



3 July
September
2012

Romanian Military Thinking

Military Theory and Science Journal

Published by the Romanian Armed Forces General Staff



**Founded in 1864 under the name "Military Romania"
- English edition, 8th year -**

Romanian Military Thinking



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<http://www.mapn.ro/smg/gmr>

Romanian Military Thinking Journal
is issued in March, June, September, December.

ISSN 1841-4451 ~ Print

ISSN 1842-824X ~ Online

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HIGH ROYAL DECREE NO. 3663

THROUGH WHICH "MILITARY ROMANIA"

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Carol - King of Romania

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Romanian Military Thinking
is a scientific journal with acknowledged prestige
in the field of "Military Science, Information
and Public Order", in keeping with the evaluation
carried out by the National Council
for Titles, Diplomas and Certificates (CNATDCU)
in 2011

(<http://www.cnatdcu.ro/wp-content/uploads/2011/11/reviste-militare1.pdf>)

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Founded in 1864 under the name "Military Romania"
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*Authors assume full intellectual responsibility
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in keeping with Law no. 206, 27.05.2004*

*Romanian Military Thinking Journal
is included in the Journal Master List
of the Index Copernicus International database*



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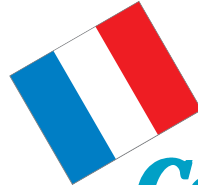
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On the Frequency of Modernity

On 14 July 1873, the chronicle of the Romanian army recorded the establishment of the first signal structure, the telegraphist section within the engineer battalion. A noble paternity, as at that time engineer troops represented the army technical and engineering component, which signal troops have borne as a coat of arms over time. In fact, the technical characteristic has always sought to impose as dominant in the architecture of this branch, given the role of the scientific and technological progress as generator of its development.

Validated for the first time in the War of Independence, the signal branch was to be definitely acknowledged in the First World War – the National Reunification War –, when wired connections – telegraph and telephone – and wireless ones – Wireless Telegraphy/Hertzian waves communications – proved fully useful for the command of troops on the battlefield.

Once the First World War exam passed, there followed the theoretical and practical efforts in the interwar period meant to establish the principles and procedures to organise the branch and to define signalling as a distinct specialty in the arsenal of military branches and specialties.

The Second World War was to bring major changes as far as the use of combat and support forces was concerned, which required new forms of organisation and command, adapted to the modern battlefield.

The establishment, on 1 July 1942, of the Signal Command, of the branch-specific officer and NCO candidate schools, and of the Signal Training Centre meant not only the decisive separation from the engineer branch but also the courage and ambition to shape its own future, which was not an easy approach at all. However, its genetic heritage and especially its technical valence enabled the growth and affirmation as an independent branch. It seems that it is also to the engineers that the signallers owe their perseverance and the desire of the job well done, as well as the modesty of those who always carry out their duties, without ever demanding gratitude and winning laurels, without wondering

whether those who habitually use the means of communication know who provide them with this opportunity. Nonetheless it is certain that those who are familiar with technology and especially with electronics and information technology can appreciate how much work, passion as well as intelligence is necessary to configure and support a viable and quality communications network. In the final analysis, it represents the only reward for these workmen who are not seen but whose certain presence is confirmed by the very link operation.

It has thus been seven decades since the Signal Command, with the subsequent configurations and designations, required by the need to adapt to the realities of the time, initiated and led the branch policy and its definite acknowledgement in the arsenal of military specialties, providing it with new ways to affirm and fulfil its role, that of ensuring the ways through which information, this precious and why not vital fuel that maintains the pulse of the military body, is transmitted to the destination.

Today, the Communications and Information Command operates, through its subordinate units, the Romanian Armed Forces communications and information system, which is necessary for their structures command, cooperation and information at strategic level, in peacetime, crisis situations and in wartime, on the national territory and in the theatres of operations.

At the birth of their branch and in the early years, signallers connected the telegraph wires and transmitted, by the *Morse code* points and lines, orders and information from one echelon to another, from the Great General Headquarters to the troops in the Independence front line, and then they established the telephone, telegraphic and radio links necessary to conduct the military actions during the two world conflagrations. And a good few of them fell heroically, while carrying out their missions, for the country and the glory of their branch.

At present, the specialists in communications and information ensure the Romanian Armed Forces communications services, be they the Permanent Transmission Network, integrated services radio networks, satellite links, video conferencing or electronic communications and information technology services. Their missions will certainly diversify in the future as the human mind will not cease to research and will find new physical and technical ways to transmit information. And the Romanian Armed Forces will be certainly tuned, by their specialists, to the frequency of modernity.

On their anniversary, to all these artisans of communications and information technology, *Many Happy Returns!*

✍ *Colonel Dr Mircea TĂNASE*
English version by
Diana Cristiana LUPU

Sur la fréquence de la modernité

Le 14 Juillet 1873, les chroniques de l'armée roumaine mentionnaient l'établissement de la première structure de transmissions, c'était la section de télégraphistes du bataillon du génie. Une paternité noble, parce que l'arme de génie était à temps-là le côté de la technique et de l'ingénierie de l'armée, que les transmetteurs ont porté comme un blason au fil du temps. D'ailleurs, la caractéristique technique a toujours cherché à imposer comme dominante dans l'architecture de cette arme, étant donné le rôle du progrès de la science et de la technologie comme un générateur de son développement.

Acquiescée pour la première fois dans la Guerre d'Indépendance, l'arme des transmissions se va consacrer définitivement dans la Première Guerre mondiale – la Guerre de la réunification nationale –, où les connexions par le fil – le télégraphe et le téléphone – et sans le fil – TSF/communications par de ondes radio – seront pleinement utiles dans le commandement des troupes sur le champ de bataille.

Une fois passé l'examen de la Première Guerre mondiale, les recherches théoriques et pratiques de l'entre-deux guerres ont commencé pour établir les principes et les procédures d'organisation de l'arme et de mettre en forme les transmissions comme une spécialité distincte dans l'arsenal des armes et des spécialités militaires.

La Seconde Guerre mondiale entraînerait des modifications importantes dans l'utilisation des forces de combat et de soutien, ce qui nécessitait la recherche de nouvelles formules d'organisation et de gestion de celles-ci, adaptées au champ de bataille moderne.

L'établissement, à 1 Juillet 1942, du Commandement des transmissions, des écoles d'officiers et des sous-officiers de l'arme et du Centre de formation des transmissions, a signifié pas seulement la séparation définitive de l'arme de génie, mais, en particulier, le courage et l'ambition de réaliser son propre avenir. Une approche pas du tout facile, mais le patrimoine génétique et notamment le palier technique de celle-ci ont intensifié la croissance et l'affirmation comme une arme indépendante. Il semble aussi qu'eux, ceux qui sont dans cette arme, les transmetteurs les doivent la persévérance et le désir du travail bien fait et, également, la modestie de ceux qui font toujours de la dette, sans exiger la reconnaissance et les lauriers des vainqueurs, sans se demander si ceux qui utilisent,

dans le naturel quotidien, les moyens de communications sachent à qui devoir cette possibilité. Certes, cependant, ceux qui sont familiers avec la technique et, surtout, avec l'électronique et l'informatique, ils peuvent apprécier combien de travail et de passion et, aussi, combien d'intelligence sont-elles nécessaires pour configurer et soutenir un réseau de communications viables et qualitatives. Ce qui, finalement, représente la seule récompense pour ceux laborieuses qui ne se voient-ils pas, mais dont leur présence effective est confirmée par l'opération même de liaison très fiable.

Ils sont passé, voici, sept décennies depuis le Commandement des transmissions, avec les configurations et les noms suivantes, imposées par la nécessité de s'adapter aux réalités du temps, a initiée et a menée la politique de son arme et sa consécration définitive dans l'arsenal des spécialités militaires, en leur donnant de nouvelles façons de faire valoir et de remplir son rôle, celui de fournir des moyens dans lesquels l'information est transmise à son destination, ce précieux carburant et, pourquoi pas, vital, qui maintient le pouls de l'organisme militaire.

Aujourd'hui, le Commandement des communications et de l'informatique réalise, par ses unités subordonnées, le système des communications et d'informatique de l'Armée Roumaine, qui est nécessaire pour le leadership, pour la coopération et la notification de ses structures au niveau stratégique, dans la paix, dans les situations de crise et de guerre, sur le territoire national et dans les théâtres d'opérations.

Dès sa naissance et dès premières années de leur arme, les transmetteurs attachaient ensemble les fils de télégraphe et transmettaient, par les points et les lignes du *code Morse*, des ordres et des informations d'un échelon à l'autre, du Grand Quartier Général aux troupes de la première ligne du front de l'Indépendance, et ultérieurement ils faisaient des liens téléphoniques, télégraphiques et par le radio nécessaires pour mener des actions militaires dans les deux guerres mondiales. Et rares sont ceux qui, au cours de ses tâches, sont tombés héroïquement pour leur pays et pour la gloire de son arme.

Actuellement, les spécialistes en communications et en informatique offrent des services de communications de l'Armée Roumaine, soit qu'il s'agisse du réseau de transmissions permanente, des réseaux de radio avec des services intégrés, des liaisons par satellite, de la vidéo téléconférence ou de services de communications électroniques et de la technologie de l'information. Leurs tâches vont changer, bien sûr, et plus à l'avenir, parce que l'esprit humain ne va pas se calmer dans ses recherches et vont trouver de nouvelles façons physiques et techniques de transmettre des informations. Et l'Armée Roumaine sera certainement, par ses spécialistes, donnée à la même fréquence de la modernité.

À cet anniversaire, nous désirons à tous ces artisans des communications et de l'informatique *Bon anniversaire!*

*Version française par
Alina PAPOI*

COMMUNICATIONS AND INFORMATION COMMAND - Between History and Modernity -

ROMANIAN ARMED FORCES SIGNAL SOLDIERS ON THEIR ANNIVERSARY

Brigadier General Ion CERĂCEANU

In nearly 140 years, the Romanian Armed Forces signal troops have participated in the War of Independence, the First and Second World War, bringing an important contribution to carrying out their missions and, through their willingness to fight and even their supreme sacrifice, to covering with glory the battle flags of the Romanian units and large units, under whose folds they fought on all fronts.

In this article, the author reviews the main stages in the life of the military signal branch, starting from the establishment of the first signal sub-unit transmission to the approval of the concept of organisation and implementation of the signal system of the Romanian Armed Forces. Moreover, the author highlights the stages of the transformation and modernisation process of the communication and information structures of the Communications and Information Command and its subordinate military units.

Keywords: *compatibility; Iraq; interoperability; ISAF; engineering*

A year before the anniversary of 140 years since the establishment of the signal branch, on *14 July 1873*, the year 2012 stands as a genuine anniversary year for the Communications and Information Command and the subordinated military units.

The command structures and subordinated units have come a long historical process of transformation, adaptation and modernisation in relation to the operational-strategic requirements of the armed forces leadership, have developed and evolved permanently in accordance to the emergence of new technical means, from analogical to digitised ones, from yesterday's electric telegraph and crank phone to today's satellite and internet.

In the nearly 140 years, the Romanian armed forces signal troops took part in the War of Independence, the First and the Second World War, bringing a significant contribution

Brigadier General Ion Cerăceanu – Commander, Communications and Information Command, the General Staff, the Ministry of National Defence.



to missions' accomplishment and, through the spirit of combat and even the ultimate sacrifice, to covering with glory the combat flags of the Romanian units and big units, under whose folds they fought on all fronts.

In a personal interpretation, which may not benefit from the adhesion of all specialists, I consider that, in the structural-functional evolution of the signal branch, in the nearly 140 years of existence, there were *five defining historical moments*, as follows:

- *14 July 1873* – the first historic step – **initial**: through the High Decree no. 1303/1873, the *first signal subunit* in the structure of the engineer branch is founded – the *Military Telegraphy Section*;
- *1 April 1932* – the second historic step – **significant**: through the High Royal Decree no. 497/1932, the *Signal Brigade* is established, which takes under its subordination the existing 1st Signal Regiment and the 2nd and 3rd Signal Regiments established on the same occasion by separating signal troops from pioneers as specialisation, with independent units and large units, within the same structure of the engineer branch;
- *1 July 1942* – the third historic step – **decisive**: through the Order of the Great General Staff no. 85959/1942 and Decree no. 3818/1942, the *Signal Command* is founded, as the sole body meant for the “*direction, supervision and control for wartime preparation of signal units belonging to the Land, Air and Naval Forces*”;
- *1 February 1949* – the fourth historic step – **final**: through the Order of the Great General Staff no. 45107/1949, the Signal Brigade is changed into the *Armed Forces Signal Command* (through the Order of the Great General Staff no. 317168/1951, in the *Signal Troops Command*), which confirms the final separation from the engineer branch, as independent, stand-alone branch, with separate command, own structures and troops, distinct roles and responsibilities at the level of the armed forces;
- *9 June 1993* – the fifth historic step – **evolutionary**: through Decision no. 0031/09.06.1993 of the Supreme Council for the Country Defence (SCCD), the “*Concept of Organising and Achieving the Signal System of the Romanian Armed Forces – SSRA*” is approved. It is for the first time in history that the issue of the signal branch is analysed at the highest political-military decision-making level and a unitary long-term concept is adopted, resulting in radical changes

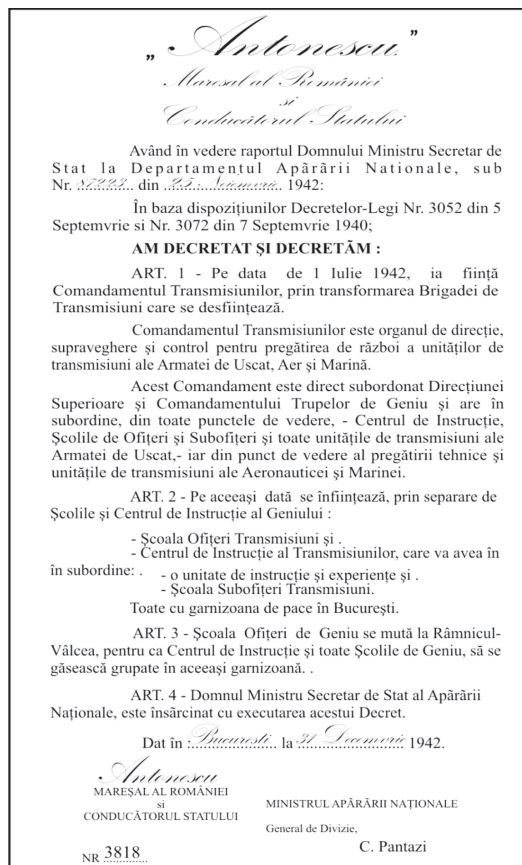
and major implications at the level of the Armed forces structure, at conceptual and doctrinaire level, for command and control, for planning operations at the strategic, operational and tactical level, for the material and human resources management planning etc. It marks the beginning of a new era in our military telecommunications, by the gradual passing to the replacement of equipment and analogue systems with digital/numerical ones.

In recent decades, communications and information structures of the Communications and Information Command and the subordinate military units have completed the process of transformation and modernisation necessary for ensuring full compatibility and interoperability with similar structures within NATO, concomitantly with the participation,

alongside allies, in carrying out common tasks in the three theatres of operations in the Balkans, Iraq and Afghanistan.

Moreover, starting with 2012, by completing the operationalisation process and by using the *NATO DCM "E" Deployable Communications Module* in the theatre of operations in Afghanistan, the Romanian Armed Forces had a national component within a NATO company-level structure/2nd NATO Signal Battalion, deployed between January and September 2012 to Kabul, where it provided the management and maintenance of the communications and information system of the Command Post of the ISAF (International Assistance and Security Force in Afghanistan).

Given the extremely important and complex tasks that fall under the Communications and Information Command and subordinate military units for the implementation, management and maintenance of the communications and information system at strategic level, on the national territory, in theatres of operations and with the NATO and EU representations of our armed forces,



I believe that a brief overview of their main historical landmarks is timely and fully deserved.

❖ 1 July 1942 – the *Signal Command* is established.

• To achieve a “**signal coordination and management body for all armed forces, which should integrate, study and propose solutions to all the signal issues of the Land, Air and Naval Forces, in all fields**” (author’s emphasis), in Order no. 20652 on 20.02.1942, the Great General Staff notifies the Under-Secretariat of the Land Forces – the Superior Directorate and the Engineer Command regarding the approval of the establishment, on 2 March 1942, of the “*Signal Commission*”, with the following composition: Signal Brigade Commander – President; Deputy Chiefs of Staff from Air and Naval Forces; Chief or his representative from the Cipher Service of the Great General Staff; a representative of the Under-Secretariat of State for Procurement; a representative of the Superior Directorate and the Engineer Command (the chief of staff); the Commission could be completed, for “*technical clarifications*”, with any specialist in this field (with a consultative vote).

• Through report no. 40020 on 27.04.1942, the superior director and engineer commander, General Gheorghe Zaharia, submits a comprehensive *Study with the proposal to establish the Signal Command* to the Great General Staff, the 1st Section.



-Communications and Information Command ~ Between History and Modernity-

- At the request of the Chief of the Great General Staff, the German Military Mission in Romania approves the studies made on the establishment of a Signal Command and, by official note no. 1200/1942, Colonel Graf von Büdingen, head of the signal component of this mission, submits to the Romanian Great General Staff an extensive *report* and *a series of concrete proposals* on the organisation and missions of signal units, predicting the total separation from the engineer branch, the way of using them in battle, sharing the German experience and even proposing uniform accessories (collar insignia) of colours different from the other specialties of the engineer branch. Unfortunately, the heads of the 1st and 3rd Sections of the Great General Staff embraced these views only partially, estimating that the size and organisation of our military do not require such changes for the moment and will be reviewed after the war and, therefore, approve a version of only partial separation from the engineer branch.

- By note no. 82575 on 08.05.1942, the Great General Staff proposes the establishment of the *Signal Command* “*as the sole signal superior command body in the Land, Air and Naval Forces*” through the separation of signal troops from pioneers and the functioning, separate from the Engineer Branch, of schools for officers, NCOs and Signal Training Centre.

- By note no. 6090 on 30.05.1942 of the Military Cabinet of the Ruler of the State, the Great General Staff is notified that Marshal Ion Antonescu approved the report proposing the establishment of Signal Command.

- By Order no. 85959 on 06.02.1942, the Great General Staff communicates to the Under-Secretariat of State of the Land Forces – the Superior Directorate and the Engineer Command the approval of the ruler of state and calls for proposals for the organisation and classification of the new structures to be established on *1 July 1942* (Signal Command, Training Centre and Signal Schools, and Pioneers Schools).

- By report no. 87223 on 23.06.1942, the Great General Staff communicates to the Ministry of National Defence – the Personnel Directorate – *the approval establishing the Signal Command, the Signal Training Centre (with the School for Signal NCOs) and the School for Signal Officers.*

- Decree no. 3818 on 31.12.1942 approves the date of *1 July 1942* as the date of establishment of the *Signal Command*. At the same time, the Decree establishes the place and role of Signal Command:

- it is a direction, supervision and control body for wartime preparation of signal units of the Land, Air and Naval Forces;
- it is directly subordinated to the Superior Directorate and the Engineer Command;

- it is in charge, in all respects, of the Training Centre, schools for signal officers and NCOs and all signal units of the Land Forces, and in terms of technical preparation, of the signal units of Aeronautics and Navy.

Shortly after its establishment, the Signal Command is ordered to set up the Signal Centre of the Great General Headquarters in Rostov, on the Don River. Colonel Constantinescu Nicolae, Commander of the recently established (10 January 1942, by Decree 199/1942) 4th Signal Regiment, is sent to the front and named Commander of the Great General Headquarters Signal Command – 1st (Forward) Echelon. Between August and November, concomitantly with the entry in disposition of the Large Units that formed the “*Marshal Antonescu*” Army Group, the Signal Command succeeds in setting up the signal system of the Great General Headquarters. The Battle of Stalingrad (19.11.1942 – 03.02.1943) and, especially, its dramatic consequences cause the Command Post of the Great General Headquarters – 1st (Forward) Echelon to function only during achieving the strategic disposition.

- By Ministerial Decision no. 2067 on 30.07.1943, the Signal Command is directly subordinated, from the operational point of view (organisation, mobilisation, training), to the Great General Staff, further depending, from the other (administrative) points of view, on the Under-Secretariat of State of the Land Forces, through the Superior Directorate and the Engineer Command.

- By Ministerial Decision no. 2067 on 30.07.1943, the Signal Command:
 - is in charge, from all points of view, of the “*Training Centre, the Schools for Officers and NCOs and all signal units of the Land Forces*”, and in terms of technical training, of the “*Signal Commands and units of the Aeronautics and Navy, as well as of the signal subunits from the units of other branches (infantry, cavalry, artillery, motorised and armoured troops)*”;
 - consists of: Staff, Radiogoniometric Service, Signal Works and Materials Service, Intendancy and Administrative Service;
 - will collaborate with all civil and military authorities “*that work in the signal field*” to equip and coordinate the signal means in the country territory or in the theatres of operations.

- On 16 September 1943, the Signal Command has under direct subordination units deployed in the mentioned garrisons: Signal Training Centre – București; School for Signal Officers – București, School for Signal NCOs – București; 1st Signal Regiment – București; 2nd Signal Regiment – Iași; 3rd Signal Regiment – Deva; 4th Signal Regiment – Alexandria; Motorised Signal Battalion – Odobești; 2nd Mountain Signal Battalion – Brașov.

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- By report no. 21395 on 16.09.1943, the Commander of Signal Command, Colonel Constantin Eftimiu, submits to the 1st Section of the General Staff a series of *changes on the organisation of the Command*, in two signal brigades, *the composition and attributions of signal structures, in peacetime and at war* (at division and army corps).

- By official note no. 65252 on 25.10.1943, the Great General Staff states that *“These bodies are not precisely necessary as they will further increase the number and volume of commands to the detriment of troops”*.

- By official note no. 134721 on 14.11.1943, the Great General Staff makes the Signal Command equivalent to a brigade command.

- By special instructions of the Great General Staff no. 56500 on 24.07.1945, on 1 September 1945, the Signal Command is disbanded and the *Signal Directorate* is established, within the Engineer Inspectorate.

- By Order of the Great General Staff no. 51900 on 08.07.1946, as of 15 July 1946, the Signal Brigade is founded, *“reporting directly to the General Engineer Inspectorate and directly in charge of the three remaining Signal Regiments (1st, 2nd and 3rd Signal Regiments)”*.

- By Order of the Minister of War – Under-Secretariat of State – the General Secretariat no. 12655 on 11.07.1946, the *“Signal Directorate ends its functioning starting with 16 July 1946”*.

- By Order of the Great General Staff no. 700378 on 27.07.1946, the 3rd Section of the General Staff takes over from the head of Signal Directorate some tasks that could no longer be carried out by the newly established Signal Brigade, such as:

- studies about the use of signal units to meet military connection requirements;
- record of signal means necessary to ensure the connections between the commands on the territory;
- studies on the development and improvement of signal networks in the country in accordance with operational projects;
- approvals, on the proposals of the Signal Brigade, in connection with: signal units organisation, their procurement and the equipment of the territory with signal means.

- By Order of the Great General Staff no. 45107 of 02.02.1949, starting from 1 February 1949, the Signal Brigade turns into the *Armed Forces Signal Command*:

- the head of this command will be called Chief of Armed Forces Signal Troops; he will have responsibilities of branch commander for the signal service;

- he will lead signal training and education in all Land Forces units;
- he will procure signal materials for all units;
- the Chief of the Armed Forces Signal Troops will have under his direct subordination: the Signal Battalion and the signal command elements from the Engineer Training Centre; Signal Students Battalion; Signal Ranges and signal command elements of the School for Pioneers and Signal Officers; Signal Battalion of the Ministry of National Defence; Engineer (Signal) Arsenal; School for Officers, NCOs and Electromechanical Foremen (table 1).

	OFFICERS							NON-COMMISSIONED OFFICERS							CIVILIAN SERVANTS							OBSERVATIONS				
	Staff	Engineers	Signal Troops	Any branch	Signal Techniques	Quartermasters	Political	S.I.D.	TOTAL	Signal Troops	Any Branch	Signal Techniques	Auto Techniques	Guards	Administration or Office	TOTAL	Warrant Officers	Engineers	Designers	Typists	Secretaries		Service Personnel	Lithographers	TOTAL	GRAND TOTAL
Command								3																	3	
Staff	4	-	5	1	-	-	-	1	10	1	1	-	1	1	2	6	-	-	3	6		1	-	10	26	
Combat Prep. Section	4		5	1			1		11						3	3	1		1		2		2	5	20	"Physical Education"
Political Section																										
Procurement Assistance	-	8	6	-	3	-	-	-	17	1	-	3	-	-	-	4		1	1	2	4	1	-	9	30	
Financial Section								3							1	1					1			1	5	
TOTAL	8	8	18	2	3	4	1	44	22	2	1	3	1	1	6	14	1	1	5	8	7	2	2	25	84	

Table 1: The situation of the personnel of the Armed Forces Signal Command in 1949

**COMMANDERS
OF THE COMMUNICATIONS
AND INFORMATION COMMAND
BETWEEN 1942 AND 2012**

Brig Gen Alinescu E. Barbu	- 15.07.1942 - 01.08.1942
Brig Gen Petrescu T. Nicolae	- 05.08.1942 - 25.10.1942
Col Cojocaru C. Nicolae	- 05.12.1942 - 10.04.1943
Brig Gen Eftimiu D. Constantin	- 10.04.1943 - 24.08.1944
Col Păun T. Teodor	- 24.08.1944 - 13.11.1944
Brig Gen Eftimiu D. Constantin	- 13.11.1944 - 20.03.1945
Brig Gen Stănescu Virgiliu	- 20.05.1945 - 08.09.1945
Brig Gen Cojocaru C. Nicolae	- 08.09.1945 - 09.08.1946
Col Irimiță P. Alexandru	- 12.08.1946 - 15.02.1949
Col Focșeneanu R. Ioan	- 15.02.1949 - 20.10.1950
Brig Gen Eremia Șt. Ioan	- 20.10.1950 - 09.09.1952
Brig Gen Mănescu C. Mircea	- 01.04.1953 - 04.05.1955
Brig Gen Păuca N. Costachi	- 04.05.1955 - 22.02.1965
Maj Gen Enciu D. Gheorghe	- 22.02.1965 - 05.02.1987
Maj Gen Popescu I. Nicolaie	- 06.02.1989 - 01.07.1991
Maj Gen Chițacu M. Anton	- 17.07.1991 - 26.11.1993
Brig Gen BEng Georgescu C. Gheorghe	- 26.11.1993 - 30.04.1997
Maj Gen Dr Părvulescu I. Mugurel	- 01.05.1997 - 20.06.2006
Brig Gen Cerăceanu Ion	- 01.08.2006

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- A year later, on 1 February 1950, the Armed Forces Signal Command has under its subordination: the Signal Training Centre; School for Signal Officers; School for Signal Technical Officers; Signal Materials Repairing Workshop; 53rd Signal Battalion; 3rd Radio Regiment; 4th Signal Regiment; Central Signal Materials Warehouse.

