tool for people in civil and political sectors. People in various non-democratic countries have managed to gain an alternative information or mobilize politically thanks to the internet and modern technologies. For example, in Moldova, after the contestable Parliamentary elections, the population of Moldova mobilized through Twitter and other social messaging

[1] R. Deibert and R. Rohozinski, *Control and Subversion in Russian Cyberspace*, 2010, available at https://www.semanticscholar.org/paper/2-Control-and-Subversion-in-Russian-Cyberspace-Deibert-Rohozinski/48b550fe0dc602ea7e0a9d4f8f395d9ede34ae66?tab=abstract, retrieved on 27 July 2018.

[2] R. Deibert, *Cyber-security*, in M., D. Cavelty and T. Balzacq (ed), Routledge Handbook of Security Studies Routledge, London, pp. 172-182, 2016.

[3] P.N. Howard, S.D. Agarwal and M.M. Hussain, *When Do States Disconnect Their Digital Networks? Regime Responses to the Political Uses of Social Media,* in *The Communication Review*, 14(3), pp. 216-232, 2011.

networks[4]. Similarly, social protests in Armenia became viral in the country and the world through Twitter[5].

But, although digital tools serve as a platform for spreading information and raising social or political problems by civil society actors, there are also certain risks and security issues related to the cyberspace. Deibert and Rohozinski[6] raised the concern whether digital space is a technology of freedom or a technology of control. According to the Global Cybersecurity index 2017 threats to computer networks are serious and have shifted from relatively small to more malicious threats. The Global Security Index that measures legal, technical, organizational aspects of cybersecurity of a state, ranked Armenia 111th out of 165 countries in terms of its commitment to cybersecurity in the year of 2017. The cyberspace of Armenia, in a country where the transition path towards democracy has not been accomplished yet, is one of the most fragile sectors. In the next section, I define the issue of cyber security and the line between freedoms and cyber control.

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Cyberspace and Cyber Security

Deibert[7] has defined cyberspace as the platform of digital electronic telecommunications. It goes beyond the 'Internet' and includes the entire system of networked information, communication systems and devices. Cyberspace now pervades into all aspects of society, economics and politics[8]. Bayuk et al[9] write that cyber security refers to the ability to control access to networked systems and the information they contain. Where this control is established effectively, cyberspace is considered a reliable, resilient, and trustworthy digital infrastructure. However, where cyber security controls are absent, incomplete, or poorly designed, cyberspace is considered a fragile and lawless field[10].

4 E. Barry, 'Protests in Moldova Explode, With Help of Twitter', in *The New York Times,* 8 April 2009, available at https://www.nytimes.com/2009/04/08/world/europe/08moldova.html, retrieved on 30 July 2018.

5 H. Grigoryan, *'Small Electric Yerevan Spark – A Big Challenge for the Armenian Government'*, in *Huffington Post,* 12 July 2015 *available* at https://www.huffingtonpost.com/st-gallen-symposium/small-electric-yerevan-sp_b_7782904.html, retrieved on 30 July 2018.

6 R. Deibert and R. Rohozinski, *Liberation vs. Control: The Future of Cyberspace*, in *Journal of Democracy*, 21 (4), 2010, pp. 43-57.

7 R. Deibert, *Cyber-security*, in M., D. Cavelty and T. Balzacq (ed), Routledge Handbook of Security Studies Routledge, London, pp. 172-182, 2016.

8 *Ibid*.

9 J.L. Bayuk, J. Healey, P. Rohmeyer, M.H. Sachs, J. Schmidt and J. Weiss, *Cyber Security Policy Guidebook,* John Wile & Sons Incorporated, New Jersey, 2012.

10 *Ibid*.

Governments have also become a part of cyberspace, where they can use the cyber tools or interfere in the activities organised in the digital platform. Howard, Agarwal and Hussain[11] write that states can interfere with digital networks by shutting down political websites, alternatively they can block access to disagreeable content and in the most extreme cases, shut down access to entire online and mobile networks. Deibert[12] writes that network downtime can disrupt political organisation or essential government services. Governments may take measures to control services, tools, and platforms used by whatever they perceive to be threatening adversaries. Measures can be done by adopting laws forbidding the publication of certain types of content, enforcing a takedown notice issued to companies to remove offending content. Government require telecommunications and Internet Service Provider (ISP) companies to put in place special 'back doors' that will allow state law enforcement and intelligence to access user data directly. But meanwhile, some governments filter access to content that violates copyright, hatred or violence, other countries filter access to content that is devoted to minority rights, religious movements, political opposition and human rights groups[13]. Governments, raising national security concerns, may justify blocking internet content and services[14].

Governments have also become a part of cyberspace, where they can use the cyber tools or interfere in the activities organised in the digital platform.

Howard, Agarwal and Hussain[15] built database of incidents that show incidents when regimes even stepped beyond mere surveillance of particular websites or users, and actually disconnected Internet exchange points or blocked significant amounts of certain kinds of traffic. And although it is more difficult to control digital media on a regular basis, but there have been various occasions when governments have disabled a number of small scale as well as significant portions of their national information infrastructure[16].

11 P.N. Howard, S.D. Agarwal and M.M. Hussain, *When Do States Disconnect Their Digital Networks? Regime Responses to the Political Uses of Social Media*, in *The Communication Review*, 14(3), 2011, pp. 216-232.

12 R. Deibert, *op. cit.*, pp. 172-182, 2016.

13 *Ibid*.

14 R. Deibert and R. Rohozinski, *Control and Subversion in Russian Cyberspace*, 2010, available at https://www.semanticscholar.org/paper/2-Control-and-Subversion-in-Russian-Cyberspace-Deibert-Rohozinski/48b550fe0dc602ea7e0a9d4f8f395d9ede34ae66?tab=abstract, retrieved on 27 July 2018, p. 25.

15 P.N. Howard, S.D. Agarwal and M.M. Hussain, *op. cit.*

16 *Ibid*.

As Deibert and Rohozinski[17] wrote cyber technologies are a special power that developed with social innovation. Communication is one of the effective tools that facilitated democratization of communication. It is the only technology in history that grew with such speed and spread so far geographically in such a short time. The innovations in electronic communications have had unprecedented and far-reaching effects. However, at the same time the same technologies that gave voice to democratic activists living under not free regimes can be harnessed by the oppressing rulers. There are various forms of social control, where information can be tracked and traced[18]. Governments in various regimes may insure cyber security, however, cyber security can also be breached either through legal tools or by limiting the freedom on net.

The same technologies that gave voice to democratic activists living under not free regimes can be harnessed by the oppressing rulers. There are various forms of social control, where information can be tracked and traced.

Cyberspace in Armenia

There is a rapid growth of information technology (IT) sector in Armenia. The IT sector expanded by an average of over 20 percent annually in the previous decade, in fact becoming the fastest-growing sector of the Armenian economy[19]. However, despite the fact that the private IT sector develops quite quickly in the country, there are various cyber security problems.

Armenia's connection to the internet line is quite fragile. Armenia is connected externally through Georgia and Iran. The gateways with Georgia allow Armenia to connect with Russian and European segments of Internet through terrestrial connections and undersea routes in the Black Sea, meanwhile the gateways with Iran are limited and are used as a backup option[20]. Such limited external connection led Armenia to be left without internet connection for several hours. The communication system of Armenia was left without internet services on 28 March 2011 for 5 hours, when the underground cable was sliced accidently in Georgia[21].

[17] R. Deibert and R. Rohozinski, *Liberation vs. Control: The Future of Cyberspace*, in *Journal of Democracy*, 21 (4), 2010, pp. 43-57.
[18] *Ibid*.
[19] S. Harutyunan, *'Armenian IT Growth Hits Record High'*, *Radio Freedom*, 21 July 2017, available at https://www.azatutyun.am/a/28631299.html, retrieved on 30 July 2018.
[20] Digital Report, *'Armenia: State of Affairs Report'*, 18 April 2018, available at https://digital.report/armenia-state-of-affairs-report/, 31 July 2018.
[21] ***, *'Georgia Woman, 75, Charged with Cutting Off Armenia from the Internet'*, in *Huffington Post*, 4 June 2011, available at https://www.huffingtonpost.com/2011/04/06/georgian-woman-armenia-internet-_n_845834.html, retrieved on 27 July 2018.

In the post-Soviet Armenia, the number of internet users gradually increased. During the recent years the number of users has grown significantly. According to the data provided by the World Bank the number of individuals using the Internet grew significantly. In 2008 only 6.2% of population used internet, however the number increased in the following years. In 2014 54.6% percent used internet and in 2016 already 67% were connected to internet.

But despite the growing IT sector, as well as growing number of internet users, cyber security is not protected in Armenia. Nanyan[22] writes that until 2009 the state websites of Armenia were served by private organisations, with the hacking incidences in 2009, the insurance of the security of state websites was transferred to the National State Service of the Republic of Armenia. However, the information security concept was implemented only for providing security level of the websites on the state level. The existing Information Security Concept did not encompass private sector of Armenia[23].

The hacking incidences continued the following years. As Ampop.am Armenian news source indicates, on January 29 of 2011, due to hacking attacks about 300 websites that were registered on .am domain were breached. First the hackers targeted the server of Smart Systems Armenian company and then the websites that are serviced through the hosting of the company. The targeted websites mostly belonged to individuals as well as to private organizations. After 2011, during the following 6 years 4000 incidents of hacking websites were reported. According to the Cyber Gates report[24] there were 452 cases of hacked websites in 2011, 970 in 2012, 611 in 2016 and 223 in the year of 2017.

Despite the fact that the private IT sector develops quite quickly in the country, there are various cyber security problems.

Legal Framework in Armenia

There is a lack of legal frameworks that would cover cyber security or such issues as data protection in Armenia. Additionally, the existing documents, that cover the issue of cyber security, partially contradict each other. One of the first steps towards legalising or including cyber space as an important part of a state policy by the government

[22] G. Nanyan, *'Cyber Attack: Security of Information in Armenia'*, in *Jnews*, 28 February 2011, available at http://www.jnews.am/Cyber_Attack, retrieved on 27 July 2018 (in Armenian).
[23] *Ibid*.
[24] ***, *'Cyber Attacks Information'*, in *Cyber Gates*, 2018, available at https://www.cybergates.org/am/resources/statistics/#subscribe_attack, retrieved on 27 July 2018 (in Armenian).

of Armenia was the adoption of the Concept of Information Security. The Concept of Information Security that was adopted by Order of the President of the Republic of Armenia on 26 June 2009, includes some provisions related to data protection. The Concept states that the right of secrecy of personal data, telephone and email communication of individuals must be insured. However, it should be noted that the Concept itself mostly focused on the importance of information security and the right of people to receive reliable information.

One of the first steps towards legalising or including cyber space as an important part of a state policy by the government of Armenia was the adoption of the Concept of Information Security. The Concept states that the right of secrecy of personal data, telephone and email communication of individuals must be insured.

The data protection is also enshrined in the Constitution of Armenia. According to the Article 33 of the Constitution *"Everyone shall have the right to freedom and secrecy of correspondence, telephone conversations and other means of communication"*. The Article 33 envisages restriction only by law including such cases as state security, economic welfare of the country. The punishment of cybercrime is included in the Criminal Code of Armenia. The Article 251 of the Criminal Code of Armenia notes *"Penetration into information stored in a computer system, network or on storage media, and part or the whole information system protected by law, without permission … is punished with a fine in the amount of 200 to 400 minimal salaries, or correctional labour for 6 months to 1 year, or with imprisonment for the term of up to 2 years"*.

But although the cyberattacks are criminalised in Armenia, the strategy and how to solve or insure the security of individuals is quite weak. Despite the fact that data protection of individuals is included in the Concept of Information Security of Armenia, the Law of the Republic of Armenia on Protection of Personal Data of June 2015 includes very week limitations on transfer of personal data to third parties or states. Furthermore, Article 26 of the Law allows to *"transfer personal data to third parties or grant access to data without the personal data subject's consent"* in certain cases. For example, the personal data can be transferred without gaining the subject's consent if it is prescribed by law or an interstate agreement. Similarly, Article 27 reads that *"Personal data may be transferred to other country by the data subject's consent or where the transfer of data stems from the purposes of processing personal data and/or is necessary for the implementation of these purposes"*.

A further step to include the issue of cyber security was done only lately, in the year of 2017. Armenian authorities adopted the Strategy

of Cyber Security only in December 2017. The Strategy has the generalized overview of the need of cyber security, however, sources of cyber threat are not mentioned or how the cyber security will be insured. But it should be noted that the Strategy acknowledges that the Armenian legislation should be fulfilled in the direction of cyber security based on the international experience.

Limited Sanctions for Violation of Data Protection

It is noteworthy that the issue of data protection was raised by the European Union (EU). Armenia, in the framework of the Eastern Partnership programme, cooperates with the EU to gain a visa free regime, and data protection is one of the areas, where the EU expects reforms. According to the ACGRC 2017 monitoring in contrary to the EU practice, there are limited sanctions for breaches of data protection in Armenia. In the framework of the new Comprehensive and Enhanced Partnership Agreement with Armenia, the EU expects reforms and establishment of national data protection authority, or delegation of responsibility over the supervision of data protection to a particular governmental institution[25].

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Border Control Service (EDS) of Armenia contains one of the largest number of personal data, including the transboundary passenger traffic. According to the Report of the Open Society Foundations, the Border Control Department of the Russian Federal Security Service has access to the EDS of the Armenian Border Control Service, meaning that the Russian Federal Security Service can see who crossed the Armenian border during the last seven years, in which crossing point, in which direction, the used ID, means of transportation and company travel that the individual used. The Report also highlights the contradiction, that according to the decision of the Government of Armenia only governmental agencies of the Republic of Armenia can have access to the EDS of the Border Control Service; and does not include

[25] S. Grigoryan and N. Israyelyan, *Monitoring Report: Agreement between the European Union and the Republic of Armenia on the Facilitation of the Issuance of Visas (4th monitoring)*. ENC Analysis, 2017, available at http://www.encouncil.org/wp-content/uploads/2018/07/Analysis-of-the-Facilitation-of-the-Issuance-of-Visas-as-part-of-EU-Armenia-Relations.pdf, retrieved on 27 July 2018, p. 43.

any foreign organization or service. According to Ioannisyan[26], the National Security Service explains the access to the data by the Russian Federation, making a reference to the 1992 agreement between Armenia and Russia on the *"Status and Activity of Border Troops of the Russian Federation in the Territory of Armenia"*, without mentioning any specific provision. However, it is obvious that the agreement of 1992 cannot contain any provision related to the electronic system created in 2006, and also, the Agreement of 1992 (Article 6) stipulates that the Russian border guards only carry out the function of allowing people, vehicles, cargoes, goods and other items to cross the border in the border checkpoints with Turkey and Iran[27].

Such limitations in the legal framework put personal data and the right of free movement and mobility under threat in Armenia.

[…] In April 2017, less than 12 hours before the start of voting during Parliamentary elections in Armenia, Twitter accounts of independent experts and journalists that served as sources of objective news were suspended.

Cases of Cyber Attacks

Apart from legal framework and breaches in border system, there are also various hacking and other measures of control that are implemented in the cyberspace of Armenia. According to Nimmo,[28] online space in Armenia is vulnerable to manipulation and disinformation. There were various reports that indicated cases of targeting of civil society representatives, journalists and experts in Armenia. According to Giragosian[29], in April 2017, less than 12 hours before the start of voting during Parliamentary elections in Armenia, Twitter accounts of independent experts and journalists that served as sources of objective news were suspended. The affected Twitter accounts included the head of Analytical Center on Globalization and Regional Cooperation Stepan Grigorian (@StepanGrig), the CivilNet online news portal (@CivilNetTV), the Hetq online news agency (@Hetq_Trace), and independent journalist Gegham Vardanyan (@Reporteram)'. The accounts were reactivated after various online users from civil society organisations raised the issue to the Twitter

[26] D. Ioannisyan, *'Russian Federal Security Service Has Access to Personal Data of Armenian Citizens'*, in *Lragir.am*, 2016, available at https://www.lragir.am/en/2016/12/05/36591, retrieved on 27 July 2018.

[27] *Ibid.*

[28] B. Nimmo, *'Fakes, Bots, and Blockings in Armenia'*, in *Digital* Sherlocks, 2017, available at https://medium.com/dfrlab/fakes-bots-and-blockings-in-armenia-44a4c87ebc46, retrieved on 29 July 2018.

[29] R. Giragosian, *'Disinformation Resilience in Central and Eastern Europe'*, in *PrismUa.org*, 2018, available at http://prismua.org/en/dri-cee/, retrieved on 29 July 2018.

Support Center[30]. As Nimmo[31] writes, while the reason for the suspensions of the accounts is not clear, there were numerous cases in other areas when suspensions have reportedly been triggered by bot-led attacks which sent multiple complaints about the accounts' activities.

The suspension of Twitter accounts during the Parliamentary elections in 2017, and hacking of accounts and websites are not new in Armenia. According to Freedom House report 2017 during the protests of July 2016 in Armenia, Facebook was unavailable for an hour on several Internet service providers. Meanwhile, Facebook is the main platform for Armenians to exchange with political and social information[32]. Blocking of websites and news sources happened also on 1 March 2008 during the mass scale protests[33].

There were also cases when international platforms removed a content of Armenian civil activists. For example, in May 2015, an episode of web series satirizing the police response to protests in Yerevan that was produced by SOS TV was removed by YouTube. The Police of the Republic of Armenia reported it to YouTube to take down on grounds that it included a clip of a news report that violated copyright. The police later took the authors of the web series, SOS TV, to court, arguing that the video undermined the honour and dignity of the police[34].

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The websites of civil society organisations are also occasionally hacked. According to the European Values report (2018) the Union of Informed Citizens NGO that detects false information published in the Armenian media was hacked. During the April-May revolutionary protests in Armenia, the drone of the NGO that took photos of the protests was hijacked.

Another incident of cyberattacks happened in April and then again in summer of 2018 when the operation of Factor TV Armenian online news source, that strives to provide the Armenian audience with an unbiased and alternative news source, was blocked on YouTube channel.

[30] *Ibid.*

[31] B. Nimmo, *op. cit.*

[32] G. Vardanyan, *'Precedent: Blocked Facebook'*, in *media.am*, 17 July 2016, available at https://www.media.am/facebook-blocked-in-armenia, retrieved on 30 July 2018 (in Armenian).

[33] *Ibid.*

[34] ***, *Freedom on the Net 2017*, Freedom House, 2017, Armenia, available at https://freedomhouse.org/report/freedom-net/2017/armenia, retrieved on 31 July 2018.

Factor Information Center NGO promotes freedom of expression and broadcasts news through its YouTube channel. However, in June of 2018, it was already the second incidence of blocking the channel by the YouTube administration.

Cases with International Organisations or State Institutions

International organisations and state bodies are also often used for spreading fake information. Perhaps the time period during the Parliamentary elections of 2017 in Armenia was one of the most active times for cyberattacks and internet frauds. At the end of March, an email that seemed to be an official document from the U.S. Agency of International Development (USAID) was spread. The email document in reality was a faked letter, but it aimed at spreading disinformation that the U.S. interferes in the electoral process and supports the opposition parties of Armenia. The letter was debunked by the U.S. Embassy in Armenia, pointing out to the grammatical and spelling mistakes in the text[35].

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Another case was related to the Police of the Republic of Armenia. In summer months of 2016, a virus appeared on Armenian internet. When entering a website, the page was redirected and a message came from the Police of Armenia. The message looked quite real, with the sign of the Armenian police. It stated that the computer and access to internet is blocked and demanded to pay a fine. Later on, the Police of Armenia announced that it has not spread the information and announced to avoid paying the fine[36].

Conclusion

Cyber security sector requires reforms in the legal framework in Armenia. The main Strategy on Cyber Security was adopted recently in December 2017. At the same time, although the concepts related to cyber security state that data protection needs to be insured, the Law on Personal Data Protection allows to transfer data of individuals to third parties.

There are large numbers of hacking cases in Armenia. At the same time, there are incidences when Armenian authorities control internet

[35] B. Nimmo, *op. cit.*

[36] Digital Report, *'Armenia: State of Affairs Report'*, 18 April 2018, available at https://digital.report/armenia-state-of-affairs-report/, 31 July 2018.

or strive to put restrictions on the content of materials published or broadcast by the civil society actors in the country. In April 2017, during the Parliamentary elections, the accounts of independent Armenian experts, as well as news sources were temporary suspended. At the same time, there were also cases when the authorities blocked certain online content broadcast by civil society organizations.

The cases of hacking or imposing limits on the content, as well as the issue of data protection, in fact, constitute not only a cyber issue but also a threat to individuals, as people occasionally find themselves under surveillance of state authorities. The authorities of Armenia need to continue its works towards the implementation of the newly adopted Cyber Security Strategy in order to insure the security and freedoms of its citizens.

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STRAITS – SOURCE OF MARITIME POWER AND SYSTEMIC CONTROL THROUGHOUT HISTORY

Mihai SANDU

PhD student in political sciences and international relations, Parliamentary Adviser, the Chamber of Deputies

The article approaches the strategic importance of maritime straits in the power equations of states found in the proximity of seas. The author offers a few examples from the ancient and recent history of the world, emphasising the primordiality of maritime control held by a littoral country or a country in the proximity of a strait. Thus, from the Ancient time until the age of globalisation, the power of state has been also generated by the maritime supremacy, a perspective motivated by the author providing a series of examples of states with maritime potential that have succeeded in developing economically, militarily and politically.

Considering a radiography of the European states hegemony over the seas, the author emphasises the five systemic domination cycles identified by Polish Professor George Modelski illustrating the significance of maritime share in a state's organisation and evolution, both from the security perspective and from the political and economic one.

Keywords: commercial monopoly, Carthage, colonies, maritime straits, soft power.

Introduction

Maritime straits, as well as maritime or river channels, have represented elements of major importance for political, economic or security relations since ancient times, being an integral part of calculations connected to power and security equations in both unilateral and bilateral frame, as well as in what concerns multilateral aspects of the world geopolitical context.

Starting with the very first maritime powers, straits have represented relevant interest points as means of communication between two seas or oceans, on the one hand, and as an advantage marked by their reduced dimensions, which offer exclusivity or primacy to the authority in control over the straits, by imposing taxes or requesting such benefits in exchange for granting access. The situation was further complicated with the coming of the Modern Age and the existence of major maritime and colonial empires that depended on straits in order to maintain their control over the colonies, to transport merchandise or slaves, and to keep their competitors away.

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Evolving, power equations have come to cover the wider regional framework and even the global architecture. As revealed by many theoreticians and analysts, being in control over nodal points such as maritime straits or other similar maritime channels has repeatedly influenced, in a decisive manner, the position of regional or systemic hegemon of the dominant power, starting with the Portuguese and Dutch domination in the era of the great geographic expeditions until the establishment of *Pax Britannica* and *Pax Americana*.

The Sea throughout History

The position of a state and its power have always depended on its level of accessibility, whether we speak of access to resources, of its position in relation to other actors and, perhaps most importantly, of its geographical position and the multiple advantages it offers. Before being able to define a state's policy, it is determined by the external environment in which the particular state is located. From this point of view, the existence of a sea or an ocean, besides the accessibility advantages it grants, also creates the premises for the development direction depending on the position in relation to other actors.

As a parallel with today's world or with the world similar to civilisation, only a few millennia old, the prehistoric world depended on purely geographical aspects, which can easily be translated today into geopolitical reasons that would eliminate certain reasons in regard to states borders or ethnic differentiation. Furthermore, today, globalisation *"annuls borders, regions and geographical differences"*[1], as it is stated by Robert D. Kaplan in an analysis of Marshall Hodgson's writings, a researcher who, in the 20th century, viewed both the Ancient times and the Middle Ages world, as well as the world today, in a fluid manner, explaining the spread of cultures or religions in relation to the simplest geographical elements, insomuch as economic and political influence today can sometimes regard the same aspects[2]. In such logic, in which not only states but also regions are connected through geographical determinants, the role of nodal points such as maritime straits or channels becomes all the more interesting and influential. How could we speak of the spread and, further, the limitation of Islam to the Iberian Peninsula without the Gibraltar Strait, of the Ottoman Empire's influences and of the cultural Ottoman imports in the Balkans without the Bosporus and Dardanelles straits, or of the spread of Chinese influences, not just the direct, political ones, but particularly the cultural ones, without considering the Malacca Strait? The fact that such states controlled, influenced or were controlled or influenced by strategic points such as maritime straits could lead, in itself, since ancient times, to spreading influences of the most diverse nature, including in terms of facilitating travel and furthermore commerce.

Sure enough, history has revealed many ways used by states to maximise their profits, whether we speak in political, cultural or economic terms. Using maritime access, states could extend their influence and power much easier and much further, by fructifying their military, economic or cultural potential. The best examples come from the European civilisations during the Middle Ages that, benefitting from their considerable technological and military advance, gained control over other regions by conquering them or by firstly extending their domination upon the coastal areas. Spain, Portugal, the Netherlands, France and, particularly, Great Britain gained control over coastal areas either through already existing cities, or by establishing new settlements, creating outposts along the commercial maritime routes or opening new markets or exploitation and processing centres[3].

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[1] Robert D. Kaplan, *Răzbunarea geografiei*, Editura Litera, București, 2014, p. 94.
[2] *Ibidem.*
[3] Joshua S. Goldstein, Jon C. Pevehouse, *International Relations – Brief 2006-2007 Edition*, Pearson Longman, New York, 2007, p. 26.

Of course, we can continue the analysis even deeper in history, the Ancient times also providing a series of relevant examples. The Roman Empire reached its maximum expansion once it achieved a total control upon the Mediterranean basin, although it is not the best example for the influence of the maritime frame upon maximising the state power. The most relevant examples from this point of view are Carthage and the Greek cities, which excelled not only at controlling vast territories but most importantly at gaining maritime domination, mainly commercial, through certain focus points such as city-states, small kingdoms or even colonies, positioned in areas specifically chosen and that directly influenced the commercial and political architecture of the Mediterranean Sea and, in the Greeks case, the Black Sea. The example of Carthage or that of the Greek cities is significantly related to the role of maritime straits and the way in which the two early examples of *soft power* understood their importance. From such perspective, it is not at all by chance that the Greeks established the city of Byzantium, today Istanbul, on the Bosporus Strait, while Carthage tried to conquer and maintain control over the Iberian Peninsula and today's Morocco in order to get control over the Gibraltar Strait. Both made the most of the potential that maritime control provided and both influenced, from this point of view, the future development of the Roman Empire, which focused on conquering the two aforementioned areas.

When looking at another cradle of the ancient civilisation, the extreme Asian area, the main power, the Chinese Empire, or *Sera Maior* as called by the Romans, had forged the exterior power mainly by having a large maritime access and an efficient control over the shores. China's development as a great power since early Ancient era has been particularly linked to the flowering of trade and the well-established economic system. The early orientation towards foreign trade, completed first of all through the *Silk Road*[4], contributed not only to blooming the Chinese civilisation and economic development but also to exporting its power and strengthening its security by creating commercial links with other states.

Ancient time offers, however, only a preamble to the history of the seas and their political and commercial importance. In the micro-cosmoses of the Mediterranean or South China Seas the maritime access and control over the seas mattered only in a relatively narrow perspective and were connected basically to regional commerce. Of course, for the historians and theoreticians of that time, the straits were regarded

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[4] Ștefan Mâșu, *Puterea economică în istoria lumii*, Editura Rao, București, 2014, pp. 81-82.

as sources for the two interior seas of the Greek-Roman universe – the Black Sea and the Mediterranean Sea. Gibraltar was, for historians such as Pliny the Elder, the origin for all seas and, by extent, a source for the way in which seas were transformed into power, particularly for a hegemon like the Roman Empire[5].

The Straits Potential Becomes Noteworthy in the Middle Ages

The Middle Ages marked the openness towards the sea and the importance of the maritime space not only from a commercial point of view but also from a strategic perspective. It is obvious that the technological progress made crossing of the Gibraltar Strait possible without the risks it had implied before. However, the Gibraltar had not represented a relevant stake for a very long period of time, but it became the starting point not only for extending the European domination worldwide but mostly for the interconnection between the old world and the new one, as well as for linking Mediterranean ports to those in Northern Europe. The reason why such events had been delayed before was the lack of a commercial stimulant and of the large scale commercial ambitions[6].

Unlike the Chinese Empire, an entity which dominated South-East Asia through a strongly consolidated state formation, Europe was characterised by a political fragmentation that forced states, starting with the age of the great maritime expeditions, to search for economic, religious or geopolitical control points that could be used in order to win first of all the internal competition on the European continent.

On the other hand, unlike the Chinese Empire, an entity which dominated South-East Asia through a strongly consolidated state formation, Europe was characterised by a political fragmentation that forced states, starting with the age of the great maritime expeditions, to search for economic, religious or geopolitical control points that could be used in order to win first of all the internal competition on the European continent[7]. Particularly when talking about smaller states or about states that did not have access to the strictly continental competition, such as Great Britain, the opportunity provided by the global domination for the European competition became a priority. The best examples from this point of view and with maximum of effects during the time are Portugal, the Netherlands and Great Britain.

In what concerns the situation of a sea, in general, the control over an as large as possible littoral territory does not alone represent the key towards regional or maritime domination, neither does the naval superiority at the military or commercial level. From both an economic and a political perspective, regional domination is provided,

[5] Plinius cel Bătrân, *Natvralis Historia. Enciclopedia cunoștințelor din Antichitate*, *Vol. I – Cosmologia. Geografia*, Editura Polirom, Iași, 2001, p. 135 (IV.93).
[6] Lincoln Paine, *Marea și civilizația. O istorie maritimă a lumii*, Editura Polirom, Iași, 2015, p. 279.
[7] Niall Ferguson, *Civilizația. Vestul și restul*, Editura Polirom, Iași, 2011, p. 51.

in the maritime context, by the control over strategic points or positions that are connected to the communication between a maritime space with another maritime space or by generating the opportunity to make connections, through rivers, with areas found at a large distance[8].

From this point of view, enclosed inland bodies of water, such as the Caspian Sea, present a series of disadvantages that further complicate relations from the littoral region or the commercial and political possibilities that littoral states have. In the case of the Caspian Sea, found in an area with many geopolitical disturbances but very rich in hydrocarbons, the states in the area have always met considerable difficulties in fructifying their economic potential due to transportation issues. Being an enclosed sea, hydrocarbons must be transported both at sea and by land, meaning that previous agreements are necessary with states in order to be transited[9].

Starting from this aspect, the main question refers to the way in which maritime geography has influenced, from the very beginning, the commercial and political equations of a state, including in what concerns its security and, perhaps even more important, the worldwide extension of its power beyond the direct frame of assuring the security of supplies and exports or of building and maintaining connections with other states.

The Straits and the Sea. Academic Illustrations

Perhaps the most interesting radiography of the European states world domination in relation to controlling the seas belongs to Polish author George Modelski, who identifies five systemic domination cycles depending on the superiority of Portugal, the Netherlands, Great Britain, twice, and the United States of America. For Modelski, Portugal exercises its domination starting with the expedition of Vasco da Gama in the Indian Ocean, and the Dutch take over control following the Spanish conquest of Portugal, while simultaneously establishing the Dutch East Indies Company. Moreover, he identifies two British cycles of domination determined, first, by England control over the Strait of Gibraltar after the Peace of Utrecht in 1713 and the second by the American War of Independence that determined Great Britain

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[8] Gherghina Olaru, *Black Sea – Region of Cooperation and Confrontation. Brief History*, in George Cristian Maior, Sergei Konoplyov (ed.), *Strategic Knowledge in the Wider Black Sea Area*, Editura Rao, București, 2011, p. 77.
[9] Rosemarie Forsythe, *The Politics of Oil in The Caucasus and Central Asia*, Adelphi Paper, Halstan and Co. Ltd., New Jersey & Amersham, Bucks, 1996, p. 44.

focus over its possessions in Africa and Asia. Eventually, after the First World War, the American cycle occurs[10].

Completing Modelski's theories, former US Navy officer Alfred Thayer Mahan speaks about the way in which *"ruling the world is not achieved by holding territories, but by controlling the main commercial routes and by mastering the main points on their route – islands, canals, straits, supply points"*[11].

A strong supporter of the American expansion in the world, Mahan publishes his main study, *The Influence of Sea Power upon History 1660-1783*, in 1890. In his research, Mahan supports and argues for the importance of maritime power first of all because of the way in which it influences economy and commerce, by protecting the commercial ties of the respective state, dependent on seas for large distance routes and large tonnages, by protecting its colonies and allied states, as well as by facilitating the blocking and sabotage of the enemy's commerce. Mahan also designates the strategic points the seas control depends on, respectively the straits of Gibraltar and Hormuz, the Suez Canal and the port of Aden for the route between the Atlantic Ocean and the Persian Gulf through the Mediterranean Sea, the Panama Canal for the route between the Atlantic and the Pacific Oceans and the Strait of Malacca for the route between the Persian Gulf, the Indian Ocean, South-East Asia and the West Pacific Ocean[12].

The Portuguese cycle indicated by Modelski occurred in the moment in which the Europeans managed to exceed the frame specific to Ancient times and started their true worldwide expansion once the maritime expeditions began. Obviously, Portugal heavily rivalled at that time with Spain, which began its expansion in the Americas following the expeditions of Christopher Columbus. The main advantage of the Portuguese was, however, represented by the already existence of commercial networks with the African and Asian areas that were significantly improved by opening the large maritime route.

Cycles of World Domination

The Portuguese cycle indicated by Modelski occurred in the moment in which the Europeans managed to exceed the frame specific to Ancient times and started their true worldwide expansion once the maritime expeditions began. Obviously, Portugal heavily rivalled at that time with Spain, which began its expansion in the Americas following the expeditions of Christopher Columbus. The main advantage of the Portuguese was, however, represented by the already existence of commercial networks with the African and Asian areas that were significantly improved by opening the large maritime route. Moreover, the Portuguese identified throughout the Indian Ocean and South-East Asia a series of commercial ports situated in areas of inflexion or, on the contrary, at the confluence of many existing commercial

[10] Andrei Miroiu, *Evoluția sistemului internațional până la 1914*, in Andrei Miroiu, Radu-Sebastian Ungureanu (coord.), *Manual de Relații Internaționale*, Editura Polirom, Iași, 2006, p. 16.
[11] Andrei Miroiu, *Teoriile geopolitice clasice*, in Andrei Miroiu, Radu-Sebastian Ungureanu (coord.), *op. cit.*, pp. 73-74.
[12] Lincoln Paine, *op. cit.*, pp. 4-48.

networks. As such, Portugal understood not only the importance played by packing and sale centres for maximising their commercial profit but also the advantages of maritime commerce that entailed the disposal of any intermediaries who could have levied taxes or profit sharing. Furthermore, by controlling certain focus points such as the port of Macau, but especially the Strait of Malacca and the harbour-city of Melaka, the Portuguese were the very first that took advantage of the control of a commercial node and provided it with a strategic dimension[13].

The second cycle came in a moment in which maritime expansion had already become a reality but in the context of several key turning-points that had changed history almost directly. First of all, the event that announced the long British cycles that followed was the defeat of King Fillip II of Spain and his *Invincibila Armada* off the British coast. The defeat of the enormous Spanish fleet blocked the Spanish hegemony and allowed the Netherlands to become the main power due to its control over markets in the colonies with the aid of the almost exclusive commercial fleet it held, representing a very relevant example of *soft power* in the Middle Ages. The Dutch rise to power was further facilitated by the context of an Europe exhausted by prolonged conflicts and massive political turmoil, with Italy and Germany divided into small city-states and, perhaps most importantly, following the Thirty Years War.

Further, in 1602, the Dutch came with the *"idea of offering rights of commercial monopoly to joint stock companies in exchange for parts of their profits and following an understanding that the respective companies would act as naval subcontractors against rival powers, thus giving birth to the Dutch East Indies Company, one of the first capitalist corporations"*[14]. Similar to the Portuguese, the Dutch got to control the nodal maritime points allowing them, step by step, to reach commercial supremacy. The best example is, here also, that of the Malacca Strait, which the Netherlands got to dominate by founding and controlling what today is Indonesia, bringing an administrative and territorial organisation into a territory that had not got to know such until that moment, and moved the headquarters of the East Indies Company to what was about to become Jakarta[15]. Taking advantage of the control over Indonesia, the Netherlands got to control not just Malacca but also the entire string of straits and seas that the Indonesian archipelago covered, from the Strait of Makassar and the Moluccas Sea to the access to every mouth of the South China Sea.

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[13] Niall Ferguson, *Civilizația…*, *op. cit.*, p. 48.
[14] *Ibidem*, p. 50.
[15] Silviu Neguț, *Introducere în Geopolitică*, Editura Meteor Press, București, 2009, p. 53.

It was the very moment in which the Dutch acquired monopoly over the entire spice trade commerce that ran through Malacca and headed towards Europe. In the meantime, however, Great Britain had reached total control over the Indian sub-continent, granting monopoly over the trade in textiles, while at the same time forcing the Netherlands to accept sharing commercial and maritime domination with Great Britain. The situation offered both parties the monopoly over certain commercial directions, but opened the path for Great Britain towards world domination. The rising British fleet, which benefited from the collapse of Spanish fleet following the crushing of King Philip II *Invincibila Armada*, rapidly spread on every commercial route connecting the Indian Ocean to Europe and even got to dominate, indirectly, the Malacca Strait area, forcing the Dutch to redirect trade in textiles coming from China through the South China Sea to the British, following a commercial agreement between the two[16].