We may conclude that the Order of the Great General Staff no. 45107 on 02.02.1949 confirms the final separation of the signal branch from the engineer branch, as an independent, stand-alone branch, with a separate command, own structures and troops, distinct roles and responsibilities at the level of the armed forces.

- By Order of the Great General Staff no. 317168 on 15.06.1951, the name Armed Forces Signal Command is changed into the *Signal Troops Command*:

- the commander of the command will be "*Chief of Armed Forces Signal Troops*";
in a few years, the term "*Commander of Signal Troops*" will be adopted.

- ❖ 24 September 1990 – by the Order of the Great General Staff no. B. 3/2395 on 24.09.1990, the Signal Troops Command changes into the *Signal Inspectorate*.

- ❖ 1 February 1991 – by Order of the Great General Staff no. S/B 3/253 on 29.01.1991, the Signal Inspectorate changes into *General Signal Inspectorate*.

- ❖ 30 October 1993 – by Order of the Minister of National Defence no. O.G. 19 on 21.07.1993, the *Signal, Information and Electronics Command* is established by merging the General Signal Inspectorate with the Information and Troops Command Automation Directorate and the Radioelectronics Combat Section, both from the Great General Staff.

- ❖ 1 May 1997 – by Order of the Minister of National Defence no. M. 30 of 02.05.1997, the *Signal Command* is established, through the reorganisation of the Signal, Information and Electronics Command and, on 30.04.1997, the Communications and Information Directorate of the General Staff (J6) is established, in keeping with Government Decision no. 110 on 14.04.1997.

- ❖ 1 May 2006 – by Order of the Minister of National Defence no. M.S. 28 on 20.02.2006, the Signal Command changes into the *Communications*



and Information Command as part of the armed forces transformation and operationalisation process.

Based on the approval of the Minister of Defence on report no. H. 2257 on 19.06.2007, the Command is awarded its own *identification flag*.

Moreover, based on the approval of the Chief of the General Staff on report no. G-852 on 12.04.2011, starting with 15.04.2011, the Agency for Military Information Systems and Services is moved from the General Staff to the Communications and Information Command.

As of 01.09.2011, based on the approval of the Chief of the General Staff on report no. G-1951 on 02.09.2011, the Agency for Military Information Systems and Services is moved from the Communications and Information Command to the General Staff, under the coordination of the Director of the General Staff.

By the Decision of the Romanian Parliament no. 28 on 07.06.2010 and the Directive of the Chief of the General Staff no. G.S. 1011 on 09.07.2010, starting from 01.08.2011, the *NATO DCM "E" Deployable Communications Module/2nd NATO Signal Battalion* from the deployable force structure of NCSA Europe is established.

❖ 14 July 2011 – based on Presidential Decree no. 526 on 03.06.2011, the Communications and Information Command is awarded the *battle flag*.



The *Battle Flag* of the Communications and Information Command paraded for the first time in history under the Arch of Triumph during the Military Parade held in București on 1 December 2011, on the occasion of the National Day

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of Romania, the soldiers raising their hands in salute to all signal heroes fallen in the three great wars, during the Revolution in December 1989 and in the theatres of operations in Iraq and Afghanistan.

In the current anniversary context, there is nothing more we can possibly want than to continuously enrich the material and spiritual heritage of the signal/communications and information branch, in order to support the creation and modernisation of new forces capabilities for accomplishing missions, the high professional competence and the esprit de corps of all military active, reserve or retired signal troops!

Happy Anniversary to the Communications and Information Command and subordinate military units!

Happy Anniversary to the Communications and Information Branch!

English version by
Iulia NĂSTASIE



COMMUNICATIONS AND INFORMATION COMMAND

- Between History and Modernity -

THE HISTORICAL DEVELOPMENT OF THE MILITARY SIGNAL AND INFORMATION COMMAND STRUCTURES OF THE GENERAL STAFF

Brigadier General Dr BEng Ovidiu TĂRPESCU
Colonel Dr Mihai BURLACU
Captain BEng Mihnea RUDOIU

The period between the end of the War of Independence and the entry into the First World War was favourable to the modernisation of the Romanian Armed Forces, which diversified their organisational structures, increased their strength and improved cadres preparation and troops training. In the authors' opinion, the most important of the military reforms at the end of the 19th century was the establishment of the Great General Staff, which would be in charge, among others, under the direct orders of the Minister of War and under the direction of the Chief of the Armed Forces Great General Staff, of the "railway, telegraph, postal, information etc. service". In this context, at the end of the century the first specific manuals and regulations entirely dedicated to the signal activity were printed, which detailed the organisation, missions and procurement of telegraphic companies.

Keywords: *communications; military manoeuvres; telegraph lines; Great General Staff*

A

s has been the case for many years, on 14 July, it was celebrated the "Day of Military Signal Troops", a special moment in the history of the Romanian Armed Forces, because it is the birthday of the first signal unit and, thus, of the "signal" branch. This year, the "signal" branch celebrated 139 years.

From the day of the creation of "a mining company and a telegraphers station" until 30 April 1997, when the Communications and Information Directorate of the General Staff (J6) was established, the main engine to promote the development of communications and information capabilities at strategic and operational level within the General Staff, history recorded numerous economic, political and social events which led,

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Colonel Dr Mihai Burlacu, Captain BEng Mihnea Rudoiu – the Communications and Information Directorate, the General Staff, the Ministry of National Defence.

in time, through mutual interplay, to the shaping of military signal structures adapted to the evolution of technology and to the principles of modelling the main military planning functions of the time.

This is because, both then and now, the exchange of information made timely and secretly, and the need for this information to be processed and distributed quickly to decision-makers, for realistically understanding the situation in the operational space and for capitalising on the advantages of the engagement space, represented the basic goals of the military leaders.

Communications Services between 1859 and 1882

The first attempt to establish a “*signal*” function at central level was right after the Union on 24 January 1859 and the establishment of the Romanian General Staff¹, when Prince Alexandru Ioan Cuza named 2nd Lieutenant (future Major) Cezar Librecht², who was then General Inspector of Telegraphs in the United Principalities, part “*in the future... of the General Staff..., being paid as the Chief of the Telegraph*”.

This step was caused by the need for providing the leadership requirements of the country and, implicitly, the armed forces’ issues (also) with the help of telegraph lines, whose chief would inevitably have to be part of the body with the greatest military responsibility. Thus, whenever necessary, the civil telegraphic services, which began to spread more and more on the territory of the two Romanian Principalities, could be militarised at any time, being used both during peacetime – military manoeuvres and concentrations – and at war.

The American Civil War (1861-1865), the war between Prussia and Austria in 1866 and the Franco-Prussian War ended with the defeat of France in Sedan highlighted the undeniable role played by electrical telegraphy in the armed forces of belligerent states. In 1870, Russia, France, England, Germany and Austria already had telegraphy units with experience on the front, with own engagement tactics and variable procurement.

As a consequence of the information on the structure and organisation of the Belgian military drawn up by Major Poenaru, Commander of the Engineer

¹ On 12/24 November 1859, by High Order of the Day no. 83, the General Staff was established. It comprised a Staff Corps, consisting of 4 offices, in which there worked specialised cadres in order to “*carry out military technical activities*” and “*accomplish various other missions in which special military skills are required*”.

² High Order of the Day no. 48 on 26 March 1860.

Battalion in București, the Minister of War of that time, General Ion Florescu, drafted the report no. 3531 on 18 June 1873, consisting of a documentation in which he pointed out that “*military telegraphy has become a necessity for all branches during campaign for a long time now... In order for us to organise this service (...), we thought it would be appropriate to establish only a military telegraphists section for the time being, which will be part of one of the existing engineer companies, in order not to set up a new corps*”³. It was also mentioned that the “*military telegraphists section... will be part of the engineer company that often gets to use the same devices and transmissions in its various activities*”.

Thus, through the High Decree no. 1303 on 14 July 1873, it was decided that the military telegraphists section would be included in the engineer battalion, in the first mining company, being divided into three groups and with the following structure: 1 chief of section, 15 operators, workshop chiefs, sergeants or corporals and 30 telegraphic workers⁴.

In only one year, through the Decree no. 1132 on 28 May 1874, the number of sections of military telegraphists increased by 4, and their role was considerably amplified under the circumstances of the events regarding the outbreak of the War of Independence (1877-1878), when they merged⁵ into one company, called the 6th Telegraphy Company, with 4 officers and 207 soldiers (among whom 24 operators). This company was part of the Great General Headquarters and provided the telegraphic connections for large units headquarters, and between them and the General Headquarters in the areas occupied by troops, where combat actions took place, and the connection requirements of the Western Corps with subordinate large units.

After the “*army is demobilised, on 5 August 1878*”⁶, because the lack of financial means mattered more than the experience and professionalism evinced by military telegraphists in the fights with the Turks, the Company was disbanded⁷, and its fourth sections were moved back to the engineer companies.

³ *Monitorul Oastei*, no. 22, 10 August 1873.

⁴ General-locotenent Gheorghe Enciu, *Telecomunicațiile, factor activ în dezvoltarea societății*, Editura Științifică și Enciclopedică, București, 1987, p. 82.

⁵ High Decree no. 1957, signed at the Romanian Armed Forces Great General Headquarters in Poradim, on 19 October 1877.

⁶ *Monitorul Oastei*, no. 19, 31 August 1878.

⁷ High Decree no. 2253 on 5 October 1878.

Organisation and Functioning of “Signal” Services provided by the Great General Staff from 1882 to the 1913 Campaign

The period between the end of the War of Independence and the entry into the First World War was propitious for the modernisation of the Romanian Armed Forces, which have diversified their organisational structures, increased the number of troops, enhanced the equipment and improved the staff preparation and troops training.

The most important military reform of the late 19th century was the creation, by High Decree no. 2945 on 29 November 1882, of the Great General Staff, which was to be in charge, among others, under the direct orders of the Minister of War and the direction of the Chief of the Great General Staff, of the “*railroads, telegraph, mail, information etc. service*”⁸.

In order to accomplish the tasks incumbent on this service, the High Decree no. 2945 on 29.11/11.12.1882 stipulated, in Article 3, the organisational structure of the Great General Staff. Thus, “... *for carrying out the tasks, this service is divided into three sections, each having as chief a superior staff officer and a number of junior officers, depending on the needs. The oldest chief of section shall also be the deputy chief of staff*”. The postal and telegraph tasks would fall under the 2nd Section, consisting of a senior officer and two captains⁹. The staff of the section was insufficient, more symbolic, representing, however, the beginning of the crystallisation of the specialised structure. This was to coordinate, together with the *General Directorate of the Posts*, the preparation of the national territory for defence and the development of the military capabilities specific to the *military telegraphic-postal mail service during peacetime and campaign, both in the area of operations, of the stages, and in the interior area*.

The approval of the “*Regulations for the Staff Service*” by High Decree no. 158 on 17 January 1884 did not bring any significant change in the composition, organisation, tasks and order of battle of the Great General Staff, the telegraphy service further remaining under the responsibility of the 2nd Section.

In 1890, the 2nd Section drew up the draft of a new set of regulations regarding the Staff Service to be approved by the High Decree no. 1170 on 13 April 1891. It stipulated that the Great General Staff was moved at the Ministry of War,

⁸ *Istoria Statului Major General Român. Documente. 1859-1947*, Editura Militară, București, 1994, pp. 85-86.

⁹ *Ibid*, p. 87.

“being an integrant part, forming a Superior Directorate under the name of the Great General Staff” (although, a year later, according to the set of regulations of the Ministry of War, ratified on 2 November 1894, it would no longer be the 1st Directorate of the Ministry).

The end of the 19th century marked, at the same time, the appearance of the first handbooks and specific regulations, entirely dedicated to the signal branch, including the work of Captain Aristide Razu, *Handbook of Telegraphy and Telephony for Telegraphy Companies*¹⁰ (1899), detailing the organisation, missions and procurement of telegraphy companies. One must also mention the section dedicated to telegraphy from the work of Professor Lieutenant Colonel Ion Aronovici, “*Military Communications*”¹¹, in which he insisted on the telegraphic service at war, highlighting that every army and army corps should have a telegraphy service which should include: the Directorate of military telegraphy at the Army or army corps General Headquarters, subordinated to the General Engineer Inspector; Telegraphy Troops Service, Outposts Service and Light Telegraphy Service (which would be established in 1899, by decree).

To solve the problems of telegraphy and telephony, a “*Joint Committee of Transport and Communications*”¹² was established in 1886, whose task was to “*provide the Armed Forces transports and communications ever since peacetime and to guarantee them at war*”. It was a consultative body, meant to help the Great General Staff in drawing up operational plans and summarised works, which, if necessary, could be implemented through the directive of the superior body of the armed forces.

A new stage in raising the importance of this branch at the level of the central structures of the armed forces took place when the Engineer Inspectorate was re-established (High Decree no. 617 on 24 February 1887)¹³ and when the *Set of Regulations for the Organisation and Attributions of Engineer Staffs* was approved. The document mentioned the “*Directorate of Military Telegraphy*”, which was to command and deal with the specific, operational issues of the Ministry of War, in peacetime and at war.

The Directorate was led by a director of military telegraphy (senior officer) and had two chiefs of the telegraphic service (1st line and 2nd line, both captains), a chief of the chancellery (lieutenant), 4 telegraphists – military secretaries (agents), 14 troops, 18 horses and 2 coaches. At war, the Directorate was subordinated

¹⁰ Cristea Dumitru, Alexandru Oșca, *Transmisiunile, suport pentru conducerea militară (1877-1947)*, Editura AISM, București, 2003, p. 41.

¹¹ *Ibid.*, p. 42.

¹² *Ibid.*

¹³ *Monitorul Oastei* no. 11, 28 April 1887.

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under the General Engineer Inspector, who was also the chief of the telegraphic-postal service of the area of operations (his position was “*General Director of the Armed Forces Telegraphic-Postal Service*”).

Other data on these issues are found in the *Set of Regulation on the Military Telegraphic-Postal Mail Service*, which established, among others, the duties of the Joint Superior Telegraphic-Postal Commission and of the Transports Office from the Great General Staff.

Under these regulations, the Annex no. 9, entitled “*List of Military Telegraph and Telephone Offices in the Country*”, is very important, depicting the situation at 1 January 1900 across the country, as follows: 67 military telegraphic offices and 79 military telephonic offices (at the Ministry of War there was a central telephonic post with 10 secondary posts and a telegraphic post, and at the Great General Staff – a single telephonic post with 2 secondary channels)¹⁴.

On 28 July 1904, the reorganisation of the Great General Staff left only two sections, whose composition was as follows: 1st Section with 1st “*Chancellery*” Office, the 2nd “*Mobilisation*” Office and 3rd “*Operations*” Office; the 2nd Section with 4th “*Communications and Transport*” Office (which comprised telephony and telegraphy services), 5th “*Foreign Armies and Intelligence*” Office and 6th “*Historical and Statistical Studies*” Office.

In 1907, on 12 May, a new distribution of the sections and offices of the Great General Staff was established and their duties were determined in detail. The Great General Staff would be divided into two sections, plus the Adjutancy Office and in the 2nd Section would (also) be included the 5th “*Transports and Stages*” Office, whose attributions would comprise, within the sub-office Stages, the processing of the “*Correspondence and Communications Means*”, which encompassed issues regarding: a) the telegraph, telephone, balloons, pigeons etc.; b) telegraphic, telephonic and postal maps; c) military correspondence regulations¹⁵.

Communications Services until the Mobilisation Decree on 15 August 1916

On 23 June 1913, through the High Decree 4751 on 20 June 1913, the Great General Headquarters of the armed forces was created, which comprised an independent Telegraphic-Postal Service and a year later, on 1 April 1914, the 10th Communications Office of the Great General Staff (part of the 4th Section) was established (Order of the Day no. 48), which included the military

¹⁴ Cristea Dumitru, Alexandru Oșca, *op. cit.*, p. 44.

¹⁵ *Istoria Statului Major General Român. Documente...*, lucr. cit., p. 121.

correspondence and the telegraphic-postal and cryptographic service. On that occasion, the 11th Stages Office delivered its archive regarding the services that were provided until then by the 10th Communications Office.

The neutrality period was marked by an intensification of the activity of drawing up new combat regulations for all types of military branches and of improving the existing ones and, in particular, those relating to the use of the new combat means with which the armed forces were provided. In the field of communications, one can notice the following handbooks: *“Instructions on the Telephony, (Wired and Wireless) Telegraphy and Optical Telegraphy in the Army”*, *“Instructions on Carrying Out the Telegraphic-Postal Service during Campaigns”* and *“Regulations on the Military Telegraphic-Postal Mail Service”*.

The *“Regulations on the Military Telegraphic-Postal Mail Service”*, which substituted the provisions of the similar regulations from 1901 and incorporated the lessons of the 1913 campaign, with provisions for both peacetime and at war, stipulated, in Article 1, Chapter 1, that *“The military telegraphic-postal service is provided and carried out by the following bodies:*

A. Command Bodies

- a. Great General Staff;*
- b. General Engineer Inspectorate;*
- c. General Directorate of Posts and Telegraphs.*

B. Advisory Bodies

The Joint Superior Telegraphic-Postal Commission

C. Execution Bodies

- a. Telegraphy and telephony troops, different military telegraphy post or special offices, as well as the related warehouses and stocks of telegraphic and telephonic materials;*
- b. Civilian telegraphic, telephonic and postal offices”.*

Article 2 of the same normative act established that *“The Great General Staff of the Armed Forces is in charge of the organisation, command and employment of the military mail service, which falls especially under the armed forces communications office”*, and Article 5 mentioned the following: *“The Joint Superior Telegraphic-Postal Commission consists of: a). the Chief of the Armed Forces Great General Staff, as president; b). Deputy Chiefs of the Great General Staff; c). The General Engineer Inspector. In his absence, his Deputy or the Engineer Director from the Ministry of War; d). General Director of the State Telegraphs and Posts or, in his absence, the Sub-Director; e). The chief of the Communications Section from the Great General Staff and the chiefs of the sections interested in the issues submitted to the Commission...”*.

Organisation and Functioning of the Communications Services Provided by the Great General Staff in the First World War

The successive reorganisations of the Great General Staff determined almost every time new distributions and attributions of its sections and offices, and this situation was also true for “*signal*”-related burden sharing, whose responsibilities will vary from one office to another.

At the same time with the mobilisation decree on 15 August 1916, the Great General Staff was divided in the Great General Headquarters and the Great General Staff (the sedentary part), on which occasion the Communications Office was moved to the General Stages Command and, next to the Telegraphic-Postal Service, was placed under the subordination of the 1st Echelon of the Great General Headquarters.

In the order of battle on 15 June 1917 of the Great General Headquarters (*figure 1*), the Communications Service was an independent structure. This formed the 2nd Section of the 1st Echelon and included the 4th Communications Office, the Telegraphic-Postal Service and the Special Telegraphy Company. This situation changed in 1918, when communication re-became an Office (comprising the Telegraphic-Postal Service, the Military Telegraphic Service and the Wireless Telegraphy Service) in the 2nd Section, that was subordinated to the 1st Echelon of the Great General Headquarters. Moreover, in the 1st Section would appear the 2nd Cipher Office.

As command bodies for telegraphy subunits, the Great General Headquarters and the armies each had one chief of the telegraphic-postal service. This role was fulfilled at the army corps by the commanders of telegraphy companies and, at the infantry divisions, by the chiefs of telegraphy sections. For wireless telegraphy, there was only at the Great General Headquarters a chief of the Wireless Telegraphy Service.

In addition, the attributions regarding the command of the military mail service still belonged to the chiefs of the telegraphic, telephonic and postal service from the great General Headquarters and the armies. In terms of wireless telegraphy, it further remained separated from the telegraphic, telephonic and postal service, being led by the chief of the Wireless Telegraphy Service of the 1st Operations Section of the General Headquarters¹⁶.

After the signing of the București Peace until 9 November 1918, the Great General Headquarters was abolished, the command of the Armed Forces for implementing the peace conditions being assumed by the Ministry of War and the Great General Staff. On this occasion, the number of officers and offices was drastically reduced.

¹⁶ Archive of the Ministry of National Defence – the Great General Staff, the Great General Headquarters fund, no. 95, file FN/1917, f. 16.

However, the Great General Staff, led by General Constantin Cristescu, sought to maintain a high combat capability of the Armed Forces. In terms of communications, a revealing document of that time was the *“Report on the Study, Preparation and Execution Measures Taken by the Great General Staff of the Armed Forces and the Services to Prepare for War, from the Demobilisation of the Armed Forces (1 July) to 28 October, When the Armed Forces Were Mobilised Again”*, on 19 December 1918, a report signed by the Deputy Chief of the Great General Staff, General Ion Ghinescu: *“the Great General Staff, based on military needs, obtained the maintenance of direct telegraphic and telephonic services between the Great General Staff and commands, as well as military telegraphic-telephonic offices in Iași (the Great General Staff), Vaslui, Bârlad, Tecuci, Galați, Bacău, Adjud and Botoșani and those of the headquarters in Basarabia. Still, later, these measures were suspended by the government, the entire service moved to the General Post, Telephone, Telegraph Directorate and the personnel and material evacuated in București under German occupation, without the knowledge and approval of the Great General Staff ... For wireless telegraphy, it was began the establishment of 4 goniometric posts (in Iași, Chișinău, Bolgrad, Bălți), to detect illegal stations and the existing personnel and material remained for the Wireless Telegraphy Service, but, in September, the entire Wireless Telegraphy Service was moved to the Post, Telephone, Telegraph Directorate and the specialised Battalion remained without staff and without the possibility of training other troops. The Working Paper of the Great General Staff (Communications Section), which requires the modification of these directives, was returned to the Ministry of War on 1 December with no result. 4 pigeon stations were set up in Botoșani, Chișinău, Bălți, Bolgrad.*

In brief, the Great General Staff did not have freedom of action in the organisation, training and preparation for war of the connection means and the measures taken were hindered by other authorities. On mobilisation, the creation and employment of military offices was made with great difficulty, due to lack of personnel (who had been evacuated to București) and the repair of the lines damaged by the Germans and the weather conditions was incomplete due to lack of materials (also sent to București)”¹⁷.

Evolution of Communications and Information Services of the Great General Staff from the Interwar Period to Nowadays

In the interwar period, the Romanian Armed Forces modernisation closely concerned military theorists and political leaders, and it was the French model that prevailed (at least until 1928) in the military organisation of Romania. After 1919, the various reorganisations of the Great General Staff also had direct

¹⁷ ***, *Statul Major General al Armatei. 1859-2004. Istorie și transformare*, Editura Centrului Tehnic-Editorial al Armatei, București, 2004, p. 115.

implications for the communication structures that were part of it or in its immediate subordination. Thus, after the demobilisation of the Romanian Armed Forces in March 1920, when the Great General Staff was divided into three Divisions (compared to 2, as there were in 1919), the Post, Telegraph, Design and Mechanical Traction Office was added to the 8th Communications and Stages Section, composed of the Communications and Transport Office and the Intendancy Office, starting 1 April 1921.

Because it was found that the procurement of signal technique, especially wireless telegraphy, was not taking place on a coordinated basis, on 26 November 1924, the advisory committees of the artillery, aviation, engineer and naval troops and the delegates of the Great General Staff and the Superior Technological Division concluded that a single body should be established capable of ensuring in peacetime and at war, wireless telegraphy and telephony specific to various weapons.

Therefore, on 10 February 1926¹⁸, the Signal Commission was established, which was in the “4th Engineer Directorate under the chairmanship of the Engineer Director” and consisted of “one delegate, preferably specialised in wireless telegraphy and telephony, from each Artillery, Aviation, Navy, Infantry Inspectorates, the Superior Technical Directorate and the 4th Engineer Directorate of the General Staff”¹⁹. Its proposition was presented to the joint artillery, engineer, marine, aviation and infantry committees, attended by a delegate of the Great General Staff. The conclusions were to be sent, for approval, to the Minister of War.

During the Second World War, the operational command of the Romanian troops belonged to the German headquarters, the Great General Staff providing in particular the administrative command.

In this context, it should be noted that the recently established Signal Command, created on 1 July 1942²⁰, was ordered shortly afterwards to set up a Signal Centre of the Great General Headquarters in Rostov on Don River.

After the end of the war, the Signal Command was transformed, on 15 July 1946, in the Signal Brigade and the 3rd Section of the Great General Staff was assigned²¹ the following tasks, which could not be achieved by the newly established Signal Brigade: a) the liaison studies with the use of signal units to meet the liaison needs of the armed forces; b) the record of the signal means necessary to provide the links between the headquarters in the territory; c) the studies regarding the development and improvement of signal networks in the territory, in keeping with the operational plans drafts; d) the authorisations, at the proposal of the Signal

¹⁸ *Monitorul Oastei*, 1 March 1926.