Great Britain was the first world power that understood the concept of security and the way in which it could be delivered to the colonies all over the world, starting with their economic development. Great Britain invested huge amounts for the development of a modern world communication network. It disseminated and applied the rule of law principles in vast areas and, even if there were many small conflicts, the Empire it had built maintained the world peace at a never paralleled level.

Why did the Netherlands accept such a division so easily? First of all, it was because they needed Great Britain to stay away from Malacca and allow the Dutch to continue to dominate the trade in spices. Second and perhaps more importantly, the Peace of Utrecht in 1713 brought over the control of Great Britain the Strait of Gibraltar, which represented the main gate towards the Mediterranean Sea. That was also the moment when Great Britain comfortably installed itself at the helm of the maritime world and, once achieving it, in the position of world hegemon. As Modelski also states, the next period was marked by two British domination cycles, which could be ended after the First World War, following the collapse of British colonialism and, particularly, the fulminant American rise to power, under the direct influence of the Monroe Doctrine and the theories of Alfred Thayer Mahan[17].

The British domination resulted in the appearance, for the first time, of the idea of world peace generated by the systemic domination of a state. The concept of *Pax Britannica*, and its successor, *Pax Americana*, are directly connected to the total control that the seas brought upon the world map. As Great Britain was the absolute master of the seas, installing *Pax Britannica* was determined by exactly the fact that, on the one hand, no one could contest its maritime supremacy and, on the other hand, it had built a rather friendly connection with the colonies.

[16] Niall Ferguson, *Imperiul. Cum a creat Marea Britanie lumea modernă*, Editura Polirom, Iași, 2018, p. 42.
[17] Andrei Miroiu, *Evoluția sistemului internațional până la 1914*, *op. cit.*, p. 16.

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Pax Americana and the Architecture of the Present

The end of *Pax Britannica* gradually began to be noticed starting with the rise and obvious independent development of the United States of America. Particularly after the Civil War, the United States reached to an internal stability that easily allowed them to think outside the borders, furthermore under the influence of the *Monroe Doctrine*, proclaimed in 1823. The doctrine entailed neither more nor less than extending American influence in the entire western hemisphere. Rejecting, under the threat of repercussions, any form of interventionism in the United States policy on behalf of the European states, Monroe transformed the Atlantic Ocean into a battlefield for areas of influence of the United States of America and of the European States, with Great Britain in the first line. The USA started to extend its influence and establish its own commercial network in the region and, from there, worldwide[19]. The aspect became more and more tangible once the inventing of the *"general right of intervention of a civilised nation"* by the US President Theodore Roosevelt[20]. In the meantime, the United States of America started to enjoy the success by sea and, taking advantage of the Panama revolution against the Columbian domination, imposed their sovereignty upon the entire Panama Canal area, a strategic point for the United States of America throughout the entire following century[21]. Again, just like Mahan had stated before, sea domination was reached by controlling inflexion points and, with the seas, world domination started to become a reality.

Rejecting, under the threat of repercussions, any form of interventionism in the United States policy on behalf of the European states, Monroe transformed the Atlantic Ocean into a battlefield for areas of influence of the United States of America and of the European States, with Great Britain in the first line. The USA started to extend its influence and establish its own commercial network in the region and, from there, worldwide.

Under such political and economic impulses, the seas have become, until today, genuine commercial highways streaked on a geopolitical and military chess board. The presence of an aircraft carrier followed by cruisers and destroyers in a certain area in the world equals, today,

[18] *Ibidem*, p. 306.
[19] Henry Kissinger, *Diplomația*, Editura Bic ALL, București, 2007, p. 30.
[20] *Ibidem*, p. 33.
[21] *Ibidem.*

with the presence of a military fort in the 18th and 19th centuries. In all this complicated security landscape, maritime straits and what they represent today categorically confirm why controlling them used to determine regional and global domination cycles before. The Strait of Gibraltar continues to represent the main maritime transitory point for Europe and North Africa. The Gulf of Aden and the Strait of Hormuz are still among the world security focuses particularly because, in the context of an inflammable, complicated and uncertain Middle East, they affect the massive transit of economy and energy they host. The Bosporus Strait looks like a veritable military and strategic neck, particularly for the Russian Federation, which depends on Turkey to export its military and strategic power, Turkey being a NATO member state but with an autocratic regime that puts it more and more in an antagonist position with its Western allies. In the meantime, the Malacca Strait, altogether with the *"sister straits"* of Sunda, Lombok and Makassar, but also with the South China Sea, assures the links between the Indian Ocean and the Pacific Ocean and the connection between more civilizational worlds. This area is transited by more than a half of the annual global commerce, one third of the worldwide maritime traffic in general and, perhaps most importantly, a huge energy transit, totalising *"two thirds of South Korea's energy supplies, almost 60% of Japan and Taiwan's energy supplies and 80% of China's raw oil imports"*[22].

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Conclusions

In the past, domination over straits and other key points in a maritime architecture under exploitation implicitly led to the world domination for one state or another. Ever since the first maritime powers, the straits have become major interest points starting from the simple fact that they represent a unique way of communication between two seas. Their uniqueness is doubled by their reduced dimensions, providing a solid advantage for the state in control of them from both a military and a political perspective as well as in the economic sphere. The one in control of the strait could at any time forbid other vessels from passing should the purpose seemed inconvenient, while with regard to commercial ships, it could attempt to fructify anytime its position in imposing exclusivity rights over certain merchandise or taxes for crossing.

Of course, in order to hold and, particularly, to maintain such advantage, a significant military power was also necessary, as well as a political system of alliances or protectorates that would aid the power at defending and controlling the strait and also at discouraging and intimidating both potential rivals and potential allies. Hence, in the most primordial sense, the involvement of power relations and security equations, the one that held control as well as those that were looking for advantages from the respective straits resorting to complicated calculations dictated by interest.

Evolving, equations gradually got to comprise more than just the states found in the proximity of the straits, covering the extended regional frame and, later, following the development of international relations, influencing certain global aspects in a significant manner. Today, the sea is synonymous with globalisation itself, while in the frame of the security architecture the straits can become both vulnerabilities and strengths, being without a doubt among the main actors-directors that play and dictate the game level on a global stage.

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[22] Robert D. Kaplan, *Marea Chinei de Sud și sfârșitul stabilității în Pacific*, Editura Litera, București, 2016, p. 26.

ADAPTING THE NATO COMMAND STRUCTURE. INCREASING THE ALLIANCE DEPENDENCE ON ALLIED FORCE STRUCTURE

Colonel (r.) Crăişor-Constantin IONIŢĂ, PhD

Member of the Executive Council of the Romanian Reserve Officers Association (AORR) and AORR Representative to the NATO Interallied Confederation of Reserve Officers (CIOR), Affiliated International Expert at the Polish Central-European Institute of Research and Strategic Analysis (CIRSA)

The crisis in Ukraine in 2014 can be considered a crucial moment for the North Atlantic Alliance security as well as an important opportunity for NATO to develop its strategy for the years to come. The crisis demonstrates once more that in a constantly changing world, NATO should continually adapt to be more agile, receptive and innovative, while protecting all its members against any risks and threats.

An adaptive measure is to ensure that NATO's Command Structure remains robust and agile and thus it can effectively manage all allied power elements to counteract the challenges that the Alliance can meet across the entire range of missions. In this respect, the Warsaw Summit in 2016 established as a task the need to carry out a functional evaluation of the current command and control structure, mainly considering the changing and evolving security environment as well as the increasing general requirements.

Keywords: NATO's Command Structure, NCS adaptation, Alliance modernisation, SHAPE, armed forces services.

Introduction

Following the end of the Cold War, NATO's Command Structure has been permanently reduced and substantially changed. At that time, NATO had more than 20,000 posts in its command structure in 33 different headquarters. In the current structure, the number of posts has been reduced to less than 7,000 in only seven operational headquarters. Thus, the command structure has become more flexible and less sophisticated than before, reflecting the perception that initial tensions have diminished. However, currently, when Europe faces a more challenging security environment, NATO needs to increase its efforts not only for the collective defence of the continent but also for global security, by projecting stability and combating terrorism. Thus, it is necessary to permanently adapt its command structure and to develop new functional capabilities within it, in order to address, for example, cyber threats.

One of the measures meant for the modernisation of the Alliance, approved by the Heads of State and Government at the NATO Summit in Warsaw in 2016, was to analyse the role and place of the current Allied Command Structure and to adapt it to become robust, agile and tailored to the intended purpose.

We can strongly affirm that, in the last 10 years, which means since the 2010 NATO Summit in Lisbon, the current strategic security context has substantially changed from the time when the Alliance decided to make the last modification in its Command Structure (NCS) and when the current Allied Strategic Concept was approved.

The changes have been necessary to respond to the recent developments in the global arena: the re-emergence of the Russian Federation as a global actor and its tendency to control Europe; the increasing instability in Africa and the Middle East; the new facet of international terrorism; the illegal migration in Europe; the radicalisation of parts of European populations to extremism; the recurrence of hatred among peoples; the populism of European politicians; the *"political-civil war"* in the USA; the redefinition of the European Union as a *"two-speed organisation"*.

Moreover, the international security environment has also changed because of the rapid growth and increased proliferation of new technologies, including in the military (UAVs, social networks etc.), as well as because of the easy access to developments in modern science and technology by any state or non-state actor.

All these changes to the strategic context highlight the need to adapt international and regional security organisations as well as their member states to address the multitude of risks and threats that are constantly evolving. This adaptation includes the Alliance's ability to respond using different strategic approaches as well as new types of capabilities.

One of the measures meant for the modernisation of the Alliance, approved by the Heads of State and Government at the NATO Summit in Warsaw in 2016, was to analyse the role and place of the current Allied Command Structure and to adapt it to become robust, agile and tailored to the intended purpose. In the future, NATO needs a command structure to support its requirements to effectively conduct all three established core missions: collective defence, crisis management and co-operative security[1].

Between 1994 and 1997, as a result of the development of new cooperation programmes with former adversaries in Europe and the Middle East, such as the Partnership for Peace (PfP) and the Mediterranean Dialogue (MD), the military Command and Control structures of the Alliance decreased from 64 to 20, gaining a pronounced regional character.

The Post-Cold War History of Changes in the NATO Command and Force Structures

It is not the first time when the Alliance has adapted its Command Structure to deal with evolving risks and threats to common security and to carry out its established missions. After the collapse of the Soviet Union and the disintegration of the Warsaw Treaty, five major changes have been made to the Allied Military Command Structure, one of which also including the reform of NATO's political and administrative centres and agencies.

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The decisions taken at the 2002 NATO Summit in Prague continued to reduce those Headquarters, which was considered as a major goal of the transformation of the North Atlantic Alliance. Thus, in the period 2002-2003, the number reached a total of 11 Headquarters, plus 6 Combined Air Operations Centres (CAOC), being experienced,

[1] *"NATO Chiefs of Defence Inaugural Meeting in new NATO Headquarters Focuses on Deterrence and Defence, Modernisation and Projecting Stability"*, see https://www.nato.int/cps/en/natohq/news_154736.htm?selectedLocale=en, 16 May 2018, retrieved on 25 June 2018.

at the operative level, the new concept of Combined Joint Task Force Headquarters (CJTF HQ), to conduct joint operations in the theatres out of the Supreme Allied Commander for Europe (SACEUR)'s Area of Responsibility.

At the 2006 Riga Summit, new political and military decisions were developed that altered the Command and Control of NATO-led operations and resulted in the emergence of new policies and strategies – *the 2006 Comprehensive Political Guidance (CPG)* and *the 2006 Ministerial Guidance*, which established the new NATO's Level of Ambition (LoA). As a result, between 2006 and 2009, the existing Allied Military Headquarters turned from *"J"* structures into integrated functional ones, and the number of CAOCs decreased to four (two static and two deployable)[2].

As a result of the global economic crisis, the 2009 NATO Anniversary Summit in Strasbourg-Kiel adopted the implementation of a new, reduced and improved Allied Command Structure to ensure the Alliance's LoA. The political endorsement was also based on the recent lessons learned from NATO-led operations in Western Balkans, Iraq and Afghanistan, as well as on the consequences of Russian representatives' withdrawal from NCS following the Georgian Crisis, which showed that the major shortfall of the NCS would be the lack of ability to deploy C2 joint forward elements. As of 1 August 2010, the number of positions in Allied Headquarters was reduced by 30% and the operational level gained a pronounced functional character (and not regional as it was before), capable of conducting operations from static locations or by sending a *Deployable Joint Staff Element (DJSE)* in the Theatre of Operations (TOs). Thus, the old CJTF HQ concept was abandoned. At the same time, NCS's dependence on the NATO Force Structure (NFS) increased, requiring Member States to make available to the Alliance national headquarters, either Joint of Single Service ones, in the event of a major crisis.

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The deepening global economic and financial crisis forced member nations to reconsider this Military Command Structure to establish one being more efficient, flexible and, of course, less manned, which would cause further diminishing of the national contribution to NATO Common Funds. In addition to this increased economic crisis,

[2] See *NATO Handbook*, NATO HQ, Brussels, 2009, pp. 23-24.

the reintegration of France into the Allied Military Structure as well as the membership of two new states – Albania and Croatia, which, of course, had to contribute to common funds as well to fill up approved posts, forced NATO Secretary General (SecGen) to announce, at the pressure of some developed member states, the need for full reform of the entire North Atlantic Alliance, including NCS. The new Allied Command Structure was to be more agile, flexible and better tailored for deployment in operations, including Article 5 ones, demonstrating the visible involvement of the North Atlantic Alliance. The new SecGen's initiative comprised both the NATO Headquarters Reform, with major changes in the International Staff (IS), and the International Military Staff (IMS), as well as the Reform of NATO Agencies, by reducing them from 14 to four, as they currently are.

The 2010 NATO Summit in Lisbon brought with it the Alliance new Strategic Concept entitled "Active Employment, Modern Defence", which established a more flexible and credible Crisis Response mechanism, in which the importance of burden sharing between the NCS and the Member States was strongly debated, by increasing dependence on NFS.

The 2010 NATO Summit in Lisbon brought with it the Alliance new Strategic Concept entitled *"Active Employment, Modern Defence"*, which established a more flexible and credible Crisis Response mechanism, in which the importance of burden sharing between the NCS and the Member States was strongly debated, by increasing dependence on NFS. A year later, the new *2011 Political Guidance* specified the obligation to meet the Allied LoA set in 2006. As a result, NATO Command Structure was changed again, together with a thorough review of the Allied Forces' use in operations. Thus, starting with 01.12.2012, NCS was restructured and reduced in both the number of operational Headquarters, from 11 to 7, and the number of posts, by another 35% at all levels of command. At the same time, a new operational concept regarding the command of NATO Forces in operations was introduced – *Joint Task Force HQ (JTF HQ)*[3].

The current Allied Command Structure was endorsed at the 2012 NATO Summit in Chicago and its implementation was foreseen in the period of 2013-2015. Meanwhile, at European and global level, the security situation drastically deteriorated, with the Crimea crisis, the Russian-Ukrainian hybrid war, including information and cyber attacks, the expansion of the Islamic State of Iraq and Syria (ISIS) in the Middle East and North Africa (MENA), through hybrid actions, terrorist attacks

[3] All previous important changes in the NCS and NFS, as well as the development of new Alliance concepts regarding how to command and use its forces in operations were explained by the author in previous issues of the *Romanian Military Thinking* Journal – 2/2010, 1/2011, 4/2013.

and the massive illegal migration in Europe, as well as the Civil War in Syria, which forced the Alliance to reconsider the necessity to adapt and modernise to face these new risks and threats.

Adapting the NATO Command Structure

During the Chiefs of Defence (CHODs) Meetings from January and May 2018 and the Allied Defence Ministers (DEFMINs) Meetings from February and June 2018, the Alliance modernisation was discussed and nuanced, especially by adapting NATO Command Structure. The final decision was taken at the Brussels Summit on 11-12 July 2018 when the Heads of State and Government of the 29 Member States decided to adapt and strengthen the existing NCS, being considered *"the backbone of the Alliance"*[4].

As a matter of fact, the main change to the NATO Command Structure is not the increase in the number of Military HQs, but the number of functions within them. This increase, more than 1,200 posts, represents the largest increase in NATO staff since the end of the Cold War.

Even in the analysis and discussion phase of the NCS adaptation, some important member states, such as France, the USA or Germany, have raised the issue of maintaining the current *status quo* on the number of existing Military Commands or their positioning. So, neither the change in the current common budget structure nor the amounts spent by the Framework Nations on whose territory these headquarters are located have been accepted. As a result, no new Allied Command Structure was taken into account, maintaining the same seven NATO Military Commands at Strategic and Operational levels, situated in the current locations, as per 2012.

As a matter of fact, the main change to the NATO Command Structure is not the increase in the number of Military HQs, but *the number of functions within them*. This increase, *more than 1,200 posts*[5], represents the largest increase in NATO staff since the end of the Cold War, being considered mandatory to incorporate, within all levels of command, the functions arising from the new tasks resulting from all previous Summits, as well as from those lessons learned during NATO-led operations, like Libya, as follows: *counter-hybrid support teams, experts in cyber operations, counter-propaganda, energy security, integration of Allied forces and capabilities teams*, *Damage Assessment (DA), Knowledge Development (KD), or Gender Perspective*.

[4] Brussels Summit Declaration, issued by Heads of State and Government, 11 July 2018, see https://www.nato.int/cps/en/natohq/official_texts_156624.htm, retrieved on 12.07. 2018.

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ROMANIAN MILITARY THINKING

From the perspective of Cyber operations, a Cyberspace Operations Centre (CyOC) will be developed at SHAPE, and link elements will be established at each joint command level.

Thus, from the perspective of Cyber operations, a *Cyberspace Operations Centre (CyOC)* will be developed at SHAPE, and *link elements will be established at each joint command level*. *Capabilities and Force Integration Teams will also be established at Joint Force Commands* to enable the NCS to formalise relationships with other entities. *All levels of Military Commands will integrate Joint Effort Elements*.

All Military Headquarters will be static (and not deployable, as expected so far), and tactical level operations will be run and executed by the NFS, thus abandoning the JTF HQ concept. However, all Allied Commanders will have the authority to prepare and deploy command elements to ensure command and control (C2) or liaison with NFS and/or Host Nation forces, and the role, responsibilities and authority of Allied Force Commands will be strengthened.

The main changes[6] are emphasised in *figure no 1*.

In addition, *it seems to come back to the regional character of the JFC type of Headquarters*, which will have specific responsibilities to deter and defend, from their static locations only, NATO Strategic Directions, with pre-established Areas of Responsibility (Regional Focus). Thus, JFC Brunssum will be responsible for the *"EAST"* and *"NORTH" Strategic Directions*, and JFC Naples will be responsible for the *Strategic Direction "SOUTH"*, fully operating a specific structure for this mission this year – *the Regional Hub for the South*.

To ensure a 360° defence of its territory and of all NATO nations, Allied decision-makers have called into question the need to establish a third Joint Force Command, called the JFC Norfolk – initially called JFC (x) –, to ensure the transatlantic link and to be responsible for the Atlantic Ocean, as well as the two North American states (Canada and the USA).

To ensure a 360° defence of its territory and of all NATO nations, Allied decision-makers have called into question the need to establish a *third Joint Force Command, called the JFC Norfolk* – initially called JFC (x) –, to ensure the transatlantic link and to be responsible for the Atlantic Ocean, as well as the two North American states (Canada and the USA). This Joint Command will be provided by the USA, located in Norfolk, Virginia, and will be part of the NFS.

A new Rear Area Operations Command (RAOC), overlapping the Standing Joint Logistic Support (SJLSG) from SHAPE, will be set up as part of the NFS, being the result of the lessons learned from NATO-led operations, especially in Afghanistan and Kosovo. It will be provided by Germany, in the city of Ulm, and will also include cyber operations.

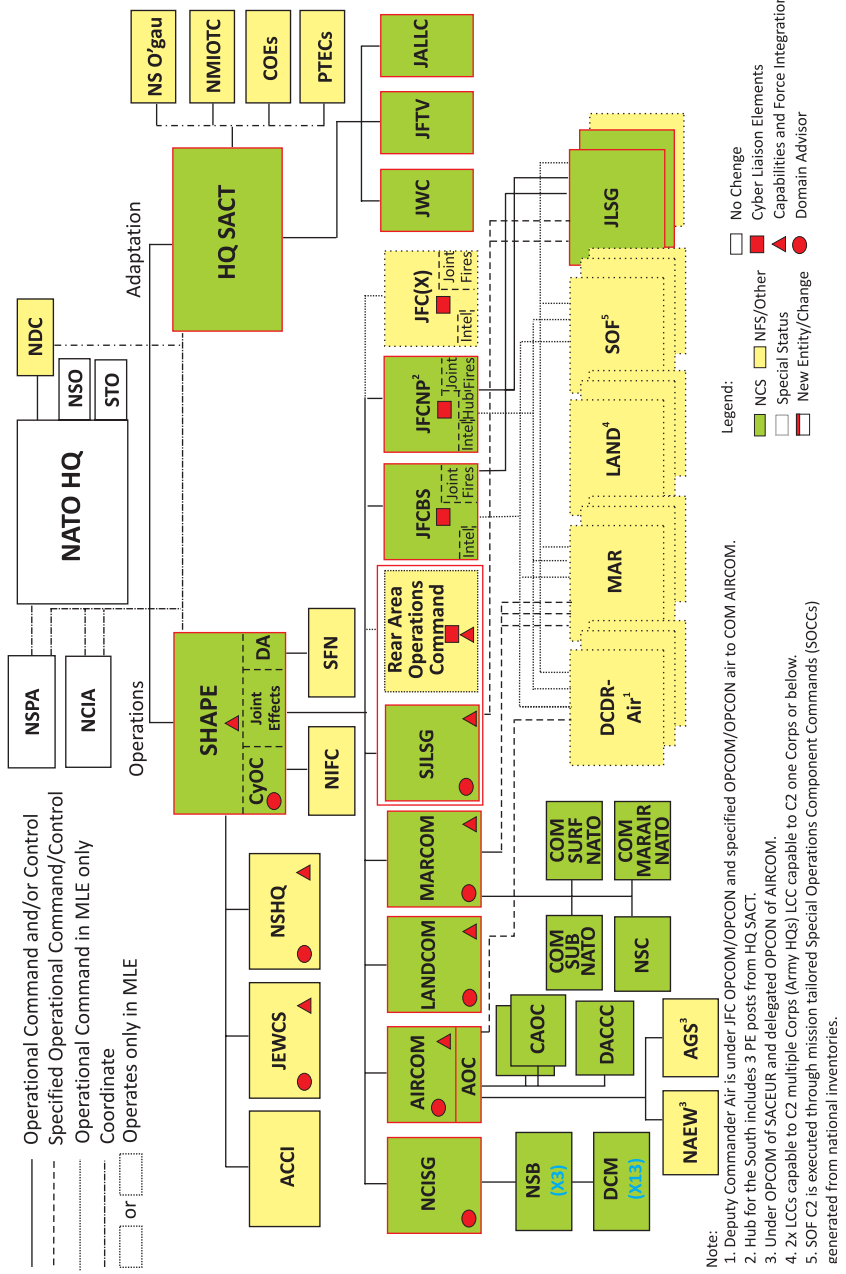

Figure no. 1: The new NATO Command and Force Structures

[6] A proposal discussed during the Defense Ministerial Meeting (DefMin), which took place in the new NATO Headquarters building in Brussels, Belgium, between 06-08 June 2018, https://www.nato.int/cps/en/natohq/events_155176.htm, retrieved on 20.06.2018.

Its mission will be to consolidate and pre-position the logistic services required for the deployment of forces in Europe, along with SHAPE's SJLSG.

Changing the NATO Force Structure and Strengthening Its Relationship with the NATO Command Structure

NFS has also undergone some critical changes since the Ukrainian Crisis. Thus, the 2014 Wales Summit added two new Land Commands that can be made available to the Alliance – the Multinational Corps North-East (MNC-NE) a three-star level Headquarters located in Szczecin, Poland, made available by Germany, Denmark and Poland and subordinated to JFC Brunssum and the Multinational Division South – East (MND-SE), a two-star level Headquarters subordinated to JFC Naples, established in Bucharest, Romania. The respective Summit also modified and enhanced the NATO Response Force (eNRF) concept by adding a very fast, Very high-level Joint Task Force (VJTF) component.

As a result of the evolved threat of the Russian Federation arms race in the Kaliningrad enclave and Crimea, the 2016 Warsaw Summit increased the presence of Allied Commands and Forces in those Member States situated on the eastern flank of Europe by creating new capabilities

As a result of the evolved threat of the Russian Federation arms race in the Kaliningrad enclave and Crimea, the 2016 Warsaw Summit increased the presence of Allied Commands and Forces in those Member States situated on the eastern flank of Europe by creating new capabilities such as: Multinational Division North-East (MND-NE), located in Elbląg, Poland, the Multinational Framework Brigade South-East (MNBDE-SE) in Craiova, Romania, and four Battalion-size Groups (Battle Groups), located in Poland and the Baltic States, with about 4,500 strength.

Because the Russian threat to the Eastern European border has increased over the last period, and the Community of Independent States (CIS)'s operational-strategic exercises have been worryingly multiplied and have taken place in all areas near Europe, during the Brussels Summit it was decided to modify the NATO Force Structure and strengthen its interconnection with NCS. In fact, it can be said that the NATO Force Structure is most affected by the new adaptation and modernisation measures taken by the North Atlantic Alliance, these changes being urgently required by the two Allied Strategic Commanders (SACEUR and SACT), as a result of analysing the possibility to conduct one Extended Major Joint Operation (MJO+) in Europe on several strategic directions. So, in turn, this new approach requires

more Land-heavy Army Corps capabilities, supported by substantial Air, Naval, and Special Operations Forces.

Thus, in addition to the emergence of the two Military Commands presented in the previous chapter – JFC Norfolk and RAOC – and for which there were heavy debates between the Allies, especially the USA, France and Germany, asking for their inclusion in the NCS, the NATO decision-makers established the development of three new Land Component Commands (LCCs), each of them being allocated to a JFC. Two of these LCCs will be at Army Command level (four-star), capable of commanding two or more Army Corps, and the third will be at Army Corps level (three-star). For the two four-star Commands, Spain, Turkey and Poland announced the possibility to establish them by increasing the level of their existing NATO Rapid Reaction Corps (NRDCs) they hold in the Long Term Rotational Plan (LTRP). Following the long debates in the Alliance, the proposals of Turkey and Poland were not accepted, with other Member States coming up with new proposals. For the three-star level Command, Romania announced its willing to develop it, and the proposal was unanimously accepted.

During the last Defence Ministerial Meeting, on 7 June 2018, defence ministers from Belgium, Denmark and the Netherlands signed a Memorandum of Understanding to establish a Composite Special Operations Component Command.

Furthermore, during the last Defence Ministerial Meeting (DefMin), on 7 June 2018, defence ministers from Belgium, Denmark and the Netherlands signed a Memorandum of Understanding (MoU) to establish a Composite Special Operations Component Command (C-SOCC). After operationalisation, C-SOCC will participate in the eNRF and will be able to support Allied operations or other Alliance missions. As Mrs. Rose Gottemoeller states: *"This tri-national initiative serves as an important reminder that Special Operations Forces today increasingly operate in a multinational context"*[7].

The letter of intent of the three member countries was sent to the North Atlantic Council in February 2017. This Command will reach Initial Operational Capability in 2019 and the Final one in 2021, under the coordination of the NATO Special Operations Command (NSHQ) from SHAPE. NSHQ will ensure that the new Command will be established on the basis of NATO standards and with respect to Allied Doctrine for Special Operations.

[7] Address by the NATO Deputy Secretary General, Mrs. Rose Gottemoeller, during DefMin of 07 June 2018, https://www.nato.int/cps/en/natohq/news_155347.htm, retrieved on 28.06.2018

At the same time, at the Brussels Summit, it was decided to establish a Multinational Division of the Baltic Region, set up by Denmark, Estonia and Latvia, as well as an Italian Division for the Southern Area, on a rotational basis.

Another important change in NFS is to raise the readiness of Allied defence capabilities by adopting a new initiative called *"4 x 30"*. This initiative does not imply the development of new capabilities within the member states, but the reduction up to 30 days for *"Notice-to-Move"* (NTM) readiness level of the established capabilities available to the Alliance, in addition to the already established Pool of Forces. Thus, the Allies have committed themselves to providing to NATO, in the event of a major conflict in Europe, by 2020, *"30 heavy or medium mechanised battalions, 30 kinetic aviation squadrons and 30 major combatant vessels"*[8].

Another important change in NFS is to raise the readiness of Allied defence capabilities by adopting a new initiative called "4 x 30".

By adopting this initiative, it is envisaged to make available to SACEUR an additional package of Joint Forces capable of facing any adversary's offensive action with limited objective and scale, in a short time and in any part of Europe, being under the responsibility of Allied Strategic Commanders. This is because, at the strategic level, it is considered that the current eNRF can only be used on one strategic direction, leaving other directions unprotected by NATO Forces.

As a result, even if we are not talking about an increase in the number of NATO capabilities made available by member states, this initiative represents a change in the quality of NFS, creating a new, rapid, deployable and joint force that discourages any future aggressor to attack the Euro-Atlantic area.

Moreover, this initiative will be able to establish a readiness culture within the North Atlantic Alliance, assuring the appropriate training and equipment of Allied Forces for conducting any type of NATO-led operation at the desired place and time.

Conclusions

The whole adaptation of the NATO Command and Force Structures is intended to be a new reform by which the Alliance is modernised and becomes transparent, agile, efficient and functional. This reform is also a step forward in strengthening collective security and burden-sharing for all member states.

[8] Jens Stoltenberg, NATO SecGen, Press Conference at the end of DefMin, 07 June 2018, retrieved on 28.06.2018.

The adaptation of NCS is of major importance in the agenda of Allied decision-makers and is, therefore, given the first place in the implementation effort for the period of 2019-2021. The debates on finalising the *Detailed Implementation Plan (DIP)* are still heavy and inconclusive, and the agreement on implementing this plan was established at the Brussels Summit. However, there are still disputes about the location of the two four-star Land Commands and the inclusion of the JFC Norfolk and the RAOC in the Allied Command Structure or the Force Command.

It is an extraordinary thing that Romania remains among those Allies that pro-actively participate in strengthening the presence of the Alliance in the European Eastern Flank. Even if the task assumed to set up a new Army Corps Command is complex and difficult, this initiative demonstrates the involvement of the Romanian Armed Forces in ensuring the collective defence, as well as the fact that Romania has become a security provider in the South-Eastern area of Europe.

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ROMANIAN MILITARY THINKING

UNITED STATES MISSILE DEFENCE SYSTEM

Colonel Leopold Cerassel LUNGU, PhD

Operations Directorate, Defence Staff

The emergence of the threat of ballistic missile and cruise missile air strikes in the second half of the twentieth century led the United States to develop military concepts of using missile defence structures in combat, as well as to create real missile defence capabilities.

Currently, the US missile defence system can intercept and destroy any type of ballistic missile and cruise missile by discovering, identifying and tracking them throughout their flight path, as well as by destroying them with combat satellites and ground-based and water surface-based anti-aircraft and anti-missile systems.

Keywords: ballistic missile defence, defence system, interception, ballistic missiles, incendiary substances.

English version by **Iulia SINGER**.

Introduction

Technological developments and the expansion of the number of states with nuclear weapons have led more economically developed countries to develop their own defence capabilities against potential ballistic missile air strikes.

Concerns in this military field over the past few years are proof of this and have led to the reopening of the issue of nuclear arming, which is extremely sensitive and very controversial, from the point of view of international relations between the world's states. One of the most complex projects is represented by the *United States National Missile Defense System (USA).* Launched in 1997, the project was aimed at developing a program for the implementation of the national missile defence system, a program called *3+3*, respectively three years of technology development and experimentation (by 2000) and three years for the deployment of system elements.

In 1999, US military officials came to the conclusion that the second phase should be extended until 2005. This program aimed to create the system components and to deploy, in a first phase, from 2001 to 2010, the first 100 interceptors (as a rule, anti-aircraft missiles and anti-ballistic missiles), and in 2010, another 100-150 interceptors, in another batch.

The first mission of the national missile defence system is to defend the US against a ballistic threat or to limit a ballistic missile attack from a hostile nation[1], as well as against unauthorised or accidental ballistic missile launches from states possessing weapons of destruction (nuclear, chemical, biological ones) or incendiary substances.

To create an efficient, tiered ground-based or water surface-based anti-missile defence, the US Armed Forces uses both anti-ballistic missile systems as well as anti-aircraft and anti-missile systems.

US anti-ballistic missile systems have technical capabilities to track, intercept and destroy only ballistic missiles flying at hypersonic speeds.

The first mission of the national missile defence system is to defend the US against a ballistic threat or to limit a ballistic missile attack from a hostile nation, as well as against unauthorised or accidental ballistic missile launches from states possessing weapons of destruction (nuclear, chemical, biological ones) or incendiary substances.

[1] R. Kadish, *Reorganization of the Missile Defence Program, Statement before the Senate Armed Services Committee*, Strategic Force Subcommittee, March 2003.

US anti-aircraft and anti-missile systems have technical capabilities to track, intercept, and destroy ballistic missiles flying at supersonic speeds, cruise missiles (flying at transonic and subsonic speeds), manned or unmanned reconnaissance, combat and airlift platforms flying at low, subsonic, transonic and supersonic speeds.

Anti-ballistic Defence Organisation

US anti-ballistic defence organisation is influenced by the following factors:

- the evolution of the air situation;
- changes in the combat mission;
- the availability of anti-aircraft and anti-ballistic missile systems, and communication and information systems.

In the anti-ballistic defence organisation, the distribution of anti-aircraft and anti-ballistic missile forces is made in such a way that the effect of different anti-aircraft and anti-ballistic missile systems is in line with the on-field combat mission, the anti-aircraft and antiballistic defence objectives, and the degree of ballistic missiles threat.

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The purpose of the anti-ballistic defence organisation is to create a tiered and compact anti-ballistic defence area by jointly using multiple anti-aircraft and anti-ballistic missile systems (small, medium, intermediate, and large range ones)[2].

An heterogenous anti-aircraft and anti-ballistic defence device will create the possibility of mutual fire support between anti-aircraft and anti-ballistic entities that provide anti-aircraft and anti-ballistic defence for one or several missile defence units.

At the same time, the reconnaissance and discovery satellite system, as well as the defensive satellite system have a cosmic layout covering the entire planet and can detect, reconnoitre, accompany, and intercept, in a very short time, any ballistic missile and cruise missile launched by a potential opponent.

In order to organise the anti-ballistic defence, the US Armed Forces have taken into account the efficiency and sustainability of their own anti-aircraft and anti-ballistic missile systems, of land, sea, air and space

[2] Joint Pub 3-01.5, *Doctrine for Theater Missile Defence*, February 1996, http://www.fas.org./spp/starwars/ program/index.html, retrieved on 15 December 2012.

radar reconnaissance facilities as well as communications and information means, given the circumstances in which a potential opponent uses electronic jamming.

Combat devices of the heterogenous American anti-aircraft defence and anti-ballistic missile systems are staggered in the depth of the US strategic disposition.

Long-range anti-aircraft and anti-ballistic missile systems, such as GBI[3] and THAAD[4], are used as basic systems due to their special technical properties, especially for combating and destroying enemy ballistic missile at big distances and heights.

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PATRIOT-type long range anti-aircraft and anti-ballistic missile systems supplement the GBI and THAAD[5] anti-aircraft and anti-ballistic systems, being ground-to-air missile systems whose technical properties enable them to combat and destroy enemy ballistic missiles at big and medium distances and heights.

Medium range anti-aircraft and anti-ballistic missile systems such as MEADS[6] and HAWK[7] supplement the anti-aircraft and anti-ballistic missile defence systems carried out with GBI, THAAD and PATRIOT anti-aircraft and anti-ballistic missile systems, being ground-to-air missile systems, whose technical properties enable them to combat and destroy enemy ballistic missiles at medium and low distances and heights.

Moreover, MEADS and HAWK medium-range anti-aircraft and anti-ballistic missile systems have the capability to complete the air defence breaches occurred within the anti-aircraft and anti-ballistic defence areas of the objective or objectives, and to provide proper anti-aircraft and anti-ballistic protection for anti-aircraft and anti-ballistic missile systems such as GBI, THAAD and PATRIOT, while they perform manoeuvres of their own forces and means.

When a medium or large range anti-aircraft and anti-ballistic missile system is planned for anti-ballistic defence, then it will be located on the main direction from where the enemy ballistic missile attack is expected to occur.

If the air adversary uses electronic jamming, the destruction areas of two or three anti-aircraft and anti-ballistic missile entities are overlapped in order to ensure a correlation of these fire entities.

If the air adversary uses electronic jamming, the destruction areas of two or three anti-aircraft and anti-ballistic missile entities are overlapped in order to ensure a correlation of these fire entities.