¹⁹ *Ibid.*

²⁰ Order of the Great General Staff no. 85959 on 02.06.1942.

²¹ Order of the Great General Staff no. 700378 on 27.07.1946.

Brigade, regarding the organisation of signal units, procuring and equipping them with signal means.

Moreover, in the structure of the Armed Forces Great General Staff, approved in 1949²², along with other sections, there is also included a signal section, which would also find itself in the draft statute of the Great General Staff in July 1956, which stipulated its organisation into four divisions (Operations, Planning-Mobilisation, Military Transports, Military Topography) and six sections (Secretariat, Cadres, Cipher Section, **Signal Section**, Military Censorship and Historical Section of the Great General Staff).

At the same time, following the development of the information society, the growing volume of information required by commanders in order to command troops involved, along with the evolution of signal technology, the emergence of what today is the Information System of the Romanian Armed Forces and whose beginning can be placed on 1 September 1963 when, by order of the Great General Staff, the Automation Group of the General Procurement Directorate was established, the first body in charge of the concept, coordination and procurement in the field of military information and automation of troops command.

On 1 March 1970, the Central Computing Station was changed into the Computing Centre, as the main executive body of the Ministry of National Defence and, on 15 July 1971, the Troops Command Mechanisation and Automation Directorate was established, being assigned especially tasks regarding the development of the unitary concept of introducing information systems in the Ministry of National Defence (30 September 1973) and establishing organisational structures subordinated to the Great General Staff for implementation.

The military objectives set in the field of military information, between 1980 and 1990, aimed, among others, at improving the Military Information System, eliminating duplication in the circulation of information, standardising the documents containing information and reducing their number, creating a uniform record system and developing working methodologies in the circumstances of using computers in automating weapons and military equipment.

On 1 July 1990, the Troops Command Mechanisation and Automation Directorate became the Information and Troops Command Automation Directorate, and consequently, the information and troops command automation became “*service*”, being assimilated in the Signal, Information and Electronics Command.

On 1 May 1997, by Government Decision no. 110/14.04.1997, the new organisation of the Ministry of National Defence entered into force, which stipulated the implementation for the first time of a structure divided into 8 “*joint*” (J’s) directorates, similar to the echelons of the NATO member states armed forces.

²² ***, *Statul Major General al Armatei. 1859-2004...*, lucr. cit., p. 208.


In this restructuring of the General Staff, one of the new directions established was the *Communications and Information Directorate* (J6), the basic exponent in the development and establishment of the responsibilities regarding communications and information in the Romanian Armed Forces.

Given the field of competence and the responsibility for planning, organising and implementing the general strategy of achieving communications and information systems in the Romanian Armed Forces, the constitutive elements and the functional responsibilities of the Communications and Information Directorate were taken, derived and integrated from the Signal, Information and Electronics Command, which subsequently became, through successive reorganisations, the *Communications and Information Command*.

The Communications and Information Directorate was involved, as part of the General Staff, in planning, directing and evaluating the achievement of all major objectives aimed at military reform, capabilities development, participation in operations and exercises, transformation of the command structure and forces, and the overall modernisation of the military body.

Among the major achievements of the Directorate, one can mention the acquisition of radio stations with frequency hopping and the achievement of the Permanent Signal Network, followed by: the achievement of the Strategic Level Operational Radio Network (SLORN), Satellite Communications Network (SCN), deployable communications and information modules and encrypted video-teleconference system. These elements enable the accomplishment of a modern (numeric) communications platform for the strategic C4I systems, as well as for tactical C4I systems, with all the beneficial implications for the act of command at all echelons and in all locations where the Romanian Armed Forces operate and, especially, in the theatres of operations.

Moreover, among the current concerns, there is the development in the Romanian Armed Forces of C4I2SR specific capabilities (Multifunctional Information Distribution Systems MIDS//Link 16, Link 22), the Navigation, Positioning and Synchronisation Systems and the Battlefield Identification Systems. The tactical data links represent a key component for achieving NATO Network Enabled Capabilities (NNEC), ensuring the continuous real-time data exchange in the outer, land, air and naval space, including information about allied, neutral and enemy units, as well as about the weapons status and the way it is employed in operations.

English version by
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COMMUNICATIONS AND INFORMATION COMMAND - Between History and Modernity -

THE ROLE OF INFORMATION AND COMMUNICATIONS TECHNOLOGIES IN THE “ARAB SPRING” UPRISINGS

Dr Cristea DUMITRU

The protesters' actions during the Arab Spring received the consistent support of the information and communications technologies. Although this element was not unique in the landscape of the popular protest movements of the last decade, the way it influenced the Arab riots drew the attention of both political analysts and safety and internal security services of all states. The development and wide spread of information and communications technologies in countries where Islamic religious conservatism raised significant barriers to communication between people enabled the fluid movement of information between many users and an unexpected propagation environment for the popular dissatisfactions and claims. Furthermore, information and communications technologies played an important role in structuring and preparing the movements of contestation in the Arab Spring.

Keywords: *Twitter Revolution; information and communications technologies; Arab Spring; Facebook Revolution*

December 2010 marked the outbreak of a protest movement in Tunis, capital of Tunisia, following the extreme gesture of a young Tunisian named Mohamed Bouazizi, who set himself on fire in the town of Sidi Bouzid, after police confiscated the fruits and vegetables he was selling on the street. The gesture of “*Basboosa*”, as it was called the one who became the “*Hero of Tunisia*”, set the tone of violent protests in the North African country, which led to the expulsion of President Zine El Abidine Ben Ali and sparked a wave of riots in the countries in the Arab world, from Egypt to Mauritania and from Algeria to Oman.

The series of protests and demonstrations that took place in North Africa and the Middle East, starting with the Tunisian protest in December 2010, became known as the “*Arab Spring*”¹, even though not all participants in protests were Arabs.

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¹ Roger Hardy, *Egypt Protests: An Arab Spring as Old Order Crumbles?*, BBC News, 2 February 2011.

The success of the protests in Tunisia initiated a wave of riots in Algeria, Jordan, Egypt and Yemen, which subsequently propagated to other Arab states. By February 2012, the “*Arab Spring*” overthrew the governments in three states. The Tunisian President fled to Saudi Arabia on 14 January 2011. In Egypt, President Hosni Mubarak resigned on 11 February 2011, after 18 days of massive protests that ended his three decades of presidency, and Libyan leader Muammar Gaddafi was overthrown on 23 August 2011, after the National Transitional Council gained control of Bab al-Aziziya, and killed on 20 October 2011, in his hometown of Sirte.

During the Arab uprisings, several leaders announced their intention to give up power after the current mandate. President Ali Abdullah Saleh of Yemen signed an agreement on 23 November 2011 that allowed the transfer of power within 30 days after the official end of the mandate, in February 2012, in exchange for immunity. Sudanese President Omar al-Bashir announced that he would not run for the elections in 2015, as promised also by Iraqi Prime Minister Nouri al-Maliki, whose term ends in 2014. Jordan protests led to the consecutive resignation of two governments.

We consider that the “*Arab Spring*” means the ensemble of popular movements of variable proportions that have started in many countries in the Arab world since December 2010. These national revolutionary movements are called *Arab revolutions*, *Arab uprisings* or the *Arab awakening*.

In order to properly understand the “*Arab Spring*”, its mechanisms, we think it is necessary to analyse the context in which the Arab uprisings² occurred. In our opinion, the context of the Arab revolts refers to:

- *the demographic factor* – young people in the age group 15-25 years represent a quarter of the total population of the Arab countries, being faced with an unemployment rate estimated at 40%. Consequently, a young generation full of dreams, active, becoming more and more educated, largely urbanised and connected to the outside world via the Internet, mobile phones, television, satellites etc., under the circumstances of a limited labour market, becomes an essential actor in the Arab uprisings;

- *the nature of political regimes* in the countries involved in the “*Arab Spring*” – in their ensemble, the political regimes in the Arab world are authoritarian, oligarchic³. Consequently, Arab societies aspire to democratic regimes, but it seems

² Petre Duțu, Anișoara Dinu, *Primăvara arabă și mediul de securitate*, scientific papers session, *Echilibrul de putere și mediul de securitate*, Editura Universității Naționale de Apărare “Carol I”, București, p. 168.

³ *Pluralisme politique et autoritarisme dans le monde arabe*, at <http://www.institut-gouvernance.org/fr/analyse/fiche-analyse-192.html>.

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to be a long and very difficult process, because currently there are limited freedoms, corruption developing in most countries and heads of state, very often elderly ones, who have been in office for many years, in favour of a hereditary transfer of power, including in republican-type regimes;

- *the socio-economic circumstances* – even if they have a high education level, the young people in Arab countries cannot find a suitable job, because of the fact that the region is hit by high rates of unemployment. Paradoxically, young people are most affected by unemployment, 90% of the unemployed people being aged between 15 and 29 years, the net rate of unemployment for this age group ranging in the region from 20 to 25%;

- *the non-violent actions of protesters and the military role during and after the uprisings* – the attitude of the military towards popular demands is essential in the development of the uprisings. In Egypt and Tunisia, the armed forces are neutral, being detached from the leadership of the state, which will no longer have this force at their disposal to repress demonstrations. The armed forces of other countries are devoted to dictators because of substantial privileges or features regarding recruitment (use of naturalised mercenaries, tribal recruitment or mostly minority populations recruitment etc.). When these measures are not sufficient to defeat uprisings, foreign armed forces can support the national armed forces regarding the repression tasks: Syrian aircraft in Libya, Saudi troops in Bahrain;

- *the role of new information and communications technologies* – one of the common points of the “*Arab Spring*” uprisings was the important role played by information and communications technologies. The development of these technologies enables a fluid movement of information between many users. Information and communications technologies have made possible the organisation and preparation of movements of contestation;

- *the place of Islam and women in the Arab uprisings* – usually, religious leaders backed regimes in power in the Arab world. Therefore, their influence was relatively low in the “*Arab Spring*”. In turn, women, traditionally isolated, took an active part in the protests, even playing the role of leaders, demanding greater justice and freedom⁴.

To continue our approach, we will analyse the way in which “*Arab Spring*” protesters exploited the advantages of using information and communications technologies to meet their aspirations. We will also highlight the way in which governments attempted to counter the use of information and communications technologies throughout the Arab uprisings.

⁴ *Révoltes arabes, vers un printemps des femmes?*, at <http://www.rsr.ch/info/les-ponts-forts/3000976-revoltes-arabes-vers-un-printemps-des-femmes.html>

Information and Communication Technologies in Arab Countries

In many states in North Africa, there are imposed severe limitations in areas such as media and TV channels, as well as restrictions on freedom of expression and the right to organise meetings. It is not an easy task to create a publication in Libya, an organisation campaigning for human rights in Algeria or to organise a march in Bahrain. The Internet is almost the only free space of expression for many groups or individuals who wish to exercise their right to freedom of expression, participate in meetings and form associations and groups with common interests.

Since 2004, Internet users in Arab countries have been able to use effectively online platforms for different causes. Thus, many taboo subjects have been discussed, such as: torture in police stations, sexual assault, religious minorities, human rights violations by those in power etc. Given the statistical data, provided by the Dubai School of Government (*table 1*), we consider that the number of users of social platforms is not high, compared to the population. However, there is a certain degree of complementarity between the organisations campaigning for human rights, users of social platforms and offline media journalists. Journalists send topics that cannot be published offline because of the censorship of the region, together with records and multimedia evidence, to bloggers who can post the details of such cases on social networks.

State	Population	Twitter users	Facebook users
Algeria	35 953 989	13 235	1 947 900
Egypt	85 950 300	131 204	6 586 260
Libya	6 670 928	63 919	71 840
Morocco	32 770 852	17 384	3 203 440
Sudan	44 103 535	9 459	443 623
Tunisia	10 476 355	35 746	2 356 520

Table 1: Twitter and Facebook users (the media at the beginning of 2011)

Recent protests and uprisings in Tunisia and Egypt were called “Twitter Revolutions” and “Facebook Revolutions” because of the widespread use of messages with user-generated content (UGC), which were disseminated by protesters, activists and supporters of the protest via the Internet, through social networks like Twitter and Facebook or through mobile phones.

The use of mobile phones, social networks and UGC in “Arab Spring” protest are not unprecedented. Twitter was used in protests in Moldova and Iran, in 2009, and in both cases, some analysts called these movements Twitter revolutions⁵.

⁵ Evgeny Morozov, *Moldova’s Twitter Revolution. Net Effect*, 7 April 2009, at http://neteffect.foreignpolicy.com/posts/2009/04/07/moldovas_twitter_revolution

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The popular movement to remove President Joseph Estrada of the Philippines leadership, in 2001, was called the “SMS Revolution”, because of the use of SMS text messages to mobilise protesters. It was described as being the first change of government supported by the use of modern communication technologies⁶.

However, we believe that labelling the “Arab Spring” uprisings as Twitter and Facebook revolutions is exaggerated, considering the access to information and communications technologies in the analysed states. In 2009, in Tunisia and Egypt there were only 34,1, respectively 24,3 Internet users per 100 inhabitants. Analysing the data presented in *table 2*, we conclude that there is no significant correlation between the intensity of the uprisings and the number of users of information and communications technologies in these countries.

<i>State</i>	<i>Mobile-cellular telephone subscriptions (per 100 inhabitants)</i>	<i>Estimated number of internet users (per 100 inhabitants)</i>	<i>Broadband subscription (per 100 inhabitants)</i>
Algeria	93,8	13,5	2,3
Bahrain	177,1	10,0	9,6
Egypt	66,7	24,3	1,3
Jordan	95,2	26,0	3,2
Libya	148,5	5,5	1,0
Morocco	79,1	41,3	1,5
Syria	45,6	20,4	0,2
Sudan	36,3	–	0,4
Tunisia	95,4	34,1	3,6

Table 2: Access to information and communications technologies in Arab countries⁷

Moreover, users of social networks in Arab countries represent only a minority of the population, the one living in urban areas, with a steady income and education level appropriate to the use of electronic computers.

We can say with certainty that many protesters used messages with user-generated content, social networks and SMS messages sent to mobile phones in order to express the dissatisfaction and popular claims during the “Arab Spring”. This led to better mobilisation and coordination of the protesters, as well as to a response from Arab states to the limitation or ban of users’ access to Internet and telephony services.

⁶ Julius Court, *People Power II in the Philippines: The First e-Revolution?*, 2001, at <http://www.odi.org.uk/resources/docs/4114.pdf>

⁷ At www.itu.int/ITU-D/ICTEYE/Indicators/Indicators.aspx, International Telecommunication Union, 2009.

The Reaction of States in Cyberspace and against its Users during the “Arab Spring” Uprisings

Cyberspace is used frequently to expose human rights violations that governments are trying to keep unknown. The videos posted online as evidence for the violence of forces loyal to governments created in time a strong wave of resistance among social platforms, such is the case of the clips revealing police corruption in Morocco or the torture in police stations and the violence in Egypt. During the uprising in Tunisia, cyberspace and especially the blogosphere were almost the only sources of information, photos and videos for street fighting. Sending UGC became almost an act of conduct for sensing the news about the events taking place, given that the conventional media could not have access or the necessary means for that. Blogging and sharing photos and videos via mobile phones became the main sources of dissemination of the news regarding street protests. The link between UGC and mobile phones was an important tool for protesters in their approach to inform people about their claims, the events that marked the protests as well as the nature of the response of police, military or civilian forces. In Syria, where international journalists’ access was almost completely restricted, the videos sent via mobile phones were one of the few ways of reporting the situation.

These realities led to complex reactions in cyberspace from the Arab states. Some governments used Internet filters to block the content of messages during the protests. In Tunisia, Egypt, Libya and Syria, sending UGC and even Internet traffic were blocked, by disconnecting the Internet connection supply service or slowing down drastically the data speed⁸. Mubarak regime closed almost completely all Internet and communications services on the night of 27/28 January until 5 February 2011 (*figure 1*). In Libya, the Internet was blocked for most Libyans, since the beginning of protests, in areas controlled by Gaddafi. In Tunisia, Ben Ali regime stole usernames and passwords from Facebook, Twitter and e-mail accounts by introducing Java scripts in the content of the web pages of these sites before they reached the users.

Social platforms Twitter and Facebook were used by intelligence and security agencies to identify and locate activities and protesters. In Northern Sudan, where groups of Facebook users announced protests against the regime, the government actively monitored all social websites. When the protests began, many potential protesters, social network users were arrested.

⁸ Global Voices Syria, *Reports on Internet Blackout*, 3 June 2011.

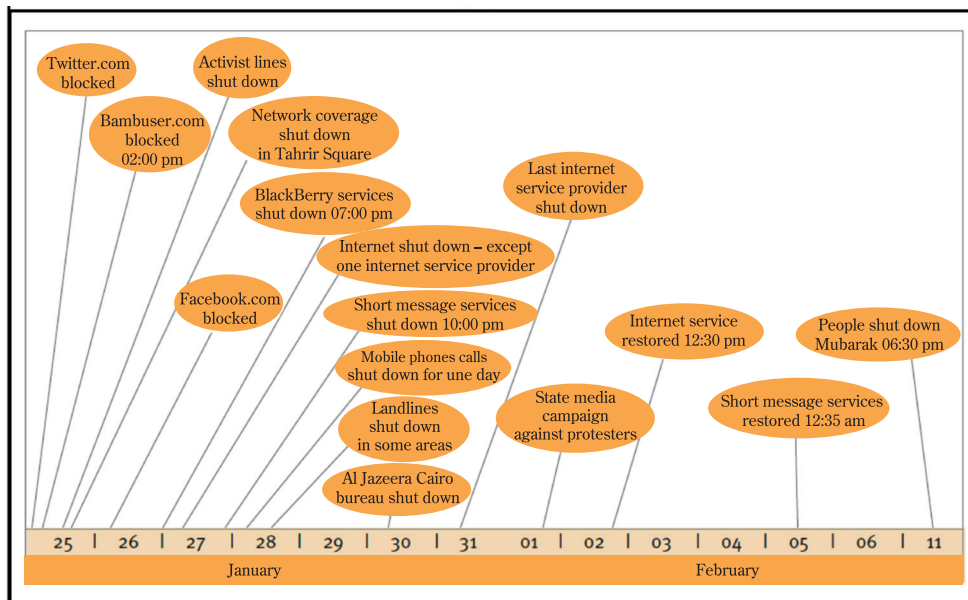


Figure 1: Chart of measures taken in cyberspace by the Egyptian government⁹

*

Social networks on the Internet, user-generated content messages or mobile phones communications are not infallible tools for the benefit of the protesters, but rather part of a contested terrain, used by protest movements in conflicts or societal transitions as well as by the government. Social networks sites Twitter and Facebook can be used for spying on protesters, finding their real identities and for arrests and detentions.

As recently noted by Julian Assange, founder of WikiLeaks, the Internet is not only a force for transparency and openness, but also the greatest spying machine the world has ever seen¹⁰. Social networks platforms often correlate an online identity with the real name, city of residence, occupation, interests, photos, and user's friends network, providing many surveillance opportunities.

The information from social networks can be explored by third-party applications or ad providers. The application with the programming interface of Facebook, which is a language or set of commands for finding information on Facebook, is accessible to anyone who turns their user account into a developer account.

⁹ Ramy Raouf, *The Internet and Social Movements in North Africa*, Global Information Society Watch 2011, published by Association for Progressive Communications (APC) and Humanist Institute for Cooperation with Developing Countries (Hivos), South Africa, 2011.

¹⁰ Julian Assange, *World's Greatest Spying Machine*, in *The Hindu*, 6 April 2011.

We also have the example of the British company Gamma Group International, which provided the State Security Service in Egypt with a security software application in 2009. It was described as a high-level security system, whose capabilities ensured hacking personal Skype accounts, e-mail accounts associated with Hotmail, Yahoo and Gmail, as well as complete control of targeted computers, respectively recording audio and video chat messages, nearby activity and copying the content of controlled computer.

We appreciate that Twitter and Facebook platforms, as well as mobile phones applications provide a geolocation function that can give information to locate the user. The position of a mobile phone can be tracked by mobile phones operators and, implicitly, by governments or third parties. In certain circumstances, the use of mobile Internet can enhance surveillance capabilities of the repressive regimes. In our opinion, information and communications technologies were, during the “*Arab Spring*” uprisings, an environment for spreading popular complaints and demands, complementary to the offline media, as well as tools for the mobilisation and coordination of protesters’ actions.

English version by
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COMMUNICATIONS AND INFORMATION COMMAND – Between History and Modernity –

CYBER WARFARE – Defining Landmarks –

Colonel Dr Ionel CIOBANU

In this article, the author aims to present a current topic of debate and reflection – cyber warfare. This is a relatively new weapon, with different effects on targets. It has no limitation in use and can reach most of its objectives.

Throughout the article, the author writes about cybersecurity, which can be very well planned, but cannot cover all scenarios. In this way, the author reminds us, on the one hand, China's situation, which has invested heavily in building a large and well-trained cyber security force, and, on the other hand, the US's situation, which has built its own national cyber security research centres to focus security experts in order to improve the national cyber security system.

Keywords: *human resource; cooperation; conventional functions; information gathering*

Every country has the right to defend itself by all proper means. Defence industries have emerged in order to meet the requirements of the armed forces. This industry is driven by daily progress of defence systems and permanently provides advanced technology that makes the previous products seem outdated.

There are few countries whose gross domestic products enable them to keep pace with this speed. Even the most economically developed countries cannot afford to develop state-of-the-art technologies because of the big expenses required for these programmes.

Any armed forces with conventional weaponry must be well-equipped and well-organised. Equipment is not the only concern that requires substantial financial funds, because the organisation of armed forces is much more important. Organisation is represented by the distribution of accurate information in exact amount and timing. Every military need information

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and telecommunication networks, are based on logistics and must know their enemy. The information age is not important only for business, but also on the battlefield. Information distribution must take place more rapidly, enemy movements must be communicated more accurately; troops must be deployed much more exactly, and decisions must be based on highly accurate pieces of information. All these aspects show that the armed forces require more and more pieces of information, but one is not aware that the information is a highly valuable asset that needs to be defended/protected. All efforts made to protect information have been focused on physical security (e.g. limited access to information), however, today, given the Internet and telecommunication networks, there are other risks that need to be considered.

Logical security weaknesses enable attackers to do everything possible with conventional weapons (destruction of infrastructure), as well as weapons of mass destruction (nuclear reactor meltdown).

➤ *Cyber warfare* is a relatively new type of armament, with different effects on the targets. It has no limitation in terms of use and can reach most of the goals set.

➤ *Cyber weapons* are usually basic programmes whose objective is to defend or attack a target. Most of them are freely available on the Internet, but the most sophisticated or the newest ones are kept private or are commercial.

➤ *Detection* – the systems in this category focus on detecting possible attackers and identifying their objectives and, perhaps, their possible position.

Detection can be based on experts' knowledge (if we hear bullets flying in the air, it is clear that we are under attack) or on standard behaviour (if a patrol is not back on time from a reconnaissance mission, it is very likely an imminent attack will follow).

The tools used in this category are: intrusions/intruders detection systems, security monitoring and log analysis.

➤ *Prevention* – stopping the attacker is the main concern, even if the attack has not been identified (locking the entrance door is always a good idea). Most attacks are very simple and orientated forward, meant to test each door – if it is open – and good prevention means to simply lock it, except if one expects an army trying to enter (but, then, he applies the preventive measures). The main tools in this category are: firewall, authentication systems, authorisation systems.

➤ *Target identification* has as main tools: network scanners; system scanners; vulnerability scanners.

➤ *Attack* – it includes all the tools that use system vulnerability or applications that enable the attacker to reach all the goals set. There are too many tools to mention

them all, considering that there are more tools that can be responsible for each vulnerability. It is also equally important to mention Internet viruses/worms, which have the ability to automatically detect certain vulnerabilities and replicate themselves from one system to the other. Another group is represented by “Trojan horses”, which can be deployed on a system, in order to gain access later or to create a covert channel to get important information.

➤ *Deception tools* – enemy deception is equally important in the event in which distracting their attention is necessary in order to maximise an attack or to slow its detection time. Here we find the following categories: log modifiers; distributed attack systems; (basic) root-kits; Stealth technology.

➤ *Strategies and tactics* – the renowned British strategic thinker B.H. Liddell-Hart addressed strategy from two different perspectives. He differentiated between a “grand strategy” and a “military strategy”.

Liddell-Hart’s “grand strategy” was focused on nation’s ability to coordinate and direct all resources of a nation to reach political goals. “Military strategy” was more narrow, capable of executing a battle plan or projecting military force.

In cyber security, there is no difference between military and civilian infrastructure. Many of the targets are non-military, but are indirectly involved in military infrastructure.

Disrupting the economy or damaging the image of a public infrastructure can exert a much more powerful effect than weapons of mass destruction and, consequently, it is necessary that the tactics and border strategy are not limited, so that one may gain a global understanding of what attackers may gain or lose.

Strategists are based on certain behaviours that define the part that acts. In cyber security, one can notice three major types (if we do not consider chaotic behaviour), as follows:

❖ *Reactive behaviour*

In this case, strategy is based on action, which can be seen or reported in any way. It reacts upon its action through the proper response, through increasing the response to that weakness. For instance, the USA began to focus on airport security after the 11 September incident or to increase the alert degree regarding information security after the multiple cyber attacks from China and other “counter-American” countries.

This behaviour strengthens those defence points in which the attacks have already taken place, which means that, in the beginning, there will always be certain successful penetrations.

Although it seems that, in the long run, infrastructure may reach a point in which we appreciate the systems would be sufficiently secured, in reality, by introducing new software and upgrades (this happens very often), new “holes” are made in the security systems, which require to be covered in time.