[3] GBI – Ground Based Interceptor (long range anti-ballistic missile component, using hit-to-kill technology. Example: the AEGIS ballistic missile defence system).
[4] THAAD – Theater High Altitude Area Defence.
[5] http://www.fas.org/spp/starwars/program/gbi.htm, retrieved on 7 January 2013.
[6] MEADS – Medium Air Defence System.
[7] HAWK – Homing All the Way Killer.

The use of the triangulation capability of anti-aircraft and anti-ballistic missile systems determines that three ground-to-air missile entities have overlapping destruction areas, if there are limitations in the discovery area of the radars as well.

For large and medium range anti-aircraft and anti-ballistic missile systems, at least two ballistic missile combat and destruction alignments are used, which will fit between the upper destruction zones and the lower destruction areas of the enemy ballistic missiles.

By using heterogen e ous anti-aircraft and anti-ballistic missile systems, the following advantages will be obtained:

- increasing fire power of launching entities by efficiently using the various long and medium anti-aircraft and anti-ballistic missile capabilities;
- counterbalancing the technical limits of an anti-aircraft and anti-ballistic missile system with the technical possibilities of another;
- improving command coordination capacity;
- creating a high degree of flexibility in the anti-aircraft and anti-ballistic defence of a certain objective or objectives;
- anti-aircraft and anti-ballistic defence of various anti-aircraft and anti-ballistic missile systems.

In planning and carrying out strategic missile defence operations in the theatre of operations it is involved the Army Air and Missile Defence Command and, depending on the nature of the operations, the Army anti-aircraft and anti-ballistic missile brigades or Army Corps anti-aircraft and anti-ballistic missile regiments will participate.

Organisational structure of missile defence at all three levels of military art: strategic, operational and tactical ones

In the US Armed Forces, ground-based air defence has a great organisational flexibility in fulfilling its assigned missions.

Ground-based air defence large units and units can provide missile defence at short range, medium range or long range against low, medium or high flying altitude targets.

In this respect, missile defence is organised integrally at all three levels of operations:

❖ **at the strategic level**, missile defence falls under the responsibility of the Missile Defense Agency and defensive satellite systems.

In planning and carrying out strategic missile defence operations in the theatre of operations it is involved the Army Air and Missile Defence Command and, depending on the nature of the operations, the Army anti-aircraft and anti-ballistic missile brigades or Army Corps anti-aircraft and anti-ballistic missile regiments will participate.

❖ **at the operational level**, planning and carrying out of missile defence operations are carried out by the Army Air and Missile Defence Command,

the Army anti-aircraft and anti-ballistic missile brigades and Army Corps anti-aircraft and anti-ballistic missile regiments, and, in some situations, by artillery and anti-aircraft battalions of infantry, tanks and marine infantry divisions;

❖ **at the tactical level**, planning and carrying out missile defence operations are carried out by anti-aircraft and anti-ballistic missile regiments, as well as by artillery and anti-aircraft missiles battalions of infantry tanks and marine infantry divisions.

At national level, missile defence of the targets is performed with the following types of ground-to-air missile systems:

- *AEGIS*[8] *anti-ballistic missile systems;*
- *THAAD anti-ballistic missile systems;*
- *PATRIOT anti-aircraft and anti-missile systems;*
- *MEADS anti-aircraft and anti-missile systems;*
- *HAWK anti-aircraft and anti-missile systems;*
- *AVENGER anti-aircraft missile systems.*

Possibilities of Anti-ballistic Missile Defence of Objectives

Surface-to-air missile systems can provide three types of ground/water surface anti-ballistic protection[9]:

➢ **area anti-ballistic missile defence**, in which no objective has a special, individual anti-ballistic missile defence priority.

Through area anti-ballistic missile defence, a „honeycomb-type" or „star-type" anti-ballistic missile defence will be adopted, which is a specialised use of anti-ballistic missile defence in the area of responsibility, where ground/water surfaces defence systems are deployed in an area configuration, in order to ensure combat and destruction of air attack means at an as big as possible distance from air defence objectives. Also, this type of ground/water surface defence provides the best anti-ballistic missile coverage of the priority targets set by the Commander of the Army, Naval Forces, or Joint Forces in that area;

➢ **circular or belt-type anti-ballistic missile defence**

By means of the circular or belt-type anti-ballistic protection, no objective has anti-ballistic missile defence priority. However,

Through area anti-ballistic missile defence, a „honeycomb-type" or „star-type" anti-ballistic missile defence will be adopted, which is a specialised use of anti-ballistic missile defence in the area of responsibility, where ground/water surfaces defence systems are deployed in an area configuration, in order to ensure combat and destruction of air attack means at an as big as possible distance from air defence objectives.

[8] Niculae Tabarcia, *Considerații privind conceptul de „Scut Antirachetă" și influența evoluțiilor din acest domeniu asupra balanței de putere la nivel regional și global* (I), in *Gândirea militară românească* Journal, no. 4, 2014, pp. 80-99.

[9] R. Kadish, *op. cit.*

surface-to-air missile units are deployed in the belt-type anti-ballistic missile defence, to ensure the best anti-ballistic missile defence of the priority objectives established in that area or section;

➢ **direct (precise) antiballistic missile defence**

By direct (precise) anti-aircraft and anti-ballistic missile defence), anti-ballistic missile defence systems are designed for ground/water surface air defence of a target in a limited sector.

Ground/water surface based air defence systems are normally used in anti-ballistic defence of vital targets of land forces, naval forces, or joint forces, and/or the most important objectives in logistics sections.

Direct anti-ballistic defence is characterised by ground/water surface air defence priority, which is ascribed to specific objectives. These specific objectives may be mobile or fix and can be both a facility within an objective and a concentration of forces and means.

Ground/water surface based air defence systems are normally used in anti-ballistic defence of vital targets of land forces, naval forces, or joint forces, and/or the most important objectives in logistics sections.

The objectives of anti-ballistic defence are given priority, within the range of anti-ballistic missile systems available, and will be placed near these objectives, either in front of them, on a side or behind them, in the more likely direction of ballistic missile attack.

This will determine that the immediate anti-ballistic defence priority will be relative, for each objective, because it is based on the assurance of general ground- or water surface-based anti-aircraft defence of all objectives within the range of the anti-ballistic area concerned.

By approaching the US anti-ballistic defence system[10] from a system perspective, this can be seen as the result of integrating the multiple combat capabilities available to the state's armed forces in order to exercise their will and influence in all four combat environments (land, air, naval and space) and includes:

a) the intelligence system located in the four battle environments;

b) the command and control system in the four combat environments;

(c) the weapon systems placed on the ground and on combat ships (air-to-air and surface-to-air anti-ballistic missiles);

(d) the space weapon systems operating in the extra-atmospheric space (laser guns and anti-ballistic missiles delivered by satellites and space robots acting with explosive charges by kinetic impact);

e) the system for generating and regenerating the anti-ballistic resource;

f) the strategic borders.

[10] Stefan Thomas Possony, *The Strategy of Technology*, Electronic edition, California, 1991.

Regarding the strategic anti-ballistic missile defence borders, these are the areas and/or geographic regions of the Earth where US anti-ballistic missile systems are deployed to increase the importance or multiply the anti-ballistic missile defence combat and destruction effects of potential US enemies.

In principle, the geographic location of US anti-ballistic missile systems provides the USA with some advantages in using air and outer space, as well as a higher level of air security for those allied states that have them on their territory.

The role and functioning of anti-ballistic missile defence system components

US anti-aircraft missile defence structures meet the following conditions:

- the necessary time to make the right decision in an optimal time by the responsible actors of the national missile defence system to intercept ballistic missiles and cruise missiles that threaten the national territory is provided;
- any launch of ballistic missiles and cruise missiles by any potential enemy is detected and continuous tracking of ballistic trajectory of ballistic missiles and low-altitude rectilinear trajectory of enemy cruise missiles is provided using ground, water surface, air and space-based radars (sensors);
- fighting and destroying enemy ballistic missiles and cruise missiles in any of the phases of their flight path is accurately ensured.

The missile defence system is a mobile, ground/water surface, air and space-based system, and has a continuous and space stable detection and tracking system.

The missile defence system is a mobile, ground/water surface, air and space-based system, and has a continuous and space stable detection and tracking system.

This missile defence system consists of the following components[11]:

- ground and water surface based interceptors;
- command, control, communication and fight management system;
- communication and interception system during the interceptor flight;
- X-band radars;
- Early warning radars;

[11] Niculae Tabarcia, *Considerații privind conceptul „Scutul Antirachetă" și influența evoluțiilor din acest domeniu asupra balanței de putere la nivel regional și global (II)*, in *Gândirea militară românească* Journal, no. 5, October 2014, pp. 135-153.

- research and reconnaissance, communication and combat satellite systems.

All elements of the missile defence system work synergistically, so they can act effectively, safely and optimally against a possible enemy ballistic and cruise missile threat.

❖ **Ground and water surface-based interceptors**

This type of component consists in the integrated weapon systems of the national missile defence system. Ground- or water surface-based interceptors are designed to intercept and destroy, by force of explosion or by force of kinetic impact, ballistic and cruise missiles moving towards the targets.

During their flight on the trajectory, interceptors are provided with continuous information from the control, command and battle management system, through the communications and interception system, in order to permanently update the ballistic or the enemy cruise missile position, thus providing the sensor system onboard interceptors with the possibility that they may be could be guided towards the assigned air target.

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Ground- and water surface-based interceptors include the following components:

- launching facilities;
- own interceptors;
- auxiliary elements, storage silos and other logistic capacities;
- the necessary technical staff.

Each anti-aircraft and anti-ballistic missile system has a storage space for at least 24 interceptors, with the possibility of extending it up to 100 interceptors. Until the launch, the interceptors are kept in silos located in underground shelters. Anti-aircraft and anti-ballistic missiles will be launched only if the national territory is attacked by ballistic or cruise missiles.

❖ **Control, command and battle management system**

This system is the *"brain"* of the national missile defence system, considering that, in the event of a ballistic or cruise missile launch by a potential enemy, the control, command and battle management system is launched, providing the necessary information about the air situation by research and reconnaissance systems, decision-making systems and weapon systems.

Research and reconnaissance satellites, as well as air, land and naval radars locate air targets and communicate data about them to combat teams, which in turn will process them in a timely manner and then transmit their distribution to the interceptors.

The command, control and battle management system functions through the centres of reception and transmission of the data and information necessary for the national missile defence system.

❖ **Communication and interception system during interceptor flight**

This system consists of mobile and stationary stations that are located in the air, on the ground, on the water surface or in outer space, which are providing continuously to the interceptors, during their flight, information about the air target.

The communication and interception system, during the interceptor flight, comprises at least one receiver and a radio transmitter inserted into a protective dome of each interceptor. This does not necessarily require the existence of specialised personnel, who will be present in the combat disposition during the maintenance process.

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❖ **X-band Radar**

They are multifunctional radars that track, identify and classify enemy ballistic and cruise missiles. These radars work in high frequency and use a modern radar signal processing technology that will improve the quality of the resolution of air targets and will enable great discovery, tracking, identifying, selecting and tracking capability of close air targets.

X-band radars will provide information about ballistic and cruise missiles trajectories for the control, command, and battle management system.

The X-band radar range will include the following components: radars; command and control facilities; power generation and reception capacities; logistics facilities.

X-band radar should explore airspace during ballistic and cruise missile threats, during tests, exercises, training or collateral support missions such as spacecraft debris (meteorites or unidentified cosmic objects).

X-band radar should explore airspace during ballistic and cruise missile threats, during tests, exercises, training or collateral support missions such as spacecraft debris (meteorites or unidentified cosmic objects).

❖ **Early warning radars**

This type of radar is a multiphase research, discovery, and identification radar used to detect ballistic or cruise missile trajectories headed towards the US. The enhanced software for these early warning radars can provide all of the ground, naval, air and space research needs of the national missile defence system.

The early warning space system also includes technical possibilities for infrared research and reconnaissance and will be developed in the next years within the national missile defence system.

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❖ **Research and reconnaissance communications and combat satellite systems**

A number of US research and reconnaissance satellites provide the early warning opportunity for the national missile defence system.

Moreover, data and intelligence about enemy ballistic and cruise missiles, launched from any part of the Planet, are transmitted in a very short time (in a matter of seconds), through the communications satellite system, towards the control, command and battle management system.

All information transmitted by the research and reconnaissance satellites provides the control, command and battle management system's assessment of the possible air trajectory of enemy ballistic missiles in their ascending phases or the rectilinear and low altitude trajectory of enemy cruise missiles.

Ways to intercept ballistic missiles

According to US military specialists and Western European military specialists, enemy ballistic missiles can be fought and destroyed during the following five phases of their flight on the trajectory[12]:

- the boost;
- the ascent;
- the midcourse;
- the upper tier;
- the descent.

➢ **Interception during the boost phase**

US Air Forces have developed *"laser-gun"* technology, designed to destroy ballistic missiles during the boost phase.

Such a laser generator can be embarked on a heavy-duty aircraft (a Jumbo Jet B-747 that was modified for that purpose) that will fly at an altitude of 10,000-13,000 m above the range where launches of ballistic missiles are expected or near this area.

Interceptions of the ballistic missile with laser beam will be carried out from a distance of 200 to 400 km and from a height of 10 to 25 km from the launch site. In order for the ballistic missile to be destroyed at such a distance, it is necessary to use a high-power chemical cannon (about 3 MW) that must get to illuminate the enemy ballistic missile within at least five seconds of flight.

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[12] www.ediss.org/bmrange.htm. The US Department of Defence uses somewhat different categories.

The action of the laser beam is intended to cause a rupture of the outer structure of a ballistic missile, which will also be increased by the internal pressure caused by the vibrations of the propulsion engine of this missile.

To guarantee a permanent and efficient anti-ballistic missile defence, two to four means of flight of this type are required, of which at least two means of flight must act simultaneously.

The following technical requirements are required for this:

- embarking the generator in a limited volume that does not allow the dispersion of the laser beam caused by the atmospheric turbulence that may occur;
- ensuring maximum precision for identifying and escorting the ballistic missile in the flight, during the five seconds of destruction, thus compensating for own movement and vibrations of the air carrier;
- solving the trepidation problems during flight on the plane B-747.

➢ **Interception during the ascent phase**

US naval forces have equipped some destroyers with the AEGIS ballistic missile system. It provides protection against ballistic missiles that operate up to 3,000 km from the launch site of the interceptor anti-ballistic missile.

The area protected by the anti-ballistic defence system is very wide and represents the most interesting aspect of the anti-ballistic defence.

In this way, a single destroyer equipped with the AEGIS-class interceptor missile system and positioned in the Mediterranean would be sufficient to provide anti-ballistic protection for roughly a tenth of the European continent. Moreover, US land forces can fight and destroy ballistic missiles with AEGIS[13] anti-ballistic missile systems that can be deployed in the territories of NATO member states to intercept, from the ground, air targets at distances of 4,000-5,000 km and at heights up to 1,000 km from the launch site of anti-ballistic missiles.

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➢ **Interception during the midcourse stage**

The first project to intercept ballistic missiles in outer space was launched in the 1980s and was drawn up by US President Ronald Reagan, the *Strategic Defense Initiative* (also known as the *"Star Wars"*)[14].

The programme was based on the possibility of striking enemy ballistic missiles over the long period of the midcourse flight phase

[13] Ion Puricel, *Combaterea rachetelor balistice cu rachetele antiaeriene în operații multinaționale*, Editura Universității Naționale de Apărare *"Carol I"*, 2007, p. 76.

[14] *Ibid*, p. 145.

(about 20 minutes) with a large amount of small robots that would intercept them within the Earth's orbit.

The collision in space at a very high speed between ballistic missiles and robots guaranteed the destruction of ballistic missiles. Ensuring a global anti-ballistic missile defence "*umbrella*" for the entire planet required placing about 1,000 robots on the orbit, with big operating and maintenance costs and very long periods of time. This led to the abandonment of the project in the late 1980s. Currently, in the US, the current trend is to use laser energy and deploy laser-cannon space installations within the Earth's orbit.

➢ **Interception during the upper tier phase**

US forces are equipped with anti-aircraft and anti-ballistic missiles similar to those of the US naval forces, which will in turn be used during the ballistic missile upper tier phase. Thus, US land forces can execute anti-ballistic missile combat and destruction with AEGIS anti-ballistic missile systems.

At the same time, an actual anti-ballistic missile project, which took place 25 years ago, was the project called THAAD.

The kinetic energy resulting from the impact between the interceptor missile and the ballistic missile will be sufficient to destroy the ballistic missile with conventional or mass destruction (nuclear, chemical, biological) cargo or incendiary substances.

Interceptions can be made at a distance of up to 670 km, at an altitude of up to 200 km and at a speed of 3-4 km/s.

The kinetic energy resulting from the impact between the interceptor missile and the ballistic missile will be sufficient to destroy the ballistic missile with conventional or mass destruction (nuclear, chemical, biological) cargo or incendiary substances. Moreover, in order for lethal remnants of the components of enemy ballistic missile destroyed not to land on the ground, their interception and destruction are carried out at a height beyond the limit of the atmosphere, i.e. over 50 km (international airspace).

Knowing that the THAAD anti-ballistic missile system can fight and destroy air targets at heights up to 200 km, if the first ballistic missile interception and destruction mission fails, it is possible to launch another THAAD anti-ballistic missile against the same air targets within two-three seconds.

➢ **Interception during the descent phase *("lower tier")***

Much of the ground-based air defence systems are able to intercept ballistic missiles in this final phase of flight, as follows[15]:

- US PATRIOT anti-aircraft and anti-ballistic missile defence system, which was first used in the First Persian Gulf War, in 1991. It is

[15] Ion Puricel, *op. cit.*, pp. 78-82.

a long range high-precision anti-aircraft and anti-ballistic missile system that has been upgraded over time;

- the MEADS anti-aircraft and anti-ballistic missile defence system, which is the result of cooperation between the US, German and Italian Armed Forces. The system is designed for anti-aircraft and anti-ballistic missile defence against short-, mid- and intermediate-range ballistic missiles, cruise missiles and manned or unmanned air vehicles. This anti-aircraft and anti-missile defence system is perceived as the system that fills the gap between the technical possibilities of the HAWK medium-range anti-aircraft and anti-missile defence system and the PATRIOT long-range anti-aircraft and anti-missile systems;
- the US HAWK mid-range anti-aircraft and anti-missile defence system is designed to combat and destroy medium and low height air targets. It can simultaneously fight and destroy two air targets by launching 1-3 missiles per air target.

All these systems provide anti-aircraft and anti-missile defence at heights of 15-200 km. Efforts are also made to improve the quality of anti-aircraft and anti-ballistic missiles that operate at this height.

The main objectives of the Theater Missile Defense (TMD), a concept drawn up in the US, are as follows:

- anti-aircraft and anti-ballistic missile defence of objectives;
- elimination of the lethal effects resulting from missile components falling on the ground.

The PATRIOT[16] and THAAD systems have the highest quality of destruction for ballistic missiles.

To minimise the lethal effects of enemy ballistic missiles that were destroyed and may fall on the ground, the quality needed to destroy them can only be achieved with hit-to-kill weapons. This is evidenced by the fact that, although the probability of striking the enemy ballistic missile, somewhere along its fuselage, is higher when using an anti-missile rocket with an explosive component with fragmentation, still, the survival of the land or naval areas is better ensured with hit-to-kill missiles.

US land forces prefer this type of weapons because they show strength against a broad range of air threats with conventional fighting, mass destruction or incendiary substances components that are transported by small, medium, intermediate and long range ballistic missiles.

To minimise the lethal effects of enemy ballistic missiles that were destroyed and may fall on the ground, the quality needed to destroy them can only be achieved with hit-to-kill weapons. This is evidenced by the fact that, although the probability of striking the enemy ballistic missile, somewhere along its fuselage, is higher when using an anti-missile rocket with an explosive component with fragmentation, still, the survival of the land or naval areas is better ensured with hit-to-kill missiles.

[16] *Revue internationale de defense*, no. 4, 1980, *PATRIOT – Le système de missile sol-air mobile de l'U.S. Army.*

Through the kinetic destruction energy, which is transferred to an air target, both anti-aircraft and anti-ballistic missiles with fragmentation and hit-to-kill missiles are especially effective against small, medium, intermediate and long range anti-ballistic missiles.

Moreover, explosive charges with fragmentation, although successfully used against ballistic missiles (which may have both conventional, as well as nuclear, chemical, biological, or incendiary charges), are not as effective as those of the hit-to-kill type. Thus, a potential enemy of the USA will find it much more difficult to counter an anti-aircraft and anti-ballistic missile of the hit-to-kill type, maintaining the same degree of lethality, due to the size or weight of the internal structure of the own ballistic missile combat load, by manoeuvres meant to avoid the US anti-aircraft and anti-ballistic missile.

Through the kinetic destruction energy, which is transferred to an air target, both anti-aircraft and anti-ballistic missiles with fragmentation and hit-to-kill missiles are especially effective against small, medium, intermediate and long range anti-ballistic missiles.

Conclusions

The development of ballistic and cruise missiles technology, which can carry conventional combat, mass destruction or incendiary substances loads, by potential state or non-state actors that are enemy to the USA, is considerable. Thus, only for the past years, several new versions of ballistic and cruise missiles that would be able to hit US territory have been tested.

Moreover, development processes in the ballistic field have been pursued, aiming both at increasing the quality and the types of ballistic missiles (short, medium, intermediate, and long range ones).

Due to the proliferation of ballistic and cruise missiles technology, as well as to the threat posed by the possibility that they could carry conventional combat loads and, especially, mass destruction and incendiary substances loads, the US Armed Forces have reconsidered the architecture of the national anti-missile defence system.

Recently, the US Armed Forces have deployed, within their strategic borders, anti-ballistic missile systems such as AEGIS and THAAD, as well as PATRIOT anti-aircraft and anti-ballistic missile systems, which are defensive elements meant to deter a ballistic attack carried by a potential enemy.

In the current international security environment, these ground-to-air missile systems, which are deployed on the US strategic borders, could generate an increased security risk against ballistic missile attacks during a potential event, both for US territory and for the territory of the allied states hosting them.

The current international security environment will make the US Armed Forces to approach an integrated missile defence that will consist in countering air threats coming from a wide range of ballistic and cruise missiles, regardless of the state or non-state actor that owns and uses them, as well as of the flight path of these missiles.

The new US missile defence architecture will set as the anti-missile defence carried out with ground-to-air and ship-to-air missile systems a priority, considering the high risks that have recently been generated by the development, in general, of manufacturing technologies of small-, medium- and intermediate-range ballistic missiles, as well as cruise missile manufacturing technologies.

Moreover, US land and naval forces have been equipped with anti-aircraft and anti-ballistic missile systems capable of effectively combating and destroying the new types of enemy ballistic and cruise missiles.

The current architecture of the space-based research satellite system, due to their technical and tactical performances, provides discovery, identification and tracking over their entire flight path for their entire range of ballistic and cruise missiles, from launch to impact.

At the same time, ground and water surface radar systems conducting research, discovery, identification, tracking and indication of enemy air targets have advanced technical and tactical features for discovering and tracking ballistic missiles that generally evolve from a predictable direction, as well as for cruise missiles that can evolve from any direction and from low and very low heights.

At the same time with the development and improvement of air combat vectors, such as ballistic and cruise missiles, the missile defence structures of the US armed forces have expanded their scope in outer space too, considering the development of the US missile defence programme, which is in line with the requirements of modern warfare. Thus, the US defensive satellite system can intercept and destroy, in a very short time, any type of ballistic missile and plays an important part in the US missile defence system.

By including ballistic and cruise missiles among priority air targets, it has become widely spread the use of anti-aircraft and anti-ballistic missiles with very high initial speeds, solid fuel starting engines and liquid fuel marching engines, which do not require technical training operations for long periods of time within the technological flows within the technical subunits (fuel, oxidant and air supply).

Moreover, these types of anti-aircraft and anti-ballistic missiles do not require an initial training cycle of tens of minutes on launching installations, which greatly reduces the launch time and increases the ability to combat and destroy ballistic and cruise missiles.

At the same time, the increase in the nominal firing capacity has also been influenced by the increase in the number of target channels, both for fighting and destroying aerodynamic targets (manned or unmanned aerial vehicles, helicopters, air-to-ground missiles, air-to-ground projectiles, cruise missiles and captive air balloons) as well as ballistic targets (missiles).

Anti-aircraft and anti-ballistic missile systems of US land and naval forces have the following constructive and functional features:

- are equipped with multifunctional radars, with planar phased antenna networks with electronic balancing (both horizontally and vertically), enabling continuous airspace research, discovery, identification and tracking of air targets (the aerodynamic targets of all kinds, including cruise and ballistic missiles);
- anti-aircraft and anti-ballistic missile guidance radar stations are designed in multichannel versions, for both aerodynamic targets and ballistic targets, enabling simultaneous combat and destruction of several air targets either isolated or grouped with one or more missiles launched against each air target;
- have the possibility of interfacing with air early warning systems that use three-dimensional radars that can discover air targets on a 300 km range;
- are designed in fixed or mobile versions, on wheels or on tracks, or are placed on naval battle ships;
- their all command, control, communication and information equipment is containerised, thus simplifying long distance transport operations;
- can also be airlifted, boarded on heavy transport aircraft, which considerably reduces the duration of the flight from one area to another in the world;
- anti-aircraft and anti-ballistic missiles are generally stored, transported and launched from containers, which greatly reduces the reloading time of launchers and simplifies launch operations;
- anti-aircraft and anti-ballistic missiles are provided with explosive combat components to fight and destroy aerodynamic targets (including cruise missiles) or with state-of-the-art combat components to attack and destroy ballistic missiles;

- mixed guidance systems (by inertial means or radio controls, on most of the trajectory, as well as by active or passive self-guidance, on their final flight section) are used to direct anti-aircraft and anti-ballistic missile towards the target;
- in general, launches of long and medium range anti-aircraft and anti-ballistic missiles are carried out vertically in order to have a higher and long trajectory, necessary to combat and destroy especially ballistic missiles;
- for the combat and destruction of cruise missiles, flying at low and very low heights, special ground-to-air missiles with subsonic and transonic speeds are used, as well as radars with directivity diagrams for low altitudes;
- no maintenance work (checking, maintenance, adjustment and repair) is required for all types of anti-aircraft and anti-ballistic missiles for a long time;
- the logistics necessary to support anti-aircraft and anti-ballistic missile systems participating in air strikes fighting operations undertaken by a potential enemy with ballistic and cruise missiles are ensured permanently and timely.

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PROTECTION THROUGH FORTIFICATION WORKS IN JOINT OPERATIONS – CERTAINTY OR UTOPIA – ?

Brigadier General (r.) Prof. Mircea VLADU, PhD

"Nicolae Bălcescu" Land Forces Academy, Sibiu

The reality of the integrated, expanded and fluid battlefield highlighted the fact that an armed conflict or a war in which belligerents largely use mostly land forces cannot be successfully waged unless increased attention is paid to fortification works, whose role is to ensure the protection of the fighters, optimal conditions for their proper and efficient use of the equipment and the fighting technique, as well as for bringing the body back to normal after prolonged physical and psychological efforts. However, some military theorists in modern NATO integrated or non-integrated armed forces have developed theories launching real myths about the new types of powerful means and systems of combat with which own forces have been equipped in order to discourage potential opponents and determine them to stop focusing on the fortification works within the general protection system. From this perspective, I believe the way these military theorists think is unrealistic. This article includes several arguments in support of this assertion.

Keywords: certainty, utopia, fortification, protection, cyber warfare.

Introduction

The role, importance and complexity of fortification works in armed conflicts or wars require and can usually be analysed in relation to their space-time evolution, generated, up to one point, by the level of improvement of striking means and systems, after which they were almost completely neglected as a result of some discouraging theories, such as: *low intensity conflict; cyber warfare or strategic information war; computer-led war; radical vision; much ado about nothing; the real revolution takes place in the air; space is the real revolution; revolution in security relations etc.*[1].

The evolution of fortification works from the constructive point of view

In my approach, I will start from briefly remembering the development of the fortification works, from simple to complex, from rudimentary to modern, as follows[2]:

a) the earthen wall – it was characteristic of the primitive and slave commune, and its dimensions were variable, depending on the destination, number of people and the teams available for work, as well as the rudimentary level of the means of attack. *"Trajan's Wall"*, built by the Romans on the territory of Dobrogea, in order to connect the Danube and the Black Sea, is a fortification work of this type;

b) *guard towers* – they were built in antiquity from brick or stone and binders, in order to observe and notify about the danger of an aggressor approaching, as well as to immediately ensure defence against it;

c) *the walls of towns and fortresses (the belts)* – they were erected from the brick and stone masonry in order to hinder the aggressor's

[1] *Documentarul Statului Major General privind noile teorii NATO referitoare la conflictele viitorului*, Biblioteca Statului Major al Apărării, pp. 10-26.

[2] Colonel ing. Josan Miron, *Considerații organizatorice de reevaluare a problematicii lucrărilor de fortificație ca parte integrantă a pregătirii teritoriului pentru apărare*, Statul Major General, pp. 15-35.

siege actions and to cause losses by the use of rudimentary means of striking. The most important fortresses provided with such walls were: *(1) The Babylon fortress*, built in the sixth century BC by Nebuchadnezzar II, with walls 47 m high and 26 m wide; *(2) The Carthage fortress*, built in antiquity on two levels, with 3 belts of walls 14 m wide and 10 m high, with 19 meters high towers. At the first level, there were stables for 300 elephants, and at the second level there were stables for 4,000 horses. The fortress also had the necessary conditions for sheltering a 24,000 people;

d) the border lines – they were stone or brick walls, provided with guard towers, for border observation and defence. The most important border line is the Great Wall of China, put into use in 213 BC, as a result of the joint effort of the Asian peoples to stop the Mongol invasion. With a length of 5,380 km, a height of 8,16 m and a width of 4,4 m, it is the largest fortification work in history.

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e) *Cyclopean constructions* – they were castles of large, unbonded blocks of stone built mainly by the Greeks, under the name of acropolis, which allowed defenders to use rudimentary means of response;

f) the walls with external ditches and towers – they were very resistant to the blows of the rudimentary means of striking, and the fact that the ditches were filled with water created great difficulties for the attacker when he wanted to force them or pass them. Such fortification works were built on the territory of Romania at Turnu Măgurele, Turnu Roșu, Turnu Cozia etc .;

g) *the fortified castles of the feudals* – they were made of brick and stone masonry, with defence towers and ditches filled with water to ensure resistance in the event of prolonged siege. Hunyadi Castle is the most powerful fortification work of its kind on the Romanian territory;

h) fortifications with bastions – they were made of brick and stone walls in the fifteenth century in response to the increasing destructive performance of firearms. Even if the works were at first built in a discovered system, afterwards, after the emergence of the rifled pipe cannon (1852), they were built in a covered system, thus facilitating the conditions for the arrangement of the partially sheltered artillery and its use in order to destroy the opponent's means of siege. In this category, the strongest were the bastions with casemates and the casemates covered by sliding metal domes made by the French General Soxa.

The bastion defense system was developed by various trends and schools, including: in France – the Metz School, represented by Generals Vandeu and Montlambat; in Germany – Albert Dürer and Rimplac; in Italy – Leonardo Da Vinci; in Belgium – General Brialmont.

i) fortresses with detached forts – they were built as a result of the increase in the striking means and, besides forts, they had batteries connected to each other, as well as to the centre of the fortress by roads. The Plevna Fortress was such a fortification, opposing the best resistance to the Romanian artillery battles during Romania's War of Independence, 1877-1878;

j) linearly arranged fortification systems – they were the result of the increasing number of forces participating in the conflict, the increasing fire power of the attack means and the improvement of the manoeuvring procedures. Among these, the following lines were the strongest: Maginot (France); Metaxa (Greece); Focşani-Nămoloasa-Galați (Romania); Seigfried (Germany); Mannerheim (Finland) etc.

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The timeline evolution of fortification works

As far as time is concerned, the development of fortification works consists of the following phases:

a) fortifications for the protection against melee weapons – includes the period of time between the most rudimentary fortification works to the appearance of firearms in 1346;

b) fortifications for fire protection – includes the timeframe from the appearance of firearms to the construction of large calibre weapons. This phase consists of: the phase of the barrel (unrifled) weapon; the phase of explosives and large calibre cannons; the phase of the fast-firing combat means. One of the most important fortifications built during this period is the Fortress of București, which was designed by Belgian General Brialmont and built between 1884 and 1886. A significant contribution to the construction of this fortress was made by the 1st Engineer Regiment, commanded by Colonel Berindei. Unfortunately, the fortification works fell into disuse;

Fortress of București was designed by Belgian General Brialmont and built between 1884 and 1886. A significant contribution to the construction of this fortress was made by the 1st Engineer Regiment, commanded by Colonel Berindei.

c) fortifications for protection against large calibre firearms, aviation bombs and chemical weapons – they began with the emergence of large calibre weapons and rapid-fire combat means and ended before 6 August 1945 when the nuclear weapon was employed, for the first time in the historical evolution of mankind. In Romania, the most

important work in this respect was the Focșani-Nămoloasa-Galați Front, designed by the Major Engineer Shumann, in order to close the field between the Danube River and the Carpathian Mountains, about 100 km. Unfortunately, this front fell into disuse.

Fortification works received great attention among military strategists during the First World War. This was demonstrated by the fact that in 1917, with the support of the French Military Mission, in February-July, in Huși, there was a School for fortification training, with a training duration of 3-7 days. Over 1,000 cadres trained here, many of whom distinguished themselves in the Battle of Mărășești. This school was run by French Major Levecone and Romanian Major Gheorghe Cristea. At the same time, the trust in the fortification works was also supported by the fact that, before the beginning of the Second World War, the works of the Focșani-Nămoloasa-Galați Front were reinforced and completed in a new conception, and new permanent fortification works in the western and southeast areas of Romania were made.

Trust in the fortification works was also supported by the fact that, before the beginning of the Second World War, the works of the Focșani-Nămoloasa-Galați

d) *fortifications for protection against classic high-calibre weapons and generalised destruction (nuclear, chemical, biological) weapons* – it began on 6 August 1945, when the first nuclear blast exploded over Hiroshima, and lasted until around 1970. At this stage, the nuclear weapon and conventional means of destruction were improved. A few examples from this phase are the permanent fortifications built by Austria, Italy, Greece, Turkey, Switzerland etc.;

e) fortifications for protection against weapons of mass destruction, intelligent and quasi-nuclear weapons, means of electronic, space, imagistic and information warfare – it began in the wake of the Arab-Israeli War (1973); continues to be marked by the impact of the scientific and technical revolution on the military domain.

Fortification works in NATO member states

In 1957-1960, Austria[3] built Gaisberg and Ungerberg fortified districts to ban directions on the border with Hungary. Between 1963 and 1968 it built another 14 fortified districts.

Currently, the Austrian permanent fortification works system comprises more than 27 fortified districts, grouped along the Danube Valley and Alpine Valley, where 124 permanent fortifications

[3] ***, *Documentarul Statului Major General privind fortificațiile permanente*, p. 19.

were built, with 101 cannons and 68 machine guns, 3.5 km of barbed wire barriers, 1.85 km concrete antitank blocks, 0.65 km antitank wall, 1.85 km firing and communication ditches, 0.22 km of dams etc.

Since 1950, Italy has drawn up a measure plan for fortification works on the border with Austria and Yugoslavia[4], on the basis of which, at the Italian-Austrian border, between the Tarvisio and Resia crossings, a fortified sector was developed, with a length of 380 km and a depth of 80-100 km, and at the Italian-Yugoslavian border, another fortified sector was built between Tarvisio and Trieste, with a frontal development of 170 km and a depth of 160-180 km.

On the Italian-French border, during the two world wars, 977 permanent fortifications were built, to which no attention is paid nowadays due to the very good relations between the two countries. However, the Italians maintain 348 works of fortification.

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The North Atlantic Treaty Organization, convinced of the importance of fortification works under the general protection system, supported Greece, after its accession, in 1952, to restore, modernise and maintain the fortifications built between the two world wars, as well as for new works. Currently, the permanent fortifications in Greece are grouped under the Metaxa, Struma and Vermion-Katerini alignments[5].

The Metaxa fortified alignment was made at a distance of 0.5-30 km from the border with Bulgaria, with a frontal development of 300 km and an average depth of 2-4 km and comprises 38 support points, provided with concrete or prefabricated casemates. Although the works in this alignment are particularly strong, the Greek military specialists consider that they are unable to deter an attack carried out with nuclear weapons.

The Struma fortified alignment was built on the heights of Krusa and Bogdanski in order to defend the access routes to the centre of the country. The fortification works of this alignment were made of reinforced concrete and, as a result, it is appreciated that they are able to offer protection to the personnel and the fighting technique, even in the conditions of the use of weapons of mass destruction.

The Vermion-Katerini fortified alignment includes fortifications with a pronounced discontinuity character, which are designed to block the main access routes to Western Macedonia and Central Greece.