Security-limited resources infrastructures usually use this type of behaviour in order to manage their security issues. This means that the security team in charge is either not very experienced or there is not enough people dedicated to maintaining the safety of IT systems.

Depending on the response on a security incident, one can draw conclusions regarding the quality and measures of the cyber security strategy (especially addressing an incident and monitoring system security).

Through the analysis of the security vulnerabilities of systems, it is possible for the history of the attacks on their infrastructure to be seen. There is also an alternative way to this behaviour, resulted from learning from the mistakes of others, but the solutions of others cannot be used always to increase the security of a different infrastructure.

❖ *Planned behaviour*

The importance of planning is already acknowledged by project managers, but, because of the IT infrastructure, it is not always applicable. IT infrastructure cannot be maintained strictly static and cannot be changed in order to meet the exact working needs of its owner. In order to keep pace with the IT process, as well as to meet the requirements needed to maintain the functionality, in a very short while, it will not be possible to keep everything planned and well documented. The phenomenon is similar to planning national security, where detailed plans do not work as expected when they have a big economic coverage, the military systems and other kinds change frequently, and are not very well documented. In the best case, well thought and appropriately applied planning can be reached in a decent security level.

In former Communist countries, planning was done in almost all state sectors, but, even though many of the scenarios were thought of, one aspect was not sufficiently covered, namely, human resources. Because of the unforeseen deviations in the human behaviour, the entire system collapsed.

Cyber security can be planned very well, but the plan cannot cover all scenarios and, by not engaging capable and experienced security people, able to adopt responses, there will permanently be a risk of break-in.

If companies are concerned with making the specialised personnel provide/operate defensive security measures or the ones regarding systems security

(as they are manifested in most cases), a proper response will follow after a long period of investigations and escalation.

Knowing the procedures employed by external companies, an attacker can predict the specific behaviours that would follow and adjust the cyber attack in order to prevent any response.

The risk can be to underestimate the possibility of having external security protection systems that could be difficult to overcome. This aspect is very important in the companies with medium development or progressive thinking.

❖ *Proactive behaviour*

Previous behaviours were intended to cover the known risks and vulnerabilities, but what if there is something new that was not reported or documented? In this case, the attack would remain undetected and would be identified as an anomaly. For the detection and prevention of other unknown attacks, it is necessary that we are very flexible and *“the first to know our weaknesses”*.

A security strategy that is focused on identifying own potential weaknesses and covering own *“holes”* is based on proactive behaviour.

There are many functions that can be included in the proactive behaviour category: source code review; identification of functions that provide functionality; traffic analysis; self-penetration testing; self-adaptable security measures.

There are already certain security solutions and products on the market, but they are not very improved because of the lack of qualified personnel to operate it. The formal functionality testing and source code review are not conceived with the necessary purpose of providing the safety of such system.

Many countries have already begun to investigate this field and adapt certain parts of their systems. China has invested a lot in building a greater and well-trained cyber security force, and the USA has built national cyber research centres in order to concentrate security experts and skilled engineers with the purpose of improving the national cyber security system.

Proactive behaviour requires very skilled people and very tight security systems in place and, consequently, we believe it is highly important that skilled people are kept in the country, in order to provide own security or develop the needed security systems.

❖ *National Security Strategy*

This is a rather utopian approach as long as there is no possibility that all the parts of a nation are integrated and synchronised into one cyber defence initiative, but it should be the goal of any cyber defence initiative. The main goal

here is to provide national security from the network provider to the end-user. There is one general security and security policy standard that is enforced and verified by authorised experts.

The joint electronic warfare centre is responsible for handling the incidents that are reported by any entity in the country.

The education system is capable of ensuring sufficient number of security experts and research capabilities in order to implement the national security strategy in each important infrastructure. Attacking such a system is extremely difficult and may be done only from inside, near the target, in order to minimise the possibility of detection and prevention.

Such an attack requires cooperation with conventional special forces that assist the cyber attack team in reaching the target, as close as possible, and gain access to the database and the functioning mechanism.

❖ *People* – security is based on three aspects: people, systems and procedures. Since systems and procedures are developed by people, human resources are the “key” to cyber security defence initiative.

❖ *Experts* – the core of the cyber security defence force is represented by the people with security knowledge. They are not administrators capable of installing firewall systems, they are the people who design and develop firewall systems and other security measures.

Without these people, a country or a company must depend on foreign assistance that may or may not be successful.

The position of a security expert is similar to the one of a nuclear scientist, who can invent and develop lethal weapons for any state willing to finance his research and results.

❖ *Intelligence* – information on the enemy is, according to Sun Tzu, the key to success in battle or war. Information collection on enemy tools and cyber security systems is as valuable as the knowledge of the enemy’s types of weaponry and soldiers.

Even at company level, it is important that we know what kind of new security tools are on the market and what kind of security issues have been discovered recently. Moreover, information on security experts may be valuable in case of recruitment requirements.

❖ *Hackers* – the defence force is part of cyber security, but offensive capabilities are needed as well. For the training scenarios, as well as for identification of new and existing holes in security systems, hackers are highly important.

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Very often, ex-hackers tend to provide security consultancy, but the major difference between a hacker and a security expert is that a hacker seeks to identify a “hole”, while the security expert seeks to cover them all.

❖ *System programmers* – with all the knowledge of security requirements and new security “holes”, there must be someone who integrates and changes the hardware or software memory or a solution.

The knowledge of the system and of the programming skills are needed for the IT industry process, as well as for cyber security.

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COMMUNICATIONS AND INFORMATION COMMAND – Between History and Modernity –

COMMUNICATIONS AND INFORMATION SOLDIERS TRAINING FOR CARRYING OUT MISSIONS IN THEATRES OF OPERATIONS – Educational Priority for “Decebal” Training Centre for Communications and Information –

Colonel Dr Dorin CHIRCA
Lieutenant Colonel BEng Nelu LUȚAN

As a structure subordinated to the Communications and Information Command, the “Decebal” Training Centre for Communications and Information in Sibiu provides professional training and continuous development of the Romanian Armed Forces personnel for the communications and Information branch through career and level/specialisation courses.

In the present study, the authors reflect on level/specialisation courses that include, in their areas of training, the development of students; skills and abilities necessary for the organisation, installation and operation of integrated communications and Information systems specific to the theatres of operations. The “Decebal” Centre has set as its main objective the permanent correlation of education programmes, the requirements of the Romanian Armed Forces and the reality of the missions undertaken within NATO.

Keywords: *theatre of operations; partners; communication networks; standardisation*

The “Decebal” Training Centre for Communications and Information is the structure subordinated to the Communications and Information Command that ensures the enhancement of professional development and continuous training of the Romanian Armed Forces personnel in the communications and information branch through career and specialisation courses.

The entire process of professional training and development of military signal specialists was designed and is carried out in accordance with the military education remodelling requirements in the Romanian Armed Forces. The curricula and training programmes correlate training with functional responsibilities of trainers, fighters and specialists of the communications and information branch, with the operational needs

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of the Armed Forces, with the development of vocational skills and abilities of the students for planning, designing and operating integrated communications and information systems and with the implementation of training standards in a unitary concept, through modern training methods.

All educational efforts carried out in the theoretical and practical areas, in the “*Decebal*” *Training Centre for Communications and Information*, are aimed at the students gaining, updating and developing their skills for establishing communications between different echelons in peace, crisis and war situations, and for acting jointly with similar structures from allied armed forces.

Through the formation, specialisation and professional training in the communications and information branch of the Romanian and partner/allied armed forces, the personnel are ensured the necessary skills to manage the fulfilment of intern, international and theatres of operations missions, according to the functional area in which the respective personnel will perform.

The Romanian Armed Forces participation along with the other NATO member countries in missions in theatres of operations has required the adaptation of the military communications and information education in such a manner that the graduates from the courses organised by the “*Decebal*” *Training Centre for Communications and Information* can be able to ensure at the highest level the technical support needed to carry out military operations. This requirement is also being materialised through specialisation courses that comprise in their curricula the development of students’ skills and capacities needed to organise, install, operate and maintain integrated communications and information systems specific to theatres of operations: *HARRIS radio operators and NATO communications procedures training course*; *Numerical radio networks planners training course*; *Information training course for multinational missions*; *Platoon leader enhancement course*; *Training course for radio frequencies management in exercises and theatres of operations*; *Training course for the knowledge, operation and maintenance of Permanent Signal Network/Deployable Communications and Information Module (PSN/DCIM) equipment, satellite equipment and for the supply of video teleconferencing services (VTC) employed in missions*.

❖ The aim of the *HARRIS radio operators and NATO communications procedures training course* is to specialise operators for providing voice and data communications – encrypted or in clear – for combat forces, using the communications support provided by Harris radio stations. In order to achieve full interoperability with partner/allied military structures, students are trained to draw up the equipment operation documents and to carry out the information exchange by strictly following the NATO communications procedures stipulated by ACP 125 and ACP 121 standards.

❖ The aim of the *Numerical radio networks planners training course* is to train the skills needed in order to install the tactical unit for radio access (RF-6010 HUB) and to organise the radio networks meant to provide the access of own subscribers (including the soldiers in missions in fighting vehicles) to the Permanent Communications Network (PCN-RTP), as well as their automatic interconnection with subscribers of other public, mobile or stationary telephone networks. The students attending this course are trained to plan, install and operate Combat Net Radio networks (CNR) and High Capacity Data Radio networks (HCDR) in order to provide a reliable data transfer to support the information flow for the command and control system (C2). Another priority for this course is the CNR interconnection with the command points from the theatres of operations in order to provide continuous communications during the actions carried out.

❖ The *Information training course for multinational missions* develops professional skills in the information field for the efficient utilisation of the programming systems employed in theatres of operations. Students get to know the facilities of an operating system and the possibilities to customise them and they are also introduced to text editors, information organisation, image mixing, objects handling, NATO format of documents as well as to working with the collaborative environment. In order to achieve the communications and information support for the C2 system, students gain knowledge of the basic IT concepts and principles, the structure and operation of computer systems, computer networks and the security of computer systems.

❖ The *Platoon leader enhancement course* improves the skills of junior officers in order to organise and operate communications and information systems at tactical level. They are introduced to the principles of the information flow management in C2 systems and become familiar with the battle command and control applications particular to command points (BC2A/Battle Command and Control Application Staff) and fighting vehicles (BC2A/Battle Command and Control Application Cinetic).

❖ The *Training course for radio frequencies management in exercises and theatres of operations* prepares the communications and information personnel in the field of NATO radio spectrum management for organising and carrying out actions in the theatres of operations. Other priorities of this course concern radio coverage analysis, analysis of interferences and disturbances in communications networks established in theatres of operations. All activities are conducted in accordance with NATO standards by using the application *SPECTRUM XXI*, specific to radio management. The requests and allocations of frequencies are made using the *SFAF* format (*Standard Frequency Action Format*).

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❖ The *Training course for the knowledge, operation and maintenance of Permanent Signal Network/Deployable Communications and Information Module (PSN/DCIM) equipment, satellite equipment and for the supply of video teleconferencing services (VTC) employed in missions* is aimed at the selected personnel to be assigned in the composition of DCIM and it is essential in perfecting the specialised training necessary for operating the communications and information systems from theatres of operations. DCIM is the basic element that meets the communications and information requirements of units and subunits deployed outside the country borders. Students learn how to accomplish the extension of the National Military Communications Network (NMCN) in order to provide communications with the deployed Romanian forces, the allied tactical communications networks, as well as the NATO General Communications System (NGCS). In order to provide mobility and operational needs regarding the information exchange and processing at the level of the deployed battalions command structures, students acquire the knowledge and develop the skills needed to install, set up and operate the pieces of equipment that assist this kind of support: satellite equipment (SDM 300A), radio-relay equipment (MH 313), stream modem (HTU-E1) and optic fibre converter (FO/ETH FIB1-10/100M/SC 2F).

This course is aimed at the configuration of the digital switchboard CD 115E, providing circuits and packets switching, as well as at the access and trunk functions to provide necessary C2 and social communications links.

To provide data communications links used for mission planning, resources management, operations coordination and information exchange with hierarchical C2 centres, the students are introduced to the ATM technology (asynchronous transfer mode), which is the basis for designing and implementing local area networks (LAN) and wide area networks (WAN), and the protocols they use. Theoretical training is fulfilled by deepening the underlying principles of computer network operation and management and of the main architectures, models, topologies and network standards.

Once this knowledge has been acquired, communications and information specialists develop and enhance their skills for designing, implementing and managing computer networks similar to those used in theatres by applying the principles of structured cabling and configuring network devices (SAS 860 EN and CISCO 1760 routers, ASMI 52 and SHDTU-03THU modems, AT-8024 and AT-8516 F/SC switches).

The students who attend this course are trained to ensure, in real time, simultaneous encrypted image and data communications between command structures from the Ministry of National Defence and theatres of operations.

To achieve the implementation of the integrated communication and information system at the level of the structures from the theatres of operations, the communications and information specialists install and configure the multiprotocol switch MPS-145, which integrates and interconnects all the networks, services and facilities provided by DCIM.

A special part of the training concerns the skill to provide link functionality and high quality, by studying terminal equipment for monitoring and controlling the interfaces (ETMTCI).

Training is completed by conducting complex integrated exercises that aim to train participants in conditions and functions similar to theatres of operations. These exercises verify the way specialists manage to provide continuity of the communications and information system under difficult weather conditions, technical incidents or jammed communications.

The *Lessons Learned and Standardisation* department from our *Training Centre for Communications and Information* ensures permanent feedback with the students at their return from missions, therefore the information content and teaching methods are continuously correlated with communications requirements from theatres of operations.

Permanent positive feedback that comes from our allies on the Romanian deployed forces is partially due to the professionalism of highly trained communications and information specialists, trained in technical labs by the teachers/instructors of the “*Decebal*” *Training Centre for Communications and Information*, a military education institution with 70 years of existence.

The “*Decebal*” *Training Centre for Communications and Information* has established as main objective the permanent correlation of its education programmes with the requirements imposed by the real needs of the Romanian Armed Forces and with the reality of the missions assumed within NATO. Therefore, course graduates will continue to perform exemplary their mission of providing the communications and information support necessary for leading combat forces in theatres of operations.



A POLITICAL-LEGAL ASSESSMENT OF THE AGREEMENT BETWEEN ROMANIA AND THE UNITED STATES OF AMERICA ON THE DEPLOYMENT OF THE US MISSILE DEFENCE SYSTEM IN ROMANIA FROM 2011

Dr Bogdan AURESCU

The purpose of this article is to evaluate the political and legal significance of the Agreement between Romania and the United States of America on the Deployment of the US Missile Defence System in Romania, signed in Washington, on 13 September 2011, based on the evolutions in the international security environment, which highlight the risks of missile technology proliferation for the Euro-Atlantic area, as well as in light of conceptual evolutions and recent decisions at NATO level, including the most recent decision adopted at NATO's Chicago Summit (May 2012) concerning the launch of the Interim NATO Ballistic Missile Defence Capability. At the same time, it infers that this project has a substantial contribution towards strengthening Romania's security and consolidating the Strategic Partnership with the US: according to the Agreement, by means of creating, together with our country, the legal basis for the deployment in Romania of a facility of its missile defence system, the US is firmly committed to the defence of Romania's territory from ballistic attacks and connected threats.

Keywords: USA; missile defence; principle of indivisibility of allied security; principle of NATO solidarity

Introductory remarks.

The international context and the conceptual and decision-making developments at NATO level

At the level of the international security environment, there is an ever increasing awareness of the risk posed by the intensified technological proliferation concerning short and medium range missiles and also the availability of these weapons and the consequent means of delivery for various state and non-state actors in the proximity of the Euro-Atlantic area, as defined by the *North Atlantic Treaty*, signed in Washington, on 4 April 1949.

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This risk and the awareness of it, based on expert evaluations from NATO governments, as well as the academic field, determined important evolutions for adaptation and response, both at conceptual level and by developing means to counter this serious threat to NATO allies. Security experts are unanimous in their assessment that the risks generated by potential attacks with short and medium range ballistic missiles, including on the European space of which Romania is a part, are on the rise, at the same time, from a technological point of view, ballistic systems are growing more flexible, mobile, precise and their range is ever increasing¹. More than 30 states are already equipped or are about to acquire ballistic missiles capable of transporting not only conventional, but also nuclear, chemical or biological warheads. Their proliferation does not pose an immediate threat of attack for the allies, but NATO is under obligation to address these threats and to ensure adequate defence for the population, territory and military forces of NATO member states².

At NATO level, there was a gradual evolution, reflected in the most important documents of the Alliance. Thus, paragraph 37 of the Declaration issued by the Heads of State and Government adopted at NATO's București Summit (3 April 2008)³ reads the following: *“Ballistic missile proliferation poses an increasing threat to Allies’ forces, territory and populations. Missile defence forms part of a broader response to counter this threat. We therefore recognise the substantial contribution to the protection of Allies from long-range ballistic missiles to be provided by the planned deployment of European-based United States missile defence assets. We are exploring ways to link this capability with current NATO missile defence efforts as a way to ensure that it would be an integral part of any future NATO-wide missile defence architecture. Bearing in mind the principle of the indivisibility of Allied security as well as NATO solidarity, we task the Council in Permanent Session to develop options for a comprehensive missile defence architecture to extend coverage to all Allied territory and populations not otherwise covered by the United States system for review*

of the Agreement between Romania and the United States of America on the deployment of the US missile defence system in Romania, signed in Washington, on 13 September 2011, and of the *Joint Declaration on Strategic Partnership for the 21st Century*, adopted on the same date. The author thanks Mr. Valentin Budau for his precious help with the English version of this paper.

¹ *Q & A regarding Romania's Participation in the US Missile Defence System*, Ministry of Foreign Affairs official site, *In Focus*, <http://www.mae.ro/node/1523>, retrieved on 30 June 2012.

² *NATO Secretary General's Annual Report 2011, “Tackling Emerging Security Challenges”*, at <http://www.nato.int/ebookshop/briefing/new-security-challenges/new-security-challenges-e.pdf>, retrieved on 6 April 2012.

³ *Bucharest Summit Declaration*, issued by the Heads of State and Government participating in the meeting of the North Atlantic Council in București on 3 April 2008 http://www.nato.int/cps/en/natolive/official_texts_8443.htm?selectedLocale=en, retrieved on 30 June 2012.

at our 2009 Summit, to inform any future political decision”. It is for the first time when, at conceptual level, within the Alliance, there was a formal endorsement of the principle of indivisibility of allied security, and also for the principle of NATO solidarity, meaning full coverage of all allied territory and population, in addition to full coverage of forces deployed in theatres of operations, as revealed by the concept of ALTBMD (*Active Layered Theatre Ballistic Missile Defence*).

Further on, at NATO’s Strasbourg-Kehl Summit (4 April 2009), the *Declaration issued by the Heads of State and Government*⁴ reiterates (paragraph 50) the conclusions adopted at the Bucharest Summit with respect to missile defence and states (paragraph 51): *“In response to our tasking at the Bucharest Summit to develop options for a comprehensive missile defence architecture to extend coverage to all European Allied territory and populations, several technical architecture options were developed and subsequently assessed from a politico-military perspective. We recognise that additional work is still required. In this context, a future United States’ contribution of important architectural elements could enhance NATO elaboration of this Alliance effort”*. Likewise, paragraph 52 reads as following: *“Based on the technical and political military analysis of these options, we judge that missile threats should be addressed in a prioritised manner that includes consideration of the level of imminence of the threat and the level of acceptable risk. We received a comprehensive analysis of the technical architecture options and agree to its overall assessment that, even though some of these options do not meet the Bucharest tasking, each of them has its strengths and shortcomings”*.

At the same time, paragraph 53 of the Strasbourg/Kehl Summit Declaration issued by the Heads of State and Government, based on these evaluations, concludes that *“Bearing in mind the principles of the indivisibility of Allied security as well as NATO solidarity, we task the Council in Permanent Session, taking into account the Bucharest Summit tasking, to present recommendations comprising architecture alternatives, drawing from the architectural elements already studied, for consideration at our next Summit. To inform any future political decision on missile defence, we also task the Council in Permanent Session to identify and undertake the policy, military and technical work related to a possible expanded role of the ALTBMD programme beyond the protection of NATO deployed forces to include territorial missile defence”*.

NATO’s Lisbon Summit (19-20 November 2010) takes the decisive step further as it marks the adoption of the political decision to establish NATO’s ballistic

⁴ Q & A regarding Romania’s Participation in the US Missile Defence System, *op. cit.* See also *Strasbourg/Kehl Summit Declaration*, issued by the Heads of State and Government participating in the meeting of the North Atlantic Council in Strasbourg/Kehl, http://www.nato.int/cps/en/natolive/news_52837.htm?selectedLocale=en, retrieved on 30 June 2012.

missile defence system. As such, paragraph 36 of the *Declaration issued by the Heads of State and Government*⁵ adopted at the Summit clearly states that “*The threat to NATO European populations, territory and forces posed by the proliferation of ballistic missiles is increasing. As missile defence forms part of a broader response to counter this threat, we have decided that the Alliance will develop a missile defence capability to pursue its core task of collective defence* (author’s emphasis). *The aim of a NATO missile defence capability is to provide full coverage and protection for all NATO European populations, territory and forces* (author’s emphasis) *against the increasing threats posed by the proliferation of ballistic missiles, based on the principles of the indivisibility of Allied security and NATO solidarity, equitable sharing of risks and burdens, as well as reasonable challenge, taking into account the level of threat, affordability and technical feasibility, and in accordance with the latest common threat assessments agreed by the Alliance*”. Likewise, paragraph 37 reveals that “*To this end, we have decided that the scope of NATO’s current Active Layered Theatre Ballistic Missile Defence (ALTBMD) programme’s command, control and communications capabilities will be expanded beyond the protection of NATO deployed forces to also protect NATO European populations, territory and forces. In this context, the United States European Phased Adaptive Approach is welcomed as a valuable national contribution to the NATO missile defence architecture, as are other possible voluntary contributions by Allies*”.

Furthermore, paragraph 19 §6 of NATO’s *new Strategic Concept*, also adopted at the Lisbon Summit, states that the Alliance will “*develop the capability to defend our populations and territories against ballistic missile attack as a core element of our collective defence* (author’s emphasis), *which contributes to the indivisible security of the Alliance*”.

The Chicago Summit from May 2012 adopts new important decisions for the implementation of the political decisions from Lisbon. Therefore, essential elements from the documents of previous Summits are restated, the *Declaration issued by the Heads of State and Government adopted at the Summit*⁶ reiterates (paragraph 58) the concern for “*increasing threats to our Alliance posed by the proliferation of ballistic missiles*”, recalls the decision taken at Lisbon to develop NATO’s missile defence capability aimed at fulfilling the major task of collective

⁵ Q & A regarding Romania’s Participation to the US Missile Defence System, *op. cit.* See also *Lisbon Summit Declaration*, issued by the Heads of State and Government participating in the meeting of the North Atlantic Council in Lisbon, http://www.nato.int/cps/en/natolive/official_texts_68828.htm?selectedLocale=en, retrieved on 30 June 2012.

⁶ *Chicago Summit Declaration*, issued by the Heads of State and Government participating in the meeting of the North Atlantic Council in Chicago on 20 May 2012, http://www.nato.int/cps/en/SID-C5895414-2E163C19/natolive/official_texts_87593.htm, retrieved on 30 June 2012.

defence, as well as its purpose: “to provide full coverage and protection for all NATO European populations, territory and forces against the increasing threats posed by the proliferation of ballistic missiles, based on the principles of indivisibility of Allied security and NATO solidarity, equitable sharing of risks and burdens, as well as reasonable challenge, taking into account the level of threat, affordability and technical feasibility and in accordance with the latest common threat assessments agreed by the Alliance. Should international efforts reduce the threats posed by ballistic missile proliferation, NATO missile defence can, and will, adapt accordingly”.

On the other hand, the Summit Declaration underlines the purely defensive role of missile defence, and its complementary function of nuclear deterrent (paragraph 59). As such, the Chicago Summit adopted another important decision by including missile defence in the Allied capabilities mix, alongside conventional arsenals and nuclear deterrents, as a self-standing element but complementary to these capabilities, by adopting NATO’s *Deterrence and Defence Posture Review*⁷.

The most important allied decision in Chicago envisions the declaration of interim capability for NATO’s missile defence system. Paragraph 60 of the Summit’s Declaration reads as following: “**We are pleased today to declare that the Alliance has achieved an Interim NATO BMD Capability. It will provide with immediate effect an operationally significant first step, consistent with our Lisbon decision, offering the maximum coverage within available means, to defend our populations, territory and forces across southern NATO Europe against a ballistic missile attack** (author’s emphasis). *Our aim remains to provide the Alliance with a NATO operational BMD that can provide full coverage and protection for all NATO European populations, territory and forces, based on voluntary national contributions, including nationally funded interceptors and sensors, hosting arrangements, and on the expansion of the Active Layered Theatre Ballistic Missile Defence (ALTBMD) capability. Only the command and control systems of ALTBMD and their expansion to territorial defence are eligible for common funding. Within the context of the NATO BMD capability, Turkey hosts a forward-based early-warning radar. We note the potential opportunities for cooperation on missile defence, and encourage Allies to explore possible additional voluntary contributions, including through multinational cooperation, to provide relevant capabilities, as well as to use potential synergies in planning, development, procurement, and deployment*”.

Paragraph 61 of the Declaration establishes “full political control by Allies” over military actions taken as part of this interim capability, as well as, considering

⁷ http://www.nato.int/cps/en/natolive/official_texts_87597.htm retrieved on 30 June 2012.

the relative short flight interval for ballistic missiles, the approval by the North-Atlantic Council of pre-determined rules and procedures, also by taking into consideration the consequences of engagement, according to requirements for cover and defence. At the same time, the Council is tasked with periodically reviewing the interim capability implementation, including prior to foreign and defence ministerial meetings and with preparing, by the next Summit, a comprehensive report of the progress achieved and the future developments of the system.

The issue concerning the relationship with Russia is also established in paragraph 62. As such, the Alliance “*remains committed to cooperation*” with Russia regarding missile defence “*in the spirit of mutual trust and reciprocity*” and declares its openness “*through ongoing efforts in the NATO-Russia Council*” to “*determine how independent NATO and Russian missile defence systems can work together to enhance European security*”. There is a proposal to create two common NATO-Russia centres – missile defence data fusion and joint operational planning – to establish cooperation in missile defence. At the same time, another proposal envisages a transparency regime, based on regular exchange of information about current NATO and Russia missile defence capabilities, based on the argument that “*such concrete missile defence cooperation is the best means to provide Russia with the assurances it seeks regarding NATO’s missile defence plans and capabilities*”. The same text reaffirms that “*NATO missile defence in Europe will not undermine strategic stability. NATO missile defence is not directed against Russia and will not undermine Russia’s strategic deterrence capabilities. NATO missile defence is intended to defend against potential threats emanating from outside the Euro-Atlantic area. While regretting recurrent Russian statements on possible measures directed against NATO’s missile defence system, we welcome Russia’s willingness to continue dialogue with the purpose of finding an agreement on the future framework for missile defence cooperation*”.

In this context, Romania’s contribution through its participation with Deveselu air base (Olt county) to the EPAA – *United States European Phased Adaptive Approach for Ballistic Missile Defence* – receives a particular significance: since in Chicago, the allies have decided upon the creation of *interim* missile defence capability, by implementing Phase I of EPAA (by deploying first, on rotation, the US ship carrying the AEGIS system in the Mediterranean Sea and by activating the radar in Turkey, they being transferred from US to NATO command), the next step in developing NATO missile defence system will be the site in Romania, meant to become operational starting with 2015, and constituting the *initial* capability of the allied system.

The timeline for Romania's participation in the United States European Phased Adaptive Approach for Ballistic Missile Defence⁸

As a NATO member, Romania has an obligation to act in any situation when another member of the Alliance is under attack, on the basis of Article 5 of the Washington Treaty from 1949, which stipulates the principle and the mechanisms for collective legitimate self-defence, applicable at the Alliance's level.

On 17 September 2009, US President Barack Obama announced the decision to develop the American missile defence system in Europe in a new approach, phased adaptive – the famous now EPAA, meant to better protect the forces deployed in Europe and in theatres of operations, both American and allied, as well as the population and territory of the US and its allies⁹. The new approach replaces the concept developed previously by the George W. Bush administration, which only covered partially the allied territory in Europe (Romania was only covered by this concept of American missile defence in its north-western part of the territory).

On 22 October 2009, American Vice-President Joseph Biden paid a visit to Bucureşti, on that occasion discussing the defence programme of the system proposed by President Barack Obama. On the occasion of that visit, the high-ranking American official declared in the press conference following the talks with the Romanian President: *"I highly appreciate the fact that Romania adopted with open arms the new missile defence system that we want to introduce in Europe, which will replace with a much better architecture the initial version of the system that was intended to defend Europe's security. This new system physically protects Europe, as well as the United States"*.

Furthermore, on 16 November 2009, during the working visit to Washington, the Secretary of State for Strategic Affairs in the Romanian Ministry of Foreign Affairs, Bogdan Aurescu, met with officials from the US administration (State Department, the Pentagon and National Security Council). On that occasion, the Romanian official expressed Romania's availability to continue bilateral talks on the prospects of the new project for the missile defence system, put forward by President Obama, in the context of the ongoing debates within NATO, according to the principle of indivisibility of allied security.

⁸ *Q & A regarding Romania's Participation in the US Missile Defence System, op. cit.*

⁹ The White House, *President Obama Speaks on Missile Defence in Europe*, 17 September 2009, <http://www.whitehouse.gov/video/President-Obama-Speaks-on-Missile-Defense-in-Europe#transcript>, retrieved on 30 June 2012.

As a result of the decision of September 2009 of the new Democrat administration, and following a complex decision-making process on the American side, on 4 February 2010, Ellen Tauscher, Under-Secretary of State for Arms Control and International Security with the US Department of State, presented, during a meeting in București, with the Romanian President, Traian Băsescu, the US President' invitation regarding Romania's participation in the American European Phased Adaptive Approach for Ballistic Missile Defence. On the same day, the Supreme Council for National Defence (CSAT) decided that Romania should answer in a positive manner to the American invitation.

In order to implement the Council's decision, the negotiation process was initiated with the American side on the *Agreement between Romania and the United States of America on the Deployment of the United States Ballistic Missile Defence System in Romania* (hereafter called the "Agreement"). The mandate for the Romanian delegation was approved by the President of Romania and by CSAT (and was updated through the approval of the Report on the fifth round of negotiations, in March 2011).

The Romanian delegation was led by Bogdan Aurescu, Secretary of State with the Ministry of Foreign Affairs, and it included representatives from the Ministry of Foreign Affairs, Ministry of National Defence, Ministry of Administration and Interior, Ministry of Justice, Ministry of Public Finance and other institutions from the national security system with specific competencies. In order to prepare for the bilateral negotiations, there were 36 preparatory meetings, coordinated by the head of the Romanian delegation, with representatives from the Romanian institutions involved in the negotiation process.

The American delegation was led by Ellen Tauscher, Under-Secretary of State for Arms Control and International Security. During some of the negotiation rounds, the acting head of the delegation was Frank Rose, Deputy Assistant Secretary of State for Arms Control, and the delegation comprised representatives from the Department of State, Department of Defence, Missile Defence Agency, European Command of the United States and the US Embassy in București.

Overall, there were 8 bilateral meetings concerning the text of the Agreement, seven of which for negotiations on the text (they took place in București, on 17-18 June, 2010, 26-27 July 2010, 17 September 2010, 14 December 2010, 8 March 2011, 6 April 2011, 4 May 2011). During the seventh round of negotiations, on 4 May 2011, the text of the Agreement was *agreed upon ad referendum*, by the two negotiating delegations.

The negotiation round of 4 May 2011 was preceded by the public announcement made on 3 May 2011, by the Romanian President, Traian Băsescu, who nominated

the location that would host the American missile defence system in Romania – the Deveselu military base (Olt county), based on the decision adopted by CSAT on 2 May 2011.

Furthermore, on 3 May 2011, Romanian and American officials, including the heads of the two negotiation teams, accompanied by the chief of the US Missile Defence Agency, the leadership of the US European Command, representatives of the US Embassy in Bucureşti and the Chief of Staff of the Romanian Armed Forces travelled to Olt county to discuss with local authorities and local community aspects related to the deployment of missile defence elements to the base in Deveselu. On 4 May 2011, a meeting took place at the Palace of Parliament, of the two heads of delegations, accompanied by the chief of the US Missile Defence Agency, with the leadership of the US European Command, representatives of the US Embassy in Bucureşti and other members of the negotiating delegations with members of the Commission for Foreign Policy and Defence, from both the Senate and the Chamber of Representatives, members of the US Caucasus in the Romanian Parliament, with the President and Vice-President of the Romanian Senate, on that occasion presenting the politico-diplomatic details concerning Romania's participation to the American missile defence system.

During the last meeting between the heads of the negotiation teams, which took place in Washington, on 6 June 2011, the text of the Agreement was proof read in the English and Romanian languages and was initialled by the heads of the two negotiating delegations.

During the 8 rounds of negotiations (which were preceded by two rounds of preliminary consultations, in February and May 2010), the discussions unfolded in an atmosphere of real partnership, both sides acting with the desire to obtain a mutually advantageous text, which would adequately address the security interests of the parties and the necessity assumed through NATO documents to create a NATO missile defence system, based on US contribution to which Romania would be a part of.

Following the end of the negotiations and the initialling of the text, the Agreement was signed, on 13 September 2011, in Washington, by the Romanian Minister of Foreign Affairs and the American Secretary of State, Hillary Clinton, during the visit of the Romanian President to the US.

On 23 September 2011, following the approval by the Romanian President and the agreement from the American side, applying Article 39 of Law no. 590/2003 on treaties, in order to ensure a correct and exact information, the Agreement was made public by the head of the Romanian negotiation team during a press briefing organised at the Ministry of Foreign Affairs.

Article 19 of Law no. 590/2003 on treaties stipulates that state treaties are ratified by the Romanian Parliament, irrespective of their scope. As such, this Agreement, done at state level, was sent for ratification to the Parliament. The ratification procedure was finalised on 6 December 2011, with a vast majority in the Chamber of Deputies and unanimity in the Senate. The ratification Law no. 290/2011 was made public in the *Official Gazette* no. 910, 21 December 2011. As the Ministry of Foreign Affairs fulfilled the notification procedures required by Law no. 590/2003 on treaties, the Agreement entered into force on 23 December 2011.

**Presentation of the text¹⁰
of the Agreement between Romania
and the United States of America
on the Deployment of the United States
Ballistic Missile Defence System in Romania**

1. Preamble

In the Preamble of the Agreement (paragraphs 2 and 3) there is ample reference to the Strategic Partnership between Romania and the United States of America and its development, and also to the joint perspective of a broader and deeper Strategic Partnership, including here the development of consolidated mechanisms for political and military consultations, aiming at improving the security of the parties. For the first time, there is a reference to the Romanian-American Strategic Partnership in a legally binding bilateral document.

Paragraph 2 of the text confirms the commitment of the two sides to participate to the missile defence system developed by NATO. The principles that Romania constantly promoted within NATO with respect to missile defence are mentioned (paragraphs 2 and 3): solidarity, indivisibility of security, as well as the fact that the NATO's missile defence system offers full coverage to allied territory populations and European forces of NATO (as opposed to the previous missile defence project). There is also a reference to the idea promoted by Romania, as well as the United States, according to which the NATO system is a "*key mission*" of the Alliance. The language follows the decisions adopted at NATO's Lisbon Summit, in November 2010, and anticipates the decision reached at Chicago Summit, which declared the interim capability of NATO's missile defence system.

¹⁰ For the English version see US Department of State, *The Agreement between Romania and the United States of America on the Deployment of the United States Ballistic Missile Defence System in Romania*, <http://www.state.gov/t/avc/trty/172915.htm>, retrieved on 30 June 2012.

The text reflects the decision taken at NATO level to integrate US missile defence capabilities – to which Romania participates directly and substantially, according to this Agreement – within the architecture of the Missile Defence System that will be developed by NATO. As such, after NATO Missile Defence System reaches operational stage, the System – as a component of *EPAA* – from Romania will be placed under NATO control and the base in Deveselu will become, effectively, a NATO site.

The parties acknowledge (in paragraph 6) the importance of strengthening their individual national, as well as collective, security in accordance with United Nations Charter and international law. There is a reiteration of the exclusively defensive nature of the US system and its use according to the UN Charter. Furthermore, the text acknowledges (paragraph 7) the necessity to coordinate and increase the efforts made by the parties to withhold legitimate individual and collective defence and to foster international peace and security. The use of the System is therefore strictly subjected to the exercise of the right to legitimate individual and collective self-defence, thus explaining the reference to the UN Charter, which clearly sets forth this right in Article 51.

The Preamble also mentions (in paragraphs 8 and 9) the added value of the system and the role of the Romanian-American cooperation in this field to the consolidation of Romania, US and their allies' security. The common interests in the field of defence are legally laid down and a clear acknowledgement (in paragraph 9) that Romania's participation brings direct contribution to a heightened security of the USA, Romania, NATO and our partners. Paragraph 10 clearly states that both countries pursue their cooperation in the security field beyond the missile defence project.

Paragraph 12 introduces a reference to the possibility of updating/modifying the Agreement between the United States of America and Romania regarding the activities of United States forces located on the territory of Romania, done in București on 6 December 2005 and the Agreement between Romania and the United States of America regarding the Status of Forces of the United States of America in Romania, signed in Washington, on 30 October 2001 (SOFA Supplemental). As such, the text stipulates that a future process of evaluation of these legal instruments will take place, in order to agree upon future modifications.

2. Purpose and Scope (Article I)

The text states the purpose of the treaty – the establishment of the legal framework (the rights and obligations of the parties) for the deployment of the missile defence system in the Romanian military base of Deveselu.

3. Definitions (Article II)

The text of this article includes the definitions of the most important terms found in the Agreement, primarily the system itself and the reference to the location that would base it, but also other notions (base, facility, restricted airspace). Highly relevant is the express reference to the fact that the interceptors are non-nuclear.

4. Regulating the Relationship between NATO and the United States Ballistic Missile Defence System (Article III)

The Article, which is one of the most important of the Agreement, regulates the connection between Romania's contribution to the US Missile Defence System, through its Base in Romania, and the NATO's Missile Defence System as it acknowledges the Romanian and US commitment to closely cooperate in order to develop the System.

The text also establishes, in paragraph 4, important security guarantees for Romania, in the context offered by NATO and its founding Treaty of 1949, and according to the bilateral Strategic Partnership, respectively, by clearly specifying the *firm* US commitment to the defence of Romania's territory, through the missile defence system, both against the risks posed by the proliferation of ballistic missiles, and in case of an actual attack.

5. The Legal Regime of the Deveselu Base (Article IV)

This text clearly stipulates that Romania will continue to exert all attributes of sovereignty over the Base, which is and will remain a Romanian Base, as the Agreement does not create an American base in Romania. Furthermore, the Base is under Romanian command, exercised by a Romanian Commander.

The text includes express confirmation that within the Base no actions shall be undertaken that could breach the sovereignty or the laws of the Romanian state and that all operations shall be conducted with due regard for public health and safety. Furthermore, all buildings, including those constructed, used, altered or improved by the US forces, remain the property of Romania.

The text establishes a ceiling for the US personnel – 500, including members of the US forces and the civilian component – ensuring an adequate Romanian control over this aspect, subject to Romania's sovereignty, and also a degree of public transparency for the domestic public opinion, as well as for foreign partners. This provision also includes a reference to the routine number of members of the US force deployed in the base of approximately 150.

Other provisions regulate aspects such as construction, access to the Base, aspects related to the security and protection of the Base, intelligence sharing,

the responsibilities of the Romanian Commander and its terms of cooperation with the US Senior Representative.

6. The Legal Regime of the Facility within the Romanian Base (Article V)

Article V enumerates the components of the missile defence system that will be deployed in the Base: a launch system, a command and control system, a radar system, responsible only for the fire control of the interceptors (the radar system for the detection of hostile missiles will not be deployed in Romania, but is already in Turkey), a communication system, utilities infrastructure, security infrastructure, fuel storage and distribution infrastructure, associated mission and mission support equipment and infrastructure.

Furthermore, the text stipulates that the American side is under obligation to report to Romania, in writing, at the moment of initial deployment and every six months a description of the elements of the System, including the interceptors, and any other modification thereof. The obligation to report is also extended to the US forces, US contractors, employees of the US contractors and family members working or living in the Base. Likewise, the United States will give written notification and will consult with Romania prior to any modifications to the System and the missile defence components located on the Facility/Base.

The text stipulates that a US Senior Representative will be designated as contact point with the Romanian side, through the Romanian Base Commander. At the same time, the official's responsibilities are described, aspects pertaining to the access in the Facility and ensuring its protection. The difference in terminology between the two representatives (Romanian and American) is explained by the fact that the Romanian one is responsible for the entire Base, which is under Romania's sovereign jurisdiction and remains property of Romania, while in the American case, the Facility does not have the status of a Base.

7. Aspects Pertaining to the Command and Control of the Ballistic Missile Defence System (Article VI)

The first paragraph of the Article stipulates that, while the United States will have exclusive command and control of the System, as specified in the Agreements done previously by the US with Poland¹¹ and the Czech Republic¹², Romania maintains sovereign jurisdiction over the Base.

¹¹ *Agreement between the Government of the Republic of Poland and the Government of the United States of America concerning the Deployment of Ground-Based Ballistic Missile Defence Interceptors in the Territory of the Republic of Poland*, signed in Warsaw, on 20 August 2008, which entered into force on 15 September 2011, after it was amended in order to be adapted to the new EPAA design of the Obama administration.

¹² *Agreement between the Government of the Czech Republic and the Government of the United States of America concerning the Establishing a United States Ballistic Missile Defence Radar Site in the Czech Republic*, signed in Prague, on 8 July 2008, which never entered into force due to the shift in the American approach on missile defence by the launch of the EPAA, in September 2009, by President Obama.

The Parties reconfirm (in paragraph 2) that the System will be employed exclusively for legitimate self-defence, in accordance with international law.

A complex and comprehensive mechanism is established (paragraphs 4 and 5) for consultation and exchange of information regarding the missile defence system, both in NATO, and in bilateral context. As such, the parties will consult with respect to the United States Missile Defence System and its operation in the North Atlantic area, including the consequences of a missile defence operation launched from Romanian territory, the exchange of timely information regarding missile defence operations in the North Atlantic area and the status of the Facility, immediate notifications to Romania through timely situational updates, including missiles being tracked by the system, the origin and projected impact of such missiles, and missile defence engagements by the missile defence components deployed on Romanian territory, to ensure the appropriate level of cooperation in case of a missile defence operation.

Another reference is made (paragraph 6) to the education and instruction of the Romanian military personnel in command, control and operation of the missile defence systems, including the use of interceptors, for the purpose of gaining insight into the development of pre-planned command and control arrangements for ballistic missile defence operations and the overarching functionalities of ballistic missile defence systems. This cooperation includes education and instruction for missile defence operations that will be developed within NATO and implemented in NATO context. The text alludes to Romanian (and US) involvement in establishing specific arrangements for consultations, command and control by Romania's (and the US's) participation to the North-Atlantic Council and relevant NATO committees, aiming to ensure consistency between these arrangements and NATO's established policies for territorial missile defence.

Last but not least, the text stipulates, in the final paragraph, the US agreement on the establishment of a Romanian liaison officer position within the United States European Command.

8. Classified Information (Article VII)

According to this article, all classified information provided or generated pursuant to the Agreement will be protected in accordance with the Classified Military Information Agreement between the Government of Romania and the Government of the United States of America, signed in Washington, on 21 June 1995, with the exception of NATO-classified information, which will be handled in accordance with the Agreement between the Parties to the North Atlantic Treaty for the Security of Information (Brussels, 6 March 1997).

9. Regulating Aspects related to Environment, Health and Safety (Article VIII)

The text's provisions envisage a clear and express commitment of the parties to ensure protection of the natural environment and human health. This text offers the necessary guarantees so that the activity in the Base should not endanger human health or damage the environment. The text reflects the most recent evolutions in environmental law – according to the precautionary principle, the parties commit themselves to a preventive approach concerning the environment. There is a reference to the possibility that these provisions should be further developed, through an Implementing Arrangement.

10. Coordination with Local Authorities (Article IX)

The text establishes that the local authorities from the area where the Base is located may be consulted by the Romanian Commander and the US Senior Representative concerning local matters (aspects pertaining to the area in the proximity of the Base). This provision is included to highlight the respect for the local community and authorities in the area of the Deveselu Base, whose interests must be accounted for as part of the well functioning bilateral cooperation in missile defence.

11. The Legal Regime of Claims and Responsibilities of the Parties (Article X)

This article, very important for the negotiations process and for the Agreement as a whole, completely excludes Romania's responsibility for the damage caused outside of Romania's territory as a result of operating the system, this responsibility falling on the United States, in any case where such damages are not the result of Romanian action or negligence, this exception being the result of applicable norms and general principles of law; the US cannot be held accountable for Romania's action or inaction.

In case of damage on Romania's territory, the text confirms the legal regime already applicable, in the sense that claims formulated in Romania for such damages will be handled in accordance with the provisions of the Agreement between Romania and the United States of America regarding the Status of Forces of the United States of America in Romania, signed in Washington, on 30 October 2001 (Supplemental SOFA) and the Agreement between the Parties to the North Atlantic Treaty Regarding the Status of Their Forces, signed in London, on 19 June 1951 (NATO SOFA Agreement). In order to implement these provisions, the parties agree through this Article to meet with the aim of reaching a fair resolution of claims.

12. Financial Responsibilities between Parties (Article XI)

The text stipulates that the American side will cover all expenditure related to transport, construction, maintenance and operation of the missile defence system,

as well as the costs of the services requested by the US side, such as utilities and telecommunication. Likewise, the Romanian side will be responsible for the cost of the facilities under Romanian command or used exclusively or primarily by the Romanian authorities, as well as the local taxes related to the Base, considering the fact that Romania maintains ownership of land and immovable property.

With respect to sharing the costs for the construction or modification of existing buildings and infrastructure, pending agreement from both sides on the need for such construction or modifications, there will be a proportionate sharing of costs, on the basis of proportionate use, a formula also employed in the actual reimbursement scheme from the Defence Cooperation Agreement between Romania and the United States of America, signed in București, on 6 December 2005.

13. Establishing the Mechanisms and Instruments for Implementation (Article XII)

There are provisions for establishing a special group – a Joint Sub-Committee, under the Joint Committee established by the Defence Cooperation Agreement between Romania and the United States of America, signed in București, on 6 December 2005 – responsible with the implementation of the Agreement. Furthermore, the text stipulates an inventory of the existing *Implementing Arrangements*, concluded for the implementation of the Defence Cooperation Agreement of 2005, applicable to the current Agreement. The inventory's objective was to identify the technical legal instruments under the Agreement that would allow its implementation, meaning either existing *Implementing Arrangements* (with necessary adjustments) or new *Implementing Arrangements*. Following the Agreement's entry into force, and during the interval specified by it, there was an exchange of *Notes Verbales* establishing the inventory, on 21 March 2012, followed by negotiations on these arrangements.

On 29 June 2012, the co-Chairs of the Joint Committee signed five bilateral documents, necessary for the implementation of the Agreement on missile defence. These were: three amendments to the *Implementing Arrangements* of the Defence Cooperation Agreement between Romania and the United States of America, signed in București, in 2005, applicable to the new Agreement, dealing with real estate and the management of constructions (managing the inventory of buildings and structures from the areas where the presence of US forces is allowed), security (required procedures to ensure the security of the missile defence system components during their transportation on Romanian territory), and the creation of the Joint Sub-Committee on missile defence under the existing Joint Committee; also, two new *Implementing Arrangements* were signed, dealing with the use of the land

surrounding Deveselu Base and the use of the airspace above and around Deveselu Base¹³.

14. Interpretation and Settlement of Disputes (Article XIII)

The text stipulates that any dispute will be settled through bilateral consultations, by presenting such disputes to the specially established bilateral group (the Joint Sub-Committee).

15. Entry into Force, Duration, Termination and Amendment (Article XIV)

The text stipulates that the Agreement is concluded for *indefinite period* and it will enter into force on the date of the final notification concerning the fulfilment, by each party, of their internal procedures necessary to bring the Agreement into force. The Agreement is done at state level, which indicates the importance of the subject-matter regulated by the two parties through the Agreement. Amending the Agreement can be accomplished according to the same procedure required for its entry into force. The Agreement is done both in Romanian language, and in English language, both texts sharing the same legal value.

*

Concluding the *Agreement on the Deployment of the United States Ballistic Missile Defence System in Romania* represents a success of our country's foreign policy both with respect to the bilateral relation with the United States, as well as a confirmation of Romania as a trustworthy partner within NATO¹⁴. This project brings a substantial contribution towards strengthening Romania's security and consolidating the bilateral Strategic Partnership. Furthermore, of special significance is the fact that both the invitation and the subsequent decision to participate took place at the beginning of 2010, when Romania and the United States celebrated 130 years of bilateral diplomatic relations¹⁵. Through the participation in this project, when the Deveselu site becomes operational, Romania's level of security will reach a very high and unprecedented level.

Through the creation, together with Romania, of the legal basis for the deployment in Romania of a facility as part of the missile defence system, the US is clearly

¹³ MFA press release "*State Secretary Bogdan Aurescu's Participation in the Romanian-US Joint Committee Meeting on Implementation of the Romanian-US Agreement concerning Activities of US Forces Stationed in Romania*", Ministry of Foreign Affairs official website, <http://www.mae.ro/en/node/14248>, retrieved on 30 June 2012.

¹⁴ The missile defence system, Ministry of Foreign Affairs official site, *In Focus*, <http://www.mae.ro/node/15217>, retrieved on 30 June 2012.

¹⁵ *Ibid.*

committed (firmly, according to the text of the Agreement) to the defence of Romania's territory against the most actual threats.

There are at least four reasons to argue for the strategic relevance of the Agreement signed in Washington on September 2011.

Firstly, the Agreement represents the first legally binding document that establishes the Strategic Partnership between Romania and the United States. The Strategic Partnership, defined by the two Parties as "*broader and deeper*", represents the essence of a growing and extremely strong relationship, where the strategic component is augmented by strong economic, investment, cultural, scientific, research and inter-human relations, meant to fulfil a desire and a necessity that Romanians were aware of for more than six decades. Furthermore, on the same date of the signature of the Agreement, 13 September 2011, the *Joint Declaration on Strategic Partnership for the 21st Century between the United States of America and Romania* was adopted, laying a new foundation, broader and deeper, for the relations between București and Washington.

Secondly, the Agreement is the first legal instrument fully negotiated and concluded by the USA as part of the EPAA. Romania opened up the way, as the facility from Deveselu will become operational in Phase II, starting with 2015, also representing the next stage in the development of NATO's missile defence system, as initial capability, after the interim one was declared at NATO's Chicago Summit.

Thirdly, according the Agreement, there will be a permanent channel of communication through which Romania and the US will consult on the operation of the missile defence system not only on Romania's territory, but also in the entire North-Atlantic area. Extremely important is the fact that Romania will receive timely information in order to have a constant assessment of the situation, at any given moment, including the missiles tracked by the system. Romania has not been connected before to an information flow of such magnitude and immediate strategic relevance.