[4] *Ibid*, pp. 22-24.
[5] *Ibid*, pp. 25-28,

Turkey, which ensures NATO's forward left flank, built a vast system of fortification works to defend the Turkish Thrace and the Bosporus and Dardanelles Straits. This system comprises the following alignments and fortified districts: (1) the Cearmak alignment, at the border with Bulgaria and Greece, with a depth of 8-12 km; (2) the Ataturk alignment, with a depth of 5-12 km, considered as an alignment meant to stop the attack of an enemy that would advance in the direction of Edirne-Istanbul and it would be the starting point for the counterstrike of the army corps; (3) the Ceataldja district, designed to ban access routes from the west to Istanbul, has a frontal development of 50 km and a depth of 55 km, consisting of an assurance strip and two defence strips (the first defence strip is 10 km long, it includes anti-tank trenches and concrete casemates for anti-tank guns and machine guns, organised on 5-6 casemates support points/km of front, and the second strip has a variable depth and comprises about 100 concrete casemates); (4) Kilios district is 5 to 6 km deep, it consists of three positions placed on the Black Sea coast to prohibit entry into the Bosporus Strait; (5) the Bosporus district is 5 to 6 km deep and is situated on both sides of the Strait; (6) the Gelibolu district, consisting of reinforced concrete casemates with a thickness of 0.4-0.5 m; (7) the Dardanele district has a depth of 2-3 km and is placed on both sides of the Dardanelles Strait[6].

The conventional means of destruction have improved so much that their effects have reached the threshold of interference with the effects of nuclear destruction means. At the same time, intelligent munitions with self-guidance on the target on the last part of the trajectory appeared. During this period, electricity became a laser destruction weapon, and nuclear munitions became able to achieve selective, gigantic or miniature, effects.

Modern fortification works

The conventional means of destruction have improved so much that their effects have reached the threshold of interference with the effects of nuclear destruction means. At the same time, intelligent munitions with self-guidance on the target on the last part of the trajectory appeared. During this period, electricity became a laser destruction weapon, and nuclear munitions became able to achieve selective, gigantic or miniature, effects. In this context, outer space was armed and, as a result, ground small size targets could be discovered and hit, from artificial satellites and spacecraft.

Electronics developed in such a way as to increase the target precision of different vectors and provided the robotisation and automation of the command and guidance of military technical systems. Moreover, chemical, biological and incendiary weapons increased their destructive features so that protection against them became almost unrealistic.

The most powerful (strong) fortification works of this period were executed at the Bar-Lev fortification alignment, made by the Israeli forces along the eastern bank of the Suez Canal, during the Arab-Israeli War and comprising two lines of strong defence[7].

The first line of defence started right from the canal, was located in a 10-30 m high sand wall and comprised observation points, locations for heavy machine guns, anti-landing obstacles etc. The second line of defence was made behind the first line, at approximately 1 km, being considered particularly strong because it had reinforced concrete casemates in which artillery pieces were located in order to protect the canal and the surface of its western bank.

Strong casemates were built in the main directions of the enemy's penetration inside Sinai, which, as the Israeli commander considered, were able to prevent the penetration of the most equipped and trained forces. These works were grouped into platoon and company support points, the intervals between them being covered with anti-tank mine fields, non-explosive anti-tank and anti-personnel obstacles and cannons of different sizes and isolated, well-placed and masked tanks. All the casemates were equipped with modern day and night observation means, and between the two lines of defence a dense network of communication ways was set up. Along the eastern bank of the canal, underground deposits of flammable substances were arranged, which, spilled in water and ignited, could prevent the passage of the opponent's vehicles. In order to conquer this fortified alignment, the Arabs recorded very large human and armoured technique losses.

Based on the experience gathered during the construction and conduct of combat actions in this alignment, the Israelis build another fortification alignment on Mount Golan, a particularly strong one, that could not be conquered by the Arab forces, despite all their efforts. This fortified alignment consisted of a 6 m wide and 3 m deep antitank ditch. On the side of the antitank ditch facing their own forces, the Israelis raised a bank of 4 m high rock debris in front of which they planted antitank mine fields, and built 40-50 reinforced concrete support points behind it.

[6] *Ibid*, p. 42.

[7] Colonel ing. Josan Miron, *op. cit.*, p. 10.

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A large fortification work, specific to this period, was the fortified alignment in the Kuwaiti Desert, built by Iraqis in the conflict in the Persian Gulf[8]. This alignment was 260 km long and contained 3-4 m high sand ramparts, built to expose the turrets and tracks of the opponent's tanks so they would be hit by anti-tank weapons. A ditch with a width of 3-7 m and a depth of 4 m was built behind the ramparts, on the bottom of which oil barrels were placed which, after ignition, would turn it into a continuous barrier of fire. 500-1,000 m deep antitank minefields, bounded by a barbed wire grid, as well as machine-gun and portable anti-tank missiles nests were placed over the ditch. At a certain distance from the machine guns, T.54 and T.55 tanks, artillery batteries of various types, classical or reactive ones, and anti-aircraft defence means were placed.

Hungary, Turkey, Greece, etc., continue to pay attention to general protection in crisis and war situations where the fortification works occupy an important place. It is true that these states no longer invest in the construction of new complex fortification works, but instead have concerns about maintaining those previously built in operation so that they can be used when needed.

This genuine *"Maginot Line"* had to withstand the fires of the most advanced fighting means of the *Multinational Force* and make the war in the desert even more bloody than expected, but this did not happen because of the mistakes made by the Iraqi Army leadership, which placed large units and reserve units to fight within them, instead of setting up Republican Guards structures.

From the examples above, one can conclude that NATO member states, such as Austria, Hungary, Turkey, Greece, etc., continue to pay attention to general protection in crisis and war situations where the fortification works occupy an important place. It is true that these states no longer invest in the construction of new complex fortification works, but instead have concerns about maintaining those previously built in operation so that they can be used when needed.

The situation of fortification works in Romania and their role in case of aggression

Unfortunately, although the Romanian state was preoccupied with building complex fortification works, they are now left in disarray. The following defence alignments with permanent fortification works, built on national territory over time, and which, if necessary, can be activated based on great efforts, because, each year, they are more and more degraded and are not properly maintained, are the most important ones: (1) SĂCUIENI, VEST ORADEA, LEȘ alignment;

[8] ***, *Documentarul Statului Major General privind fortificațiile realizate în războiul din Golful Persic*, p. 20.

(2) FOCȘANI, NĂMOLOASA, GALAȚI fortified alignment; (3) the Black Sea coast alignment; (4) the system of permanent fortifications on the south-western border of the country was built between 1948 and 1953 between NĂDLAC, BAZIAȘ, TURNU SEVERIN, CETATE.

After a brief analysis of the state of these permanent fortification works, the following conclusions can be drawn:

a) FOCȘANI, NĂMOLOASA, GALAȚI fortification alignment, as it is today, cannot represent a defence alignment organised within a system of modern fortification works. However, I appreciate that, in the national defence, one can count on some of the works that have not been completely destroyed, which can be used as shelters for light weapons after some arrangements are made;

b) The alignment between the Mureș River and Baziaș, as well as the one in Oltenia are generally well-preserved and, from the point of view of concrete strength, it increases with the passage of time due to the fact that the waterproofing and crystallisation of the concrete mixtures are achieved very slowly. During the conduct of national defence operations, the alignment could amplify protection measures;

Focșanl, Nămoloasa, Galați fortification alignment, as it is today, cannot represent a defence alignment organised within a system of modern fortification works.

c) many works in the above-mentioned alignments are damaged due to the lack of maintenance and to the physical action of weather agents and no longer correspond strategically, operationally or tactically, since the districts and areas in which they are located have undergone topo-geodesic changes. Thus, districts and complex areas of irrigation works, as well as districts and drainage areas have been built, which comprise a vast system of dams and canals, hydro-technical dams and reservoirs with a much higher water level than the one when they calculated elements of those specific works;

d) The casemates within the above-mentioned alignments can be equipped with classic weaponry with high destructive performance;

e) Currently, the littoral alignment, especially in the area of COSTINEȘTI, AGIGEA, NĂVODARI, CORBU, has damaged, collapsed in water casemates, with positions changed due to the erosive action of the waves or blocked due to the building of hotels.

In order to determine the extent to which works in the current alignment of fortification works are beneficial from the point of view of strategic, operational or tactical needs, I believe that we should take into account the following considerations:

a) the country borders rest on strong natural obstacles, such as the Danube, the Black Sea, the Prut River;

b) the most likely aggression that might arise on the national territory would be from NORTH-EAST or EAST;

c) reducing the dangers of the attack of the opponent from the WEST and maintaining the possibility of the attack coming from the SOUTH-EAST or SOUTH.

The NORTH-EAST actions of the adversary, especially in the corridor between the Oriental Carpathians and the Prut River, are meant to open the crossings in these mountains and make the junction with the forces operating from the south through the Focşani Gate.

The South opponent actions could pose particular problems as a result of the Capital's location, namely at a short distance from the border. The most sensitive direction in this respect, I believe, is the direction of Giurgiu, București, whereby the opponent would pursue the surrounding and conquest of the Capital, as well as the development of the offensive on the Prahova Valley.

To close this direction, I believe that, at least in the context of national defence operations, the activation of the FOCŞANI-NĂMOLOASA-GALAȚI alignment would, to a certain extent, respond to the purpose of the defence at the operational level.

A much shorter direction leading to BUCUREŞTI from the east would start from the seaside, but the actions of the opponent maritime lading troops could be hindered as a result of activating the fortified districts of MANGALIA, COSTINEȘTI, CONSTANȚA PORT, MIDIA CAP etc.

The SOUTH opponent actions could pose particular problems as a result of the Capital's location, namely at a short distance from the border. The most sensitive direction in this respect, I believe, is the direction of Giurgiu, București, whereby the opponent would pursue the surrounding and conquest of the Capital, as well as the development of the offensive on the Prahova Valley. In order to hamper the actions of the opponent who attacks from this direction, but also in the other directions from the south, alongside the Danube River, an extremely important role could be played by the hydroelectric system, especially if in the DANUBE MEADOW and north of it there are not placed defence alignments with fortification works in the preparation of the territory for defence, in order to be activated when needed. Actually, in my opinion, this is the great lack of the concept of preparing the territory for defence, as there was not at least one alignment of permanent fortification works on the northern bank of the Danube River or deeper (except for the TURNU SEVERIN-CALAFAT segment) which, together with the active forts belt, will ensure the stop of the opponent's ground actions on the Capital, at least within the operations under the national defense.

If the TURNU SEVERIN-CALAFAT fortified alignment segment would be activated, it could be a powerful obstacle capable of hindering

the land actions of a tactical or mostly operational enemy, on this direction or to secure the right flank of the big unit operatives that provides defence.

The enemy's land actions from the west could take place through the SOMEȘ GATE and MUREȘ GATE.

SOMEȘ GATE includes four important communication ways through which the opponent could enter the SOMEȘ, CRASNA, BARCĂU and CRIȘ REPEDE valleys.

To block this direction, an important role could play, in my opinion, the elements of the hydro-improvement works system and the anti-tank ditch carried out during the Second World War, provided these elements are activated.

THE MUREȘ GATE comprises the communication ways on CRIȘUL NEGRU, CRIȘUL ALB, BEGA and BISTRA river valleys, which could provide the opponent with the possibility of entering the TRANSILVANIA PLATEAU.

The fortified alignment from BANAT, whose works could be activated when needed, along with the existing hydro-improvement works, could contribute to hindering the actions of the ground enemy to penetrate MUREȘ GATE.

If the TURNU SEVERIN-CALAFAT fortified alignment segment would be activated, it could be a powerful obstacle capable of hindering the land actions of a tactical or mostly operational enemy, on this direction or to secure the right flank of the big unit operatives that provides defence.

Conclusions

To conclude, it can be said that the Defence alignments with fortifications works carried out in the framework of the preparation of the national territory for defence, once activated, can contribute, to a certain extent:

a) to ensure minimum protection and action conditions for large units and units meant for NATO as well as those for national defence;

b) to successfully cover the state border on important directions and targets, with numerically reduced forces and means and ensuring the conditions in favour of carrying out the mobilisation of headquarters, big units and units of the forces for the national defence;

c) to deter the opponent's aggression from the state border or deeper;

d) to ensure the freedom of manoeuvre of deep forces and means for carrying out strong offensive retaliation;

e) to perform the defence operation on intermediate alignments;

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f) to limit the penetration of the opponent into the depth of the national territory;

g) to defend very important objectives;

h) to create the conditions of action of detachments or resistance groups operating in the territory temporarily occupied by the enemy;

i) to stop the enemy on a strong line in the field;

j) to create the conditions for forming the NATO force group, launching the offensive joint operation, breaking its defence, continuing the offensive joint operation in the depth of the enemy defence, destroying the enemy and restoring border defence.

The beginning of the 21st century is characterised by the great efforts of the powerful armed forces of the world, which can become enemies of NATO, in the direction of unprecedented improvement of the striking means and systems, as follows:

Defence alignments with fortifications works carried out in the framework of the preparation of the national territory for defence, once activated, can contribute, to a certain extent: to ensure minimum protection and action conditions for large units and units meant for NATO as well as those for national defence.

a) polyvalent robots, equipped with the most sophisticated means of destroying the sheltered and unsheltered personnel and combat technique;

b) improvement of the localisation and discovery system by radiolocation, television and thermal equipment of the smallest land, underground, underwater targets;

c) laser devices with very large energies to neutralise and destroy all categories of military technique;

d) sticky foam barriers that will prevent the aggressor combat equipment from moving to the fortifications;

e) design and achievement of electromagnetic energy artillery means capable of initial speeds of 6,000-8,000 m/s at a 60-80 km stroke, which can penetrate reinforced concrete targets with appreciable thicknesses;

f) supersonic delta-planes powered by reactive motors and equipped with 300-500 bombs arranged in 8-10 containers, which they can disperse with the utmost precision on surface or underground objectives.

These elements will lead to the planning and leading of a new type of armed conflict or war, "*in which the fight will be carried precisely, efficiently and selectively (applying surgical precision strikes), in order to destroy exactly what it is necessary on the enemy side, so that they could declare themselves politically and militarily defeated, in a minimum of time, with as small as possible losses*"[9].

[9] General de brigadă (r.) dr. Vasile Paul, *Conflictele secolului XXI. Proiecții în spațiul strategic*, Editura Militară, Bucureşti, 1999, p. 81.

Whether it is the war of the future or the hybrid war, I believe that protection is needed, including by fortification works, as long as the bullet, shrapnel etc. cripple or kill the most valuable resource of the armed forces – the human resource.

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THE REVIVAL OF THE AERONAUTICS MILITARY INDUSTRY AT THE TIME OF THE COMMUNIST STATE. WHEN, HOW AND WHY WAS THE DECISION MADE?

Sorin TURTURICĂ
Curator, the Romanian Aviation Museum

After Nicolae Ceaușescu became the head of the Romanian Communist State, a full-scale industrialisation programme was launched within the military sphere, programme that exceeded the settlements within the Council for Mutual Economic Assistance.

For the military aviation, the plans were very ambitious. The Romanians decided to equip their air regiments with jet, transport or training aircraft, as well as helicopters, all made exclusively within Romania. A surplus designed for export purposes was also planned for. In order to achieve this vast programme, it was intended to buy foreign licenses as well as to develop some original projects.

Keywords: military aviation, Soviet troops, Mirage, aeronautics industry, the USSR.

Introduction

Equipping the military aviation with domestically built aircraft was not a new idea in the first years of the Socialist Republic. In the interwar period, the governments in Bucharest had also the same objective. For this reason, the I.A.R. plants were erected in Brașov, which would build, for the next two decades, seven types of engines and 24 types of aircraft[1], and some smaller industrial plants, like S.E.T. and I.C.A.R., also received orders from the military.

In the years of the Second World War, the military aviation was equipped, to a great extent, with Romanian made aircraft. The best-known product of the interwar period aeronautics industry was, of course, the I.A.R. 80 fighter airplane, which, in the 1941 Campaign, fought very well in the skies of Bessarabia and Odessa. The reconnaissance aviation also received domestically made equipment; examples in this regard may be the I.A.R. 37/38/39 aircraft series, which were permanently in the front line, both on the Eastern and on the Western Front. It is also worth mentioning the Savoia-Marchetti 79B twin engine bomber, built under license in the plant in Brașov, after the Romanian engineers brought some modifications to the original design. The mentioned aircraft also took part in all the campaigns of the Romanian Armed Forces, both in the west and in the east.

In the years of the Second World War, the military aviation was equipped, to a great extent, with Romanian made aircraft. The best-known product of the interwar period aeronautics industry was, of course, the I.A.R. 80 fighter airplane, which, in the 1941 Campaign, fought very well in the skies of Bessarabia and Odessa.

However, we cannot say that the internal production assured all the necessities of the military aviation. When Romania entered the war, many squadrons were equipped with Polish, French, English or German made aircraft, a real nightmare for those who supplied munitions and spare parts.

After the losses suffered in the Battle of Stalingrad, the flotillas were reequipped, especially by use of German imports. Technically, the domestic aircraft production had already lagged behind. Still, the Romanian factories continued their activities, receiving an impulse when, in the spring of 1944, the Messerschmitt 109G license was acquired.

[1] Ion Dumitrașcu, *Industria Aeronautică Română Brașov (1925-1945)*, Editura Domino, 2008, p. 55.

Immediately after 1945, however, the aeronautics industry was in decline being on the verge of disappearing. In connection with this period, 1945-1947, two myths have spread and still resist. The first is that the Soviets took to the Soviet Union all the machinery that they found in I.A.R. Brașov, when, in fact, the factory was disturbed by its sections' dispersal to Caransebeș, Pitești and Mioveni, after the bombings from the spring of 1944. The second myth states that the Peace Treaty of Paris, 10 February 1947, forbade Romania to build military aircraft for 20 years, when, in reality, there was no such provision in the treaty. However, the treaty compelled the Romanian Armed Forces to reduce the strength; strictly for the military aviation, a maximum number of 150 airplanes was admitted, out of which only 100 were for combat duties[2].

The first Romanian airplane to enter series production was the I.A.R. 813, designed by Radu Manicatide's team within the Prototype Section of the Tractor Factory. The Armed Forces ordered 80 such aircraft for aviation schools and, in order for them to be produced, in 1950, next to the plant in Braşov, the U.R.M.V.3 unit (Flying Material Repair Plant No. 3) was established.

For a few years (1945-1949), Romania did not build any aircraft. The most important building plant, I.A.R. Brașov, was transformed into a tractor factory. It was a confused period, when the aviation engineers wondered if they would ever again get the opportunity to work in the field they were prepared for. Still, the aeronautics industry did not disappear completely and an important role for maintaining it – although, at a very low rate – was played by engineer Radu Manicatide, who can be considered without reserve as the most prolific aircraft designer and builder within the two decades of the People's Republic era. He was the first who insisted that in Brașov, where I.A.R. had already built tractors, aircraft should also be built. He initiated an admirable bureaucratic struggle and took great personal risks, as he could have been easily labelled as a dangerous *"reactionary"* to the new political regime, which did not encourage aeronautical constructions officially, considering them to be too costly, at the time when Romania had the payment of the war reparations debt among its main priorities.

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This airplane, as well as other projects that appeared in the next years, and which were executed in Bucharest or Reghin, were dependent

[2] Ministerul Afacerilor Străine (Foreign Affairs Ministry), *Tratat de Pace între România și Puterile Aliate și Asociate semnat la Paris la 10 februarie 1947 (Peace Treaty between Romania and the Allied and Associated Powers signed in Paris on 10 February 1947)*, București, 1947, p. 12.

on the engines that the Romanian state imported from the Czechoslovak Socialist Republic. Because Czechoslovakia was itself an ambitious builder and exporter of aircraft, it refused, on many occasions, to sell engines to the Romanians or exported them in small numbers and with great delivery delays. Thus, we may notice that the Czechoslovakian Communist state applied, when it came to the relations with the Romanian Communist state, the rules of capitalism, by blocking the engine's delivery, which meant, in fact, the elimination of a competitor from the market.

In conclusion, within the years of the Romanian People's Republic, the aircraft production did not disappear, but became peripheral, in comparison with the extent it received during the Royal period. The important decline can be explained by the fact that the Romanian Communist state was not interested in supporting aircraft production by a solid investment plan, in order to meet all the needs, considering that other sectors were the main priority. The achievements in this field came, more likely, from the personal initiative of some engineers, like Radu Manicatide and Vladimir Novițchi, the latter working in Reghin, who insisted that their projects should be accepted in the production plans, and only after they had faced, with positive partial results, the ministerial bureaucracy. Things would be totally different in the years of the Socialist Republic of Romania, when aircraft building would be considered as a priority and the political backing would be to match this, by providing great financial and material resources.

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The Political Context of the Romanian Aeronautics Industry Relaunch

The most important consequence of the way in which the Second World War ended for Romania was its transformation into a Moscow satellite, under the form of a Stalinist republic. The Communist system was imposed in a Soviet fashion: a single ruling party that was supported by an extremely harsh repressive apparatus in relation to the citizens, and that totally subordinated the economy, by planning and control.

In this early period of the Romanian communist state, Moscow influence manifested itself in the economic field by the existence of the SovRoms, mixed Soviet-Romanian companies through which a large part of Romanian resources went to the Soviet Union. Until Stalin's death, in March 1953, Gheorghiu-Dej, had a total subordination attitude towards the *"Great Friend in the East"*. After Nikita Khrushchev's

coming to power, the situation began to change and, between 1954 and 1956, the SovRoms were disbanded.

After the Soviet troops' withdrawal from the P.R.R, in the summer of 1958, Dej felt encouraged to manifest an even greater independence. Still, for another three years, Dej maintained a loyal attitude towards Khrushchev, backing the U.S.S.R. in the disputes with China and Albania.

The Cuban Missile Crisis of October 1962 and the aggravation of the disagreements between the Soviet Union and China (1962–1963) where factors which led to the cooling of the relations between Bucharest and Moscow. As a consequence, in October 1963, the Romanian Minister of Foreign Affairs, Corneliu Mănescu, informed Dean Rusk, the American Secretary of State, that, in case of an East-West conflict, the Romanian People's Republic would keep its neutrality. It was an astonishing statement, *"a real breach in the Warsaw Pact Organisation"*[3]. Still, the most important reason for the distancing from Moscow remains the launching of the Valev Plan, which was designed to turn Romania into a cereal provider for the Council for Mutual Economic Assistance states. As an answer to this, Romania opened itself towards the West, an initiative that was supported by the American President Johnson, interested in creating breaches in the Communist Bloc.

On 19 March 1965, Gheorghe Gheorghiu-Dej died. 47-year-old Nicolae Ceaușescu succeeded him to the helm of the sole government party. A few months later, within the 9th Congress, which was held between 19-24 July, Ceaușescu changed the name of the political structure into the Romanian Communist Party and, by the Constitution of 21 August 1965, the name of the country, into the Socialist Republic of Romania.

In the 15-22 April 1964 Plenary of the Central Committee of Romanian Workers' Party, it was made a declaration through which the opposition towards the Soviet economic plans became official policy[4]. With this, the road of separation between the Socialist Republic of Romania and its Warsaw Pact allies began. The cards that the Romanian leaders placed their bets on for the following 25 years were the West and the Asian Communist countries, especially China.

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[3] Vojtech Mastny, Malcolm Byrne, *A Cardboard Castle? An Inside History of the Warsaw Pact, 1955-1991*, Budapest, Central European University Press, 2005, p. 25.

[4] Aurel Pentelescu, *Timp revolut. Explorări în istoria recentă*, Editura Editgrap, Buzău, pp. 83-84.

of the new leader to affirm himself with greater force inside and outside the country.

As it was expected, Ceauşescu continued Gheorghiu-Dej's policy of distancing from the Soviet Union and approaching to the Western policy, from the latter hoping to obtain cutting-edge industrial technology. As a first important step towards it, he pursued to establish diplomatic relations with the Federal Republic of Germany, without consulting the Warsaw Pact allies. On 31 January 1967, an agreement to establish diplomatic relations between Romania and Germany at embassy level was reached[5].

During that same year, a new crisis emerged in the Middle East: the Six-Day War, started by the attack of Israel on its neighbours on 5 June 1967. Moscow qualified the gesture as an aggression of the Jewish state and demanded its immediate cease and desist. All the Warsaw Pact states rallied to it, as well as Yugoslavia, but not Romania. On 9 June 1967, the communist states signed a Common Declaration where it was stated that the whole blame for starting the conflict was attributed to Israel alone. Given the fact that the Romanian delegation refused to sign the declaration, a tense situation was created, not just with allied communist states, but also with some Muslim countries, thus Iraq and Egypt withdrew their ambassadors, and Syria and Sudan broke off relations with Romania[6].

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The climax of the tensions in the relations with the Soviet Union was reached in August 1968, with the invasion of Czechoslovakia by the Warsaw Pact troops. In response to the aggression, Nicolae Ceaușescu held a public speech in the Central Committee building's balcony, condemning in rough terms what had just happened: *"The five Socialist countries' entering into Czechoslovakia constitutes a large mistake for peace in Europe, for the faith of Socialism in the world. It is unconceivable in today's world, when people rise to battle to protect their national independence, for equality of rights, that a Socialist state, that Socialist states violate the freedom and independence of another state. There is no justification, there is no reason that can be admitted, even for a moment, for the idea of military intervention in the business of a brotherly Socialist state. […] We have decided that, starting today,*

[5] For the matter regarding the establisment of diplomatic relatios between the Socialist Republic of Romania and the Federal Republic of Germany and the attitude of the Soviet Union and other communist states on this matter see Vasile Buga, *Sub lupa Moscovei. Politica externă a României 1965-1989*, Institutul Național pentru Studiul Totalitarismului, București, 2015, pp. 11-38.

[6] *Ibidem*, p. 41.

we begin constituting the Armed Patriotic Guards, made up of workers, peasants and intellectuals, defenders of our Socialist Motherland. […] It has been said that in Czechoslovakia there is the danger of counterrevolution. Perhaps tomorrow there will be some that find even here, in this assembly, there are counterrevolutionary tendencies. We answer to all: the whole of the Romanian people will not permit anyone to overrun the territory of our Motherland! […] Look, here is our entire Central Committee, State Council, Government. We are all determined to serve the people with faith in building Socialism, in defending the revolutionary conquests, its independence!"[7]. Surely, those were the words of a man who was afraid that the *"brotherly armies"* next target would be Romania warning that *"the people will fight"*. More than that, having the members of the C.C., the State Council and the Government, on his side, he was sending the message that, internally, he had no opposition, which, when it existed, was very well exploited by Moscow.

Nicolae Ceaușescu was convinced that, in August 1968, the Warsaw Pact troops, especially the Soviet ones, were preparing to enter into Romania. For several weeks the Romanian Armed Forces were in a state of alert, but without starting a general mobilisation, under the latter aspect, the situation being similar to that of December 1989.

Nicolae Ceaușescu was convinced that, in August 1968, the Warsaw Pact troops, especially the Soviet ones, were preparing to enter into Romania. For several weeks the Romanian Armed Forces were in a state of alert, but without starting a general mobilisation, under the latter aspect, the situation being similar to that of December 1989. Personally, I subscribe to the idea that Brezhnev, the new Soviet leader, was more interested in intervening where there were real chances of dissolution of the Communist system, even leading towards collapse, and in the Socialist Republic of Romania this was far from happening.

The events of August 1968, as they unfolded in Bucharest, were seen by Ceaușescu as proof of a national level solidarity with the party leadership. This fact gave him courage to continue his Western approach policy, with whose help he hoped to industrially develop the country. This was given to the fact that, for more than a year, the decision to lay the foundations of a national industry which would produce most of the goods that were, at the time, imported by Romania, was taken.

The Decision to Extend Production Capacities. When, How and Why Was It Taken?

By studying the documents issued by the Central Committee of the Communist Party Chancellery, we can notice that the aeronautics industry enjoyed its revival, immediately after 1965, firstly because of its military value. That is why the particular industrial sector

[7] *Principiile de bază ale politicii externe a României*, Editura Politică, București, 1968, pp. 11-13.

was a component of a larger project intended to build a technical-industrial complex, which was formed by research centres and production plants that would provide the Romanian Armed Forces with most of its supply and equipment.

Officially, the decision was taken in the Central Committee of the Party Plenary of 22-25 April 1968. Surely, this plenary is better known for the rehabilitation of some former communists like Ștefan Foriș and Lucrețiu Pătrășcanu.

The mentioned plenary is at least with the same degree of importance for its economic consequences. To this, however, the documents of the time are vague. Point no. 4 on the meeting agenda stated that: "*In regard to battle and political preparation of the Armed Forces of the Socialist Republic of Romania and their equipping with arms and military equipment*"[8]. But, on this subject, the brochure published by Editura Politică after the end of the plenary did not present any decision of the Central Committee of the Party, although a decision detailing the principles and the programme of the build-up of the technical-industrial complex did exist. However, the brochure did not ignore the subject totally, but gave it a page in the introduction, in the common language of the era:

"Continuing, at Point no. 4 of the agenda, the Plenary listened the report of the Armed Forces Minister, Comrade Colonel-General Ion Ioniță, regarding battle and political preparation of the Armed Forces of the Socialist Republic of Romania and their equipping with armament and military assets. (…)

In parallel with the preoccupation to ensure modern fighting equipment from imports, ***the Plenary established the necessary measures in regard to intensifying production of arms and military equipment [****our emphasis****],* *in order to meet the Armed Forces needs in the best of conditions. Consistent with its policy that, as long as the military aggressive pact N.A.T.O. is maintained, the Warsaw Pact is necessary, Romania, as a Socialist state, its Armed Forces, will contribute, together with the other armies taking part in this pact, as well as all Socialist countries, to the defence of the cause and international security"*[9].

Even if the brochure did not specifically refer to the creation of aeronautical plants, later documents revealed that exactly this aspect

[8] *Plenara Comitetului Central al Partidului Comunist Român din 22-25 aprilie 1968*, Editura Politică, București 1968, p.3.

[9] *Ibidem*, pp. 8-9.

was provided for. Thus, on 1 June 1978, Colonel-General Ion Coman, then Minister of National Defence, forwarded to Nicolae Ceaușescu a written report referring to the accomplishments within the ten years that had passed *"since the Plenary of the Central Committee of the Party in April 1968 established* ***proper measures for the organisation and development of our own military industry"*** [*our emphasis*]; among the achievements, military airplanes are mentioned[10].

On 1 June 1978, Colonel-General Ion Coman, then Minister of National Defence, forwarded to Nicolae Ceaușescu a written report referring to the accomplishments within the ten years that had passed "since the Plenary of the Central Committee of the Party in April 1968 established proper measures of organisation and development of our own military industry" [our emphasis]; among the achievements, military airplanes are mentioned.

Another important piece of information presented in Coman's report was that, at the time of April 1968, 45% of the necessary equipment for the military was ensured by Romanian industry. In 1978, provided that the equipment needs grew 3.5 times, the percentage ensured by the Romanian industry grew to 70%. Surely, aircraft construction, given the costs and the technological complexity required by that field, was still in the beginning, the report mentioning even some lags. On the other hand, the Romanian industry ensured 97% of the infantry arms and munitions needs, 91% of necessary armour and auto equipment and 89% of the radio equipment [11].

Some more details about the moment April 1968 and its consequences can be found in *Armata Republicii Socialiste România. Sinteză social-politică și militară (The Army of the Socialist Republic of Romania. Social-political and Military Synthesis)*, printed also in 1978, at Editura Politică. Being released by the Centre for Studies and Research of Military History, the book can be regarded as expressing an official point of view. In the chapter dedicated to the development of national industry, one can read: *"A special role in the development and modernisation of the defence industry was held by the Decision of the Plenary of the Central Committee of the Romanian Communist Party from April 1968, which established an array of measures in regard to the intensification of the domestic arms and equipment production, to meet the needs of the military in the best of conditions. Based on the plenary's decision* ***a unitary defence industry development programme was developed*** *[our emphasis], in order to assimilate new and improved products, to promote domestic scientific research and development, so that imports can be done for those items whose manufacture is not justifiable from an economic point of view or it cannot be achieved at a satisfactory level. (…)*

[10] National Central Historical Archives, *C.C. al P.C.R*. Collection, Parte structurală *Administrativ-Politică*, File no. 9/1978, p.12.
[11] *Ibidem*, pp.12-13.

The development of the Socialist Romania's defence industry has been conceived so that it will be able to ensure primarily the supply with classical equipment which is necessary in large quantities. To this extent, in a first stage (1966-1970), the infantry arms production (automated pistols, machine guns and antitank grenade launchers), infantry and artillery munitions as well as other more complex equipment industry was developed. In the same time, the military started to be equipped with domestically made means of transport (cars and lorries) specialised for military purposes.

Research and development institutes have been created and a number of military and civilian specialists have been employed in the conceiving and production sectors of the battle means. Thus, the premises of passing, within 1971-1975, to a new age (…) on the line of amplifying the contribution of domestic industry to equipping the Armed Forces. (…)

Good results have been obtained in the production of assault and training aircraft, we are referring here to the production of the jet twin engine I.A.R. 93 airplane and the I.A.R. 823 airplane. Helicopter production is also being developed and diversified, referring here to I.A.R. 316 B and I.A.R. 330. Our industry is able to deliver light assault helicopters, to which reactive projectiles, infantry armament and antitank missiles can be adapted"[12].

A key moment might seem the year 1965, when, following the discussions regarding the specialisation of military equipment production for the 1966-1970 period in the Council for Mutual Economic Assistance (CMEA), the Romanians noticed that the lion's share was given to Poland and Czechoslovakia, those being the only ones that were to produce aircraft, missiles and armoured vehicles, the U.S.S.R. developing its own arming programmes, separated from the rest of the Communist states.

Once identified the moment when it was officially decided to relaunch a large aeronautics industry, we must determine the motivation, the context and the preliminary steps, before April 1968, which led to its development. A key moment might seem the year 1965, when, following the discussions regarding the specialisation of military equipment production for the 1966-1970 period in the Council for Mutual Economic Assistance (CMEA), the Romanians noticed that the lion's share was given to Poland and Czechoslovakia, those being the only ones that were to produce aircraft, missiles and armoured vehicles, the U.S.S.R. developing its own arming programmes, separated from the rest of the Communist states. Romania was given the following: R.P.G.-7 antitank grenade launchers and their ammunition, ammunition for S.P.G.-7, made only in Bulgaria, a few elements of signals technique, RADAR and engineers technology[13].

[12] *** - *Armata Republicii Socialiste România. Sinteză social-politică și militară*, (coord. Colonel Traian Grozea), București, Editura Militară, 1978, pp.82-83.
[13] National Central Historical Archives, *C.C. al P.C.R*. Collection, Parte structurală *Administrativ-Politică*, File no. 1/1966, pp. 130-134.

It is worth mentioning that neither Hungary nor the G.D.R. was in a better position than Romania or Bulgaria, which makes us see that the states that did not have hostile attitude towards the U.S.S.R. during the Second World War, being erased from the political map of Europe, were favoured. In any case, for Romania, the situation was not a satisfactory one, being seen as a continuation of the lines drew by the Valev Plan. Discontent became evident during the Plenary of the Central Committee of the Party on 26-27 July 1967, by the voice of the Armed Forces Minister Colonel General Ion Ioniță. When given the time to speak, he began by remembering a meeting, recent at the moment, of Nicolae Ceaușescu with leading Armed Forces personnel. On this occasion, during discussions related to troops' drilling, the General Secretary of the Party stated that *"it is needed to make even greater efforts for the Armed Forces equipping with the necessary fighting means, although these impose great tasks on our national economy"*[14]. What did, in fact, those efforts, mean exactly? Ioniță defined them like so: *"the problem of the production of new types of military equipment would be approached in a new manner, besides perfecting of the armament produced in the country at present"*[15].

The motivation for relaunching the national defence industry, the aeronautics one included, is a triple one. Firstly, the expenses for the import obtained material were far too great and what was found on the market was not of the best quality. The Armed Forces had many mishaps, training with second rate equipment. Secondly, in the event of conflict, the supply of equipment and munitions for the refurbishment of stocks was questionable.

The motivation for relaunching the national defence industry, the aeronautics one included, is a triple one. Firstly, the expenses for the import obtained material were far too great and what was found on the market was not of the best quality. The Armed Forces had many mishaps, training with second rate equipment. Secondly, in the event of conflict, the supply of equipment and munitions for the refurbishment of stocks was questionable. Romania, as it had happened before in the past two world wars, in the first half of the 20th century, would have been at the mercy of the suppliers, which would not be willing to export unless they had already fulfilled their own needs first. Finally, the third idea that was at the base of building a national technical-industrial complex was that Romania could also become an exporter of arms and military equipment. More to the point, Ioniță placed the question in the following terms:

"We must admit that in the field of military equipment import we have encountered few problems, expressed in the fact that ***we are offered on many occasions outdated types and we are not delivered the quantities that we need and in the required terms*** *[our emphasis]****.*** *Also, the dynamic image of the military contemporary field imposes*

[14] *Idem*, Parte structurală *Secția Cancelarie*, File no. 99/1967, p. 47.
[15] *Ibidem*.

several conclusions. With all our firm desire for peace, the evident aggressiveness of Imperialism demands that our people should have its military instrument perfectly prepared. But the excessive dependence on military equipment imports constitutes a shortcoming, a serious one in our opinion, for the country's defence capacity. Among other lessons learned, the recent events in the Middle East are also revealing from this point of view [reference is made to the conflict between Israel and the neighbouring Arab states, known as the Six Day War – A.N.].