Fourthly, Romania becomes a relevant actor within NATO. If, at NATO's Chicago Summit, the decision was adopted to declare the interim capability for NATO system, the critical next step towards the development of the allied missile defence system will be the facility in Romania, which becomes an essential, very valuable Romanian contribution to this joint effort. This strategic contribution will grant Romania an important role in the high-level debates and the decision-making process regarding this component of NATO's capabilities mix.

DEFENDOLOGICAL ELEMENTS OF THE DYNAMICS OF THE MILITARY PHENOMENON UNDER THE CIRCUMSTANCES OF GLOBALISATION AND WORLD ECONOMIC-FINANCIAL CRISIS

Brigadier General Dr Maricel D. POPA

“Smart defence” is meant to be the response to the challenges determined by the narrowing of the gap between the US and European partner countries military capabilities, under the conditions of a quasi-permanentisation of the existence of austerity budgets. In other words, it is intended that the fair, equitable participation in joint operational expenses will be realistically ensured.

In this context, in the author’s opinion, the representative elements through which the concept has been summarised – ensuring greater security for less money, by working together more flexibly in military actions, fighting against routine, old mentalities – are and should represent priority, stringent goals for the Romanian Armed Forces as well.

Keywords: *communication; lessons learned; globalisation; crisis; workforce*

From our previous article, regarding certain defendological evaluations of the correlation between the system of military sciences and the system of economic sciences¹, we wish to bring once more to attention certain statements, among which: the military phenomenon has its own economic coordinates, its own economic identity; defendology is a new way to approach, conceptualise and systematise the current military sciences; defendology is a science designed in a three-dimensional system, consisting of public policies, public administration and public economy; defendology is for the system of military sciences, namely at its core, what political economy is for the system of economic sciences; the economic sciences of the future and the military sciences of the future will be those that will change civilisation.

Obviously, there is a possibility that some of these statements might seem risky or pretentious.

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¹ General de brigadă dr. Maricel Popa, *Defendological Evaluations of the Correlation Between the System of Military Sciences and the System of Economic Sciences*, in *Gândirea militară românească* Journal, no. 6/2011, pp. 11-16.

But let us not forget that we are at the beginning of the 21st century and we are participants and witnesses to a great revolution in the military field – the military paradigms revolution, determined by the theoretical and practical results obtained by scientific research, the evolution of contemporary transformations in the political, social, economic, cultural and sphere and others.

As integrant part of the global social field, the military dimension is no exception to the statements mentioned above, yet, mention should be made that it has a lot of own characteristics. In our view, some of these characteristics are decisive for the future of human society.

*Aspects regarding the dynamics of the military phenomenon
or a few things about the world we live in*

❖ *Need for change and “smart defence”*

Throughout the history of humanity, a unique observation has become obvious, being also an important, essential prerequisite for progress: the only thing that has not been subject to change is the need for change itself.

Hence, thinking positively, other two conclusions follow. First, it is understood the fact that it is not just a change for the sake of change or to show off and, at the same time, that change is a permanence, a constant.

This is also true in the military domain. In other words, the changes that occur in the military domain, due to the constant need for change, are assimilated by the military phenomenon, determine it and, based on conceptual and factual coordinates, are substantiated over time as pages of military culture. In this respect, we can say that we also need a change, a deep and fast one. We must emphasise with objectivity that the change we are talking about should take place at national level, in accordance with the doctrinal and structural-organisational evolution of the military institution, adapted to the international coordinates that place Romania, at the beginning of the 21st century, in NATO and the EU. Therefore, in our approach, we will refer to the NATO Summit in Chicago as an essential time landmark of contemporaneity, including as far as the nature of changes in the near future is concerned.

It was said about the Summit that *“it can be seen as a moment of triumph, even though the Alliance is going through a difficult time, defined by a conflict that is becoming chronic, the one in Afghanistan, and by the economic realities in Europe, which require maximum financial prudence. (...) The success of the operations in Libya showed that NATO remains relevant as a collective defence organisation that is capable of carrying out military operations outside the borders established*

*in Article 5 of the Washington Treaty, in a world in which (unfinished) Arab revolutions or the latent conflict in the South China Sea seek their resolution. NATO remains an essential source of stability in an unpredictable world*².

The Summit agenda comprised three essential issues for the present and future of the humankind: the successful accomplishment of the mission in Afghanistan, the implementation of the new NATO doctrine of “*smart defence*” and the global development of the partnership with NATO.

Even though things seemed and seem reassuring, this is not the case in reality, the North Atlantic Alliance being concerned about certain specific elements, which have generated many questions that expect relevant answers. What will the Alliance be in the next stage, which will its place and role be, about what Alliance missions will we speak in the period ahead, how will its missions be decided, organised and carried out in the future, do member countries have the political will necessary to carry out the Alliance missions, do they have the ability to carry out the political will associated to them, which will the spatial-geographical limits of future missions be, can some of these aspects cause or require a treaty change?! ...

Correlated with the above-mentioned aspects, we can say that the need for profound change from inside the military phenomenon led to the adoption of the new NATO doctrine, and the issues arising from the implementation of the *strategic concept* dominated the Summit agenda.

Regarding these issues, NATO Secretary-General, Anders Fogh Rasmussen, stated: “**Smart defence** is about building security for less money by working together and becoming more flexible”³.

To be fair, we must say that the need to introduce this concept was put in the foreground by some contemporary historical realities, such as the genesis and development of the Libyan revolution, for example. Or, another issue, challenging, but crucial for achieving the goal in Afghanistan, is financing the Afghan National Army and National Police, which requires a budget eight times higher than it is the one collected at the moment in the Kabul government budget⁴.

“*Smart defence*” is meant to be the response to the challenges determined by narrowing the military capabilities gap between the USA and the EU partner countries, in the circumstances of a quasi-permanent budgets austerity. In other words, it is desirable, realistically, to ensure a fair, equitable participation in the common operational expenses.

² General-locotenent (r.) dr. Alexandru Grumaz, *NATO și “smart defence”*, in *Observatorul militar*, no. 21, 30 May-5 June 2012, p. 14 and at www.presamil.ro.

³ *Ibid.*

⁴ *Ibid.*

In this context, we must categorically say that the representative elements through which the concept was synthesised – achieving security with less money, increasing solidarity by streamlining the cooperation and providing flexibility in military actions, fighting routine, old mentalities and fixed ideas – are and should be priority objectives for the Romanian Armed Forces.

We consider that there are needed a proper radiography, a realistic analysis of the situation and a transformative intervention where things are necessary and where the realities require changes or structural-organisational and functional restructurings, rethinking certain missions, tasks or competences of the designed entities, development of managerial links that are new, algorithmic, anti-bureaucratic, effective, operational, improved, based on an efficient communication system that is supple, flexible, and easily adaptable.

We believe that, on the basis of “*smart defence*”, the Romanian Armed Forces must develop its own “*smart defence*” – an analytical, non-imitative, constructive, improved process.

All the above-mentioned elements point out the dynamic nature of the evolution of the contemporary military phenomenon, as well as the fact that the Romanian Armed Forces have adapted and are correlated with the North Atlantic transformation process.

As mentioned before, the need for change is a constant, is a permanence. And the elements based on which one can substantiate the analyses and syntheses determined by the transformation of the military institution have a defendological origin.

Aspects regarding the world we live in

The history of humankind points out a truth-value principle: collective memory has an important role in the geopolitical reconfiguration of the world. For example, here is what the renowned professor and military analyst Colin S. Gray writes, in fact, very synthetically, in one of his works: *“As peace follows war, so war follows peace, though not with any temporal regularity. Strategic history is distressingly cyclical, notwithstanding the fact that the cycles can be long or short. Over the past 200 years, wars great and small have erupted, or have been planned and purposefully unleashed out of conditions of peace. It follows that one should be interested in the provenance of war in the periods preceding active hostilities. In particular, one would like to know whether some arrangements for international order have proven to be more peace-friendly than others. Within the historical domain of this there were four great wars: the French Revolutionary and Napoleonic, otherwise known as the Great War with France (1792-1815), World War I (1914-18); World War II (1939-45); and the virtual war, but all too real conflict, that was the Soviet-American, East-West,*

*Cold War (1947-89). (...) In addition to the four great wars just cited, since 11 September 2001 a global conflict has erupted between violent Islamic fundamentalists and their enemies, which some commentators speculate may be the Third World War*⁵.

I used this quote to highlight the fact that all considerations and all our value judgments are based and take into account the result of this collective memory. In other words, everything we think as well as everything we project has as coordinates or historical background chronicle-related elements and lessons learned from the pages of history mentioned above.

At the same time, we must be honest with ourselves and categorically say that, just as there is a wooden language, so too we are dealing with a wooden mentality. When we become victims of this mentality, we do nothing else but polish a modality that has already been used, not until exhaustion, but until demonetisation or, where appropriate, leave the traces of our steps on a path already trodden, to its depersonalisation, to its annihilation.

It is true that this way of approaching issues is the most convenient one. Nevertheless, it preserves a certain sufficiency. It is quite risky to formulate own value judgments, that you usually justify and argue, in a different flexible and innovative manner, most often puzzling others.

Understanding the military phenomenon, defendology and defendological approaches can take place and be plenary only under the circumstances of the scientific knowledge of the military domain.

At any time of its and our existence, the world we live in is able to continuously organise, or to transform operatively and effectively an ensemble of elements into a state that represents something more than the sum of its elements, proving that it is an organised, always stable and durable system. Therefore, we must adapt ourselves to our own world.

Regarding the proposed topic, one must say that war and fear of war are the most powerful influences that have shaped the course of international relations during the past two centuries. The development of the main events of humankind are easier to understand if we appeal to the use of force and the threat of force. Moreover, *strategic history can be defined, in the briefest way possible, as the history of the influence of the use and threat of force*⁶.

That which, according to the author quoted by us, is *strategic history*, in our view, represents elements of *defendology*, in the purest substance of scientific

⁵ Colin S. Gray, *Războiul, pacea și relațiile internaționale. O introducere în istoria strategică*, Editura Polirom, Iași, 2010, pp. 24-25.

⁶ *Ibid*, p. 15.

research, in the above-mentioned context, the one of new approach, conceptualisation and systematisation of the system of military sciences.

Here are some of the main themes that will find their approach and redesign from the perspective of defendology: continuity and discontinuity in strategic history; relationship between politics and war; relationship between war and battle; relationship between politicians and the military; dependence of war on society; relationships between war and peace and between peace and war etc.

In this context, out of the desire to summarise what can be said about the sensitive, delicate, and often, tense relationship between politicians and the military, we will resort to what Colin S. Gray wrote in the same work: *“military violence and its political consequences comprise two different currencies, and it is difficult to convert one into the other by strategy. So, also, military and political professionals have different values, skills, perspectives and responsibilities. In addition, soldiers and politicians are likely to be drawn from different kinds of personalities. On the one hand, soldiers favour an ideal type who is decisive, determined, honest, loyal and a person of action. Politicians, on the other hand, favour compromise as a high virtue, regard expediency as a necessary mode of operation, are apt to think little of being economical with the truth, hold to an honour code that would not pass muster in a military context, and their careers rise and fall with words, the tools of their trade. One exaggerates deliberately, but there can be no doubt that there is a wide cultural divide between the two professions”*⁷.

The different cultures and societies have different customs and traditions that govern the relationships between the military and civilians. Military history of the world is full of examples in which the military have been assigned impossible missions by policy-makers or military men forced to act in the absence of clear political coordinates or landmarks.

Tense and often even conflicting relations between politicians and the military were captured in two aphoristic formulations, with opposite meaning, full of humour: first, *“War is too important to be left to the generals”*, and the second, *“War is something too important to be left to the politicians”*.

Defendological implications of globalisation and contemporary economic-financial crisis

Among the defining elements of the course of the world, at the beginning of this century and millennium, we find the phenomena of globalisation and regional integration, which undoubtedly determine a new architecture of international economic and political-diplomatic relations. According to academician Mugur Isărescu,

⁷ *Ibid*, pp. 21-22.

the main trends and characteristics of globalisation, as the dominant tendency of the evolution of the world, are the intensity and speed of movement of external shocks and their impact on the development of national economies, the overlapping of globalisation with a strong regionalisation, implicitly the reflex of “*global reasons*” or regional ones on domains considered sensitive, such as: agriculture, labour force, economic policy-making etc.⁸.

Despite the adverse effects of the current economic-financial crisis, caused by endogenous and exogenous factors, the world economy points out a sustained dynamics of trade, investment, technological and information flows and, in this given context, a rearrangement of relations of (economic, technological, scientific and military) power on a global scale. The response to the new features of globalisation can be found only through multilateral dialogue, strengthening of international economic, cultural-scientific and political-diplomatic cooperation relations. As a basis for regional and global security, the development of geo-economic and strategic partnership, the promotion of macroeconomic sustainable policies, coherent at national and global level, are the prerequisite for enduring development, for achieving an enhanced world. A strictly necessary condition for regional and global geostrategic balance is promoting effective dialogue, at high level, and an open diplomacy worldwide, which should enable the quicker resolution of the major challenges of the 21st century⁹.

In order to correlate this topic with the previously addressed one, bringing to attention the relations of power, we may say that wars do not occur for reasons inherent per se, being necessary to decipher the different contexts in order to understand them. Defendologically speaking, the contexts of wars can be: political, social, economic (including financial), cultural (including religious), technological, military (strategic), geographical (geopolitical) and historical (chronological).

Understanding any war requires contextualising it. This means emphasising and analysing its context or, depending on the situation – and on most occasions, in fact – its multiple contexts. For analytical reasons, the main contexts of war can be addressed separately, as some distinct elements or subsystems. Yet, from the defendological perspective, they develop and can be analysed holistically, in the concrete, actual circumstances of the simultaneously mutual influence of all these elements.

The existence of economic-financial globalisation and the current economic-financial crisis leads us to formulate other essential assertions,

⁸ Mugur Isărescu, *Reflecții economice*, Academia Română, Centrul Român de Economie Comparată și Consens, Editura Expert, București, 2001, pp. 76-78.

which are also based on what I mentioned at the beginning of this article, namely that the military phenomenon has its own economic coordinates.

There is no military action without an economic equation. There is no military action without an economic dimension. Any history of a military action is a history of an economic action. In the circumstances of globalisation and contemporary economic-financial crisis, war is not something profitable anymore. There has been a long time since the war could be waged so that it could cover the expenses that may occur. History confirms that the last successful practitioner of profitable loot through military actions was Napoleon.

I said earlier that wars could have multiple contexts. The economic context has never been absent from a war. In other words, if a war has a single context, it can only be the economic one.

The simple but fundamental equation of the economic context, as it was mentioned above, determines many defendological implications. They reveal the timeliness, complexity and modernity of the issue, with expectations mainly in the scientific approach to distinct, specific and controversial matters related to the effects of globalisation on partnerships and alliances, the correlation between economic power and military power of states, partnerships and alliances, the process of economic integration in specific alliance structures, the economic dimension of security, the economic and political sovereignty, the geo-economic security, the economic dimension of intrinsic and proximity security etc.

The economy of a country is not just a factor with indirect action on the security of the country, but a main, vital one, with direct and necessary consequences. Along with finance and information, economy is the engine of globalisation, of solving some of the serious problems humanity is faced with and, at the same time, the most complex potential factor that can generate potentials: *“The economic dimension of security has a complex, variable and contradictory geometry. On the one hand, it is an essential support and pillar of any type of security and, on the other hand, it is always a source of conflict, of generating conflict and even insecurity”*¹⁰.

Economy is a people’s product, their most prolific and diverse activity, the most complex and concrete of all. Economy is the basis for the existence of human society, a support of human civilisation: *“The main component of people’s*

⁹ Dr. Marcel Moldoveanu, *Evoluția lumii în contextul noilor dimensiuni ale globalizării*, in *Economia mondială sub impactul crizei financiare. Strategii de dezvoltare a României*, Academia Română, Institutul Național de Cercetări Economice, Editura Institutului de Economie Mondială, București, 2011, p. 106.

¹⁰ Dr. Doina Mureșan, *Dimensiunea economică a securității în epoca parteneriatelor și alianțelor*, Editura Pro Universitaria, București, 2010, p. 18.

*conflictuality is the economic one. People do not fight over illusions nor ideas, although sometimes this happens as well, but over economic, financial, territorial etc. interests, resulting in an endless and extremely rough, but subtle war for economic and financial power, for markets and resources*¹¹.

The economic coordinates of the military phenomenon, the economic, better said the economic-financial, context of war, the conceptualisation of the economic equations of military actions, including the issue of the nature of the entailed expenses and costs, the study object of military economy, its place and role within the system of military sciences, the theorisation of the visible and invisible economic-financial and military power centres of the future, as well as other elements specific to this area and to these issues are and will continue to be raw material for subsequent defendological approaches.

A famous author – David Rothkopf –, teacher and consultant, concerned with economic globalisation and adviser during the Clinton administration mentioned, in a famous book, a brief and meaningful quote from the work of great writer Jean Anouilh: *“God is on everyone’s side... and in the last analysis, he is on the side with plenty of money and large armies”*¹².

We also believe that we can start a topic of meditation, according to the topic under analysis, formulating two questions: *Why have world economic-financial crises always started in the US?* and *To what extent one can define as a world crisis the financial-economic crisis we are going through?!*

Our approach regarding defendology and defendological approaches continues.

English version by
Iulia NĂSTASIE

¹¹ *Ibid.*, p. 20.

¹² According to David Rothkopf, *Superclass. Elita globală a puterii și lumea sa*, Editura Publica, București, 2009, p. 15.

CONTINUOUS WARFARE

Military Confrontation (IX)

General (r.) Dr Mihail ORZEAȚĂ

What does military confrontation mean?

At the beginning of military actions, most of the weapons were individual – catapult, shield, sword, spear, bows and arrows etc. – and they made possible only direct or close quarter fight. Once the catapult and especially gunpowder were invented, the space for confrontation was considerably extended and so were the strategies and tactics for waging wars. The new weapons provided fighters and military planners with the possibility to launch strikes beyond direct visibility limits.

Most confrontations have unfolded in accordance with the action and reaction principle. Thus, the invention of any new weapon has been followed in a very short period of time by a counter weapon: sword by shield; tank by antitank artillery (missile); aircraft by anti-aircraft artillery (surface-to-air missile); submarine by anti-submarine grenade (torpedo); electronic measures by counter-electronic measures; ballistic missile by anti-ballistic missile; satellite by anti-satellite

weapons etc. A similar situation has occurred in the conceptual domain: to offensive actions counteroffensive ones have been opposed as follows: attacks – counterattacks;

The author analyses some issues related to military confrontation.

Firstly, the evolution of the concept throughout history is discussed. Although the term military confrontation has been attached different definitions and meanings, it is certainly the most violent of all types of confrontation.

Secondly, the causes of military confrontations are analysed. Among them, fear, honour, interests and the desire for power are mentioned.

Thirdly, different types of operations such as expeditionary, integrated, effects-based ones, as well as network-centric warfare, asymmetrical warfare and unconventional military operations are discussed.

Last but not least, the causes of victory and defeat in military confrontations are examined.

Keywords: *military confrontation; asymmetrical warfare; network-centric warfare; terrorism; military operations*

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strikes – counter-strikes; insurgency – counterinsurgency; terrorism – counterterrorism and so on. Armed confrontation has stimulated competition in weapons production. The result is a gradual and permanent increase in performance, such as speed, range, precision to hit the targets and effects on the targets. A period of a few thousand years has been necessary to dramatically change direct confrontation into non-contact fight, which is possible through the missiles that can hit a target at more than 10 000 km – from the air, ground, water or underwater. The performance of nowadays weapons is unbelievable and frightening as well: most of the missiles and guns can hit targets “*surgically*”, meaning with a precision that ranges from dozens of centimetres to metres and with a lethal or destructive effect that covers a surface of about dozens to hundreds of square kilometres. If the bullets, shells and missiles move on their trajectories towards targets with a speed that ranges from a few hundred metres to a few kilometres per second, laser weapons and high-energy bundles hit targets almost instantaneously.

Historians tell us that the world evolution has been influenced not only by the civilian personalities and the results of their work but also by the military events, especially confrontations, and their collateral activities and consequences. For instance, the replacement of bronze by iron to produce weapons; the use of the horse and the wheel in military clashes; the discovery of wireless telephone and communications in real time to coordinate and command operations; the missile, the aircraft, the submarine, the satellite, the nuclear bomb and so many other weapon systems discovery and use have resulted in important changes not only in the military field but also in the civilian one. That is why modern scientific discoveries have dual use – military and civilian as well. On the other hand, the dual usability of modern scientific discoveries has to make us understand that military confrontation is only the tip of the iceberg, which is the real war. What I mean is that real war is multidimensional, continuous and total, as I have mentioned before. In addition, every person should know that military confrontation is the ultimate solution to conclude a conflict in which one or even both parties do not want to accept negotiation. As American General William Tecumseh Sherman says, military confrontation is “*hell*”, meaning extreme violence, which uses the results of other components of war that form its invisible and silent¹ part – collecting and processing information –, which is followed insidiously by psychological influence and supported by political, diplomatic, economic and cultural fights.

¹ Abram N. Shulsky, Garry J. Schmitt, *Războiul tăcut. Introducere în universul informațiilor secrete*, Editura Polirom, Iași, 2008, pp. 15-16.

Causes of military confrontations

Historian Thucydides says that fear, honour and interests² are the principal causes of wars. In my opinion, the most important cause of military confrontations is the desire for power. The ambrosia of power or the evil of it that devours³ so many people is the one that has driven all conquerors of the world to start military confrontations to gain more territories, to subjugate other peoples and to plunder other peoples' welfare. Their motivations have varied from "finding a knot in a bulrush"⁴ to stopping genocide and imposing human rights⁵ or countering terrorism⁶. I would say that even the objective of liberation from foreign domination is motivated by the same desire for power. The main difference consists in the way the objectives of the military confrontation are expressed. For instance, the anti-colonial, independence or liberation wars are all nurtured by the desire for power, expressed as a necessity for self-determination⁷, which is considered just.

The recent military confrontation that began this spring opposed Libyan rebels to Muammar Gaddafi regime. Both parties were urged by the desire for power. Whilst rebels would have liked to overthrow Gaddafi and to seize political power, the Libyan dictator wanted to keep political power for him and his family. The majority of revolutions started as a military confrontation between those who wanted political power and those who were leading communities. There are a few exceptions, among which I can mention the "Velvet Revolution"⁸ in Prague, the "Orange Revolution" in Ukraine and the "Rose Revolution"⁹ in Georgia.

Concepts for using force in military confrontations

As long as new weapons and weapon systems are produced and developed, it is necessary to adapt strategies, tactics, techniques and procedures to new capabilities. I would say that any new weapon or weapon system should be acknowledged as a new step forward on the "violence scale".

² Robert B. Strassler, Richard Crawley, *The Landmark of Thucydides: A Comprehensive Guide to the Peloponnesian War*, The Free Press, New York, 1996, p. 43.

³ Pierre Accoce, Dr. Pierre Rentchwick, *Acești bolnavi care ne guvernează*, Editura Tribuna, Craiova, 1992, pp. 195-197.

⁴ Herodot, *Istori*, volume 1 – Clio, Editura Teora, București, 1998, p. 145.

⁵ Madeleine Albright, *Doamna secretar de stat*, Editura Rao, București, 2008, pp. 506-605.

⁶ Eric Schmit and Thom Shanker, *US Adapts Cold-War Idea to Fight Terrorists*, in *The New York Times*, 18 March 2008, <http://www.nytimes.com/2008/03/18/washington/us-adapts-cold-war-idea-to-fight-terrorists>, retrieved on 19.05.2011.

⁷ Pierre de Vos, *Vie et mort de Lumumba*, Calmann-Levy, Paris, 1961, p. 195, quoted by Andre Fontaine in *Istoria războiului rece*, vol. 4, Editura Militară, București, 1994, p. 132.

⁸ Madeleine Albright, *op. cit.*, pp. 162-185.

⁹ David J. Smith, Khatuna Mshvidobadze, *Russia, Georgia and the Shape of Cyber Wars to Come*, Cyber Defense Conference, 16 May 2011, Istanbul, [http://www.gfsis.org/media/download/GSAC/cyberwar/Shape of cyber wars.pdf](http://www.gfsis.org/media/download/GSAC/cyberwar/Shape%20of%20cyber%20wars.pdf), retrieved on 01.07.2011.

In ancient times, it was said that there was nothing new under the sun¹⁰. Despite this dictum, quite often, people believe they have discovered something new but, eventually, they realise that the novelty contains, in its essence, forgotten or not learned lessons of history and forgotten or neglected truths. Sometimes, as it happened with the works of Leonardo da Vinci, the truth is hidden by the leaders because they are afraid of the effects that a scientific discovery may produce or, as in the case of Weapons of Mass Destruction (WMD), because those who possess them want to keep their advantage over the adversaries. Some operational concepts for using military force are promoted as innovative but they could be old concepts in “*new clothes*” (new weapons, new environments, new confrontation scale etc.).

The old strategies applied by ancient people or by the great conquerors of all time are in place nowadays but reinvented, rediscovered or simply renamed. The strongest arguments to support these ideas consist in Sun Tzu’s *Art of War* and Clausewitz’s *On War* topicality, despite the fact that they wrote their books about 2 500 years ago – Sun, and respectively 200 years ago – Clausewitz. Additional arguments will be presented in the following pages.

Military expeditionary actions

Military expeditions have always been used by human beings. The purposes and means for performing them are different, depending on historical periods, on the experience and skills of the leaders and commanders who organise them and on the needs of the masses of people who participate in them. In the beginning, it seems that the main purpose was the identification of some better places and environments to live in. Quite soon, some people discovered that it was more profitable to use force to grab other people’s goods – by plundering or by obliging them to work as slaves. In other words, “*smart*” people discovered that force was above justice¹¹ and they used it to satisfy own interests against other people’s interests¹².

There is no unanimity in defining military expeditionary actions. There are different views about their types, purposes, force structures and concepts for employing forces. Despite so many differences, experts agree that the action has to take place on the adversary’s territory or at least on another territory than the one belonging to the initiator of the action¹³. Although the concept of military

¹⁰ *Ecclesiast*, 1, 10, in the *Holy Bible*, Gute Botschaft Verlag, Germany, 1990, p. 678.

¹¹ Francois Bluche, *De la Cezar la Churchill*, Editura Humanitas, București, 1992, p. 271.

¹² Seneca, Petronius, *Epistole către Lucilius*, Editura Științifică, București, 1967, p. 67.

¹³ *DoD Dictionary of Military and Associated Terms*, Washington DC, Joint Publication 1-02, 2001, p. 193; *NATO Glossary of Terms and Definitions, AAP-6*, Brussels, NATO Standardization Agency, 2006, p. 2-E-5, www.nato.int/docu/stanag/aap006/AAP-6-2006.pdf, retrieved on 15.06.2011.

expeditionary actions is presented as a new one, in my opinion, the novelty resides in the speed and means for employing forces, the weapon systems used for achieving purposes, the rules of engagement and the distance between embarkation and disembarkation points.

Everyone who reads history will discover that the conquering campaigns initiated and led by Persian Kings Xerxes, Cyrus and Darius, Roman Generals and Emperors Caesar, Octavian, Trajan, Macedonian King Alexander the Great, Mongol Genghis Khan and Timur Lenk, Charles the Great (Charlemagne), Turkish Sultan Mohamed II, the Conqueror of Constantinople, Francisco Pizarro, Hernando Cortez, Napoleon I and so many others were military expeditionary actions, along with crusades and invasions.

If the kings and emperors in ancient times needed weeks or even months to project force at a distance of 1 000 km, nowadays transport aircraft need about one hour for the same purpose. If Genghis Khan's couriers transmitted his messages at 300 km in a single day, commanders of modern armed forces receive information and transmit orders and reports in nearly real time. If Carthaginian General Hannibal lost almost 25% of his entire army during his famous crossing of the Alps¹⁴, because at that time mountains and rivers were hard or even impossible to cross, current transport aircraft project force over almost any natural barrier with no or just accidental losses.

In the past, the logistic support of conquering campaigns was provided by the products and weapons captured or plundered from the defeated armies. There were some notable exceptions among which I could mention Persian Emperor Cyrus II the Great, Swedish King Gustav II Adolf (1594-1632), English Lord Oliver Cromwell (1599-1658), Prussian Frederick II the Great (1712-1786) and American General Edward Robert Lee (1807-1870). These emperors, kings and military commanders prohibited plunders and the brutal behaviour of their fighters against the defeated ones and against the population from the conquered areas because they put honour above everything else¹⁵.

The logistic support of current expeditionary operations is provided by the initiator. It means that all spare parts, ammunition, food, medical devices and medicines, fuels, lubricants and all materials needed for military actions are transported along with troops and weapon systems in the operational area. If NATO conducts military actions on the territory of one of its member states, then part of the logistic

¹⁴ Michael Lee Lanning, *100 personalități militare ale lumii*, Editura Orizonturi, Editura Științelor Sociale și Politice, București, 2005, pp. 21-23.

¹⁵ *Ibid*, pp. 115-118, 119-122, 153-156, 227-230.

support is provided by the host nation, in accordance with the Host Nation Support (HNS) agreement¹⁶.

According to the objectives of the *European Security and Defence Policy, the Petersberg missions* aim to obtain security and stability more than to win victories through military actions¹⁷. That is why the European approach to military expeditionary actions is more restrictive than the American one and refers to military actions for stabilisation rather than to armed confrontation and, if necessary, for preventing or countering the new threats that emerged after the terrorist attacks against the USA on 11.09.2001¹⁸. In the past, military actions usually took place in favourable weather conditions – from spring to autumn in Europe – because roads did not bear heavy guns and transport vehicles during rainy and snowy seasons. Current military expeditionary operations do not depend so much on weather conditions because of advanced transport vehicles on land, water or in the air.

Among the most recent and successful military expeditionary campaigns I would mention the *Falklands/Malvinas War* (1982) – conflict between the UK and Argentine for the Malvinas Archipelago; *Operation Desert Storm* (1991) – better known as the First Gulf War against Saddam Hussein regime by a US-led Multinational Coalition, under the UN auspices; *Operation Enduring Freedom* (2001) – a US-led Multinational Coalition, under the UN auspices, against the Taliban regime in Afghanistan; *Operation Iraqi Freedom* (2003) – better known as the Second Gulf War against Saddam Hussein regime by a US-led Multinational Coalition, without the UN Security Council approval.

Military integrated operations

This way of employing forces in battle has been known and used since ancient times. One of the first references to military integrated actions comes from the reign of Assyrian King *Assurbanipal II*. He set up a very mobile army consisting of pedestrians, cavalry, battering rams and mobile towers for assaulting citadel walls. He trained his fighters to act in a coordinated manner, while many other strategists and commanders employed their armies divided into parts – for instance first pedestrians then cavalry and so on. Coordinated and focused attacks,

¹⁶ ***, *NATO Handbook*, NATO Office of Information and Press, Brussels, 2001, pp. 175-176.

¹⁷ ***, *An Initial Long-Term Vision for European Defence Capability and Capacity Needs*, European Defense Agency, Brussels, 3 October 2006, p. 6.

¹⁸ Michael Mihalka, *NATO Response Force: Rapid? Responsive? A Force?* in *Connections, The Quarterly Journal*, Partnership for Peace Consortium of Defense Academies and Security Studies Institutes, Garmish-Partenkirchen, Germany, 2005, p. 67.

doubled by the cruelty of his fighters, were the most important causes of his success in battles against all adversaries¹⁹.

Philip II of Macedonia organised pedestrians in phalanx, more compact and deeper than the Theban one, which served as pattern. The small phalanx was composed of 16 rows and 256 columns of fighters, totalling 4 096 fighters. All fighters – named hoplites – were protected by armours and were armed with long spears (5-7m) called sarises. The phalanx could be double or quadruple, having the same number of rows – 16 – but multiplying the number of columns of hoplites. Thus, pedestrians looked like a moving mass of iron that was hard to defeat. The low mobility of the phalanx was compensated by the close cooperation with the cavalry. The cavalry was composed of two main parts. One was the light cavalry or hetaires, also known as the king's comrades, armed with swords and normal spears. The other part was the heavy or armoured cavalry, armed with long spears (sarises). The force structure of this army included light pedestrians, armed with shields and swords, archers, battering rams and mobile towers for breaking citadel walls, using lead spheres²⁰.

Alexander the Great, son of Philip II of Macedonia, was the continuator of his father methods for cooperation in fight between all parts of his army. Moreover, he improved the idea of integration by setting up combined tactical units, composed of hoplites, archers and spear fighters, included in the same phalanx that thus became more mobile and flexible. Another type of tactical unit was the combination between light cavalry and mounted archers to improve mutual support between cavalry and archers as well as the mobility of the archers²¹.

Genghis Khan had his entire army composed of cavalry – light and heavy – and devices for assaulting citadel walls – catapults and mobile towers – transported in small pieces on horseback. If an assault was planned, then some cavalry fighters were designated to use catapults and mobile towers. Genghis victories were obtained through a combination of speed, surprise, simultaneous attacks with all parts of the army, and cruelty of the fighters²². It is said that the Mongols did not take prisoners; they used to kill all of them.

The modern concept of military integrated actions was established during the First World War. Then, land and naval forces were integrated with air force in common operations. The Second World War improved the level of integration

¹⁹ Johanna and Nicolae Șarambei, *99 personalități ale lumii antice*, Editura Semne, București, 1997, pp. 457-458.

²⁰ E.L. Skip Knox, *History of Western Civilization*, Boise State University, <http://www.boisestate.edu/courses/westciv/> retrieved on 12.01.2011.

²¹ Johanna and Nicolae Șarambei, *op. cit.*, p. 23.

²² ***, *Unde, când, cum și de ce s-a întâmplat*, Editura Reader's Digest S.R.L., București, 2005, p. 90.

mainly due to wireless communication. The operational concept of *Blitzkrieg*, made known to the world by German general Heinz Guderian was announced by British general Charles Fuller and French general – who became French President – Charles de Gaulle²³. This is a combination between mass attack and tanks, sustained by the air force and artillery, all of them coordinated by good communications.

The *Cold War* launched the concepts of “*Air Land Battle*” and “*Follow-On Forces Attack*” – *FOFA*²⁴. Although many experts may not agree with me, “*Air Land Battle*” is an improvement of *Blitzkrieg*. The improvement consists in better communications and new devices for hitting designated targets more accurately.

Short after the end of the *Cold War*, some concepts referring to military expeditionary actions and parallel warfare, which were utilised during the two World Wars, were rediscovered and improved. Currently, under the influence of the *Revolution in Military Affairs (RMA)*, the concepts of “*Effects-Based Operations – EBO*” and “*Network-Centric Warfare – NCW*” have emerged, which I consider improvements on some old strategies.

Effects-Based Operations

Some experts say that *EBO* represents one of the newest operational concepts that will revolutionise military art. Others, like David Deptula – one of the members of Checkmate²⁵ organisation, during the First Gulf War –, says that the concept is not entirely new, except for the means employed to implement it, because many competent commanders and staff officers planned and executed effects-based campaigns²⁶. Similar ideas can be found in Sun Tzu and Clausewitz writings. Sun Tzu, for instance, considers that the highest competence of a commander during a campaign is to defeat the enemy’s army without fighting²⁷. Sun Tzu refers to the absence of armed clashes because the victory has to be won on the psychological

²³ General dr. Mihail Popescu, general-locotenent (r.) Dr. Valentin Arsenie, general de brigadă (r.) dr. Gheorghe Văduva, *Arta militară de-a lungul mileniilor*, vol. 2, Editura Centrului Tehnic-Editorial al Armatei, București, 2004, p. 235.

²⁴ General Bernard W. Rogers, *The Atlantic Alliance: Prescriptions for a Difficult Decade*, in *Foreign Affairs*, 1982, p. 1151.

²⁵ Richard T. Reynolds, Col. USAF, *Heart of the Storm. The Genesis of the Air Campaign against Iraq*, volume 1, Air University Press, Maxwell Air Force Base, Alabama, USA, 1996, p. 16 (Checkmate is a unique directorate in Air Force Plans, that encourages independent thinking and analysis on important combat-employment issues).

²⁶ Col. David A. Deptula, *Firing for Effect: Change in the Nature of Warfare*, in *Defense and Airpower Series*, Arlington, Virginia, Aerospace Education Foundation, 24 August 1995.

²⁷ Sun Tzu, *Arta războiului*, Editura Militară, București, 1976, p. 39.

battlefield. Although he is better known as a supporter of violence, Clausewitz admits that it is more profitable to take other kinds of measures to disband the opponent alliances, to paralyse them or to gain more allies in order to shorten the way of accomplishing the objectives of the war, rather than to destroy the enemy armies²⁸.

Currently, the EBO concept has more definitions, depending on the author's viewpoint, but the essence is similar to all of them and consists in focusing on the result of the action rather than on the action itself. Batschelet, for instance, defines EBO as a process that aims to gain a desired strategic effect over the enemy through the application of synergistic and cumulative capabilities – military and civil ones – at the strategic and tactical levels of the military art²⁹. Saunders-Newton and Aaron Frank point out that EBO are military operations planned and executed to produce such operational and strategic effects that will lead to imposing desired political results³⁰.

Anyone who analyses older and newer thoughts related to military actions will discover common points in the essence of the concepts of planning and employing military forces. The differences between all the above-mentioned concepts consist in the ways of employing forces in battles, which depend not only on the technological and scientific progress but also on the combat experience of the commanders.

Long before Sun Tzu's writings, commanders used strategies based on effects. The most commonly used was terror. The Assyrians were masters of terror. They plundered the conquered territories and killed all fighters and people that fought against or opposed to them. The defeated were killed in abominable ways by impaling, peeling, beheading and burning alive³¹.

Persian Emperor *Cyrus II the Great* was among a few of his time who used a soft way of achieving his strategic objective of conquering new territories. His method was the policy of tolerance. It is said that he was incredibly generous with his defeated opponents. The story of the conquest of Babylon is one of many examples that prove his efficient way of attracting people rather than making them fight against him. Historians tell us that, after conquering Babylon, he neither killed the inhabitants nor destroyed the citadel as the Assyrians and other bloodthirsty conquerors used to do. On the contrary, Cyrus flattered the inhabitants by being crowned as King of Babylon and recognising local gods. Many opponents

²⁸ Carl von Clausewitz, *Despre război*, Editura Militară, București, 1982, p. 465.

²⁹ Allen W. Batschelet, *Effects-Based Operations: A New Operational Model?* in *Strategy Research Project*, 2002.

³⁰ Desmond Saunders-Newton, Aaron B. Frank, *Effects-Based Operations: Building the Analytic Tools*, in *Defense Horizons* no. 19, 2002.

³¹ Johanna and Nicolae Șarambei, *op. cit.*, pp. 457-458.

were impressed by Cyrus attitude and by his strong army and decided to acknowledge him as a ruler without fighting³².

Philip II of Macedonia was a master of combining force and superiority of his army with terror, gold and corruption. He used to say that anyone could open the citadel's doors if they saw a donkey loaded with gold. He did something similar during his assault of the Olynth citadel by offering gold to Eutocrates and Lasthenes – commanders of the citadel's cavalry. He managed to conquer the citadel but he wanted to give an example to all those that would dare to oppose him and ordered the killing of the majority of the inhabitants and prisoners while the others were sold as slaves. The city was plundered and the citadel walls were razed to the ground³³.

Terror was used by most political and military leaders of the ancient world that are admired nowadays. One of them is Alexander the Great of Macedonia. He ordered a cruel suppression of Thracians revolt in 335 BC, in order to give an example to the entire Greece. Later on, he followed the example of his father Philip II, related to Olynth citadel, against Tyre, in 332 BC, by ordering the killing of 6 000 men inside the citadel and crucifying some other 2 000 on the beach of the Tyre. Women and children (about 30 000) were sold as slaves³⁴. His decision was a strategy to influence any other opponent that would dare to fight against him. His effects-based strategy was said to be successful because most of the citadels settled by Greek colonists on the current Turkish territory, in the North of Africa, and even in Egypt, decided to recognise him as a ruler without fighting.

In other situations, Alexander the Great utilised a combination of terror and the policy of attracting future opponents by adopting defeated opponents' customs – like proskynesis protocol in Persia and polygamy along with promoting local aristocrats in leading positions and young people in his army. Moreover, he did not impose on defeated opponents to renounce their local gods; on the contrary, he adopted their cult³⁵, like the Egyptian Amon's, to whom he devoted himself because he was designated as Amon's descendant by Egyptian priests. Using his strong army and effects-based strategies, Alexander managed to establish the largest empire of the Ancient World.

King of the Franks – *Charles the Great (Charlemagne)* – used terror combined with military power and a very good system of collecting information about adversaries

³² *Ibidem*, p. 129.

³³ *Ibidem*, pp. 176-177.

³⁴ Quintus Curtius Rufus, *The History of Alexander the Great of Macedonia*, pp. 10-21, <http://en.wikipedia.org/wiki/siege-of-tyre>, retrieved on 12.01.2011.

³⁵ ^{***}, *The Encyclopedia Britannica*, volume 1, Cambridge, England, 1910, pp. 377-379, <http://www.archive.org/stream/encyclopediabri01chisrich>, retrieved on 11.01.2011.

to establish his vast empire and to impose Christianity all over it. Historians tell us that he offered only two options to their defeated opponents: to adopt the Christian religion or to die³⁶.

*Genghis Khan*³⁷ and *Timur Lenk*³⁸ were masters of terror in imposing their will on adversaries without fighting. If their opponents decided to fight, then they were killed without mercy and discrimination, and pyramids from their bodies and heads were built near the conquered citadels in order to be seen and to impress all those who would dare to oppose them, meaning to induce the fear that they could have the same fate.

As time passed, physical terror was replaced by psychological terror consisting in threatening with force. I will enumerate some of the doctrines that were used during the *Cold War* such as “*Nuclear deterrence doctrine*” – frightening the adversaries that if they attack then they will have unacceptable losses because of nuclear weapons employment³⁹; “*Massive retaliation doctrine*” – threatening with escalating all conflicts to nuclear ones in order to discourage any adversary to initiate aggression⁴⁰ etc. Nowadays, the most important strategy based on effects is the “*Preventive attack doctrine*” – warning all potential adversaries that they will be subject to a preventive attack on their territory, prior to initiating aggression⁴¹. The latter way of achieving desired effects, along with the concept of Effects-Based Operations, was used during the second Gulf War against Saddam Hussein regime, in 2003⁴².

Network-Centric Warfare (NCW)

Network-Centric Warfare, as its American initiators – David S. Alberts, Arthur K. Cebrowski, John J. Garska and Frederik P. Stein – named it, consists in a *symbiosis between information and action*. More precisely, the concept is based on real time information, available for strategic leaders, operational commanders and fighters as well. This real time information is used during the entire process of commanding and coordinating military actions from collecting, processing

³⁶ ***, *Unde, când, cum și de ce s-a întâmplat*, op. cit., p. 81.

³⁷ *Ibidem*, p. 90.

³⁸ ***, *Encyclopaedia Britannica*, volume 15, Cambridge, England, 1910, p. 994, <http://www.archive.org/stream/encyclopediabri01chisrich>, retrieved on 11.01.2011.

³⁹ United States Department of State, *A Short Guide of US Arms Control Policy*, US Government Printing Office, Washington DC, 1984, p. 33.

⁴⁰ Brent Scowcroft, *Understanding the US Strategic Arsenal*, in *Nuclear Arms*, ICS Press, San Francisco, 1984, p. 68.

⁴¹ President of the United States, *National Security Strategy*, Washington DC, May 2010, p. 10.

⁴² General dr. Eugen Bădălan, general (r.) dr. Valentin Arsenie, general de brigadă (r.) dr. Gheorghe Văduva, *Eseu despre arta strategică*, Editura Militară, București, 2005, p. 196.

and disseminating data and reports to sending orders to the combat units. Thus, *NCW* should be understood as a network of military entities called nodes, which are interconnected, and receive and transmit data, in real time, about: their combat order and location and the adversary ones as well; meteorological situation; details related to the confrontation environment; requests for multidimensional support (resources, air or artillery strikes against enemy targets, evacuation of wounded and sick combatants etc.); results of their fights; prognosis about the confrontation environment evolution⁴³ etc. It is said that the core of the concept is similar to the free market management, adapted to the rigours of the “*Revolution in Military Affairs – RMA*”⁴⁴.

If one compares *NCW* with *Blitzkrieg* then he (she) discovers some similar ideas in both concepts such as using good communications for commanding and coordinating forces during battles. The main difference is that *NCW* focuses on accomplishing objectives using *EBO*, while *Blitzkrieg* is aimed at destroying enemy armed forces through a massive attack with tanks, supported by the air force and field artillery⁴⁵. Many people know that the author of the concept of *Blitzkrieg* was German Field Marshall Heinz Guderian. British historians proved that the idea of using a mass of tanks to break the enemy defensive line belonged to John Frederic Charles Fuller (1878-1966). Fuller wrote a paper called “*The 1919 Plan*” in which he envisioned an attack with 4 000 tanks to break the German defensive line and other 1 000 tanks that had to exploit the success supported from the air by the air force. The coordination between tanks and the air force had to be solved by a good system of communications. His ideas were abandoned by the officials because the First World War ended. Fuller developed his ideas in two books – *The Great War*, published in 1920, and *The Reform of the War*, published in 1923⁴⁶.

Heinz Guderian submitted a report to his superiors, right after the end of the First World War, in which he presented his ideas about the new concept of waging war, but he did not receive so much support because of the peace treaty provisions that imposed huge downsizing for the German Armed Forces. Hitler was impressed by his ideas and gave him the responsibility to establish the first tank battalion. The concept of *Blitzkrieg* was published by Guderian in 1936 in his book *Achtung, Panzer! (Warning, Panzer!)*. Guderian and *Blitzkrieg* spearheaded Germany in its quick victories against Poland, the Netherlands, Belgium and France, and during 1941 campaigns against the USSR.

⁴³ General-locotenent dr. Eugen Bădălan (coord.), *Concepte strategice și operative de actualitate*, Editura Centrului Tehnic-Editorial al Armatei, București, 2004, pp. 68-82.

⁴⁴ Arthur K. Cebrowski John J. Garska *Network-Centric Warfare: Its Origin and Future*, <http://www.Usni.org/Proceedings/Articles98/PROcebrowski.htm>, retrieved on 05.12.2010.

⁴⁵ Michael Lee Lanning, *op. cit.*, pp. 325-328.

⁴⁶ *Ibid*, pp. 279-282.

Military confrontations of the future

NATO planners and analysts envision the intensification of unconventional threats against all states and organisations and the proliferation of low intensity conflicts⁴⁷. Internal vulnerabilities and dysfunctionalities of the states, overlapped with external influences, are the main causes for threats and conflicts. I maintain that military conflicts would not disappear so soon because too many states use force to solve their disputes with other actors in the international arena. In his speech at the UN General Assembly, in September 2009, American President Barack Obama states that peace and prosperity will be reached only when no nation can or should try to dominate another nation, and all nations take their responsibilities as they assume their rights, as part of the process of sharing responsibilities among all the countries for building a global response to global challenges⁴⁸.

It is hard if not impossible to say what future military confrontations will look like. Some experts and politicians believe that the future does no longer belong to weapon systems developed for ample military confrontations. In this respect, it is exemplified the *F-22 Raptor* American fighter aircraft, which is considered unsuitable for the counterinsurgency battles in Iraq and Afghanistan⁴⁹. Experts in computers and communications predict that the next world war may be fought mainly in virtual space and this could be a catastrophe. That is why the best way of winning is to avoid it⁵⁰.

Some other experts believe that the future is not very encouraging because the next world war is ongoing and the current economic and financial crisis is its first phase. The next phases could be to cause some contained conflicts and then to transform them into a world war⁵¹.

Some experts remain sceptical about the possibility to have future wars in Clausewitzian fashion but most of them agree that the military confrontation will continue to be a violent way of using force to impose own will⁵². If one recalls recent historical events, especially Georgia – South Ossetia war (with the massive

⁴⁷ ***, *NATO Strategic Concept*, Lisbon, 2010, p. 3, http://www.nato.int/cps/en/natolive/official_texts_68580.htm, retrieved on 31.05.2011.

⁴⁸ Jennifer Loven, *Obama to World: Don't Expect America to Fix it All*, article published by *Associated Press* in September 2009.

⁴⁹ Andrew Taylor, *Senate Passes Pentagon Budget War Funding*, article published by *Associated Press* on 06.10.2009.

⁵⁰ Hamadoun Toure, Declaration at International Telecommunication Union Exhibition in Geneva, October 2009, published by www.hotnews.ro, on 06.10.2009, retrieved on 15.06.2011.

⁵¹ http://english.pravda.ru/world/africa/media_manipulation, retrieved on 14.06.2011.

⁵² P. Paret, *Makers of Modern Strategy*, Clarendon Press, p. 204, quoted by Group Captain A.P.N. Lambert, *The Psychological Impact of Air Power in World War II*, p. 14.

Russian support) in 2008, then he (she) may agree that future military confrontations could have a large variety of ways of employing forces, including the so-called second wave wars.

Scientific and technological progress has triggered so many changes in military tactics and strategies that no war looks like another. On the other hand, most of the principles of military actions validated in ancient wars remain valid nowadays and, most probably, they will stay the same in the future. Moreover, despite the fact that future military confrontations may not look alike, they will have something in common, which is violence used to impose own will on the opponent or to annihilate his will to fight. The way of using violence and weapon systems to achieve political and military objectives will also make the difference among military operations and wars. Both parties in a military confrontation will choose strategies, tactics and means to surprise the adversary and to tip the balance in their favour. Therefore, they will assess own and the adversary capability as well as the strength of the allies, pondering international public opinion, prior to establishing their objectives, strategies and tactics for employing forces. However, information age, satellites, WMDs, smart weapons and terrorism make me consider that military confrontations like those in the Second World War, Korea, Indochina, and even Georgia may not be patterns for future wars. It is less probable to plan and fight wars of annihilation like in Ancient Times and the Middle Ages. However, Yugoslavia's wars in the last decade of the 20th century, Rwanda genocide and the wars in Afghanistan and Iraq should be considered prior to drawing a conclusion. It is also important to recall the threats of Osama bin Laden's supporters after his killing in the Pakistan city of Abbottabad during a surprise attack of the US Special Operations task force, on 1 May 2011⁵³.

No matter the adversary, historical period and level of military strategy development, the weapon systems, bullets, missiles or other means for striking targets, there is a commonality regarding future military confrontations: the target, which is man's mind. Man is the one who initiates conflicts, fights them, negotiates peace and implements all the agreements for keeping peace or settling relations among international actors. Future wars will focus on man's mind rather than on destroying him physically because somebody has to work⁵⁴ to produce goods and services.

⁵³ STRATFOR, *Osama bin Laden Killed*, <http://www.stratfor.com/analysis/20110501-red-alert-osama-bin-laden-killed>, retrieved on 18.05.2011.

⁵⁴ Lawrence Rees, *Auschwitz. Naziștii și soluția finală*, Editura Rao, București, 2007, p. 46.