I consider that in the current and immediately next stage of development of our industry all the conditions are created to gradually pass to the study of the possibilities of producing certain categories of military equipment and armaments, such as: antiaircraft missiles, surface to surface tactical missiles, antitank missiles, canons, which today we buy, ***even airplanes could be produced*** *[our emphasis] and several other categories of military equipment that today we are fully importing.*

We have developed this sector, for example, that of ship building, but we buy today very simple ships, of a simple construction, we buy them from import, not to say, comrades, that it is at least a laughing matter, for example, this coat I am wearing is bought from the West in foreign currency; it is brought from Italy, from France. (…)

In this line I would like to report that our necessities are, usually, much greater, even in peace time, than what we are importing. Furthermore, creating in the country lines and machinery for the production of military equipment, we could make larger series that could also ensure the mobilisation stocks that on many occasions are more or less covered by imports. Moreover, we can foresee the perspective of offering a part of the military equipment categories to be exported, too. There are situations when the production of new types of military equipment is delayed too much, which causes their moral attrition by the time they enter series production.

For example, this radio transistor receiver, for which production specialisation in our country was required, takes over three years to implement and not even to the present day has it been achieved, in the required parameters. Also, although the necessary preparations have been done and the prototype for the amphibious armoured troop carrier has been made in our country, its production has been halted, and it could not be obtained from imports, fact for which our armed forces do not have this proper means of battle presently. I report to the Plenary of the Central Committee that we are the only Armed Forces in Europe that still rely on cars, on lorries that do not have any protection,

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under no circumstance, for our troops. [Our troops] are under the protection of the board that forms the drop side of the vehicle. (…)

Solving the complex tasks regarding perfecting equipment supply and raising our Armed forces fighting capacity imposes a proper review of the scientific research front as well.

It is no secret to anyone that in the socialist countries, as well as in the developed capitalist countries, several scientists, of whom some are globally renowned, are exclusively involved in military research, creating new types of arms and fighting equipment, compared to modern warfare demands. Of course, comrades, we should approach these tasks according to our possibilities, in order not to bother the harmonious development of general technique and economy, but it is no less true that in front of the interests of the country's defence, we are far left behind under the aspect of scientific research for military purposes.

In order to reduce this gap, it would be necessary that the National Council for Scientific Research, together with the Armed Forces Ministry and the other ministries, should develop a measure plan to foresee the production of perfected armaments and fighting equipment, so that ***we can have our own military equipment industry able to meet the needs both in peace and in war time*** *[our emphasis]"*[16].

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Ion Ioniță was a respected, even feared, figure in the era. Before becoming minister, he had earned a tyrant's notoriety, removing old soldiers from the People's Armed Forces, war veterans, but also young officers or even military school students. Coming from a workers' background, he put on the military uniform after the settling of Communism and he began his career working as a political officer, reaching the rank of Major General in 1955 at 31 years of age. Among important command posts, he held that of commander of the Air Force (the official name for this structure being the Command of the Antiaircraft Defence of the Territory), between 1960-1963, and that of Deputy of the Armed Forces Minister, between 1963-1966. On 1 September 1966, a few days after the death of Minister Leontin Sălăjan, the ambitious Ioniță was named in this position. In the Plenary Meeting of the Central Committee from June 1967 he spoke directly and boldly. The countries that Romania depended on arms imports were the Soviet Union, The Polish People's Republic and the Czechoslovak Socialist Republic and, although they were not nominalised, everybody understood what he was referring to.

[16] *Ibidem*, pp. 48-52.

The lag in equipping was, probably, a consequence of Romania's partial isolation within the Communist bloc. For example, the G.D.R., Czechoslovakia, Poland and Hungary received the new MiG 19 or MiG 21 new types of airplanes before Romania. The Romanians were told that it happened because, in the event of a war with the West, the Central European countries were on the front line, while Romania was on a secondary front. It was a logical argument but there was also the impression that the dependency on Moscow, under the aspect of vital products, had become dangerous.

The discussion on who had the idea that Romania should change its military equipment policy on a radical scale remains open. For the moment, we know that the proposal was made by the Armed Forces Minister at the above-mentioned Plenary of 1967. But there are great chances that Ioniță would have been only the one who addressed the subject on an official level and that the real initiator would have actually been Nicolae Ceaușescu. In any case, analysing the minister's speech, we can see that the Romanian Communist leader was the one who mentioned, for the first time, the reorientation of the industrial policy, on the occasion of the meeting of *"the base active in the leadership of the Armed Forces Ministry"* between 30-31 May 1967.

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A few days later after this meeting, the Six Day War (5-10 June 1967) broke out in the Middle East. The Romanians noticed, not without surprise, the superiority of Western equipment, which the Israelis had, in contrast to the Soviet equipment of the Arab states. Especially the Mirage vs. MiG 21 confrontation proved to be disastrous for the latter.

Not only the political leadership, but also the military men followed the battles' unfolding with interest. General Aurel Niculescu (1924-2015), former Commander of the Aviation Officers' School in 1960-1970, and, after that, Commander of the Military Aviation in 1970-1977, commentated the 1967 conflict like this: *"We watched the events, studied them and they made us wonder. The decisive input of the aviation was easily spotted. From this point of view [as an aviator], I felt a certain pride: Aviation was speaking for itself! But, on the other hand, the Western airplanes that Israel was equipped with had proved superior to the ones made in the Soviet Union. It was an admiration for Western equipment. Especially for the Mirage [airplane]. Surely, the Soviet Arab airplanes were flown by Arab pilots, not Soviet,*

Commander of the Military Aviation in 1970-1977, commentated the 1967 conflict like this: "We watched the events, studied them and they made us wonder. The decisive input of the aviation was easily spotted. From this point of view [as an aviator], I felt a certain pride: Aviation was speaking for itself!

and most were caught on the ground. But, it was as if then in me the desire to fly an airplane from the West was sparked"[17].

Niculescu's observations were shared by other decision factors and military specialists as well. That is why, at the beginning of 1968, when a study regarding the building of an aircraft in the country was forwarded, the acquiring of the *Dassault Mirage III* fabrication license was proposed![18]

In fact, the study was part of a greater work, called *"Note on the preliminary studies regarding the foundation of the Romanian aeronautics industry"*, a document that can be considered the **birth certificate of the aeronautics industry of the Socialist Republic of Romania**. Thus, we had Minister Ion Ioniță's June 1967 Plenary proposals put into practice.

The document is opened by an explicatory preamble on the objectives and the working methods of those who wrote it: *"According to the received task, in the period between 23.06-10.09.1967, groups made up of specialists of the Ministry of Armed Forces, the Ministry of Machinery Building Industry and the Ministry of Automotive, Naval and Air Transportation have developed preliminary studies regarding the opportunity and the possibility to implement into construction airplanes, helicopters and engines, as well as studies regarding the pre-dimensioning of aircraft plants. The documentary sources that lie at the basis of the presented proposals in these studies have been: technical folders, press and scientific treaties, reference models, notes and technical descriptions, reports of delegations that visited aircraft plants in France, offers, technical-economic studies made for different industrial objectives, as well as the experience accumulated in our country in the line of producing and repairing aircraft"*[19].

The first piece of information that stands out is that the researchers' activity began on 23.06.1967, so a few days before Colonel General Ion Ioniță's exposé within the Plenary. If the date is correct, it confirms the idea that the decision for the founding of the technical-military complex (including aeronautical) was taken before by Nicolae Ceaușescu, with or without the Executive Political Committee, and that the Plenary of the Central Committee only validated it.

[17] Sorin Turturică, Aurel Niculescu, *Pe aviatori lasă-i să zboare*, București, Editura Anima, 2008, pp. 66-67.
[18] National Central Historical Archives, Collection *C.C. al P.C.R.*, Parte structurală *Secția Cancelarie*, File no. 29/1968, pp. 40-41.
[19] *Ibidem*, p. 38.

It is also interesting to note that, for the first time since 1945, the idea of an aeronautical in integrum industry appears, that would also meet the needs of the civilian aviation; this fact stands out from the co-optation of the Ministry of Automotive, Naval and Air Transportation, and the continuation of the document confirms it. The idea is not new. It was put into practice in the interwar years, when the entire aviation was put under the State Under-secretariat for the Air (1932-1936) and the Ministry of Air and Navy (1936-1940).

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Thus, the latest by June 1967, many more *"inter-ministry collective teams"* were formed, whose mission was to propose measures for creating industrial units (workshops, factories, plants, testing centres), as well as new types of aircraft and engines that would have been produced under license. These teams studied the needs of the Romanian military and of the civilian sectors and corroborated them by data from the available informative materials or by data obtained from visits in the West.

The suggestions made by that document were related to the 1971-1980 period (two five- year plans). After a preparatory period of three years (1968-1970), time in which the production units would have been built or improved, by technological infusion from the West, and the licences would have been bought, where it would have been needed, Romania would have produced, no more than 160 aircraft and 230 engines each year, divided in this manner:

- 50 combat airplanes with a total weight of 14 tons;
- 10 passenger transport airplanes for internal lines, with a capacity of 28-32 seats and having a total weight of 11 tons and/or airplanes for external lines, with a capacity of 44-48 seats, having a total weight of 16 tons;
- 25 liaison, school and training airplanes, with a total weight of 4 tons;
- 50 utility airplanes (for sanitary, agricultural or touristic purposes), of 1-2 tons;
- 25 helicopters of 2.5 or 6.5 tons;
- 80 jet engines for combat airplanes with a total traction force of 6,000 kgf, in maximal regime, reaching over 9,500 kgf with after burners;
- 90 turboprop engines for transport airplanes of 11 tons and helicopters, with a strength of 1,100-1,500 HP[20].

[20] *Ibidem*, ff. 38-39.

The necessary piston engines for the utility airplanes would have been acquired from imports[21], as well as for the larger passenger airplanes (Tupolev Tu-134, Sud Aviation Caravelle or BAC-111 were proposed), *"given the reduced number for our needs and the relatively high technical complexity"*[22]. By a simple addition, Romania was supposed to produce 1,600 aircraft and 2,300 engines, within the 1971-1980 period.

So, the decision to revive the national aeronautics industry was taken in 1967-1968. The process knew several stages:

1. In 1965, on the occasion of the discussions related to specialising military equipment, arms and munitions production within the CMEA, Romania sees itself removed from the aircraft and armoured vehicles production.

2. At the end of May 1967, at a meeting with military officials, Nicolae Ceaușescu speaks about the need to domestically produce the largest part of military equipment, armament and munitions necessary for the Armed Forces equipment.

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3. On 23 June 1967, a group of specialists belonging to several ministries begins to work on a project for the revival of aircraft construction correlated with the needs of the Ministry of Armed Forces as well as other civilian ministries.

4. At the Plenary of the Central Committee of the Party on 22-25 April 1967, the Minister of Armed Forces, Colonel General Ion Ioniță, puts into the Party's leadership debate what Nicolae Ceaușescu announced at the end of May, motivating that the Armed Forces are poorly equipped.

5. At the Plenary of the Central Committee of the Party on 22-25 April 1968, the decision to found a technical-industrial complex which would produce, among others, aircraft and aviation engines (original projects or licenses) is taken.

Putting the Decision into Practice: Lights and Shadows

The next step taken for effectively achieving the national aeronautics industry was the Decision of the Council of Ministers No. 1836/1968. According to its provisions, on 1 September 1968, the Industrial Headquarters for Fine Mechanics and Aeronautics, subordinating the General Directorate for Aeronautical Constructions, was established.

[21] *Ibidem*, f. 39.
[22] *Ibidem*, f. 42.

The latter became the sensitive centre of aeronautical production, having the following tasks:

- it organised and guided research in the field of aircraft and on-board arms construction;
- it organised the specific industrial units' production;
- it founded new production units;
- it assimilated into production the new types of aircraft;
- it made medium and full-scale repairs for aviation.

The General Directorate for Aeronautical Constructions began its activity subordinating the Bacău Airplanes Plant, the București Airplanes Plant and the No. 6 Glider and Metallic Constructions Unit Ghimbav-Brașov (later to become the Enterprise for Aeronautical Constructions–I.C.A.). In the following years, the ensemble (which would have its name changed several times) was joined in by the Craiova Airplanes Enterprise and the Turbomecanica Engines Factory Bucharest.

Briefly, out of what was planned in 1967, strictly for military equipping, the following were achieved:

1. The combat aircraft. The production of a supersonic airplane was the greatest ambition of the Romanian Communist state. Initially it was desired to obtain the license for the MiG 21 or the Dassault Mirage. Both plans were destined to fail[23]. After that the designing of a domestic supersonic airplane was attempted, which would have been propelled by an engine bought from the U.S.S.R. or the West. This project also failed because a partner willing to sell the engine was not found. Still, in cooperation with the Yugoslav state (the YUROM Project) a subsonic bombing and air assault airplane was created (secondary, it could also carry out fighter missions against enemy transport aircraft). The airplane, named I.A.R.-93 Eagle/J-22 Orao was equipped with two Rolls-Royce Viper jet engines. The prototype flew in 1974. Until the end of the Communist era, 172 airplanes were made, in cooperation with the Yugoslavs, out of which 86 came to the Romanian side. With few exceptions the airplanes were distributed to the 67th Fighter-Bomber Aviation Regiment (Craiova) and the 49th Fighter-Bomber Regiment (Ianca). They were active in those units until 1998 when they were halted from flight and taken out of the equipment of the Romanian Military Aviation.

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2. The jet school and training airplane. It was exclusively designed in the S.R.R. and made at the Craiova Av. E., under the name I.A.R.-99, exclusively for the Romanian Military Aviation (the attempts to export

[23] Petre Opriș, *Avioane franceze Mirage F-1 pentru România?,* www.art-emis.ro.

the airplane were unsuccessful). The prototype flew in 1985 and series production began the next year. 28 airplanes were built, out of which 24 entered the Military Aviation use. 13 of them were modernised, in the 90's, at Bacău, together with Elbit Systems Ltd. for compatibility with MiG-21 *"LanceR"* (modernised by the same company).

3. The 1st phase school airplane. Beginning in 1973, a four-seater, with two side-by-side piloting posts airplane was made at I.C.A. Ghimbav-Brașov (designer Radu Manicatide). It was named I.A.R.-823 and 80 were built, out of which 60 were purchased by the Ministry of National Defence for the *"Aurel Vlaicu"* Aviation Active Officers Military School from Boboc-Buzău. A peculiarity as well as an element that attested the confidence in the qualities of the airplane: the I.A.R.-823 was the plane that Nicu Ceaușescu received his military pilot license, in 1976, during his military conscript service. 12 airplanes were sold to Angola and were used by Romanian flight instructors during the Negage Military Flight School (1981-1982). After two decades of service, the airplanes were replaced by Iak-52 airplanes, built at Bacău (under Soviet license) beginning in 1977.

The jet school and training airplane was exclusively designed in the S.R.R. and made at the Craiova Av. E., under the name I.A.R.-99, exclusively for the Romanian Military Aviation (the attempts to export the airplane were unsuccessful). The prototype flew in 1985 and series production began the next year. 28 airplanes were built, out of which 24 entered the Military Aviation use.

4. Helicopters' production. In order to achieve this objective, two licenses were bought from France: SA-316 Alouette III (light helicopter) and SA-330 Puma (medium helicopter). Their were produced at I.C.A. Ghimbav-Brașov, under the Romanian name of I.A.R.-316 (from 1971) and I.A.R.-330 (from 1974). 200 I.A.R.-316 and 160 I.A.R.-330 were produced. Out of them, Military Aviation Command purchased 232 (112 I.A.R.-330) helicopters, to equip the equivalent of five regiments.

Did the military aeronautics industry reach its objectives, for which it was planned and designed? The answer is partially positive. Thus, in the case of the supersonic airplane, the failure was astounding. The hope of Nicolae Ceaușescu to get the license for the Dassault Mirage from Charles de Gaulle did not come true. Later, considerable resources were spent (time, money, specialists) in order to design a supersonic airplane, but an imported engine to propel it was not obtained. Still, the Romanian Military Aviation benefited from equipping two types of jet engines (I.A.R. 93 and I.A.R. 99), which allowed the reduction of imports; the weak point of those airplanes was the fact that they were unsuccessful on the open market.

Regarding the 1st phase trainer airplane, the I.A.R.-823 replaced, in the 70s, the Soviet Iak-18, which was losing its resource. The commander of the aviation did not see it as very fit as it had limited acrobatic capabilities. In the meantime, I.A.R.-823 was replaced by Iak-52. The latter proved to be one of the great successes of the

Romanian aeronautics industry as it was built in over 1,800 pieces and bought by the national defence structures in 13 countries.

Last but not least, the production of helicopters was also a success. With all the 272 built airplanes, I.C.A. Ghimbav-Brașov managed to cover the necessary of equipment for the Romanian Military Aviation and to sell even on the open market.

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THE SITUATION OF THE ROMANIAN ARMED FORCES BETWEEN JUNE AND OCTOBER 1918 ACCORDING TO DIVISION GENERAL CONSTANTIN CHRISTESCU

Ion RÎŞNOVEANU, PhD
Scientific Researcher 3rd degree,
"Regele Ferdinand I" National Military Museum

Division General Constantin Christescu, Chief of the Great General Staff, stated, in the Report submitted to King Ferdinand I, that the Romanian Armed Forces were in a difficult situation following the Peace of București signed on 24 April/7 May 1918, and the demobilisation, despite the successful 1917 campaign.

The political and, especially, military conditions in which the contingents were recruited between 1915-1919 caused serious problems as far as their training was concerned, especially given the difficult missions that were to come. Their training, organisation and equipment were inferior to those of the great powers of the First World War.

Despite these problems, Division General Constantin Christescu pointed out that there were some positive aspects as well, which represented the basis of the victories in the summer of 1917.

Keywords: First World War, contingents, Romanian Armed Forces, division, training.

English version by **Iulia SINGER**.

Introduction

After the brilliant victories of Mărăști, Mărășești and Oituz, in the summer of 1917, following which the Romanian Armed Forces stopped the advance of the Central Powers troops in Moldova, the second half of the year brought political and military changes on the western front, but especially on the eastern front.

On the night of 25-26 October/7-8 November 1917, detachments of workers and soldiers arrested, in the Petrograd Winter Palace, the members of the provisional government headed by Alexander Fyodorovich Kerensky, thus settling, in Russia, the power of the soviets led by Vladimir Ilyich Lenin[1].

Shortly, on 1/14 November 1917, the All-Russian Congress of the Soviets gathered in Petrograd adopted the *Decree on Peace*, a political document that stipulated Russia's exit from the war by concluding a general peace[2]. This document was followed, as expected, by the start of negotiations between Russia, on the one hand, and the Central Powers, on the other hand, to conclude a separate armistice between the two sides. Thus, on 22 November/5 December 1917, in Brest-Litovsk, Soviet Russia, Germany and Austro-Hungarian delegations signed the armistice, putting an end to the military actions in this part of the front.

Peace Treaty of București (24 April/7 May 1918) – military stipulations and harsh conditions imposed on Romania

Simultaneously with the end of the Brest-Litovsk armistice, General Dmitry G. Shcherbachev, the deputy commander of the Romanian Front, announced King Ferdinand and Ion I.C. Brătianu that he had to contact Field Marshal August von Mackensen for officially ending the hostilities between the big Russian units and the enemy ones, as the authority over his own troops had almost disappeared[3].

[1] *Istoria militară a poporului român*, vol. V, Editura Militară, București, 1988, p. 657. Mention should be made that Alexander Kerensky managed to flee Petrograd, taking refuge in France, then in the USA.
[2] *Ibid*, p. 657.
[3] *Ibid*, p. 668.

That is why the government led by Ion I.C. Brătianu decided to temporarily cease military actions by agreeing to participate in the negotiations regarding the signing of an armistice with the Central Powers. It was signed in Focșani on 26 November/9 December 1917 and stipulated that the Russian and German-Austro-Hungarian troops would temporarily cease hostilities and that the Romanian armed forces would also sign such a document that would last *"for the duration of the armistice of the Russian armies on the Romanian front"*[4].

The evolution of the relations between the Central Powers, on the one hand, and Soviet Russia and Ukraine, on the other hand, led to the political and military isolation of Romania.

Unfortunately, the evolution of the relations between the Central Powers, on the one hand, and Soviet Russia and Ukraine, on the other hand, led to the political and military isolation of Romania. Moreover, on 23 January/5 February 1918, the Central Powers sent a final note to the Romanian government, threatening to carry out major military actions if the Romanian authorities did not engage in diplomatic peace talks as soon as possible. In this respect, the attitude of Count Ottokar von Czernin, who, on 11/24 February, warned Alexandru Marghiloman about the disastrous consequences that would follow a possible refusal on the Romanian part of the conditions imposed by the Central Powers, speaks for itself: *"If most of the demands are agreed upon, we will negotiate for 10 or 12 days; if not, the armistice is over and we attack. We know the strengths and quantities of your ammunition. It will be a four-week campaign and then it will be something else; for the king, it will be the end"*[5].

A first stage of the separated peace between Romania and the Central Powers ended on 20 February/5 March 1918, with the signing, in Buftea, of the Preliminary Treaty of Peace between Romania and the Central Powers. Although the Romanian side tried to delay the signing and the application of the final treaty, it had no chance to succeed, the Peace Treaty and its annexes being signed on 24 April/7 May 1918, in București, between Romania, on the one hand, and Germany, Austria-Hungary, Bulgaria and Turkey, on the other hand.

Through the military provisions of this Treaty, the Central Powers imposed drastic conditions on Romania. Thus, the infantry divisions from 11 to 15 were to be demobilised, as stipulated in the Protocol

[4] Arhivele Militare Naționale Române (Romanian National Military Archives, AMNR), Great General Headquarters Collection, 3rd Operations Section, file no. 34/1917, f. 321.

[5] Alexandru Marghiloman, *Note politice 1897/1924*, vol. III, *1917/1918*, Editura Scripta, București, 1927, p. 366.

signed in Focșani on 20 February/5 March 1918, between Romania and the Central Powers, as well as in the Preliminary Peace Treaty signed at Buftea on 5/18 March of the same year.

The 9th Infantry Division, the 10th Infantry Division, the 1st Cavalry Division, and the 2nd Cavalry Division, which were operating in Basarabia, were maintained, with 2/3 of the war strength, until the crisis in Ukraine was settled. The *"huntsmen battalions from the disbanded huntsmen divisions"*[6] were added to these large units.

Interestingly, according to this *Treaty*, after completing their mission in Basarabia, the large units deployed to the east of Prut were to be demobilised and organised according to the peace establishment, just as the other 8 divisions mentioned in the 4th thesis.

Divisions 1 to 8 remained deployed in Moldova on a reduced peace establishment. Thus, they were to be framed by *"four infantry regiments of three battalions each, two cavalry regiments of four squadrons of each, two field artillery regiments of seven batteries each, a battalion of pioneers and troops and convoy technique, the number of which must be set out in a subsequent agreement; the total strength of these eight infantry divisions should not exceed 20,000 troops and the cavalry should not exceed 3,200 troops and the total artillery of the Romanian army, apart from the remaining divisions, should not exceed 9,000 troops"*[7].

Moreover, through the *Treaty*, the Central Powers demanded that Romania should hand over the weapons and ammunition available after its application[8].

Thus, the surplus of weapons and ammunition left after the demobilisation and disbandment of some units and large units of the Romanian armed forces was to be handed over to the occupation troops. The Treaty also limited the amount of ammunition allocated to an infantry gun. Each of them had 250 cartridges, while the machine guns received 2,500 cartridges[9].

[6] Arhivele Naționale Istorice Centrale (Central Historical National Archives, ANIC), General Directorate of Police Collection, file no. 3/1918, f. 1.

[7] *Ibid*, ff. 2-4.

[8] *Ibid*, f. 6. See also Istoria *militară a poporului român*, p. 679, and Constantin Kirițescu, *Istoria războiului pentru întregirea României. 1916-1919*, vol. III, Editura Casei Școalelor, București, pp. 236-237.

[9] *Ibid*, f. 8.

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In this unfavourable context, the Romanian armed forces decision-makers sought to circumvent the provisions of the Peace Treaty through coordinated actions by storing large quantities of weapons and ammunition in the free territory. The artisan of this action was Division General Constantin Christescu, Chief of the Great General Staff starting from 1 April 1918[10], who, at the order of the Supreme Commander, secretly drafted, together with the Romanian staff officers, the campaign documents in the event of triggering new operations against the Central Powers, when the military situation on the western and southern fronts would have allowed for it.

General Christescu's Report to King Ferdinand I – objective analysis on the situation of Romanian troops

On 20 June 1918, General Division Constantin Christescu, Chief of the General Staff, sent to King Ferdinand I the Report no. 8120, which made an objective analysis of the situation of Romanian troops remaining under arms after demobilisation.

Under these politico-military conditions, on 20 June 1918, General Division Constantin Christescu, Chief of the General Staff, sent to King Ferdinand I the Report no. 8120, which made an objective analysis of the situation of Romanian troops remaining under arms after demobilisation.

A fine connoisseur of the Romanian armed forces, brilliant commander during the campaigns of 1916 and 1917, Division General Constantin Christescu presented to the Romanian King the situation in which the contingents that were not demobilised and on which the Romanian authorities could rely when the context would have made it possible for the hostilities against the Central Powers to be resumed.

According to this document, the structure of the remaining forces was based on the 1915, 1916, 1917, 1918 and 1919 contingents, to which *"in a very small number, the young volunteers from the 1920 contingent"*[11], who activated in infantry units, were added.

[10] Valeriu Avram, Lucian Drăghici, Gabriel-George Pătraşcu, Ion Rîşnoveanu, *Războiul de Întregire (1916-1919). Comandanți militari români*, Editura Centrului Tehnic-Editoarial al Armatei, Bucureşti, 2016, pp. 29-33. Constantin Christescu was born on 2 December 1866 in Pădureți, Argeş County. Military ranks: Second Lieutenant (1 July 1887), Lieutenant (1 March 1890), Captain (10 May 1894), Major (10 May 1902), Lieutenant Colonel (10 May 1907), Colonel (10 May 1910), Brigadier General (14 March 1914), Division General (1 April 1917) and Army Corps General (28 October 1918). He was Chief of the Great General Staff between 3 December and 1 April 1914, 1 April 1918-28 October 1918 and 1 April 1920 and 8 May 1923. Also see Ionel Batalli, *Generalul Constantin Christescu – personalitate a armatei române*, in *Studii şi materiale de muzeografie şi istorie militară*, no. 13/1980, Bucureşti, 1980, pp. 229-239.

[11] AMNR, Microfilms Collection, reel F. II. 1.524, c. 435.

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The first reference to General Christescu's report is related to the 1915 contingent, incorporated in 1914. It operated only in the cavalry. The Romanian General had some interesting words for this contingent, which received *"a solid training from the point of view of discipline and technical aspects, but not of the modern warfare"*. This fact was due to the internal and European political and military context of 1914. Thus, at the outbreak of the First World War, the Romanian armed forces were characterised, among other things, by the existence of numerous periods of concentration, given that military strategists had a different view of the use of cavalry troops in the event of conflict, different from the realities highlighted during the battles of 1916 and 1917.

At the outbreak of the First World War, the Romanian armed forces were characterised, among other things, by the existence of numerous periods of concentration, given that military strategists had a different view of the use of cavalry troops in the event of conflict, different from the realities highlighted during the battles of 1916 and 1917.

An interesting feature of this contingent was that it participated in all battles fought by the Romanian armed forces during the two Military Campaigns in 1916 and 1917, *"it fought in infantry trenches alongside infantry, it learned all the specialties required today, like: grenades, machine guns, liaisons etc., it went through all the hardships that struck their body and soul"*[12]. In the light of these data, Division General Constantin Christescu considered that *"this contingent is one of the best trained contingents of our cavalry"*[13].

General Christescu refers, in his report, to the 1916 contingent, which he claimed to have been distributed to all weapons, being sufficiently trained. The training was carried out in early 1916, when it was more thorough at all units. However, in the first part, the general and specialised military training suffered, given the fact that, when Romania entered the war, most of the army's personnel was being deployed to cover the border, on the Carpathians, on the Danube and in the south of Dobrogea, for *"the execution of defence fortification works"*[14].

General Christescu refers, in his report, to the 1916 contingent, which he claimed to have been distributed to all weapons, being sufficiently trained. The training was carried out in early 1916, when it was more thorough at all units.

However, Division General Constantin Christescu considered it to be the *"best trained contingent of all contingents remaining under arms"* because it took part in the battles carried out by the Romanian

[12] *Ibid*, cc. 435-436.

[13] *Ibid*, cc. 435-436. General Christescu's report regarding the 1915 contingent ended with the statement according to which the soldiers who were taken prisoners during the 1916 and 1917 fights *"lacked solid training"*.

[14] *Ibid*, c. 436.

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armed forces in 1916 and 1917, and because it had the chance to train in *"reorganisation areas and training centres"*, where it learned the *"specialisations needed today in the modern fight"*[15].

The training that the 1917 and 1918 contingents received at the sedentary parts was "more than weak, especially in artillery, the training with which they came to units in many places was null".

Division General Constantin Christescu paid special attention to the contingents of 1917 and 1918, who were called under arms at the beginning of October 1916, during the battles in which the Romanian armed forces were engaged both in Dobrogea and in the Carpathian Mountains.

The initial preparation of the two contingents was made at the sedentary parts of the units and the big units, and as of 1 January 1917, their staffs were sent to the training centres, and from here to the fighting units. Unfortunately, as General Christescu noted, the training that the 1917 and 1918 contingents received at the sedentary parts was *"more than weak, especially in artillery, the training with which they came to units in many places was null"*[16].

An expert of the military phenomenon of the First World War, Division General Constantin Christescu identified the reasons for this situation in the context of Romania's participation in the 1916 and 1917 campaigns, but also in the military and political conditions specific to 1918.

With regard to the artillery training, it was emphasised that sometimes the training was done with 87 mm artillery pieces with a slow firing, as the recruits were to be framed in artillery units equipped with fast-firing cannons.

The first reason put forward by the Romanian General was the lack of instructors, given that throughout the year 1917 and the beginning of 1918 *"all the exempted ones were in the sedentary parts and they were almost exclusively reserve officers and retired elders"*[17].

A second reason was the withdrawal of the Romanian authorities and armed forces in Moldova, so that the training period was unduly shortened, which impeded on its quality.

Among the reasons invoked by General Christescu in the report, there was also the lack of the necessary armament for the training that took place in the sedentary parts. Thus, with regard to the artillery training, it was emphasised that sometimes the training was done with 87 mm artillery pieces with a slow firing, as the recruits were to be framed in artillery units equipped with fast-firing cannons.

[15] *Ibid*, c. 436. Same as with the 1915 contingent, *"the prisoners from this contingent too lacked proper training"*.
[16] *Ibid*, c. 436.
[17] *Ibid*, cc. 436-437.

Also, with regard to infantry training, General Christescu requested the replacement of the Neterly rifles, with which the sedentary parts were provided for recruiting training, because, *"apart from the fact that they no longer corresponded to modern times (...), their instructors alone did not know how to use them, let alone to teach others"*[18].

And for the grim picture of the preparation of the 1917 and 1918 contingents to be complete, the hero of Mărășești recorded the outbreak of the typhus exanthema, a last reason why their instruction, *"despite all the good intentions, it was greatly affected, so we can say that these two contingents went to the front, to many units, with incomplete training"*[19].

However, Division General Constantin Christescu highlighted the positive measures taken by the Romanian military decision-makers. Thus, following the accumulated experience and the identification of real shortcomings, the 1917 and 1918 contingent training was revised and completed, *"resumed from the beginning, in some parts"*, in the reorganisation areas of the divisions, and in the affected schools alongside the armed forces and divisions training centres, *"which then began to function thoroughly"*[20].

The conclusion reached by General Christescu, following the objective and pertinent analysis of the situation of the 1917 and 1918 contingents, was that *"although these two contingents took part in the front operations during the 2nd part of our campaign and, although, whenever it was possible, their training was resumed, they remained the weakest trained in the remaining contingents"*[21].

The last part of Division General's report ends with the presentation of the 1919 contingent, which was largely embedded in the infantry weapon, a very small number being sent into the navy, *"but receiving training at the infantry"*[22].

[18] *Ibid*, c. 437.
[19] *Ibid*.
[20] *Ibid*.
[21] *Ibid*, cc. 437-438. Carrying on with his conclusions, Division General Constantin Christescu stated: *"If we want to be more aware of their lack of training and of the way they were trained initially, we only have to look at the lack of military attitude and discipline of the soldiers under arms, when they are isolated or with their units and walk the streets"*.
[22] *Ibid*, c. 438.

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Training of contingents remained under arms – between pertinent conclusions and realistic suggestions

The modest results obtained in the 1917 and 1918 contingents training process forced the Great Headquarters to take vigorous action with regard to training the 1919 contingent. Thus, the Recruitment Centres Inspectorate, Regional Recruitment Centres, and Recruitment Regiments were created, in which this contingent *"was called for training in two series"*[23].

The first series included recruits from occupied territory, who were called under arms from 1 December 1917. Due to previous measures taken by the General Headquarters, the recruits of this series were well trained, successfully covering three main stages, namely individual training, specialised training *("2 specialisations each")*, as well as the *"joint training up to the battalion school included"*[24].

The second series consisted of Moldovan recruits who had entered the organic training centres since 15 January 1918. In the opinion of General Christescu, the instruction of this series was *"satisfactory but not complete"*, making *"individual instruction, specialization, very small platoon school and only a few notions from the company school"*[25].

Skilled commander, true connaisseur of the military phenomenon, having the experience of the First World War, Division General Constantin Christescu proposed a series of measures meant to improve the training of contingents remaining under arms and, implicitly, the fighting power of the Romanian armed forces.

First, it was mentioned the resumption of the instruction intensively, thus taking advantage of *"the fact that the 1916 contingent, well-trained contingent, is still under arms"* so that the 1917, 1918 and 1919, second series, contingents complete d and improved their training.

General Christescu also proposed to draw up instructions *"on how to guide training in this exceptional times"*[26].

However, in order to make the best decisions, it was necessary to know precisely the state of the training of contingents under arms, which is why the head of the General Staff ordered Colonel Constantin Ştefănescu-Amza, Head of the 2nd Section, to centralise the situation at the level of the Command and Inspectorates branches. Thus, on 5 June 1918, the report no. 6672 was issued, requesting, as soon as possible, information on any *"directives and orders given in this regard"*.

The responses were not delayed, and they demonstrated, once again, the precarious state of the Romanian armed forces' training, given that the political factors were planning Romania's reunification against the Central Powers, when the political and military context of Europe would have allowed this.

By Report no. 533 of 12 June 1918, the General Inspectorate of the Cavalry reported that *"given the circumstances of Bsarabia and the assignments of the cavalry divisions, the instruction could not be done"*. The General Engineer Inspectorate replied *"that because of the very small staff, the training could not be ensured and the corps were in charge of the displacement and the demobilisation"*, while, through Report no. 2582 of 10 June 1918, the 4th Army Corps informed the Armed Forces Chief of Staff that *"because of the demobilisation, small troops and services in the corps could not be trained"*[27].

Following reports, General Christescu concluded that the lack of training on contingents under arms is based on objective causes. Thus, among the first reasons identified in the report were the very low effectives, the corps services, *"which could not be reduced"*[28] and the need to clean and repair the barracks that had suffered from the war. There was also insufficient food, both quantitatively and qualitatively, *"which makes people unable to endure too intensive work"*. In the cavalry, this deplorable state was also accentuated by the lack of horses' food, *"the horses are kept away in the forests, where they do not find the necessary food"*[29].

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[23] *Ibid*.
[24] *Ibid*.
[25] *Ibid*.
[26] *Ibid*, c. 439. It was sought the equalisation of instructions for training for each branch, so that the corps could complete a unitary military training, depending on their specific.
[27] *Ibid*, c. 439.
[28] *Ibid*, c. 439. At the beginning of the 20th century, big part of the troops were withdrawn from training in order to provide *corps duty*. This mainly consisted of batmen for officers, secretaries, storekeepers and *all kind of secondment.* Unfortunately, this practice could be found in the interwar period, when then number of officers increased and, implicitly, the number of officers increased and, implicitly, the number of officer's batmen, in fact, soldiers who where withdrawn from instruction.
[29] *Ibid*, c. 439.

An objective officer, General Christescu reported to the Sovereign that, unfortunately, the internal context was contrary to the re-training of the active personnel, as the Romanian authorities expected a possible re-entry into the war.

However, for military and education purposes, the Chief of Staff of the Armed Forces considered that *"people need to be busy and we must seek maximum opportunities for people not to waste time and to complete their instruction"*[30].

Obviously, the Romanian general did not only make an objective analysis of the situation of the Romanian army in the middle of 1918, at the time of demobilisation, or to draw relevant conclusions, he also came up with realistic proposals aimed at providing an adequate instruction to the missions to be fulfilled in order to defend the legitimate interests of Romania.

Thus, the commanders of troop corps had the obligation to order "intensive training of the specialties", being necessary for the officers and the non-commissioned officers "to receive solid training" in the specialised centres of the armed forces, while the instruction of the inferior degrees had to be executed in the training centres of the armed forces.

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An important problem identified by General Christescu was represented by corps services and, in particular, the garrison service, which consumed much of the human and material resources of the units and large units of the Romanian armed forces. In order to minimise them, the Chief of Staff of the Armed Forces proposed that the patrol and police garrison missions should be met by the gendarmes and the city sergeants.

At the end of the report, General Constantin Christescu, the hero of Mărășești, who showed special patriotism and self-sacrifice, proposed

[30] *Ibid*.

[31] *Ibid*, c. 440. According to Division General Constantin Christescu's propositions, as mentioned in the text of the report, in troops corps, specialised training must be carried out as follows: *"a. Infantry: machine gunners, grenadiers, phone operators, observers, liaison agents; b. Cavalry: machine gunners, grenadiers, phone operators, observers, liaison agents, patrols; c. Artillery: shooters, machine gunners for artillery machine guns, phone operators, observers, antenna sections personnel, observation sections personnel; d. Technical troops: according to each specialty. Combat training for the rest of fighters who are not specialised must take place and be maintained according to possibilities, bearing in mind the needs of the corps, the troops strength etc.".*

"to undertake a solid work of military education and soul rebirth, which had a lot to suffer from the last circumstances of the war"[32].

Although, in this *Report*, Division General Constantin Christescu presented, in somewhat gloomy colours, the situation of preparing and endowing the still mobilised contingents of the Romanian Armed Forces, however, during the demobilisation, in which he secured the command of the General Staff, the General took concrete and energetic measures to prepare Romania's re-entry into war with the Entente. In this respect, the position of the Romanian general expressed on 12/25 September 1918, is edifying: *"The events that have taken place since the end of the peace in București until now, and especially the general military situation recently on the battlefield, pointed out the idea that a resumption of the battle on our part would not be entirely excluded"*[33].

A fine connoisseur of his opponent, General Christescu deceived the vigilance of Colonel Otto von Brandenstein, the head of the German Military Mission in Iaşi, and ordered that secret food, weapons, munitions and effects be deposited within the Romanian free territory.

A fine connoisseur of his opponent, General Christescu deceived the vigilance of Colonel Otto von Brandenstein, the head of the German Military Mission in Iaşi, and ordered that secret food, weapons, munitions and effects be deposited within the Romanian free territory.

In this respect, in the summer of 1918, the head of the General Staff issued *Secret Instructions on the mobilisation of the armed forces during the occupation of Muntenia and Oltenia by the Central Powers*[34]. In this document, with the tacit acceptance of the sovereign and political factors in Iași, Division General Constantin Christescu gave clear orders regarding the creation of secret deposits. In this respect, the Romanian general ordered that they be placed in as isolated areas as possible, relatively far from the most important free localities of Moldova but having access to the existing communication ways so that *"the supplies can be transported to the units in the shortest time"*[35].

Moreover, using the experience gained during the campaigns of 1916 and 1917 when he was a direct participant in the most important battles conducted by the Romanian armed forces, General Christescu also thought of a plan by which the troops under the arms could be mobilised in the shortest possible time and supplied with the

[32] *Ibid*, cc. 440-441.

[33] *Ibid*, roll P. II. 1.2608, c. 134.

[34] *Ibid*, roll P. II. 1.2583, cc. 442-444.

[35] *Ibid*, c. 442.

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necessary equipment to carry out some fighting actions, but also for the mobilisation of the officers, the NCOs and the troops, which, according to the provisions of the Peace of București, were discharged.

This document clearly reflects the fact that, for the Romanian authorities in Iaşi, the peace signed with the Central Powers was only temporary and that their goal was the liberation of the Romanian territories and the fulfillment of the dream of the union of all Romanians in one state.

In the autumn of 1918, the situation on the Balkan Peninsula front became particularly complex, as the Army of the East, commanded by French General Franchet d'Espérey, began the offensive against the Central Powers.

The instructions proved once again the good military training that General Christescu showed, as well as the detailed knowledge of the opponent, as the situation on the western front was volatile and the Central Powers began to show the first signs of military weakness.

In the autumn of 1918, the situation on the Balkan Peninsula front became particularly complex, as the Army of the East, commanded by French General Franchet d'Espérey, began offensive against the Central Powers. Under these conditions, on 12/25 September 1918, the allied armies in the Balkans broke the Bulgarian front at Dobropolije and headed for Sofia. Lacking support from the German troops stationed south of the Danube on September 16/29 in Thessaloniki, the Bulgarian government signed the capitulation of Bulgaria, allowing the Allies to advance to the Danube[36].

On 30 October/12 November 1918, at Mudros, Turkey signed the Entente Armistice, being exhausted by the Great War, as well as by the defeats in Palestine and Syria[37].

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The collapse of the southern flank of the military system conceived by the Central Powers led also to the outbreak of the Austro-Hungarian War, which on 3 November 1918, asked the Italian Command to sign the armistice and the terms of separate peace. After a major exchange of messages via telegrams, on 4 November 1918, at 15.00, Austro-Hungary emerged from a war he had provoked and which, as an irony of fate, caused its collapse[38].

Under these circumstances, it was clear that Romania's re-entry into war with the Entente was only a matter of time. That is why the political decision makers from Iaşi asked the leadership of the

[36] Constantin Kirițescu, *Istoria Războiului pentru Întregirea României. 1916-1918*, vol. III, Editura Casei Școalelor, București, 1925, p. 302.
[37] *Ibid*, p. 303. The armistice was signed by Rauf Bey, Minister of Navy of the Ottoman Empire, and British Admiral Somerset Arthur Gought-Calthrope onboards of HMS *AGAMEMNON*.
[38] *Ibid*, p. 304.

Romanian Army General Staff to urge the preparations for mobilisation. All of these factors helped to amplify the measures taken at all command levels to create the best conditions in which units and large units were to enter the battle.

Romania's re-entry into war – Great General Staff proposals and measures

On 26 October/8 November 1918, aware of the political and military consequences of such a move, Division General Constantin Christescu drew up the *Report no. 45 on the conditions for the mobilisation of the Romanian Armed Forces*[39]. In this document, there were identified a number of problems and shortcomings faced by the General Staff in the hypothesis that the Sovereign and the Government would have decided to mobilise the army. Also, he came with a series of proposals and measures that *"had to be taken in the shortest time",* so that Romania's re-entry into the war *"will not find us unprepared and make the most out of the weaknesses of our opponent"*[40].

General Constantin Christescu left nothing to chance in organising and framing the Romanian units and large units with warfare, as well as with the insurance weapons, munitions and other supplies necessary for the execution of the ordered warfare missions for the liberation of the national territory.

Also, General Christescu drew up a *Report on preparatory measures to deal with any contingencies*[41]. It was clear now that the conduct of the military events in the southern Danube theatre, but also on the western front, announced the creation of the best conditions for the Romanian army to rejoin the war with the Allied and Associated Powers.

From this document it is clear that General Constantin Christescu left nothing to chance in organising and framing the Romanian units and large units with warfare, as well as with the insurance weapons, munitions and other supplies necessary for the execution of the ordered warfare missions for the liberation of the national territory.

The prodigious activity of Division General Constantin Christescu as Chief of the General Staff during the demobilisation of the Romanian armed forces was reflected not in an official document signed by him, but in a *Report on the studies, preparatory and execution measures taken by the General Staff of the Armed Forces and war preparation services, from the peacetime army (1 July) to 28 October, when the army*

[39] AMNR, Microfilms Collection, roll P. II. 1.2608, cc. 131-133.
[40] *Ibid*, c. 132.
[41] *Ibid*, cc. 149-151.

was mobilised again[42], signed on 19 December 1918 by Brigadier General Ion Ghinescu, Deputy Chief of the Great General Staff[43].

The document, a very valuable source in terms of the measures taken by the command of the General Staff during the demobilisation, but also of the philosophy underlying them, identifies the position adopted by the most important command of the Romanian Armed Forces in the year 1918, as well as his relations with both the Romanian government in Iaşi and the German Military Mission led by Col. Otto von Brandenstein.

Since the beginning of the Report, General Ion Ghinescu considered that the demobilisation of the army *"is but a temporary arsenal of tension, imposed by the situation created by the disappearance of the Russian front and the hostile attitude of the new Ukrainian state"*[44]. Further, the Romanian general emphasised that there was an almost unanimous belief of the Romanian political class in Iaşi, but also of the army and the civilian population, according to which the resumption of hostilities was only a matter of time and that this was caused by the extremely harsh conditions which Romania was forced to accept unconditionally through the Peace of București.

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The particularly difficult situation of the Romanian government in Iaşi was generated, on the one hand, by the disorder that characterised the demobilised Romanian armed forces, but also by the *"lack of any kind of goods, increased by the drought and the greed of the hungry enemy"*[45].

Under these circumstances, at the end of July 1918, Division General Constantin Christescu gave a verbal order for the realisation, in the most strict secret, of a theoretical study, in fact works to prepare Romania's re-entry into conflict against the Central Powers containing tables with the troops already mobilised and those demobilised,

[42] AMNR, Microfilms Collection, roll P. II. 1.2578, cc. 478-479.

[43] Ministerul de Război, *Anuarul Armatei Române pe anul 1920*, Atelierele Grafice SOCEC, București, 1921, p. 6, and Ministerul de Război, *Anuarul ofițerilor activi ai Armatei Române pe anul 1923/24*, Tipografia Militară *„Ministerul de Război"*, București, 1923, p. 11. Ion Ghinescu was born on 27 December 1868. Military ranks: Second Lieutenant (8 July 1891), Lieutenant (10 May 1894), Captain (7 April 1900), Major (10 May 1908), Lieutenant Colonel (1 April 1912), Colonel (1 November 1914), Brigadier General (1 April 1917) and Division General (1 April 1919). Between 28 October/10 November 1918 and 1/13 February 1920, he was Deputy Chief of the Great General Staff.

[44] AMNR, Microfilms Collection, roll P. II. 1.2578, c. 478.

[45] *Ibid*, c. 478.

"the mobilisation instructions and the works for the requisition, as well as the supply and distribution of the war material". Such an endeavour was particularly complex, requiring not only the participation of the General Staff, but also the collaboration of the commands, the troop corps and administrative authorities at all levels. Unfortunately, the political situation did not allow this co-operation, so the Romanian state-makers felt obliged to act without the support of the other factors that should have been involved in such an effort[46].

The first analyses conducted by the Romanian staff officers were related to the situation of officers, non-commissioned officers and the troops who were demobilised and went to the temporarily occuppied Romanian territory as well as those who remained under arms. Reports were also made on the need for weapons and ammunition in case of remobilisation, but also with the materials already in the warehouses located on the territory controlled by the Romanian authorities, many of them not declared to the German Military Mission installed in Iași.

In accordance with the provisions of the Preliminary Convention of Focşani and Peace in București, the Romanian authorities were obliged to surrender almost all the material of war, primarily the artillery, especially the 11th Infantry Division, the 12th Infantry Division and the 13th Infantry Division, *transferred to the occupied territory*. However, at the express order of Division General Constantin Christescu, the handing over of the rest of the war material was carried out with very long delay, to the German dissatisfaction which, almost daily, sent protests to the Marghiloman government. Also, most of the weapons, ammunition and war supplies were hidden in warehouses located inside the Romanian free territory[47].

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[46] *Ibid*, c. 478. This situation was eloquently presented in the *Report* drafted by General Ioan Ghinescu, who stated the following: *"the government guideline is missing or it is focused on another direction. The Great General Staff also tries to cover for the government: it sets the purpose of the war and the target to be reached by itself; it studies the means of the armed forces reorganisation, it carries out what ca be done, without compromising everything and gathers the necessary data, so that, when the time comes, it can draft the detailed work of operation projects".*

[47] *Ibid*, c. 478. In this respect, General Ghinescu pointed out that *"the Great General Staff, contrary to the instructions received, took responsibility for the action and ensured the necessary armament and weapons for the new war"*.

Neither the provisions on the demobilisation of troops have been fully respected. Thus, under the order of the Chief of the General Staff, a number of people were kept under arms[48], a much higher one than that agreed by the provisions of the Peace Treaty. They were kept in the organisation of the units and big units, but they were allowed to participate in daily work in the households of the Moldovan inhabitants and could be called under arms at any time.

In September 1918, Section 1 and Section 3 of the General Staff drafted a table, with the units that could be mobilised and set up. Division General Constantin Christescu appreciated the project as *"being transformable"*, approved it and ordered *"the execution of the details of the work as soon as possible and in the greatest secret"*, even if until the mobilisation decree there were not centralised all the data necessary for the drawing up all instructions[49].

A particularly important issue that the General Staff had to solve during the demobilisation was related to the communications that the most important command line of the Romanian armed forces had to provide both with the units and large subordinate units, civil authorities.

A particularly important issue that the General Staff had to solve during the demobilisation was related to the communications that the most important command line of the Romanian armed forces had to provide both with the units and large subordinate units, civil authorities. At the beginning of 1918, the General Staff managed to organise and maintain, in good conditions, direct telegraph and telephone connections with all the commands in its organisation. Military telegraph-telephony offices were also established in Iaşi, Vaslui, Bârlad, Tecuci, Galați, Bacău, Adjud and Botoșani, as well as in Basarabia. Unfortunately, all these achievements were suspended by the Marghiloman government, under the conditions of the peace settlement in București.

Thus, the Communications Service of the General Staff moved at the General Wireless Telegraphy Directorate, and the *"staff and the material were evacuated in București under the German occupation, without the knowledge and approval of the General Staff"*[50].

Despite these shortcomings, upon order from Division General Constantin Christescu, in August 1918, four goniometry posts in Iași, Chisinau, Bolgrad and Bălți were established, with the mission to identify locations where Central Powers secret agents transmitted information

[48] Constantin Kirițescu, *op. cit.*, pp. 280-281. In these circumstances, according to the *Report*, troop training was damaged, but officers, active cadres and some specialties training carried on, even if only partially. See also AMNR, *loc. cit.*, c. 478.

[49] AMNR, *loc. cit.*, c. 479.

[50] *Ibid*, c. 478.

generated by stations underground. However, in September, the wireless telegraphy service was transferred to the Postal, Telegraph and Telephone Division, *"and the Specialty Battalion was left without cadres and unable to train others"*[51].

Despite the efforts in made this period, both by General Christescu and by specialist officers, the Great General Staff had no freedom of action in terms of organization, instruction and training war communication means.

Having a good knowledge of war, Division General Constantin Christescu paid particular attention to transport troops, weapons, ammunition, war supplies and fuel needed for a possible remobilisation army. Therefore, based on experience gained during the campaign in 1916 and 1917, in early August, the Department of Transportation was organised, *"with corresponding directions of motion, strength, maintenance"* and for the staff of this structure the Adjutant Office was established. Within this structure, the Transport Section prepared the staff of the Railways Regiment through practice in the depots of the Romanian Railways – C.F.R. Also, at the order of the Chief of the General Staff, the identification of C.F.R. and the situation of railways, specialist officers, rolling stock, maintenance and repair workshops and, last but not least, of the related facilities was made[52].

Lessons learned from the 1916 campaign made the General Staff to give the Navy the rightful place in future missions that this service would have to carry out after mobilisation of Romania in the war. That is why it was necessary to repair the combat ships withdrawn in the Danube Delta, in the conditions of the lack of fuel and the necessary staff.

Conclusions

Lessons learned from the 1916 campaign made the General Staff to give the Navy the rightful place in future missions that this service would have to carry out after mobilisation of Romania in the war. That is why it was necessary to repair the combat ships withdrawn in the Danube Delta, in the conditions of the lack of fuel and the necessary staff. To address the shortcomings identified, General Christescu, in agreement with Navy flag officers, ordered the efficient mobilisation of warship crews that were able to carry out specific

[51] *Ibid*, c. 478. Division General Constantin Christescu sent a report to the Ministry of War, through the Communications Section, through which it demanded that these dispositions were changed, so that the Wireless Telegraphy was still part of the Great General Staff organisation chart. The response came on 1 December 1918, *"no result"*.

[52] *Ibid*, c. 478. On this occasion, the conclusions of Romanian staff officers were rather gloomy, regarding the actual transport capabilities that could be ensured at mobilisation. It was established that, out of 817 train engines in the inventory of the Romanian Railways, only 163 *"were functioning, the rest being out of order"*. Despite General Christescu's efforts, the necessary reparations could not be made because of the lack of raw materials and spare parts.

tasks to be complemented by effective measures to ships in repairs or auxiliary ships that were not needed at the time of mobilization. Also, a large number of ships have been repaired, brought into operation and manned. The necessary number of transport ships was provided for troops as well as for weapons and ammunition, and a floating hospital was organised to provide first aid and triage to the wounded. Measures taken by the command of Navy factors under the guidance of staff allowed that mobilisation structures of this category of forces could carry out the orders of the General Staff from day one[53].

The experience of the 1916 Campaign, when the intelligence structures of the Romanian Army were virtually non-existent, was one of the reasons why the Chief of Staff took vigorous action to reorganise and streamline the 2nd Intelligence Office. Thus, intelligence were collected and processed on reports of subunits guards deployed on the front lines and borders Romania. Also, a special service was organised in București within the Central Powers Liaison Office, so that *"there could have been information about the enemy armies in the occupied territory, the changes in the order of the occupation troops and the foreign troop movements passing through Muntenia"*.

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Being aware that the politics of liberating Transylvania and the union of this Romanian province to Romania remained a constant concern for decision makers in Iași, General Christescu, together with the intelligence officers, used the organization of the Intelligence Service created by the French for Transylvania, so that, in the organisation of the 2nd Intelligence Office, a special service was established, of special agents operating in Transylvania as well as in other Romanian provinces. Therefore, upon the declaration of mobilisation, this structure was operational immediately, the information provided in Transylvania Forces Command being vital to the proper conduct of operations[54].

At the end of the *Report*, Brigadier General Ion Ghinescu, in his capacity as a deputy Chief of the General Staff of the Armed Forces, praised the activity of Division General Constantin Christescu, Chief of the General Staff during the demobilization, ordered both the visionary character of the measures ordered to subordinate structures, and his abnegation and devotion in one of the most troublesome and difficult moments in the history of the most important command of the Romanian armed forces.

[53] *Ibid*, cc. 478-479.
[54] *Ibid*, c. 479D

In this respect, General Ghinescu's assessments are very important, concluding: *"The following events confirmed that these assessments were right and proved that the studies and the preparatory measures were judicious and sufficient to achieve the intended purpose. Mobilisation of the army took place within the time stipulated by studies (the infantry units have gone beyond all the forces fixed by the mobilization works) and if the material needs had been only partially satisfied, the army would have been deprived of the operational qualities and would have acted in the foreseeable time"*[55].

In conclusion, we can state that following the laborious activity of the Great General Staff's generals and officers, under the command of Division General Constantin Christescu, the Romanian armed forces were able, on 28 October/10 November 1918, to support the political decision, under the command of King Ferdinand I, of Romania's reentry into the war on the Entente's side in order to continue the struggle for building the Romanian National Unitary State.

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[55] *Ibid*.

ROMANIAN MILITARY THINKING

ROMANIAN AVIATION IN THE FIRST WORLD WAR

Professor Mihail ORZEAȚĂ, PhD
„Apollonia" University, Iași

Professor Valeriu AVRAM, PhD

Romanians are among the pioneers of heavier-than-air flight, being also among the first in the world to use aircraft for military purposes. However, the efforts and creativity of Romanian aviation pioneers were not properly appreciated by the political and military leaders of their time.

At the outbreak of the war the Romanian Crown Council decided to keep the country neutral.

Romania signed a treaty with the Entente because the Alliance pledged support to the unification of all Romanians into a single state. Counting on the Entente's promises to launch offensive operations in Thessaloniki and in Bucovina, the Great General Headquarters of the Romanian Armed Forces developed a risky concept of operations in order to enter the war by launching offensive in two divergent directions. This risky strategy implemented alongside the unfavourable evolution of the strategic situation of the Entente on both Eastern and Western fronts resulted in defeat for the Romanian Armed Forces in 1916. The additional effect of the defeats was the occupation of two thirds of the Romanian territory by German troops. Having a new organisational structure and better equipment and training, the Romanian aviation contributed to the successes in the battles of Mărăști, Mărășești and Oituz in July and August 1917. Russia's decision to exit the war contributed to the decision of the Romanian Council of Ministers to sign the Peace Treaty with the Central Powers in May 1918. The treaty was neither approved by the Parliament nor ratified by the King. Therefore, in November 1918, Romania reentered the war against the Central Powers.

Keywords: neutrality, military aeronautics, the First World War, land forces, combat aircraft.

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1. Introduction[1]

The Romanians are among the pioneers of heavier-than-air flight, being also among the first in the world to use aircraft for military purposes. However, the efforts and creativity of the Romanian aviation pioneers were not properly appreciated by the political and military leaders of their time.

At the end of the 19th and the beginning of the 20th centuries, it was quite common for Romanian students to complete their university studies in France, Great Britain, Germany or Italy. Therefore, they were well-informed with the evolution tendencies of science and art. Thus, some of them became pioneers of science and art of their time, tending to push human knowledge to new limits.

The flight was a dream for many people and this dream came true just for a few of them. Aviation history features the name of some Romanians with open and brilliant minds and innovative spirit who have managed to design, built, and fly their flying machines. Unfortunately, only those Romanians who worked, registered their inventions in Western countries or participated in international air shows got international recognition. Romanians such as Traian Vuia[2], Henri Coandă[3], Rodrig Goliescu[4], Aurel Vlaicu[5] and Grigore Briscu[6] can be placed among the world aviation pioneers.

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1 The dates are marked according to the Gregorian calendar.

2 E. Angelucci et P. Matricardi, *Les avions des origins a la premiere guerre mondiale*, Edition par Elsevier Sequoia, Paris-Brusselles, 1978, p. 42 ("*L'aeroplane de Traian Vuia, premiere vol a 3 mars 1906, a Montesson");* see also Bill Gunston, *Chronicle of Aviation*, Jacques Legrand International Publishing, Paris, 1992, pp. 48-51 (*"Trajan Vuia in his monoplane, the first full-sized tractor monoplane*, Montesson, 18 March 1906").

3 Edmond Petit, *Nouvelle histoire mondiale de l'aviation*, Hachette, Paris, 1973, p. 80 ("*L'avion a réaction de Coandă, au Salon Aéronautique Internationale de Paris, 1910 .... esseyer en December 16, 1910, a Issy-Les-Moulineaux*").

4 Florin Zăgănescu, *Mici enciclopedii și dicționare ilustrate. Aviația (Small Encyclopedias and Illustrated Dictionaries. Aviation)*, Editura Științifică și Enciclopedică, București, 1985, p. 47, (In 1909, Rodrig Goliescu patented, in France, one of the first curved wing aircraft in the world – the coleopteron -, naming it *avioplan*); see also Valeriu Avram, *Istoria aeronauticii militare române 1910-1916 (History of Romanian Military Aeronautics 1910-1916)*, TIPARG Press, Pitești, 2003, p. 23.

5 Nicolae Balotescu, Dumitru Burlacu, Jean Dăscălescu, Dumitru Dediu, Constantin Gheorghiu, Corneliu Ionescu, Vasile Mocanu, Constantin Nicolau, Ion Popescu-Roseti, Dumitru Prunariu, Stelian Tudose, Constantin Ucrain, Gheorghe Zărnescu, *Istoria Aviației Române (History of Romanian Aviation)*, Editura Științifică și Enciclopedică, București, 1984, pp. 43-44.

6 Valeriu Avram, *op.cit.*, p. 23 (In 1909, Grigore Briscu, a lawyer from Iași, invented one of the first helicopters in the world. He successfully tested the helicopter using a small-scale model. His achievement was acknowledged by French researcher P. Cornu in an article published in *La France automobile* review in November 2009).

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Romania is also one of the first countries in the world to use aircraft in military operations. Although a civilian engineer, Aurel Vlaicu completed a reconnaissance mission with an airplane build by him during the field training exercises in 1910, as part of a contract with Romanian Ministry of War[7]. Next year, in 1911, during the annual field training exercise, Major Ioan Macri, Captain Fotache Ionescu, Lieutenant Stelian Boiangiu and 1st Lieutenants Gheorghe Negrescu and Ștefan Protopescu carried out surveillance and reconnaissance missions[8]. Romanian military pilots carried out their first real military missions during the Second Balkan War, in 1913[9]. Despite the achievements of Romanian inventors, the government did not foster the development of local aviation. That attitude showed the officials' mistrust and even hostility. One of the few who managed to obtain funds from the Ministry of War to build a new aircraft was Aurel Vlaicu. The new aircraft – Vlaicu III – had an innovative metal structure, but the deal was not closed because of the inventor's death during a flight from Bucureşti to Orăştie[10], over the Carpathian Mountains, on 13 September 1913.

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The reluctance towards aviation shown by some political and military leaders was not a characteristic of only Romania. The French General Ferdinand Foch is said to have thought, at the beginning of the war, that aviation was a good sport but it was useless for the army[11]. In 1912, when the US Aviation Branch, which was subordinated to the US Army Signal Corps, submitted budget proposals, the Chief of the US Army, Major General Leonard Wood, reduced the allocation of funds for aviation, saying that his service needed guns and rifles not airplanes[12].

[7] *Arhivele Militare Române (Romanian Military Archives)*, the *4th Engineer Directorate Collection*, file 339, pp. 11 and 113.
[8] Gheorghe Negrescu, Amintiri necenzurate (Uncensored Memories), Editura Elisavaros, București, 2011, p. 8.
[9] AMR, the *4th Engineer Directorate Collection*, file 404, pp. 74, 107, 200; file 426 pp. 371, 545, file 476, file 594, p. 440, file 450, p. 725 *apud* Valeriu Avram, *op. cit.*, pp. 99-104; see also Benjamin Franklin Cooling – editor, *Case Studies in the Achievement of Air Superiority*, Center for Air Forces History, Washington D.C., 1994, p. 1.
[10] Nicolae Balotescu et al, *op. cit.*, p. 50.
[11] http://www.firstworldwar.com/airwar/observation.htm , retrieved on 20 June 2013.
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2. Organisation and Main Assets of the Aviation before Entering the First World War

Some political and military leaders showed mistrust and even hostility to aviation through the decisions made, such as the one of subordinating the new branch to the Engineer Inspectorate. The increasing number of aircraft and military aviation schools entailed issuing the law on the organisation of aeronautics. With the likelihood of war increasing in Europe, the Romanian Aviation Corps was established.

The first aerostation unit of the Romanian Army was established in 1893 as part of the first Telegraph Company in the 1st Engineer Regiment, deployed in Bucureşti. The aerostation unit was equipped with a French spherical captive balloon, which was replaced with a German kite balloon in 1900. In the beginning, the captive balloon was used for aerial surveillance in support of the artillery that defended the fortifications of Bucureşti. Then, the aerostation was used in the field training exercises from 1907-1911. The positive results encouraged the officials to acquire 3 more kite balloons and the necessary mobile devices to produce and store hydrogen, used to inflate the balloons, and to transport the equipment into operational theatres. In 1913, following those acquisitions, the first Aerostation Company was established[13].

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In 1911, the first flight school in Romania was established in Chitila (near Bucureşti) at the initiative of a company organised by lawyer Mihail Cerchez. The school comprised 5 hangars, workshops for manufacturing the Farman III aircraft under French license, administrative buildings, a runway and even grandstands. The school trained both civilian and military (usually commissioned officers) pilots[14]. On 1 April 1912, the first military flight training school was established in Cotroceni (Bucureşti) and was equipped with Farman and Bleriot planes[15].

Prince George Valentin Bibescu, a pilot licensed in France – and a retired Captain too –, took the initiative to establish the National Air League, on 5 May 1912, which was located in Băneasa (Bucureşti). The purpose of the League was *"to acquire airplanes for the Romanian Armed Forces"* using public subscriptions. The League had also a flight

[13] Colonel Costică Popa, PhD – editor, *Curs de Istoria Artei Militare (Course on Military Art History)*, Volume II, Editura Academiei Militare, București, 1990, p. 16.
[14] Nicolae Balotescu et al, *op. cit.*, pp. 66-69.
[15] *Monitorul Oastei (Armed Forces Monitor)*, no. 20, 1912, p. 282.

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training school equipped with 4 Bleriot, 2 Farman and 1 Penguin type airplanes. Using air shows and flights around towns and cities, the members of the League convinced many people to donate money to purchase airplanes for the military aviation. The money donated was enough to buy 10 airplanes that were immediately transferred. As a sign of gratitude towards the generosity shown by the donors, the League organised air shows for the localities that donated large sums of money and named the purchased airplanes after the names of those localities[16].

As a result of the rapid development of aviation, it was necessary to regulate its status within the military organisation. A law on the organisation of military aeronautics was issued on 1 April 1913 and military aeronautics was organised into two branches – the aviation and the aerostation –, both subordinated to the Engineer Inspectorate.

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The very likely participation of the country in the ongoing war that had broken out in August 1914 led to issuing a new regulatory document – Decree 305 on 23 August 1915 – by which the Romanian Aviation Corps (R.A.C.) was established. The first Corp's commander was Major Gheorghe Rujinschi. According to its table of organisation and equipment (T.O.E.), the R.A.C. would have 4 Aviation Groups, an Independent Aviation Squadron, an Aerostation Company, and a logistic structure including the aviation schools. Every Aviation Group would have 3 aviation squadrons: one reconnaissance, one for artillery spotting and one fighter. The Independent Aviation Squadron would be equipped with bombers. The Aerostation Company would have 4 sections, each equipped with one captive balloon[18]. The R.A.C.'s T.O.E. was intended to address the envisioned war missions. Unfortunately, when it was created, the R.A.C. had only 47 unarmed reconnaissance airplanes used for training, and 3 aerostation units with 3 captive balloons[19].

3. Neutrality (12 August 1914 – 28 August 1916)

At the outbreak of the war, the Romanian Crown Council decided that the country should maintain its neutrality. As a consequence of political pressure from both the Entente and the Central Powers, the chance

[16] Valeriu Avram, *op. cit.*, p. 67.
[17] *Monitorul Oastei (Armed Forces Monitor)*, no. 15, 20.04.1913.
[18] AMR, *949 Collection*, file 406, pp. 1, 19, 39-40.
[19] AMR, *4th Engineer Directorate Collection*, file 524, p. 535, *Aeronautics Directorate Collection*, file 12, p. 113.

of entering the war became more and more likely. The government increased military expenditures in order to reduce the armaments gap between the Romanian Armed Forces and the other powers' armed forces. Unfortunately, the financial, material and training efforts were not enough to address the imbalances.

The outbreak of the war and the existence of the secret treaty between Romania and the Triple Alliance since 1883[20], which was renewed in 1892, 1896, 1902 and 1913[21], placed the political leadership in a dilemma of choosing between the two belligerent sides. German Emperor Wilhelm II asked King Carol I of Romania to respect the treaty with Germany, Austria-Hungary and Italy[22]. Carol I decided to convene the Crown Council on 3 August 1914, arguing that Romania had to obey the provisions of the alliance treaty with the Central Powers. However, the majority of the Council members, headed by Prime Minister Ion I. C. Brătianu, were in favour of the neutrality. The Prime Minister asserted, *"The Treaty does not oblige us. Germany and Austria-Hungary prepared the war and declared it"*[23]. His position was based on the provisions of the treaty that it *"was a purely defensive agreement"*[24]. Also, some foreign historians noted that "*Since there was no Serbian attack on Austria-Hungary ... there was no cause to invoke the 1883 Treaty in Romania's case*"[25]. Thus, the Crown Council chose neutrality for Romania. Soon after this decision, King Carol I died and was succeeded by Ferdinand I to the throne[26].

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[20] Rudolf Dinu, *Studi Italo-Romeni. Diplomazia et societa 1879-1914*, Editura Militară, București, 2009, pp. 77-79 (Prussia's Chancellor, Prince Bismarck, invited Romania to join the *"Peace League"*, another name for Triple Alliance, on 03/15 August 1883, in order to guarantee its security. He said that the road to Berlin went mandatory through Vienna).
[21] Pierre Milza and Serge Berstein, *Istoria secolului XX* (*History of the 20th Century*), volume 1, Editura All, București, 1998, p. 64, see also Petre Otu, *Mareşalul Alexandru Averescu – militarul, omul politic, legenda (Marshall Alexandru Averescu – the Military, the Politician, the Legend)*, Editura Militară, București, 2009, p. 92.
[22] Colonel Ion Giurcă, PhD, Dorel Dumitraș, *Alianțele și coalițiile politico-militare garant al securității statelor membre (Alliances and Political-Military Coalitions – Guarantor of Member States' Security)*, Editura Universității Naționale de Apărare "Carol I", București, 2004, p. 95.
[23] Gheorghe I. Duca, *Memorii (Memoires)*, volume 1, Editura Express, București, 1992, pp. 59-60 (The 2nd article of the treaty states that signatory states were required to help each other only when one of them was under attack).
[24] Alfred Franzis Pribram – editor, *The Secret Treaties of Austria-Hungary 1879-1914*, New York, 1967, volume 1, pp. 25-31.
[25] Richard Hamilton and Holger H. Herwig – editors, *The Origins of World War I*, Cambridge University Press, 2003, pp. 17-18, http://www.catdir.loc.gov/catdir/samples/cam033/2002067092.pdf , retrieved on 1 July 2013.
[26] Călin Hentea, *Brief Romanian Military History*, The Scarecrow Press, Inc., Lanham, Maryland, USA, 2007, pp. 101-102, see also Virgil Alexandru Dragalina, *Viața tatălui meu, generalul Ion Dragalina (Life of my Father, General Ion Dragalina)*, Editura Militară, București, 2009, p. 242.

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The effort to equip the armed forces started late and it could not be supported by a defence industry that produced only 1 artillery shell per day for the army's 2,000 cannons and 1-2 rounds per day for 800,000 rifles and machine guns.

During the neutrality period, Romania invested in reorganising, equipping and training its armed forces, allocating 17-22% of the country's budget for defence. However, the money spent for defence was insufficient to acquire all the necessary equipment to modernise the entire military. In comparing the combat capability of Romanian military units with those of the Great Powers' armed forces, a Romanian infantry battalion had only 1-2 machine guns and only 70% of the battalions had light artillery batteries. In contrast, each German or Austrian battalion had 5-6 machine guns, 9 light machine guns and an artillery battery. The Romanian Headquarters had fewer commissioned and non-commissioned officers than the number stipulated in the T.O.E. and many in the staff and command had little experience in leading their large units. The effort to equip the armed forces started late and it could not be supported by a defence industry that produced only 1 artillery shell per day for the army's 2,000 cannons and 1-2 rounds per day for 800,000 rifles and machine guns[27].

In 1915, Romania sent delegations to France, Germany, Russia, Italy, USA, Switzerland and Japan aiming to purchase armaments.

Although Romania had the facilities to manufacture Farman and Bristol-Coandă airplanes under French and British license, the Ministry of War preferred to import airplanes. In 1915, Romania sent delegations to France, Germany, Russia, Italy, USA, Switzerland and Japan aiming to purchase armaments. The most fruitful negotiations were those with France and Great Britain. Following those negotiations, Romania imported 40 aircraft, 600,000 75 mm artillery shells, and 50 million 6.5 mm bullets[28].

After Turkey (1914) and Bulgaria (1915) signed the treaty with the Central Powers[29] and Serbia was defeated (1915), the aircraft and military equipment imported from France and Great Britain were transported by ship in the Russian Port of Archangelsk and from there by train to Romania, at Iași, to be assembled, checked and repaired, often because the equipment suffered damage in transit.

Romanian pilots, as other airmen, believed that politicians did not understand the role of military aviation in setting policies[30]. Therefore, between 1914 and 1916, some enthusiastic pilots along with some experts from the Armed Forces Arsenal decided to experiment with dropping Romanian-designed bombs and practiced attacking ground targets from the air. Hearing of this, some political and military leaders were upset as such activities were the artillery's domain and besides, attacking targets from the air was too expensive[31].

Such attitudes were challenged by the Romanian military attachés reporting on the war operations in their reports to Bucureşti, along with tactics, manuals, instructions, and procedures for using aviation in war. Also, more and more political and military leaders from belligerent states changed their views about aviation roles and missions[32]. As a result of the effective service of the aviation force in combat operations, the leadership of the belligerents invested more money to improve airplane performances and to extend aircraft mission capabilities. Thus, new aviation categories such as bombardment and fighter ones appeared.

Romanian pilots, as other airmen, believed that politicians did not understand the role of military aviation in setting policies. Therefore, between 1914 and 1916, some enthusiastic pilots along with some experts from the Armed Forces Arsenal decided to experiment with dropping Romanian-designed bombs and practiced attacking ground targets from the air.

Despite many drawbacks, airmen developed the programmes for training and for using air units in combat operations, being driven by the experience of operations on the Western and Eastern fronts. Moreover, airmen and the staff officers from other services developed and updated regulations for all the new military assets in service in military units[33].

4. Romania Enters the War

Romania signed a treaty with the Entente because the Alliance pledged support to the unification of all Romanians into a single state. Counting on the Entente's promises to launch offensive operations in Thessaloniki and in Bucovina, the Great General Headquarters of the Romanian Armed Forces (G. G. H.) devised a risky concept of operations (CONOPS) to enter the war by launching the offensive in two divergent directions. This risky strategy implemented alongside the unfavourable evolution of the strategic situation for the Entente on both Eastern and Western fronts resulted in defeat for the Romanian Armed Forces

[27] Colonel Costică Popa, PhD, *op. cit.*, volume II, pp. 165, 234-235.
[28] Colonel Petre Otu, PhD, *Statul Major General şi reformele organismului military (The General Staff and the Military Body Reforms)*, in Major General Mihail Orzeață, PhD – editor, *Statul Major General 1859-2004. Istorie şi transformare (The General Staff 1859-2004. History and Transformation)*, Editura Centrului Tehnic-Editorial al Armatei, București, 2004, p. 61.
[29] Pierre Milza, Serge Berstein, *op. cit.*, volume 1, p. 73.
[30] Benjamin Franklin Cooling – editor, *op. cit.*, p. 2.
[31] AMR, *4th Engineer Directorate Collection*, file 471, p. 479, *apud* Valeriu Avram, *op. cit.*, pp. 133-134.
[32] Colonel Phillip Meilinger – editor, *The Path to Heaven. The Evolution of Airpower Theory*, Air University Press, Maxwell Air Force Base, Alabama, USA, 1997, pp. 15-16 (after the battle of Verdun, Marshall Petain informed the Minister of War that aviation became one of the indispensable factors of success); see also *The War in the Air. Observation and Reconnaissance*, http://www.firsworldwar.com/airwar/observation.htm, retrieved on 20 June 2013 (after the Tannenberg Battle, General Paul Hindenburg declared that without aviation he could not win the victory).
[33] AMR, *G.G.H. Collection*, Section 2, file 301, pp. 45-92.

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in 1916. The additional effect of the defeats was the occupation of two thirds of the Romanian territory by German troops. Having a new organisational structure and better equipment and training, Romanian aviation contributed to the limited successes in the battles of Mărăști, Mărășești and Oituz in July and August 1917. Russia's decision to exit the war contributed to the decision of the Romanian Council of Ministers to sign the Peace Treaty with the Central Powers in May 1918. The treaty was neither approved by the Parliament nor ratified by the King. Therefore, in November 1918, Romania re-entered the war against the Central Powers.

Central Powers pushed Romania to join their alliance by initiating aggressive measures, especially after Serbia was defeated. Austria-Hungary gathered troops in the Banat region, and Bulgaria mobilised forces in the southern part of the Danube River. Faced with this situation, the Romanian political leadership intensified the diplomatic contacts with the Entente states and signed the treaty with the Alliance on 17 August 1916, in Bucureşti. Given the ongoing military operations, the treaty was signed by Romanian Prime Minister Ion I. C. Brătianu and by the ambassadors and military attachés from France, Great Britain, Russia and Italy. According to the treaty, Romania had to enter the war no later than 28 August 1916. The allies pledged to recognise the unification of Transylvania, Banat and a part of Bucovina with Romania; Russia had to launch offensive in the southern part of Galicia and Bucovina against the Austro-Hungarian troops as well as to send two infantry divisions and one cavalry division in Dobrudja to prevent the Central Powers from debarking and seizing the Port of Constanța. In the meantime, the French-British expeditionary corps had to launch an offensive from Thessaloniki to prevent the Central Powers from focusing their forces against Romania. The allies also agreed to deliver daily 300 tons of military materials as well as medicines and rubber to the Romanian Armed Forces[34]. Right after signing the treaty, Prime Minister Brătianu declared: *"We did not enter the war as unwelcome applicants. We entered the war as desired and needed allies!"*[35].

Right after signing the treaty, Prime Minister Brătianu declared: "We did not enter the war as unwelcome applicants. We entered the war as desired and needed allies!".

[34] AMR, *România în Primul Război Mondial (Romania in World War I)*, volume 1 – *Documente (Documents)*, documents 2 and 3.

[35] Gheorghe I. Duca, *Amintiri politice (Political Memories)*, volume 1, Munchen, 1981, p. 72, *apud* Ion Giurcă and Dorel Dumitraș, *op. cit.*, p. 98.

4.1. The Romanian Great General Headquarters Operation Plan (OPLAN) for the 1916 Campaign

On the night of 27/28 August 1916, the Romanian Council of Ministers issued the decree for general mobilisation at the same time with the declaration of war against Austria-Hungary. The Romanian Armed Forces consisted of 833,601 troops, of whom 19,843 were commissioned officers, non-commissioned officers and undergraduate cadets. The troops were organised into 4 field armies (7 army corps; 23 infantry and 2 cavalry divisions; 5 light cavalry brigades, 2 heavy artillery brigades; 1 frontier guard brigade; 1 mountain artillery regiment; 1 railroads and bridges building regiment; 1 pontoon regiment); 1 battalion of specialists; 4 unarmed aviation squadrons; 1 Danube flotilla; the garrisons of Bucureşti, Tutrakan, Silistra, Cernavodă, Focșani, Nămoloasa and Galați fortifications, as well as logistic formations[36].

The moment of entering the war was unfavourable for Romania. On both Western and Eastern fronts, the Central Powers had the advantage and the freedom of manoeuvre to concentrate the troops against Romania because the allies failed to launch offensive operations as they had pledged under the treaty.

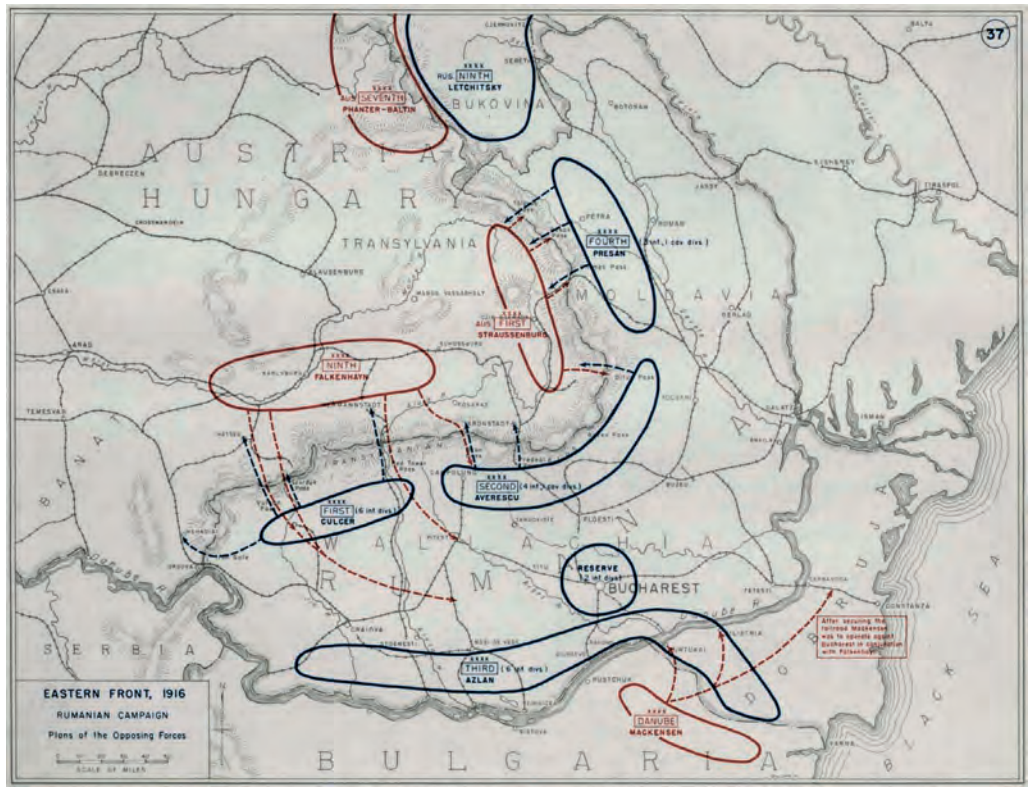
Relying on the allies' pledges under the treaty, the Romanian G.G.H. OPLAN for the 1916 campaign was aimed at launching offensive operations in Transylvania with the 1st, 2nd and 4th Armies, and a limited offensive in the south with the 3rd Army (details in *annex 1*[37]). The 4th Army, commanded by General Constantin Prezan, would launch an offensive operation between the northern border and the Oituz River Valley, with the goal to get to the Tisza Plain in 30-40 days. The 2nd Army, commanded by General Alexandru Averescu, would launch offensive operation between the Oituz River Valley and the Argeș River Valley, aiming to join the 4th Army forces in Tîrgu-Mureş-Cluj area and then to conduct common offensive operations up to the Tisza Plain.

The 1st Army, commanded by General Ioan Culcer, launched offensive operation between the Argeș River Valley and the Danube, aiming to join the 4th and 2nd armies' forces to the west of Alba-Iulia. The 3rd Army, commanded by General Mihail Aslan, had a defensive posture, with all its forces placed along the north bank of the Danube

On the night of 27/28 August 1916, the Romanian Council of Ministers issued the decree for general mobilisation at the same time with the declaration of war against Austria-Hungary.

[36] Colonel Costică Popa, PhD – editor, *op. cit.,* volume II, p. 233.

[37] Source:http://www.firstworldwar.com/maps/graphics/maps_37_easternfront_rumania-1_(1600), retrieved 20 June 2013.



Annex 1: Romanian Supreme Headquarters' Operation Plan for entering the war against Central Powers

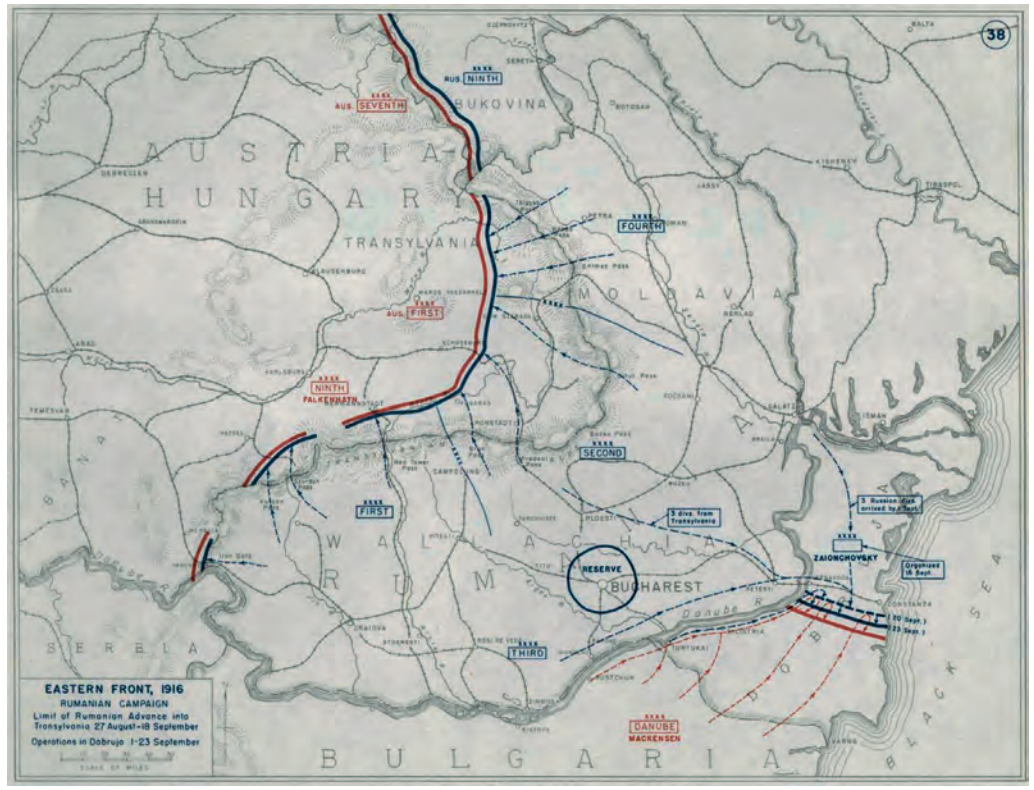
River. Its forces from Dobrudja had to secure the 47th Russian Army Corps debarkation and then to advance into the Bulgarian territory up to the Rusciuk-Varna alignment. The 5th Romanian Army Corps, commanded by General Gheorghe Georgescu, was deployed around București as Strategic Reserve[38].

The G.G.H. OPLAN was very risky and it had little chances to succeed because the Romanian forces had to fight alone on a 1,400-km long front. Indeed, the Romanian forces were less numerous and much more poorly equipped than their enemies – the German-Bulgarian-Turkish forces on the Southern front, and the German-Austro-Hungarian forces on the Transylvanian front (details in *annexes 2*[39] *and 3*[40]).

[38] *Ibid*, pp. 236-239.

[39] Source: http://www.firstworldwar.com/maps/graphics/maps_38_easternfront_rumania-2_(1600), retrieved on 20 June 2013.

[40] Source: http://www.firstworldwar.com/maps/graphics/maps_39_easternfront_rumania-3_(1600), retrieved on 20 June 2013.



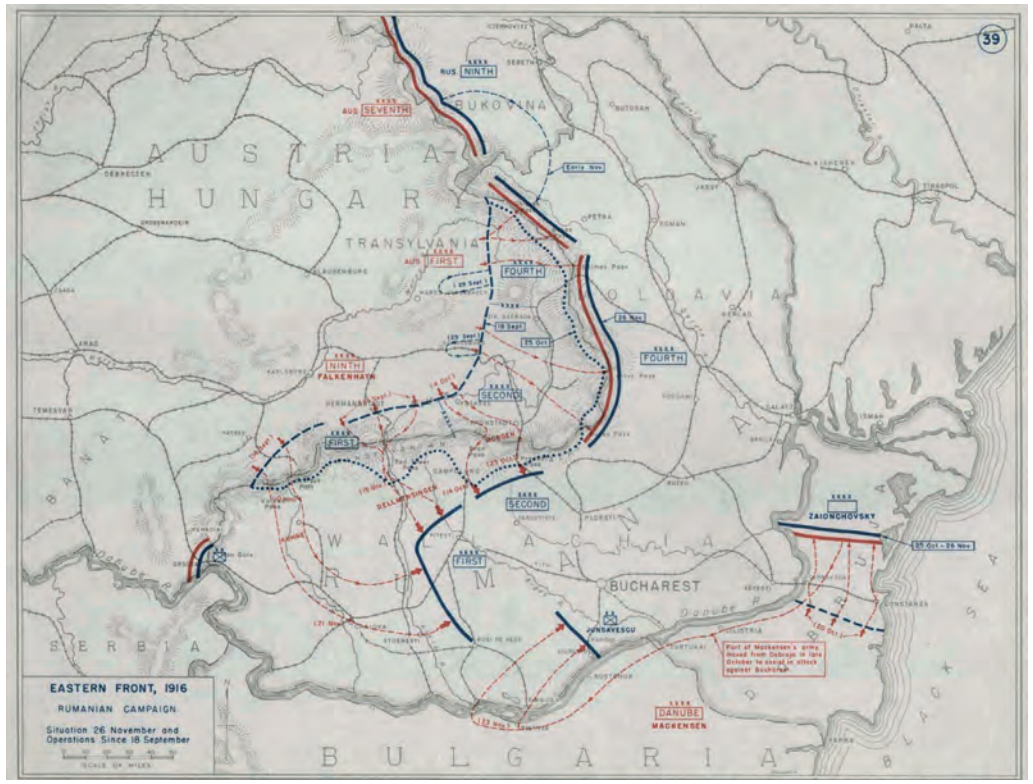
Annex 2: Romanian offensive in Transylvania (27 August-15 September 1916) and Dobrudja (1-23 September 1916)

4.1.1. Concept of Operations for Aviation

The G.G.H. planned the air groups to be used exclusively in support of the land forces. According to this concept, one aviation group and one aerostation section were assigned to each field army, and each cavalry division was supported by one reconnaissance aviation squadron. The independent bombardment squadron was to be the G.G.H. reserve.

The concept could not be applied as planned because the R.A.C. did not have all the necessary forces. Only 24 out of the 44 aircraft that had been imported and assembled in Iași by the Aeronautical General Reserve during the autumn of 1915 (12 Maurice-Farman 7, 12 Caudron G-3, 6 Morane-Saulnier, 8 Voisin 8 and 6 Bleriot) were *"ready to carry out missions in the first day of mobilisation"*. But they were also unarmed[41]. Another seventeen airplanes had been destroyed or damaged during training flights and most needed repair.

[41] AMR, *Aeronautics Directorate Collection*, file 12, p. 113.



Annex 3: Romanian campaign. 16 September-26 November 1916

The 1st Aviation Group, Commander Captain Sturza, was located at Tălmaciu (Sibiu) airfield with the mission to support the 1st Army operations with two squadrons – one having 2 Farman and the other 8 Voisin airplanes.

The 2nd Aviation Group, Commander Lieutenant Pascanu, followed by Lieutenant Negrescu, was located at Ghimbav (Brasov) airfield with the mission to support the 2nd Army operations with one squadron having 3 Maurice Farmans and 1 Morane Saulnier airplane. The 3rd Aviation Group, Commander Captain Beroniade, was located at Băneasa (Bucureşti) airfield with the mission to support the 1st Army operations with three squadrons: "Bucureşti" with 8 airplanes (2 Maurice Farman, 2 Morane Saulnier, and 4 Voisin); "Alexandria" and "Budeşti"[42] with 2 airplanes each (1 Maurice Farman and 1 Henri Farman).

[42] *"Bucureşti", "Alexandria"* and *"Budeşti"* were the name of the localities that donated enough money for buying aircraft for military aviation, at the initiative of the National Air League.

The 4th Aviation Group, commanded by Captain Giossanu, was located at Piatra Neamț airfield with the mission to support the 4th Army operations with 1 Maurice Farman airplane. In September, the Group received 2 more airplanes (1 Maurice Farman and 1 Farman-40)[43].

The Balloon Detachment had one section to support each field army. Each section was equipped with one German captive balloon for aerial surveillance. Along with the Romanian aviation, the Russians committed units with 40 aircraft – Farman-40 and Anatra for reconnaissance; Nieuport XI, XVII and Spad VII as fighters[44].

In the period August-September 1916, Austria-Hungary deployed 12 reconnaissance and bombardment squadrons, on the Romanian front, totalling 150 aircraft (Oeffag C.II, Lloyd C.III and Hansa Brandenburg C.I.), located at Târgu Secuiesc, Covasna, Miercurea-Ciuc, Vermeşti, Braşov, Bistrița and Sanmiclăuş airfields[45]. The Bulgarians had two balloons companies and the Germans deployed 9 air squadrons, equipped with Taube, L.V.G, D.F.W, A.E.G, Gotha reconnaissance and bomber aircraft, Fokker E. III, Albatros D. II fighter aircraft, and 5 Zeppelins (Z.81, Z.85, Z.86, Z.97, L.59). The German aviation units were deployed at Bulgarian airfields Rusciuk, Razgrad, Tetovo, Sistov, Nikopol, Iambol and a hydro-aviation squadron was stationed in the Port of Varna[46].

On 15 August 1916, the Romanian Antiaircraft Defence Corps was established, with the mission to protect the important civil and military objectives against enemy aerial attacks. The Corps had 113 antiaircraft guns and some machine guns and searchlights. Bucureşti was protected by the Antiaircraft Defence Branch of the Capital City, which was equipped with twenty 75 mm guns adapted for antiaircraft use, two *"Negrei"* system 57 mm guns, 16 antiaircraft machine guns and 8 sections of 60 and 90 cm searchlights.

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4.1.2. Primary Air Missions of the 1916 Campaign

At the beginning of the 1916 campaign, the Romanian aviation carried out surveillance and photographic reconnaissance missions to support the land forces. In the southern theatre of operations, Romanian airplanes discovered German, Turkish and Bulgarian troop

[43] AMR, *Aeronautics Directorate Collection*, file 36, pp. 58-59.
[44] AMR, *1704 Collection*, file 57, pp. 2-4.
[45] AMR, *Aeronautics Directorate Collection*, file 60, p. 633.
[46] Valeriu Avram, *"Crucile negre".Aviația Puterilor Centrale deasupra României 1916-1917 ("Black Crosses". Central Powers' Aviation over Romania in 1916-1917)* Editura Pro-Historia, Bucureşti, 2001, pp. 29-32.

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movements and informed the commanders of the 3rd Army, via thrown messages. This helped to prevented the troops from Dobrudja and the forces deployed south of the Danube River from being surrounded. In order to improve support for the land forces, the airmen decided to extend their missions by dropping bombs on enemy targets by hand in the absence of proper bomb dropping equipment. They threw 10 and 12 kg Romanian designed *"Drosescu"* bombs against enemy troop concentrations at Lepnic and Gogolia, against Sistov railroad station, the fuel depot in Rusciuk, on the Southern front. Troops and command centres at field army and army corps level, along the Northern front, were also targeted.

During the operations from August to September, Romanian aviation paid its blood tribute, with the loss of two aircraft and crews, shot down by the enemy's antiaircraft artillery.

Between 1 October 1916 and 1 January 1917, Romanian aviation received 152 aircraft from France: 11 Breguet V, 12 Breguet-Michelin-8s for bombardment, equipped with 37 mm guns, 10 Caudron G.4s for long distance reconnaissance and bombardment, 18 Nieuport XI Bebes, 10 Nieuport XXI, fighters, 91 Farman-40s, 42s and 60s for reconnaissance and light bombardment, and a few thousands 10 and 12 kg *"Gros"* and *"Michelin"* bombs. Some of the reconnaissance and light bombardment aircraft were equipped with devices for launching bombs and vision sighting. For night bombing, France's *"Herard"* bomb launchers were used, as well as French night instruments with electric lamps, compasses, *"Eteve"*-type speedometers and navigation maps. In addition, Romania purchased from France *"Le Prieur"* rockets for dogfights, to attack captive balloons, zeppelins, as well as terrestrial targets[47].

At the beginning of October 1916, the French Military Mission, led by General Mathias Berthelot, arrived in Romania. The mission was composed of 500 commissioned officers and 1,150 non-commissioned officers, corporals, soldiers and civilians having different specialties[48]. The aviation component consisted of 42 commissioned officers, 45 non-commissioned officers, 36 corporals and 162 soldiers and civilians[49] (pilots, aerial observers, specialists in aerostation, communications and wireless telegraphy[50] etc.). The Mission's main aim was to transfer France's knowledge and experience to the Romanian allies. The French Mission worked to improve command and organisational structure, equipment and the training level of both leaders and combat personnel. In order to meet the objective, the members of the Mission became directly involved and assumed command and execution positions within the Romanian Military Aviation commands. In this regard, Major De Malherbe was appointed as Commander of the Romanian Military Aviation through the High Order no. 11 on 17 October 1916, and Romanian Major Gheorghe Rujinschi, the R.A.C.'s Commander, became his deputy.

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At the beginning of November 1916, a British air squadron landed at Pipera (Bucureşti) airfield. The aircraft were part of the contract signed by the Romanian representatives with their British counterparts and the squadron was manned by Romanian pilots and observers. The British trained the Romanian pilots until January 1917, when they left the country[51].

As Romanian personnel completed training on the new planes, and were instructed in the lessons learned from other theatres of operations, the Romanian organisational structure and the locations of aviation units were adapted to the new reality of the battlefront (details in *annex 4*[52]). At the end of the 1916 campaign, the entire Romanian aviation force was deployed in Moldavia region and the government and the Royal House moved to Iaşi.

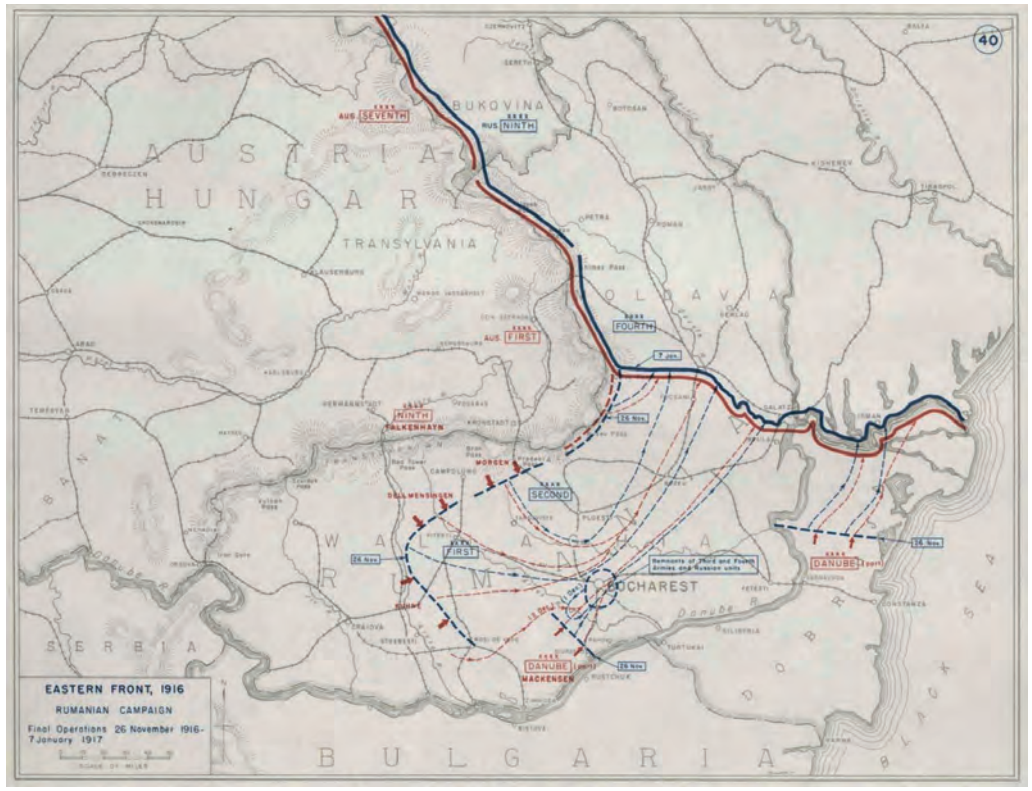
At the end of 1916, General Constantin Prezan, the new Chief of the G.G.H., advised by the Chief of the French Military Mission, decided to reorganise the Romanian aviation. The first step was to make it more independent by renouncing the tutelage of the Engineer Inspectorate and ordering the aviation commander to report directly to the Chief of the G.G.H. The new aviation structure was the Aeronautics Directorate, led by French Lieutenant Colonel De Vergnette De Lamotte. It was composed of aviation, balloons, photo, meteorology, and training branches. The training branch included flight and observer training schools.

The Commander of the Aviation Branch was Major Constantin Fotescu. The Branch consisted of:

- 3 Aviation Groups with 3 squadrons each – two reconnaissance and bombardment squadrons and one fighter squadron;

At the end of 1916, General Constantin Prezan, the new Chief of the G.G.H., advised by the Chief of the French Military Mission, decided to reorganise the Romanian aviation. The first step was to make it more independent by renouncing the tutelage of the Engineer Inspectorate and ordering the aviation commander to report directly to the Chief of the G.G.H. The new aviation structure was the Aeronautics Directorate, led by French Lieutenant Colonel De Vergnette De Lamotte.

[47] AMR, *Aeronautics Directorate Collection*, file 6, p. 28.
[48] AMR, *G.G.H. Collection*, file 430, p. 178.
[49] AMR, *G.G.H. Collection*, file 311, p. 116.
[50] Constantin Kirițescu, *Istoria reîntregirii României 1916-1919 (History of Romania's Reunification)*, 2nd edition, Editura Casa Școalelor, București, pp. 389-390.
[51] AMR, *G.G.H. Collection, Intelligence Section*, file 530, p. 207.
[52] Source: http://www.firstworldwar.com/maps/graphics/maps_4o_easternfront_rumania-4_(1600) , retrieved on 20 June 2013.



Annex 4: Romanian Campaign. 26 November 1916-7 January 1917

- the Aviation General Reserve, composed of two squadrons – one for reconnaissance and one for bombardment;
- the Aviation Fleet Technical Maintenance.

The Balloon Branch was commanded by Major Ion Iarca. It was composed of 5 balloon companies, each with: 1 French Caquot captive balloon, 3 antiaircraft machine guns and a light machine gun for defence against enemy aircraft, and one wireless telegraphy station for transmitting messages to the land forces.

At the end of 1916, the R.A.C. had in its inventory: 15 Nieuport Bebe aircraft of which 12 were operational, 11 operational Farman-40s and 9 in the process of being assembled; 6 Breguet 5s, 6 Breguet-Michelin-8s, and 3 two-seat Nieuport-Bebe aircraft for training[53]. By the end of the 1916 campaign, the aviation force lost 12 aircraft, 12 pilots, and 2 pilots were killed in training flights.

[53] AMR, *945 Collection*, file 289, p. 109.

Between November 1916 and January 1917, there were intense negotiations among political and military leaders from Romania and Russia in order to finalise the OPLAN for the 1917 campaign. The Russian G.G.H. wanted to gain control over the Romanian railroads and to see the Romanian Armed Forces withdrawn east of the Dniester River to recover. The Romanian authorities, with the help of General Mathias Berthelot, succeeded in convincing Russia's leadership that the Romanian Armed Forces could be reorganised, supplemented with personnel and equipped by successively withdrawing units from the battlefield and redeploying them after the reorganisation and re-equipment process.

In order to improve cooperation between the Romanian and the Russian troops, King Ferdinand I agreed to take the supreme command of the Russian-Romanian troops. The Russian High Command held the operational command through a staff led by a Romanian general, but the chief of staff was a Russian general[54].

4.2. The Romanian-Russian Allied Command Operation Plan for the 1917 Campaign

By the end of 1916, Romania suffered great human, territorial and material losses. Out of the initial 833,601 soldiers, only 300,000 were available for the 1917 campaign.

By the end of 1916, Romania suffered great human, territorial and material losses. Out of the initial 833,601 soldiers, only 300,000 were available for the 1917 campaign. The others died, were captured or wounded during the 1916 campaign. The country's territory was reduced by 1/3 and an important part of the major equipment was destroyed or captured by the enemy.

In order to increase Romania's combat capability, based on the previous acquisition contracts, the Romanian Armed Forces received from the allies 150,000 rifles, 2,736 light machine guns, 1,957 machine guns, 1,300,000 grenades, 355 guns, mortars and howitzers, 50 aircraft, helmets, gas masks, communication devices[55] and other equipments.

The Romanian G.G.H. decided to mobilise 80,000 recruits and transfer 130,000 soldiers from logistic to combat units. Following those decisions, the Romanian armed forces strength was 460,000 combat troops and 240,000 soldiers in logistics structures. They were reorganised in two field armies (6 army corps, 1 cavalry corps, 15 infantry divisions, two cavalry divisions, 4 light cavalry brigades, 1 border guard brigade, 1 heavy artillery brigade) and the aeronautics[56].

[54] AMR, *Microfilms Collection*, roll P. II 5.170, frames 456 and 457.
[55] Victor Atanasiu – editor, *România în primul război mondial (Romania in World War I)*, Editura Politică, București , 1979, p. 273.
[56] Colonel Costică Popa, PhD – editor, *op. cit.*, volume II, pp. 297-299.

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Both the Entente and the Central Powers wanted to win the war through a decisive victory. On the Romanian front, the Romanian-Russian Allied Command's objective was to liberate Muntenia Province from German occupation using the 1st and 2nd Romanian Armies, the 4th, 6th and 9th Russian Armies, supported by 72 Romanian and 40 Russian aircraft. The OPLAN stipulated an offensive operation with the effort focused on the Mărăşeşti-Buzău direction, using the 4th Russian and the 1st Romanian Armies. Also, it planned a limited offensive with the 2nd Romanian and some troops from the 4th Russian Armies focusing on the Mărăşti-Târgu-Secuiesc direction[57].

The reorganisation of aviation in the winter of 1916/1917 was meant to increase aviation unit efficiency; to improve command and cooperation during operations; and to better allocate airspace between aviation groups; as well as to provide better technical maintenance for aircraft.

The German-Austro-Hungarian-Bulgarian Command planned to take Romania out of the war. To that end, it had the 1st, 3rd and 7th Austro-Hungarian Armies in Bucovina and Eastern Transylvania, the 9th German Army in the southern part of the front and the 3rd Bulgarian Army in Dobrudja. The Land Forces were supported by 12 Austro-Hungarian and 9 German aviation squadrons.

The Central Powers' OPLAN envisioned an offensive operation by the German 9th Army from south to north along the Siret River Valley which would join the 3rd and the 7th Austro-Hungarian Armies that were to conduct offensive operations from Bucovina to South Moldavia region, along the course of the Siret River. The 3rd Bulgarian Army had the mission to prevent the 6th Russian Army from developing offensively in Dobrudja.

4.2.1. Concept of Operations for Aviation

The aviation reorganisation in the winter of 1916/1917 was based on 3 principles: 1) the main mission was to support the land forces; 2) each field army had to have one aviation group at its disposal and each army corps had to have one reconnaissance aviation squadron available; 3) all aviation squadrons had to have homogenous equipment. The reorganisation of aviation in the winter of 1916/1917 was meant to increase aviation unit efficiency; to improve command and cooperation during operations; and to better allocate airspace between aviation groups; as well as to provide better technical maintenance for aircraft.

At the beginning of 1917, the aviation was composed of 3 Aeronautical Groups with 6 reconnaissance squadrons (6 Farman 40, 42, 60 aircraft each), 4 fighter squadrons (7 Nieuport XI, XVII, XIX, XXIV aircraft each), 1 long-distance reconnaissance squadron with 4 Caudron G.4 aircraft, 1 bombardment squadron with 4 Breguet-Michelin-8 aircraft, and 5 aerostation companies with 1 Caquot balloon each[58].

According to OPLAN, the aviation was assigned as follows:

- the 1st Aeronautical Group was deployed at Răcăciuni (Bacău) airfield, with two reconnaissance squadrons and a fighter one to support the 2nd Romanian Army;
- the 2nd Aeronautical Group was deployed at Tecuci airfield, with two reconnaissance squadrons and a fighter one to support the 4th Russian Army;
- the 3rd Aeronautical Group was deployed at Galați airfield, with two reconnaissance and two fighter squadrons to support the 1st Romanian Army;
- the Aviation Reserve, with one long-distance reconnaissance squadron deployed at Tecuci and one bombardment squadron deployed at Galați airfields, was at the G.G.H.'s disposal[59].

In the campaign preparation, the air force contributed significantly to timely and accurately provide information to military leaders about enemy troop locations, movement and strength through air surveillance and photographic missions. Fighter aviation protected reconnaissance aircraft from enemy fighters. Fighter aviation flew combat air patrols over friendly airspace to prevent enemy aircraft from conducting reconnaissance and bombardment missions against Romanian and Russian forces.

From February 1917, the Romanian and French specialists of the 2nd Aeronautical Group were able to intercept and decrypt the German radio messages[60], which contributed to completing the commanders' big picture of the enemy's strength, deployments and intentions obtained through surveillance and photography.

In parallel with reconnaissance and combat missions, the aviation bombed enemy military and transport facilities. One of the most important bombing missions was done by the 3rd Aeronautical Group on 31 March 1917, with 19 aircraft. The Romanian and French crews destroyed the railroad between Brăila and Romanul, wrecked the docks

[57] AMR, *G.G.H. Collection*, file 806, pp. 11-12.

[58] Gheorghe A. Dabija, *Armata română în războiul mondial 1916-1918 (Romanian Armed Forces in World War I)*, volume 4, Editura I. G. Hertz, București, pp. 20-25.

[59] AMR, *G.G.H. Collection*, file 1175, p. 93.

[60] AMR, *Aeronautics Directorate Collection*, file 81, p. 38.

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and facilities in the Port of Brăila, and sank two German military ships[61]. The effects of the mission were important because the transport of troops and supplies for the 9th German Army was severely affected for a few weeks.

From May 1917 onwards, the aviation started night bombings using Farman-40 and Breguet-Michelin-8 bombers against the important enemy targets: Port of Brăila; Braşov's plants; Focşani, Covasna, Miercurea-Ciuc and Tîrgu-Secuiesc airbases; Buzău-Rîmnicu-Sărat-Focşani and Buzău-Făurei-Ianca-Brăila railroads; Romanul, Latinul, Traian and Focşani and other railroad stations.

4.2.2. The Most Important Missions Accomplished by the Aviation during the 1917 Campaign

The Romanian-Russian forces initiated offensive operations on July 24 with the 2nd Romanian Army focusing on the Mărăşti-Târgu-Secuiesc axis.
The offensive was begun with a two-day artillery preparation with the aviation support to adjust its fire.

The Romanian-Russian forces initiated offensive operations on July 24 with the 2nd Romanian Army focusing on the Mărăşti-Târgu-Secuiesc axis. The offensive was begun with a two-day artillery preparation with the aviation support to adjust its fire. When the offensive was launched, the Romanian-Russian forces had 50 infantry divisions (15 Romanian and 35 Russian) and 10 cavalry divisions (3 Romanian and 7 Russian), against 30 German and Austro-Hungarian infantry and 9 cavalry divisions[62]. Allied aviation was composed of 72 Romanian – 36 reconnaissance and light bomber planes, 28 fighters, and 8 bombers –, and 40 Russian planes against approximately 200 German and Austro-Hungarian aircraft.

By 30 July, the 2nd Romanian Army had won a 35-km wide and about 20-km deep bridgehead into the 1st Austro-Hungarian Army's front. The offensive was stopped because the Allied Command had to adjust its initial OPLAN. The new OPLAN moved the 9th Russian Army from the Western Moldavian front to the Northern front to stop the successful offensive of the 3rd and the 7th Austro-Hungarian Armies from Bucovina, which started on 19 July. Moreover, the 1st and 2nd Romanian Army, along with the 4th Russian Army, had to expand their area of responsibility to compensate for the withdrawal of the 9th Russian Army. The main cause of the Austro-Hungarian Armies success was the gradual decrease in combat capability of the Russian

[61] AMR, *Aeronautics Directorate Collection*, file 56, p. 195.
[62] Lt. Col. Alexandru Ioaniţiu, *Războiul pentru reîntregirea României 1916-1917 (The War for Romania's Reunification)*, volume 2, Bucureşti, 1928, pp. 295-296.

forces under the negative influence of the Bolshevik ideas widespread among the troops[63].

The unfolding of events made the military leaders of both belligerent parties change their plans. The Romanian-Russian forces changed their posture from offensive to defensive and the Central Powers from defensive to offensive, although with less ambitious goals than the initial plans. The German and Austro-Hungarian Command took advantage of the successful offensive of the 3rd and the 7th Austro-Hungarian Armies in Southern Bucovina. That offensive, in conjunction with the cessation of the 2nd Romanian Army's offensive and the withdrawal of the 9th Russian Army from the Eastern Moldavian front, provided the Central Powers with the opportunity to plan a limited offensive with the 9th German Army in the direction of Focşani – Mărăşeşti – Adjud and with the 1st Austro-Hungarian Army in the direction Oituz – Târgu-Ocna – Adjud. The aim was to surround and oust the 4th Russian and the 2nd Romanian Armies from the region.

The 9th German Army's offensive occurred between 6 August and 3 September 1917 and had little success, namely gaining a 30-km wide and 8-km deep territory into the 1st Romanian Field Army area of operation. The Romanian-Russian forces defence was focused on Mărăşeşti and its neighbourhood with a strong support from the 2nd Aeronautical Group, consisting of 6 squadrons. The aviation helped the land forces with data collected during many surveillance, photographic reconnaissance missions, in all-weather conditions, protected by fighter aircraft. All intelligence data about enemy troop locations were sent to armies, army corps and divisions. Based on intelligence data, the 1st Army Commander conducted a counteroffensive with the 5th and the 9th Infantry Divisions[64]. Reconnaissance aircraft carried out some special missions to drop leaflets in the enemy's rear. Fighter aviation protected the allied airspace to prevent the enemy from conducting reconnaissance and bombardment missions. Romanian bombers hit important targets in the German 9th Army area of operations[65].

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The 1st Austro-Hungarian Army's offensive operation along Oituz mountain pass took place between 8 and 22 August 1917. The action started with an artillery bombardment using poison gas. The result

[63] Jennifer Rosenberg, *History of World War I*, http://www.history1900s.about.com/od/worldwari/p/world-war-1.htm, retrieved on 25 June 2013.
[64] AMR, *G.G.H. Collection, Operations Section*, file 17/4/a/1917, pp. 226, 244.
[65] Nicolae Balotescu et al, *op. cit.*, pp. 315-316; see also Colonel Costică Popa, PhD – editor, *op. cit.*, pp. 316-330, 346.

was an advance into the 2nd Romanian Army's front of 18-20 km in width and 2-6 km in depth. Owing to the fierce resistance of the Romanian defence forces and their counterattacks, the Gerock Group, which was on the main direction of the offensive, enjoyed relatively little success[66]. The 1st Aeronautical Group also supported the defence operations of the 2nd Romanian Army and carried out an average of 9 aircraft sorties a day in surveillance and photographic reconnaissance missions protected by fighter aircraft. Some reconnaissance aircraft did not have radios so they used the old procedure of dropping messages on army division headquarters. In addition, the aviation helped the artillery to adjust fire and prevented enemy air reconnaissance and attacks against Romanian land forces[67].

The decision of the Russian Government to sign an armistice put the Romanian Armed Forces in the difficult position of fighting alone against an enemy that had more than its double combat capability. The Romanian Council of Ministers decided to start negotiations with the Central Powers and to sign an armistice agreement under force majeure circumstances, which was supposed to have only military and no political consequences.

As the operations in Mărăşti, Mărăşeşti and Oituz came to an end, both belligerent forces became engaged in trench warfare. The situation on the front was a stalemate until 3 December 1917, when the new Russian Bolshevik Government signed an armistice agreement with Germany, followed by a peace treaty on 3 March 1918, at Brest-Litovsk[68].

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At the end of October 1918, Romania again mobilised its Armed Forces and, in November, it reentered the war against the Central Powers. In a few weeks, Romania's national territory was freed from the Central Powers' forces.

[66] AMR, *G.G.H. Collection*, file C. 4/1917, no. 4, p. 223, file 55, annex f, p. 8.
[67] AMR, *G.G.H. Collection*, file 17/4/a, p. 46; file 19/1-4/d, pp. 17, 34.
[68] Richard Normes – editor, *Atlas historic de la guerre. Les armes et les batailles qui ont change le cours de l'histoire*, Edition Hachette, Paris, 1989, pp. 147, 155.
[69] AMR, *G.G.H. Collection*, *Section 3, Operations*, file 3/1917, p. 3.

5. Conclusions

Romania's defeat in the 1916 campaign was caused mainly by the political and military leadership failure. The political class was divided among supporters of Entente and politicians who wanted Romania to join the Central Powers side. From the strategic point of view, neutrality was a good decision for the country, because the armed forces were not prepared for war. Politically, this decision showed the reluctance of both parties involved in the war. The Entente and the Central Powers did not seem very interested in sending military equipment to Romania as a precaution measure because they did not know which side its leadership would decide to join eventually.

The moment Romania entered the war was wrongly chosen. The Russians suffered defeats at Tannenberg and Mazzurian Lakes, Serbia was defeated and Central Powers were in a little advantage on both Western and Eastern Fronts. The result of this situation brought future enemies – the Central Powers – on South, West and North of Romania's borders. The Romanian Great General Headquarters concept of operations was completely unrealistic in entering the war with offensive on two divergent directions while its armed forces were inferior the German-Austro-Hungarian-Turkish-Bulgarian ones.

The heavy Romanian losses from 1916 campaign were the result of the many mistakes its armed forces leadership made prior to and during battles. Mistrust and even hostility against aviation along with rivalry among high military ranking from armed forces leadership caused the inconceivable situation of entering the war with unarmed aircraft, after two years of neutrality and the highly likelihood of going to war. Both politicians and military leaders did not support the development of national defence industry and the country depended heavily on imports. Most military commanders did not have enough experience in leading and conducting real operations and the Second Balkan War, in which some of them participated, had little relevance for the reality of operations in the First World War.

Fortunately, the spirit of sacrifice from all soldiers in the Romanian Armed Forces and their morale were what kept them strong during battles. The allied help with military equipment and trainers had a huge importance in reorganising, re-equipping and improving the level of training for all military units of Romanian Armed Forces. The

result meant a good combat capability proved in the 1917 battles from Mărăşti, Mărăşeşti and Oituz.

Although initially unarmed, the Romanian aviation gradually increased its combat capability as a result of the innovative spirit of the airmen and, from November 1916 onwards, with allied help. Overall, aviation contributed to the positive results of the operation campaigns, especially the 1917 ones from Mărăşti, Mărăşeşti and Oituz, conducting missions in all-weather conditions, night included, since May 1917. Surveillance and reconnaissance aircraft contributed significantly to provide timely and accurate information to military commanders about enemy troops' locations, manoeuvres and strength. Fighters protected surveillance and reconnaissance aviation as well as Romanian and Russian land forces from enemy's aviation attacks. Light bombardment aviation conducted bombing missions against important enemy targets such as troops, command centres, depots, ports, ships and transport facilities. The bravery of the airmen and their innovative spirit made up for a part of inferiority in number and performances of their aircraft while they were engaged in air fights and other type of missions.

During the campaigns of the First World War, Romanian airmen flew about 10,000 flight hours, had about 550 aerial fights, winning 51 victories (Second Lieutenant Dumitru Bădulescu 8 victories, 5 confirmed; Lieutenant Gheorghe Mihăilescu and Second Lieutenant (ret.) Marin Popescu 4 victories each, Captain Vasile Craiu 3; Second Lieutenant (ret.) Marcel Drăguşanu and N.C.O. Ioan Muntenescu 2 victories etc.). The French pilots who fought alongside the Romanians had 28 victories in dogfights, and the antiaircraft artillery shot down 55 enemy aircraft. The bombardment aircraft dropped about 79 tons of bombs on enemy targets.

Twenty-two Romanian pilots and six air observers were killed in air combats and 9 more were shot down by enemy antiaircraft artillery. Twenty pilots, air observers and technical personnel died in training flights and eleven airmen were decorated with *"Mihai Viteazul"* Order, 3rd class, the highest decoration given for special actions during war[70].

[70] Nicolae Balotescu et al, *op. cit.*, pp. 115-126; see also Valeriu Avram, *op. cit.*, Editura Militară, București, 2012, p. 83.

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BRITISH INTERESTS AND THE SIGNIFICANCE OF THE BUCHAREST PEACE TREATY SIGNED ON 24 APRIL/7 MAY 1918

Valentin-Ioan FUŞCAN, PhD
The National Archives of Romania

The information related to the conclusion of separate peace by the Romanian government, in the winter of 1917/1918, transmitted by the allied ministers from Iaşi to the capitals of own countries echoed among the British political and military leaders. Although aware of the difficulty of providing British support, the government in London considered necessary for Romania to continue resisting the enemy. Knowing the difficulties the Romanian Armed Forces had to face on the Eastern Front, London was mainly interested in Germany not being able to withdraw troops from this front to redirect them to the West. In this context, the Cabinet in London seemed to understand, at least in moral terms, the difficult situation in Romania.

In the present study, the author intends to provide, based on the documents found in the archive, a brief analysis of the political and economic significance attached to the Bucharest Peace Treaty in London, as well as of the predicted consequences for the political future of Romania. The British diplomacy carefully analysed all the aspects of the treaty imposed on Romania by the Central Powers, treaty that could anticipate, in the eyes of London, the status of Europe in the event of a victory won by Germany in Europe.*

Keywords: peace, Foreign Office, Political Intelligence Department, Romania, Central Powers.

* In the chapter related to the Peace Treaty that enslaved Romania, Constantin Kirițescu emphasised that, through the severe political and economic clauses, it showed the Entente Powers what they could expect in the event of a German victory, thus being the most important propaganda instrument for the continuation of fight up to the last power resource, in order to win the war, Constantin Kirițescu, *Istoria războiului pentru întregirea României. 1916-1919*, vol. III, IInd edition, Editura Casei Școalelor, București, n. d., p. 254.

English version by **Diana Cristiana LUPU**.

Introduction

The conclusion of a separate peace treaty with the Central Powers by the Romanian government, in the spring of 1918, would be subject to thorough analysis by the responsible bodies in the UK. Within Foreign Office it was established, starting in March 1918, a Political Intelligence Department. The responsibilities of the Department were similar to those of the structures in the British Army and Navy, the only difference being that it had as main objective the collection of information related to the political situation in the allied, enemy or neutral countries. The collected pieces of information were analysed and included in thorough reports for the use of the UK Cabinet. During the autumn of the same year, the Political Intelligence Department would be given the task to *"decipher"* the significance of the Bucharest Peace Treaty on 24 April/7 May 1918. The Memorandum prepared on that occasion, to which also contributed Radu R. Rosetti, former Chief of the Operations Bureau within the Romanian Great General Headquarters, provides interesting information related to the political and financial-economic consequences of the clauses of the Bucharest Peace Treaty, which placed Romania under the tutelage of Germany.

Within Foreign Office it was established, starting in March 1918, a Political Intelligence Department. The responsibilities of the Department were similar to those of the structures in the British Army and Navy, the only difference being that it had as main objective the collection of information related to the political situation in the allied, enemy or neutral countries.

The UK government was initially hesitant regarding the attitude to be adopted towards the Romanian government position, which was dictated by purely military considerations. The unification of Bessarabia with Romania, on 23 March/9 April 1918, achieved in an extremely difficult context for the Romanians, was perceived in London as being based, first and foremost, on the desires expressed by the citizens of the Romanian province. Although the official recognition of the unification was not considered at that moment, it was evident that the position of the Foreign Office also took into account the situation in Russia. Bessarabia becoming part of Romania could have been a security guarantee for the trade at the mouth of the Danube.

The interest in the Bucharest Peace Treaty can be explained by the Cabinet in London concern about the danger of German hegemony in the south-east of Europe, in the context of at least temporary collapse of Russia as a power factor in the East. The victories on the Western Front, to which the collapse of the Salonika front and the advance

of the troops led by General Franchet Louis d'Espèrey to the Danube were added, provided the necessary impetus for Romania re-entering the war alongside the Allies.

The Issue Historiography

The Bucharest *"peace"* bibliography was inaugurated by the work of D. Iancovici[1], who conducted a *"hot"* analysis of the treaty that enslaved Romania politically and economically. The author's declared aim was to make known to Paris and London the severe conditions imposed on the Romanian state by the Central Powers.

Constantin Kirițescu, in his masterpiece relating to the participation of Romania in the First World War, Istoria războiului pentru întregirea României. 1916-1919 (The History of the War for Romania Reunification. 1916-1919), also provides an interesting analysis of the factors that contributed, at the end of 1917 and the beginning of 1918, to the containment of Romania, and which finally resulted in the signing by Romania of the Bucharest Peace Treaty.

In turn, Constantin Kirițescu, in his masterpiece relating to the participation of Romania in the First World War, *Istoria războiului pentru întregirea României. 1916-1919 (The History of the War for Romania Reunification. 1916-1919)*[2], also provides an interesting analysis of the factors that contributed, at the end of 1917 and the beginning of 1918, to the containment of Romania, and which finally resulted in the signing by Romania of the Bucharest Peace Treaty. Constantin Kirițescu emphasises the main political and military arguments that lay at the basis of the Romanian government decision to conclude a separate peace. In his opinion, between a Germany willing to liquidate the Russian-Romanian front in order to concentrate its efforts on the Western Front, in the hope of a decisive blow, and a Bolshevik Russia eager to conclude the separate peace to focus on the *"internal front"*, Romania was devoid of any possibility of withdrawing – it had no other solution in those difficult moments. Constantin Kirițescu briefly investigated the legal dispositions of the *"enslaving Bucharest peace"*, whose entering into force *"actually dismantled Romania as a stand-alone country and threw it in the abyss of the darkest thraldom"*[3].

One of the foreign historians who has made one of the most important contributions to the research devoted to the place and role of Romania in the Great Powers mechanism between 1914 and 1918

[1] D. Iancovici, *La paix de Bucarest (7 mai 1918)*, Paris, Payot & C[ie], 1918.
[2] Constantin Kirițescu, *op. cit.*, p. 233.
[3] *Ibidem*, p. 236.

is, undoubtedly, Glenn Torrey[4]. Preoccupied with the international framework the moment military operations were ceased in Eastern Europe, he also addressed the issue of the negotiations that were to result in signing the separate Bucharest Peace Treaty[5]. Today, no one can write about the history of the War for Romania Reunification without considering the American historian contribution.

The Character of the *"Peace"* in Bucharest

As expected, the *Bucharest Peace Treaty*, signed in the context of the Russian Armed Forces defection and the impossibility for the Romanian Armed Forces, deprived of any possibility to be helped by their Western allies, to continue the war, resulted in immediate reactions in the United Kingdom. The Cabinet in London and King George V officially expressed sympathy for the troublesome situation Romania was in, sending supportive messages in those difficult circumstances.

The British diplomacy was mainly concerned about the economic advantages Germany could enjoy following the signing of both a trade convention and of a convention relating to the oil exploitation in our country with Romania. Moreover, a cause of concern for the political leaders in London was also represented by the clauses of the treaty relating to the navigation on the Danube.

The enslaving conditions imposed on Romania through the *"Peace Treaty"* on 24 April/7 May 1918 were thoroughly debated by the Foreign Office, concerned about deciphering its possible political and economic implications. The British diplomacy was mainly concerned about the economic advantages Germany could enjoy following the signing of both a trade convention and of a convention relating to the oil exploitation in our country with Romania. Moreover, a cause of concern for the political leaders in London was also represented by the clauses of the treaty relating to the navigation on the Danube.

A pertinent and succinct characterisation of the *"peace"* in Bucharest was carried out by the Ministers of the Entente accredited in Romania in a joint letter sent on 3/16 May 1918 to the UK Parliament. According to the allied diplomats, it was *"a model of German peace"*[6],

[4] Glenn E. Torrey, *Romania and World War I*, Iaşi, Oxford, Portland, The Center for Romanian Studies, 1998.
[5] In his most recent book, Glenn Torrey perfectly synthesised the nature of the negotiations conducted at a hectic pace between Romania and the Central Powers in the spring of 1918: *"The Romanians worked hard but only to a lesser degree were they able to mitigate the greed of their enemy".* Glenn Torrey, *România în Primul Război Mondial*, Editura Meteor Publishing, Bucureşti, 2016, p. 316.
[6] *1918 la români. Desăvârşirea unităţii naţional-statale a poporului român. Documente externe (1879-1916)*, Editura Ştiinţifică şi Enciclopedică, Bucureşti, vol. II, 1983, p. 1115 – The Entente Ministers comments in Iaşi, on 3/16 May 1918, made known to the UK Parliament.

*Photo 1: Prime Minister Alexandru Marghiloman signing the Bucharest Peace Treaty, on 7 May 1918**

The provisions of the document – the authors synthesised – "entail robbery in the public domain, the almost unconcealed annexation of the whole country and, following peace, the barbarous and exhausting exploitation of its resources to the advantage of the winners. It makes Romania a real prison, where the entire population is condemned to hard labour".

imposed on the Romanians by a country that *"cynically disengaged from own declarations"*[7]. The provisions of the document – the authors synthesised – *"entail robbery in the public domain, the almost unconcealed annexation of the whole country and, following peace, the barbarous and exhausting exploitation of its resources to the advantage of the winners. It makes Romania a real prison, where the entire population is condemned to hard labour"*[8].

The *"Cartagenan"* peace in Bucharest did not prevent the Marghiloman government from presenting it as a victory. The Foreign Minister, C.C. Arion, declared that *"Romania would become more powerful following the concluded peace"*[9]. However, it should be taken into account that the Bucharest Peace was never sanctioned by King Ferdinand, despite the pressures exercised on him by the winners and by Alexandru Marghiloman. Considering that in the very text of the treaty it was clearly specified that it would enter into force only after its sanctioning by the King of Romania, it can be said that, in terms of international law, the Peace Treaty of Bucharest was a *"form without substance"*.

* Source: https://media.iwm.org.uk/ciim5/318/292/large_000000.jpg

7 *Ibidem.*

8 *Ibidem*.

9 Constantin Kirițescu, *op. cit.*, vol. III, p. 252.

British Conceptions regarding the Bucharest Peace Treaty on 24 April/7 May 1918

In the autumn of 1918, the Political Intelligence Department[10] within the Foreign Office was given the task of developing a comprehensive document related to the significance of the Bucharest *"peace"*[11]. Besides Germany's desire to discharge an important part of its troops on the front in Moldova to be used on the Western Front, where a major offensive was prepared to definitively decide the fate of the war, as well as the necessity to ensure the raw materials and food supplies, the draconic conditions imposed by the *"peace treaty"* were subject to the Foreign Office analysis, mainly considering two points

10 *Political Intelligence Department* was a structure within the UK Ministry of Foreign Affairs, which was established on 11 March 1918, following the initiative of the UK Under-Secretary of State, Lord Hardinge of Penshurst. The department responsibilities were related to developing information reports to be used by the UK Cabinet, consisting in thorough analyses of the political, economic and military realities in the allied and enemy countries. The department was led by the British diplomat William Tyrell (1866-1947), who authored, together with Sir Ralph Paget, a memorandum (7 August 1916) regarding the territorial reconfiguration of Europe based on the principle of nationalities. The memorandum, edited during the period of the accelerated negotiations between Romania and the Entente, recognised that the Dual Monarchy denied the freedom of nationalities, which was to disappear at the end of the war. The position of deputy director was filled by the well-known British historian and classicist James Wycliffe Headlam-Morley (1863-1929), author of many studies on the unification policy of Germany during Chancellor Bismarck, the causes of the outburst of the First World War, as well as on other aspects relating to the world conflagration. The department personnel consisted of personalities in the UK academic life. Among them, Arnold Toynbee (1889-1975) can be mentioned, who is known today for the influence he exercised on cultural studies. His famous book, *A Study of History* (1934-1961), which generated fierce debates among the intellectuals of the time, echoing even today, was translated worldwide. After the war, Toynbee was a member of the UK delegation at the Paris Peace Conference. Other members of the department personnel were historians Sir Lewis Bernstein Namier (1888-1960), Sir Alfred Eckhard Zimmern (1879-1957). Among the historians associated with the Political Intelligence Department were also Robert William Seton-Watson (1879-1951), known under the pseudonym Scotus Viator, one of the best experts in the problem of nationalities in the Austrian-Hungarian Empire, and a supporter of the idea of all Romanians unity. In his studies, the British publicist denounced the hegemony of the Magyars in the Double Monarchy, hegemony exercised to the detriment of the other nationalities, subject to a regime of discrimination and oppression. Disbanded in 1920, the Political Intelligence Department resumed its activity in 1939, in the context of the outburst of the Second World War. Further information related to the origins and the role of the department established in the spring of 1918 can be found in Erik Goldstein, *The Foreign Office and Political Intelligence 1918-1920*, in *Review on International Studies*, vol. 14, no. 4 (October 1988), pp. 275-288; Alan Sharp, *Some Relevant Historians – the Political Intelligence Department of the Foreign Office*, 1918-1920, in *Australian Journal of Politics & History*, vol. 34, no. 3, December 1988, pp. 359-368.

11 The development of the memorandum benefited the contribution of Colonel Radu R. Rosetti (1877-1949), former Chief of the Operations Bureau within the Great General Headquarters, who emigrated in France, in June 1918, and who made available to the Foreign Office important pieces of information related to Germany policy in the Romanian occupied territory.

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of view[12]: the first one emphasised Germany desire to ensure that Romania could not resume military hostilities against it; the second one highlighted Wilhelmstrasse intention to rally Romania to the Central Powers policy.

*Photo 2: Foreign Office headquarters around the First World War**

According to the "peace treaty" on 24 April/ 7 May 1918, the frontier between Romania and Austria-Hungary was subject to major rectifications. Thus, Romania lost the Carpathians and the passes, a territorial annexation that, in the Foreign Office view, had to provide the Austro-Hungarian Empire with a strong position in the future relations with the Romanian government.

In order to meet this objective, the Political Intelligence Department underlined the fact that Germany voluntarily renounced ensuring the military control over the territory of Moldova, noting that Romania had only 500,000 troops available[13].

Territorial Losses

According to the *"peace treaty"* on 24 April/7 May 1918, the frontier between Romania and Austria-Hungary was subject to major rectifications. Thus, Romania lost the Carpathians and the passes, a territorial annexation that, in the Foreign Office view, had to provide the Austro-Hungarian Empire with a strong position in the future relations with the Romanian government[14]. The authors of the memorandum emphasised the fact that the territory the Romanians had to cede to Austria-Hungary included the most important forest resources of the country as well as the carboniferous area near Petroşani.

[12] The British National Archives, Kew, CAB 24/67/37 – 19 September 1918 – *Memorandum on The Meaning and Effect of the Bucharest "Peace Treaty"*, p. 1.

* Source: https://www.chathamhouse.org/publications/twt/foreign-office-secrets-spilled

[13] The preservation of the Romanian Armed Forces combat capability, despite the provisions of the Bucharest *"Peace"* Treaty, would prove essential for Romania re-entering the war alongside the Entente, in November 1918.

[14] *Ibidem*, p. 2. Romania ceded to Austria-Hungary, in the area of the Carpathian Mountains, a territory of 5,600 km^2, with 724,957 inhabitants.

To these territorial losses in favour of the Dual Empire the loss of Southern Dobruja, which was annexed to Bulgaria, was added. Moreover, Northern Dobruja was jointly administered by the Central Powers. The memorandum developed by the Foreign Office highlighted the fact that the territory of Dobruja, incorporated in Romania in 1878, had a majority Romanian population, while, in the two counties acquired in 1913, the Bulgarians accounted for 45% and the Turks-Tatars for 47% of the province population. In the memorandum it was shown that, strategically, the control ensured by the Germans over the railway Constanța-Cernavodă and over the entire Romanian rail system, as well as the control over Dobruja, was meant to provide Germany with the opportunity to rapidly eliminate *"any possible revolt that could burst out in Walachia"*[15].

Economic Control

Economically, according to article 20 of the treaty, the occupying armed forces had the right to requisition cereals and oil, which were necessary to support the war against the Entente. During the year 1918, the Romanian government was obliged to make available to the Germans a quantity of 120,000 tons of cereals, although the harvest of that summer had been very poor because of the severe drought that affected the Old Kingdom except Oltenia. Starting in 1919, for a seven-year period, which could be extended, the surplus of cereals in Romania had to be made available to the Central Powers, the price of the cereals being set annually by a mixed commission. The so-called surplus was to be established by a joint Austrian-German-Romanian commission. The method employed to obtain, receive and pay for supplies was the responsibility of an Export Office, organised by the Romanian government in collaboration with a Bureau consisting of representatives of Germany and Austria-Hungary, countries that, in turn, engaged with *"generosity"* to facilitate the export of manufactured goods, raw materials and especially products necessary for the intensification of agricultural production to Romania. All the mentioned measures were considered by the Foreign Office as being intended to ensure the Central Powers economic monopoly over Romania[16].

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Special emphasis in the analysis undertaken by the Political Intelligence Department of the Foreign Office regarding the economic

[15] *Ibidem*.

[16] *Ibidem*, p. 3.

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The analysts in the political intelligence Department highlighted the fact that the Romanian government was prevented from exercising its customs and financial control over the Austrian-Hungary commercial company that could force Romania "to provide any privilege [...] considered to be for its benefit".

Based on article 9 of the economic treaty, all the previous conventions and tariffs agreed upon with the Central Powers were modified so that they could favour, by all means, the import of German goods in Romania. By its clauses, "the economic treaty practically left the Romanian industry at the mercy of Germany".

implications of the *"peace"* in Bucharest was placed on the problem of oil production and export, the provisions of the treaty being characterised as arbitrary as the other ones[17]. The Romanian government had to cede, for a 30-year period, the exclusive right to exploit the oil fields belonging to the state that had not been exploited up to that time, and the oil fields concessions had to be granted to a company whose policy was under the *"complete control"* of Germany and Austria-Hungary[18]. Moreover, the two states were to have exclusive rights to export the oil and its derivatives, exercised through a company having trade monopoly. By such economic control instruments, the Central powers ensured *"full jurisdiction over the entire Romanian oil industry"*. The analysts in the political intelligence Department highlighted the fact that the Romanian government was prevented from exercising its customs and financial control over the Austrian-Hungary commercial company that could force Romania *"to provide any privilege [...] considered to be for its benefit"*[19].

Photo 3: Sir William Tyrell, Director of the Political Intelligence Department within the Foreign Office[*]

Last but not least, Romania was obliged to renounce the right to exploit its natural resources in favour of the *"complete control"* of Germany. According to article 7 of the economic treaty, the Germans acquired the right to purchase movable and immovable property in the urban area and to rent, for a period of 30 years, any immovable property, in the rural area, considered to be necessary for own economic activity. They could not be subject to other restrictions than those in force for the Romanian citizens. The last stipulations in the *"Peace Treaty"* of Bucharest could result, according to the Foreign Office, only in the risk of *"the greatest part of immovable property in Romania becoming the property of foreigners in the short run"*[20].

[*] Source: https://www.google.ro/search?q=sir+william+tyrrell&source=lnms&tbm=isch&sa=X&ved=0ahUKEwiMxcmmhrHdAhWlxIsKHRi_DN4Q_AUICigB&biw=1366&bih=662#imgrc=JUWeRlTyBPjqCM

[17] *Ibidem*.

[18] *Ibidem*. The right to exploit oil could be extended up to 90 years, depending on the necessities established by the Germans.

[19] *Ibidem*.

[20] *Ibidem*.

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Financial Control

Romania subjugation was complemented by articles 42 and 43 of the treaty, which represented the enslavement of the country financial system[22]. Thus, the loans and deposits of the National Bank of Romania, which were at the Reichsbank, were retained by Germany as a guarantee of the Romanian public debt related to the German subjects for a period of five years, which could be extended up to 10 years. Moreover, Germany compelled Romania to redeem, by any National Bank payment legal form, the bills issued by the Romanian General Bank, following the order of the German administration[23]. The authors of the memorandum mentioned the fact that, up to the signing of the peace treaty between Romania and the Central Powers, the Romanian General Bank – a creation of *"Disconto – Gesellschaft"* – issued banknotes amounting to 1 billion lei[24].

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Political Control

In order to ensure the political and military control over the country, the peace treaty stipulated the Romanian armed forces demobilisation and the drastic reduction of the troops. The expenses related to the German armed forces stationed in Muntenia, which should not have accounted for more than 60,000 troops,

[21] *Ibidem*, p. 4.

[22] *Ibidem*.

[23] In January 1917, as the National Bank moved its headquarters to Iasi, with the royal family, the Government and the other institutions of the country, the Central Powers granted the Romanian General Bank the authorisation to issue bank bills in the occupied territory. The bills were covered by a deposit in marks at the Reichsbank, at the exchange rate of 80 marks for 100 lei. Victor Slăvescu, experienced analyst of the Romanian economy history, in a paper dedicated to money emission banks, concluded that: *"Actually, the intention of the Central Powers was that the reimbursement of all issued bills to be the responsibility of the Romanian government, at the conclusion of peace. This way, they could cover the occupation expenses and ‹pay› for different goods that were taken from the country, the final liquidation being conducted at the expense of our state".* [Victor Slăvescu, *Tratat de bancă*, vol. II, *Doctrina de bancă. A. Băncile de emisiune*, Editura Cartea Românească, Bucureşti, 1931, p. 291].

[24] CAB 24/67/37, p. 4.

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were to be paid by the Romanian authorities[25]. The Romanian government was obliged to meet all the requirements the military commanders considered necessary, the injuries to the occupation army being the responsibility of military courts – measures meant to transform Romania's sovereignty, according to the Foreign Office, *"into a farce"*[26].

The obligation to grant *"the same freedom and protection from authorities for Roman Catholic, Protestant, Muslim and Israeli religions"*, which had the right to found churches and communities, as well as to establish schools on the territory of the country was viewed in London as a measure that, under the pretext of *"a plea to tolerance by including clauses in the text of the treaty to meet a demand that does not yet exist"*, was meant to create some centres for the propaganda of Central Powers policies in Romania[27]. Moreover, through the political convention between Romania and Austria-Hungary, the two parties undertook not to include materials having propagandistic content or representing actions directly or indirectly intended against the territorial integrity and security or public order in the neighbouring country in the textbooks or other educational texts. The measure was aimed at *"permanently suppressing the study of their race history and of a great part of their national literature by the Romanian young people"*[28].

The Political Intelligence Department, composed of remarkable experts in the fields of history, international relations, economy and finance, as well as in other related domains, also analysed the perspectives of preserving the independence of Romania through the prism of the measures adopted by the government led by Alexandru Marghiloman. Thus, after becoming a prime minister, the conservative leader promoted a law that obliged all the peasants to work the land belonging to great landlords (men aged between 14 and 60 and women aged between 14 and 50).

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The interference of the Central Powers in the domestic policy in Romania is also illustrated by the decision regarding *"the complete amnesty of all the Romanians in relation to their conduct, in political or military terms, during the war"* (Colonel Alexandru Sturdza and Colonel Victor Verzea were reinstated), a decision that was aimed at strengthening the pro-German party[30]. Moreover, Ion I.C. Brătianu, who made, in the summer of 1916, the decision on Romania entering the war alongside the Entente, was charged, together with the other members of the government. According to the authors of the memorandum, *"whether or not it is a legitimate complaint about some of the actions of the Romanian Prime Minister, it is clear that this measure of the Marghiloman Government, against him and his ministers, is primarily dictated by his pro-german feelings"*[31].

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Conclusions

The document developed by the Political Intelligence Department in the autumn of 1918 included, in its final part, a series of assessments of the state of mind in Romania created as a result of the action of German policy in our country, based on the principle of the most powerful law, as well as on the belief in Berlin that *"no matter what the fate of the war elsewhere, the Eastern and Southeastern Europe will definitely enter the German sphere of influence"*[32]. In a few months following the signing of the *Peace of Bucharest*, it could be noted that *"pro-German feelings were less spread in Romania than ever"*, as the dissatisfaction with the Central Powers was growing[33]. Moreover, during that period, in Paris, the National Council of Romanian Unity was established, under the leadership of Take Ionescu (Chairman), Vasile Lucaciu, Octavian Goga, Constantin Angelescu

[25] *Ibidem*. Radu R. Rosetti noted that the impressive sum of 6,000 francs per year, six times larger than in peacetime, was necessary to be allocated for a German soldier.
[26] *Ibidem*.
[27] *Ibidem*, p. 5.
[28] *Ibidem*.
[29] *Ibidem*.
[30] *Ibidem*.
[31] *Ibidem*, p. 6.
[32] *Ibidem*, p. 7.
[33] *Ibidem*.

and Ioan Florescu (Vice-Presidents)[34], while, *"in the country, it was propagated the idea that Romania could, once more, constitute the Eastern Front"*[35]. According to the representatives of the Political Intelligence Department, Bulgaria exit from war and the Allies advance to the Danube could *"quickly offer the opportunity for the discontents to find their expression in a general rise of the country against the Germans"*[36].

Practically, there were two Romanias at that time: an official Romania, represented by the Marghiloman Government and the minor group of politicians favourable to the Central Powers, and the profound Romania, in other words, the majority of the Romanians that rejected the peace of Bucharest and continued to consider themselves engaged in the fight against the Central Powers. That reality was expressed in the pages of the book published, in Paris, by D. Iancovici, who emphasised that: *"Romania – I am referring to the people – did not want peace. Our governors had never been able to invoke as arguments in their decision-making process the devastation of the soldier as well as of the people*. *The nation was ready to consent to all the sacrifices to continue the struggle"*[37]. Such a combatant Romania was represented in the West by the group that left the country for France, led by Take Ionescu, as well as by the Romanians in the United States of America and Italy, faithful to the creed of the struggle for completing the national unity. From that standpoint, the activity of the Romanians abroad ensured the continuity of the Romanian policy to fight alongside the Entente. The Bucharest *"Peace"* can be thus considered a *"road map accident"*, which did not represent the point of view of the vast majority of the Romanian people.

In the months that followed the signing of the *Peace of Bucharest*, the evolution of the events on the Western Front as well as on the Salonika Front generated the favourable conditions for Romania to

[34] Georges Moroianu, *Les luttes des Roumains transylvains pour la liberté et l'opinion européenne. Épisodes et souvenirs*, Librairie Universitaire J. Gamber, Paris, 1933, p. 219.

[35] *CAB 24/67/37*, p. 7. The hopes in Romania military revival found their expression in the pages of the diary belonging to Vasile Th. Cancicov who, considering the context of the Bucharest Peace Treaty conclusion, noted the following: *"Miracles are still possible: a return of events in favor of yesterday's allies in the West may still be saving Romania"* [Vasile Th. Cancicov, *Impresiuni şi păreri personale din timpul războiului României. Jurnal zilnic. 13 august 1916-31 decembrie 1918*, vol. II, Atelierele Societății *"Universul"*, Bucureşti, 1921, p. 330].

[36] *Ibidem*.

[37] D. Iancovici, *op. cit.*, p. 215.

resume the military actions. During August and September 1918, the general offensive was conducted by the Allies in all the theatres of operations. The pressure of the French and Serbian troops resulted in breaking the Salonika Front, determining the Bulgarian armed forces High Command to request General Franchet d'Espèrey the conclusion of a ceasefire agreement, which was signed on 15/28 September 1918. In turn, Turkey also concluded a ceasefire agreement with the Allied troops on 17/30 October 1918, the Straights being thus open to the Allies. On the verge of disbandment, Austria-Hungary also signed a ceasefire agreement on 21 October/3 November 1918.

The Allies strategic objectives in the Balkans and in Eastern Europe – as they were correctly emphasised by Romanian historians – did not exclude the possibility of resuming the military cooperation with Romania that, despite the Bucharest Treaty of May 1918, due to its combat capability, remained an important factor that could influence the balance of forces in the Lower Danube area[38]. As soon as the political and military context allowed, the Romanian government decreed the armed forces re-mobilisation and thus placed Romania alongside the Entente Front. On 28 October/10 November 1918, the Romanian Armed Forces were ordered, by King Ferdinand, to resume fight[39]. Meanwhile, the French troops led by General Franchet d'Espèrey forced the Danube in Giurgiu, thus compelling the German armed forces to withdraw in Transylvania. On 18 November/1 December 1918, King Ferdinand, along with Queen Mary, Prince Nicolae and General Henri Berthelot, re-entered Bucharest at the head of his armed forces. The Peace Treaty of Bucharest thus became obsolete[40].

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[38] Dumitru Preda, Vasile Alexandrescu, Costică Prodan, *op. cit.*, p. 41.

[39] Constantin Kirițescu, *op .cit.*, pp. 318-319.

[40] Glenn Torrey, *România în Primul Război Mondial*, Editura Meteor Publishing, București, 2016, p. 339.

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