Unconventional military confrontations

There is no consensus among experts about defining and establishing the content of unconventional military confrontation. A British colonel – Caldwell – defined it for the first time, at the beginning of the 20th century, as a small war that included all campaigns, except for those that were fought among permanent armies⁵⁵. Quite recently, some senior Chinese commissioned officers defined unconventional war as the one without restrictions in which any available means may be employed⁵⁶. In turn, the Americans call it “*irregular warfare*”⁵⁷ and they have already published a doctrine for training their personnel to fight it.

❖ Asymmetrical warfare

Asymmetry is a condition of ideological, cultural, technological or military imbalance that exists when there is a disparity in comparative strengths and weaknesses⁵⁸. Another definition focuses on action, organisation and thinking that differ from the adversary’s ones, in order to maximise own advantages, to exploit adversary’s weaknesses, to gain initiative or freedom of action⁵⁹.

Many military experts think that asymmetrical warfare is a military confrontation between two parties with different fighting capabilities. Usually, the weaker party uses the principle of “*everything is permitted in order to win*”⁶⁰. In a metaphorical sense, we can say that the weaker party applies international treaties and conventions regarding war and peace in a creative way. In reality, the weaker party does not apply any rules and norms in order to have the upper hand against its adversary. In consequence, respecting the rules and norms of waging wars by the stronger party becomes vulnerability.

The lessons of history tell us that there has been no pure war and asymmetries have always existed and they will continue to exist in any type of military confrontation because every party desires victory and uses any means to win it.

Asymmetry is present in any component of the confrontation environment – political, economic, technological, psychological, cultural and military.

⁵⁵ Charles E. Caldwell, *Small Wars: A Tactical Textbook for Imperial Soldiers*, London Press, London, 1906, p. 21.

⁵⁶ Qiao Liang, Wang Xiangsui, *Unrestricted Warfare: Assumptions on War and Tactics in the Age of Globalization*, Beijing, 1999, pp. 51-57.

⁵⁷ AFDD-2, 3 – *Air Force Doctrine Document – Irregular Warfare*, Washington DC, 2007, p. 3, www.e-publishing.af.mil, retrieved on 23.05.2011.

⁵⁸ Center for Army Lessons Learned, *Operation Enduring Freedom. Tactics, Techniques and Procedures – Handbook*, no. 02-8, June 2002, Fort Leavenworth, Kansas, USA, p. 3.

⁵⁹ Steven Metz, Douglas II Johnson, *Asymmetry and US Military Strategy: Definition, Background and Strategic Concepts*, Strategic Studies Institute, Washington DC, USA, Special Report, January 2001.

⁶⁰ Gheorghe Văduva, *Războiul asimetric și noua fizionomie a conflictualității armate*, Editura Universității Naționale de Apărare, București, 2007, p. 11.

From military experts' point of view, asymmetry could be high, low, disproportionate, high-tech, non-contact confrontational, and so on.

❖ **Low asymmetry** exists when a weak adversary – in terms of its political, economic and military capabilities – confronts a more powerful one⁶¹. Knowing own strong and weak points, the less powerful adversary will choose such a behaviour to gain some advantages and to win victory after confrontation or not to suffer too many losses during confrontation. Pursuing this objective, the less powerful party may use a large variety of actions such as: avoiding open and decisive confrontations; harassment (so-called “*hit-and-run tactics*”); attracting the adversary into traps or ambushes, urban or swampy areas, to prevent him from using his superiority; prolonging confrontation for a longer period of time than the powerful adversary expects; hiding forces to prevent the adversary’s strikes etc. Examples of low asymmetry are quite numerous but some of the most recent are the ones in Kosovo (1999) that opposed Serbian military forces to NATO; “*Operation Enduring Freedom*” (2001) in Afghanistan that opposed the Taliban to Multinational Coalition Forces and “*Operation Iraqi Freedom*” (2003), which opposed Multinational Coalition Forces to Saddam Hussein regime.

❖ **High asymmetry** characterises confrontations between two adversaries that use similar doctrines, technologies and operational levels but different capabilities, in terms of quantity. In such situations, the adversary with fewer capabilities has to focus on quality to win the confrontation. The high quality of forces means: moral superiority; higher training level of the personnel; superiority of forces’ readiness; less time allocated to the decision-making cycle, information superiority etc. This kind of asymmetry is to be found between Israel and the Arab states. While the Arabs have overwhelming superiority in terms of territory, resources, population, economy and number of fighters, Israel is considered superior in terms of its military personnel training level, fighters as well as population morale, readiness and information, which is provided in nearly real time to all decision-makers and the forces involved in combat. The assessment is based on the figures furnished by specialised agencies as well on the outcomes of the wars fought between the two parties starting in 1948.

❖ **Non-contact confrontation**

It is also called “*non-contact war*” and consists in striking enemy targets from such a distance that prevents direct contact between the two conflicting parties.

⁶¹ Steven Metz, *Armed Conflict in the 21st Century: the Information Revolution and Post-Modern Warfare*, Strategic Studies Institute, Washington DC, USA, April 2000, pp. 21-23, 40-47.

Moreover, the strongest party cannot be hit by its adversary weapon systems. The most recent and known examples are the First and Second Gulf Wars in 1991 and 2003. Then cruise missiles were used on a large scale (first time in real war in 1991) against Saddam Hussein's regime targets from the air, land and sea. In 1991, Saddam Hussein's Armed Forces launched Scud missiles against the Multinational Coalition targets from Saudi Arabia and against Israel in order to make the latter react and to disband the coalition. Israel was not an active participant in war but its role was extremely important because the Arab states that participated in coalition imposed the condition of keeping Israel out of the coalition, otherwise they would get out of it and they could decide to join Iraq.

Pure non-contact confrontation does not exist. I would say that only some parts of a confrontation encompass non-contact phases like the above-mentioned ones. One may recall Iraq-Iran War (1980-1988), which had some phases called "*war of the cities*" because both parties decided to hit the adversary major cities by Scud missiles. During some aerial confrontations from the Middle East, there were situations in which Saddam Hussein's aircraft were shot down from distance by air-to-air missiles launched from the fighter aircraft of the Multinational Coalition and the targets were not even aware of the launches against them. Similar episodes occurred in 1982, during operation "*Peace for Galilee*" when an Israeli aircraft shot down a Syrian fighter aircraft "*beyond horizon*" (60-100 km)⁶².

❖ *Incongruous Confrontation*

This kind of confrontation consists in a clash between two parties that have very different capabilities in terms of quantity as well as quality. In other words, the force ratio indicates a huge advantage of one party against the other. Apparently, this situation is hopeless for the weaker party. In fact, the less powerful party could identify some niche capabilities from information, psychological and electronic warfare domains to counter its adversary's superiority, especially to alter its will to fight, its initiative and freedom of action. This objective can be achieved through the so-called "*multidimensional jamming*", which forces the adversary to make mistakes, from the wrong assessment of the real situation to inadequate decisions. The less powerful adversary can use manipulation, misinformation, deception, concealment of targets, physical and electronic simulation and so on to create a false image of reality for the powerful adversary. In addition, computers and the civilian communications system can be successfully used to send and receive messages (encrypted or not) about the adversary's actions and positions.

⁶² Martin van Creveld, Steven L. Canby, Kenneth S. Brower, *Airpower Maneuver Warfare*, Air University Press, Maxwell Air Force Base, Alabama, USA, 1994, p. 186.

In an open confrontation, victory will almost always belong to the most powerful party. That is why the less powerful party will almost always avoid direct and open confrontation and will try to find solutions to counter its adversary's superiority. Looking into Iraq and Afghanistan, I would say that the most powerful party might win the war but not the peace. In Afghanistan, the Multinational Coalition won the war in 2001, and in Iraq in 2003, but not the peace. The insurgency started almost immediately after the wars ended and it has continued for 10 and 8 years respectively!

❖ **Terrorism**

Terrorism does not have an accepted definition. Many times governments and their political opponents accuse each other of being terrorists in order to portray them as illegitimate in the eyes of public opinion and to increase their popularity. The mass media and some political analysts label some actions as terrorist to hit the audience and so the content of the notion is a source of much confusion.

Some sociologists pretend that it is not possible to define terrorism because the process of defining it is based on a large context of negating ideologies and political objectives. Moreover, definitions may change in accordance with the perspectives and situations they refer to⁶³.

It is difficult to define terrorism because experts and politicians are divided by interests. It is paradoxical but it is also a reality that some terrorist attacks against administrative and cultural objectives as well as innocent civilians are blamed by an important part of the world, whilst the other part considers that the authors of the attacks are freedom fighters⁶⁴.

The purpose of terrorists is to create chaos, insecurity, to portray as illegitimate the states' leadership in order to seize political power and to impose their ideology and leaders as well. Terrorists' activities are characterised by: high capacity to adapt to rapid and often changing situations; unpredictability of their *modus operandi* (forces, place, time, means etc.); utilisation of women, old people and children for suicide attacks; the most preferred area of terrorist attacks is the urban one, in order to amplify the impact on public opinion through the feeling of insecurity and to force political leaders to accept terrorists' claims; terrorists do not respect international conventions related to war; terrorist organisations function subversively inside societies, as cells interconnected into a network structure;

⁶³ Ileana Gentilia Metea, *Terorismul, factor generator al crizei actuale in Perspective ale securităţii și apărării în Europa*, volume III, Editura Universităţii Naţionale de Apărare, Bucureşti, 2009, p. 127.

⁶⁴ Vladimir Volkoff, *Dezinformarea văzută din est*, Editura Pro Editură și Tipografie, Bucureşti, 2007, p. 40.

some of the cells could be dormant and reactivated at certain moments; terrorist organisations tend to cooperate by exchanging information among them and providing each other logistic support and training; many terrorist organisations use religion as the basis for justifying their actions⁶⁵; involvement into organised crime activities to accumulate the resources needed for planning and executing their actions.

The most utilised terrorist actions consist in: assassinations; blackmail and corruption; kidnapping; suicide attacks executed by isolated individuals or small groups of individuals who act as pedestrians or use car bombs, especially in crowded areas or against military, police and other official buildings; aircraft hijackings, hostage taking used in exchange for the adoption of certain political measures or the liberation of some imprisoned terrorist leaders.

The causes of terrorism are numerous and most of them emanate from the human nature, which is contradictory. In order to identify the causes, it is necessary to better know terrorists and the ones who lead, stir and instigate them. Many books have been written about terrorists and the authors' views are quite different. Some of them portray terrorists as aggressive; mentally unstable; lonely and desperate; abused in their childhood; descendents of alcoholic or drug-addicted parents; inadaptabile; alcoholic or drug consumers etc.⁶⁶. Other authors extend the psychological and social profile of terrorists and say that some of them are poor and less educated while others are college and university graduates, even university professors, political and religious leaders.

The UN Special Committee on International Terrorism has identified some of the most important motivations for terrorist actions: policy; radicalism; extremism based on religion and ethnic origins. In turn, authors who study terrorism have written their conclusions in many books. Some of the most interesting opinions are the following: poverty; unemployment; armed conflicts; international organised crime; drug trafficking; illegal arms trade⁶⁷; extreme ecologist; religious fundamentalism; secession based on nationalism⁶⁸; seeking for identity and immigrants descendents' failure to integrate into their adoptive country rules, traditions and lifestyle⁶⁹; Jihad against the Jews and Crusaders⁷⁰.

⁶⁵ Vasile Simileanu, *Religii și doctrine religioase*, in *Geopolitica*, review of political geography, geopolitics and geostrategy, Year 1, no. 1, Editura Top Form, București, 2003, pp. 77-78.

⁶⁶ Gabriel Naghi, Mihai Florian Șucată, *Atentatul – o istorie veșnic contemporană*, Editura Pro Transilvania, 2003, p. 23.

⁶⁷ Michael Sturmer, *Putin și noua Rusie*, Editura Litera, București, 2009, p. 126.

⁶⁸ Paul Hirst, *Război și putere în secolul XXI*, Editura Antet XX Press, Filipeștii de Târg, 2001, p. 84.

⁶⁹ Francis Fukuyama, *America la răscruce*, Editura Antet XX Press, Filipeștii de Târg, 2006, p. 64.

⁷⁰ Daniel Benjamin, Steven Simon, *The Age of Sacred Terror. Radical Islam's War Against America*, Random House Paperback Trademark, New York, 2003, p. 256.

How do terrorists act? We know how terrorists performed in the past and we can forecast their future operations. Nevertheless, there are so many uncertainties related to terrorists. One is that they have increasingly become what is usually called the “*enemy without a face*”⁷¹. Another uncertainty is that terrorists are from and among us! Investigating the circumstances of the terrorist attack against the USA, an international team of experts, most of them American citizens, demonstrated the inconsistency of the conclusions of the report made by the official US Government Committee, established after the terrible event. Briefly, the authors wrote that they suspected the participation of some American citizens in planning and executing the attack and that some officials did not act in a professional manner to prevent and stop the attack⁷².

The hypothesis of terrorists from and among us was confirmed again by the terrorist attack in Fort Hood, Texas, by a major of the US Army in July 2009⁷³. It is hard to accept the idea that the killer is the only culprit. The answer has not come yet from the US Army investigation committee appointed for this purpose. There is information about his repeated meetings with an extremist Muslim imam that used to urge his religious followers to kill US military, but nobody informed the military authorities about it.

Terrorists are very inventive, adaptable and tenacious. Chechens’ rebellion for separation from Russia was unsuccessful despite the Western and Muslim countries support for them. Anyway, the foreign support for their cause demonstrated their ability to exploit any possibility to accomplish their objective, such as the existing differences of interests between Russia and Western states, especially the USA⁷⁴.

Another example of terrorists’ adaptability and firmness in pursuing own objectives is the Taliban story. During the Soviet invasion (1979-1989), they were supported by the Western countries, especially by the USA, having Pakistan as intermediary. After the Soviet troops’ withdrawal, the Taliban managed to seize political power and to impose a very strict Islamic regime that turned against the Western civilisation. Initially, they limited to condemning the Western lifestyle and only after did they start terrorist attacks. One of the most important turning points is the *Declaration of the World*

⁷¹ Adrian MacLiman, *Haosul care vine, război fără nume, inamic fără chip*, Editura Mașina de scris, București, 2004.

⁷² Giulietto Chiesa, *Zero: de ce versiunea oficială despre atacul de la 11 septembrie este un fals*, Editura Litera Internațional, București, 2008, pp. 10-19.

⁷³ Angela K. Brown, *Fort Hood Suspect Ordered Held until Court-Martial*, article published by *Associated Press*, <http://news.yahoo.com/s/ap/20091122/ap-on-re-us/us-fort-hood>, retrieved on 17.11.2010.

⁷⁴ Giulietto Chiesa, *op. cit.*, p. 287.

*Islamic Front for Jihad against the Jews and Crusaders*⁷⁵, published in Al-Quds al-Arabi journal in London, on 23 February 1998. The terrorist attack on the Twin Towers in New York and the Pentagon was assumed by al-Qaeda in the article *Fourth Generation Wars*, published by Abu Ubeid al-Qurashi, one of the deputies of Osama bin Laden, in Al-Quds al-Arabi journal in London, in 2002⁷⁶. Moreover, the terrorist attack is associated with the beginning of the *Fourth Generation War* by Charles Krauthammer⁷⁷, in which the Western world will confront radical Islam. Another perspective on the same event is offered by Moises Naim who believes that the terrorist attack on 11 September 2001 shows the incredible existing power in the hands of non-state elusive actors that offer survival means for terrorists and control over the mass media and political parties⁷⁸.

How could terrorism be defeated? It is hard to tell. The most preferred method has been the use of force because the political and military leaders' intent has been to avoid the misinterpretation of soft methods as fear or weakness. The effects have not been the expected ones and Afghanistan as well as Iraq experiences speak for themselves. These examples have made George Friedman forecast that the war against terror could last for 100 years⁷⁹. The use of force may cause some other problems to emerge or to evolve from the non-conflict to conflict-oriented ones such as: refugees; economic, financial and political crisis caused by the destruction of economic facilities and lack of skilful workforce; increasing poverty; worse functioning of the society itself etc. All these problems may affect population's feelings, which will start to hate interventionist forces, under the influence of terrorists' propaganda and threats. Terrorists have well understood that the best strategy is the indirect one. I mean they strike civilian targets, especially the population, in order to force it to put pressure on the government to cede to terrorists claims.

It seems that the US General Petraeus was and will probably continue to be among the few leaders that want to redirect preventive actions from lethal actions towards gaining the population support⁸⁰.

⁷⁵ Bernard Lewis, *The Crisis of Islam. Holy War and Unholy Terror*, Random House Paperback Trademark, New York, 2003, p. XXIV.

⁷⁶ **, Middle East Media Research Institute, *Special Dispatch: Jihad and Terrorist Studies*, no. 344, 10 February 2002.

⁷⁷ Charles Krauthammer, *In Defense of Democratic Realism*, essay published in National Interest no. 77, 2004.

⁷⁸ Moises Naim, *Illicit. How Smugglers, Traffickers and Copycats Are Hijacking the Global Economy*, Anchors Books, Random House Inc., New York, 2005, pp. 7-8.

⁷⁹ George Friedman, *Următorii 100 de ani. Previziuni pentru secolul XXI*, Editura Litera Internațional, București, 2009, p. 35.

⁸⁰ Russell W. Glenn, *Continuing Counterinsurgency Challenges*, RAND National Defense Research Institute, Santa Monica, California, 2007, pp. 5-11, <http://www.rand.org/>, retrieved on 11.01.2011.

It is amazing how EBO has been understood and applied in counterinsurgency operations. History has taught us that freeing the population from fear will help it to go back to normal life and even to accept some suggestions that may change its habits or patterns for organising the society functionality such as establishing democracy and the rule of law. If we want these objectives to be implemented then the international community has to make a better offer than the terrorists' one. In short, the war against terror has to be waged mainly in the economic, education, health care and psychological fields. Once economy grows, poverty will be gradually eradicated, there will be enough resources for education and health care and people will be freed from fearing the future. By building schools, hospitals, economic and cultural sites, the population will have enough incentives to defend what it has built against terrorists and to benefit from the fruits of its work.

According to the UN statistics, approximately 20% of the world population is illiterate⁸¹ so the pivotal point of the strategy against terror has to be education. A well-educated individual is less vulnerable to manipulation and he (she) will find enough internal resources to resist all types of pressures coming from terrorists, no matter if they are subtle or brutal. The lack of or insufficient education will leave children and teenagers at the mercy of religious schools and street gangs. As former UN Secretary-General, Boutros Boutros-Ghali, says, democracy cannot gain roots unless people enjoy a minimum standard of living, which in turn requires a minimum level of development⁸². Normally, school could be more influential than any other influence. Education helps people to enlarge their knowledge and to better understand life and the long-term consequences of their actions. Thus the responsibility for themselves as well for their children, grandchildren and fellow men will increase, setting the basis for new, long-lasting and non-conflicting relations among people, communities and states. Education is the best "*weapon*" to defeat terrorists because they focus on confrontation, based on differences among races, sexes, ethnic origins, civilisations and religions. Ordinary people and leaders, both political and religious ones, have to understand the advantages of peaceful coexistence in multiethnic, multiracial and multi-religious communities. Education has to contribute to shaping people's mind to make them understand their fellow men and to accept and even militate for unity in diversity. I would call this attitude non-violent militantism⁸³, which is meant to help public opinion make the difference

⁸¹ Thierry P. Millemann, *Fața ascunsă a lumii occidentale*, Editura Pro Editură și Tipografie, București, 2008, p. 23.

⁸² Boutros Boutros-Ghali, quoted by Robin Wright in *The Gap Between Haves and Have-Nots Is Growing*, essay published in *21st Century Earth. Opposing Viewpoints*, p. 35.

⁸³ Samir Amghar, Amel Boubekouer, Michael Emerson (editors), *European Islam. Challenges for Society and Public Policy*, Center for European Policy Studies, Brussels, 2007, p. 17.

between a lifestyle based on continuous violence, offered by terrorists, and the normal one, based on mutual understanding, negotiation to settle any dispute, and peaceful resolution of any conflict and crisis. This objective could be accomplished only through permanent education, which means that every individual has to study, learn and share knowledge and experience not only in educational institutions but also at work, in family, with friends etc.

Causes of victory and defeat in military confrontation

Wisdom, a human quality that cannot be sold, purchased or borrowed⁸⁴, has always been the basis for any solid long-term project. On the opposite side, where ignorance is bliss 'tis folly to be wise⁸⁵. The lack of or insufficient wisdom is a trouble generator. The military action initiated and led without knowing tactics and strategy may be followed by waves of human blood, says German Marshall Hindenburg⁸⁶. Wisdom in military leadership means more than knowledge and skills. Wisdom could be acquired through continuous study and a relevant experience. In addition, to be wise some personal qualities are necessary, as follows: excellent self-control; tenacity; multidimensional approach to understand the confrontation environment; capacity to estimate the confrontation environment evolution as well as the consequences of planned actions and a very good ability to assess people.

The history of battles has recorded many victories and defeats caused by commanders' wisdom and lack of wisdom respectively. One of the most important battles of the Ancient Time was the one of Cannae (Canosa, in Italy) that took place on 2 August 216 BC. The opponents were the Carthaginians, led by Hannibal, and the Romans, led by consuls Aemilius Paulus and Terentius Varo. General Hannibal was driven by his promise to revenge Carthage defeat by the Romans during the first war between the two (264-241 BC). He was followed by a multiethnic army of about 50 000 fighters from Libya, Gallia and Spain. The Romans were about 80 000 but they were mostly recruits with low level of training and fighting experience. The main clash was won by Hannibal's army, which was disciplined,

⁸⁴ *Maxime juridice antice*, selected and commented by Marian C. Molea, Editura Militară, București, 1992, p. 107.

⁸⁵ Th. Gray, *Ode on a Distant Prospect of Eton College*, quoted by Carol Roman in *Singur în fața performanței?*, Editura Politică, București, 1976, p. 157.

⁸⁶ Paul Hindenburg, *Din viața mea*, quoted by Petre Caracaleanu in *Lumea în oglinda spiritului*, Editura Militară, București, 1991, p. 11.

trained and trusted the commander. The Romans had about 50 000 casualties, including consul Aemilius Paulus, whilst the Carthaginians had only 8 000⁸⁷.

The rivalry between commanders belonging to the same party is one example of lack of wisdom that has led to painful defeats, which was quite often present in many battles and historical periods and most probably will continue to be in the future too. Euripides says that the wise man is satisfied with the bare necessities⁸⁸ while the others want more and more, especially power, no matter if they deserve what they want and what the consequences for the other fellow men, especially for their followers, are. One example of this kind refers to Roman consul Marcus Lucinius Crassus who was quite new in this position and part of the triumvirate, along with Pompey and Julius Cesar, which led the Roman Empire at that time. Crassus was eager to increase his fame to counter his more notorious partners' fame. He thought that a good opportunity to receive laurels was to attack the Parthian Army at Carrhae in 53 BC and to seize more territories for Rome. Unfortunately, Crassus was a rather inexperienced commander and that is why he let his army be caught in a trap by the Parthians and defeated. During the battle, Crassus lost his life along with another 5 000 of his 6 000 fighters⁸⁹.

Although Napoleon I was a military genius, proved by winning many battles with fewer fighters than his adversaries, like the one in Jena on 14 October 1806, he made some mistakes that led him to defeat. For instance, he went to the Battle of Leipzig on 16-18 October 1813 with an army of 185 000 soldiers, most of them recruits having a low training level. Moreover, he included in his army some Saxons that were hostile and betrayed him by fighting against him in the decisive battle. The opponent army was numerically and qualitatively superior (60 000 Prussians, 160 000 Austrians and Russians plus 60 000 Swedish). The result was a painful defeat: 60 000 dead and wounded plus 11 000 prisoners in Napoleon's army whilst the allies had only 50 000 dead and wounded⁹⁰.

Negligence led to the defeat of the French Army in Vietnam in the campaign fought from November 1953 to May 1954. The French commander neglected to occupy the dominant peaks around the airbase at Dien Bien Phu where most of his forces were located. Vietnamese forces, led by General Vo Nguen Giap, took advantage from the French mistake and occupied all the dominant peaks and then launched decisive attacks winning the battle and taking 11 000 prisoners⁹¹.

⁸⁷ Jeremy Black (coordinator), *Șaptezeci de bătălii ale tuturor timpurilor*, Editura Aquila '93, Oradea, 2006, pp. 32-33.

⁸⁸ Euripides, *Phoenicians*, quoted by Petre Caracaleanu in *Lumea în oglinda spiritului*, p. 41.

⁸⁹ Ian V. Hogg, *Dicționarul marilor bătălii*, Editura Artemis, București, 2000, p. 46.

⁹⁰ *Ibid.*, pp. 101-111.

⁹¹ *Ibid.*, pp. 62-63.

Lack of firmness and arrogance are two major factors that reveal lack of wisdom. Hitler is one of the best-known political leaders who assumed the position of strategic commander of the German Armed Forces during the Second World War, without having appropriate command experience and skills at that level. One of his most disastrous decisions was to attack the USSR (Operation Barbarossa) on 22 June 1941, although his forces were engaged in the Battle for England. Thus, he dispersed his forces, enlarged the lines of logistic support and changed the force ratio against Germany and its allies. The result was defeat and unconditional surrender.

Iraqi leader Saddam Hussein was another unwise man who decided to attack Iran, on 22 September 1980⁹², despite the fact that his opponent was three times bigger than Iraq in terms of population and territory⁹³. To make his position worse, Saddam Hussein did not consider the long-term consequences of his decision. I mean he neglected the amount and variety of natural resources possessed by Iran and the morale of the population, led by ayatollah Khomeini's Islamic regime. Although neither of the opponents won the war, Iraq suffered a dramatic loss of international credibility. Practically, Saddam Hussein was perceived as a political leader with hegemonic tendencies. These perceptions were confirmed on 2 August 1990 when he ordered the invasion of Kuwait, disregarding the international community reaction as well as the long-term consequences for his country. The immediate consequence was the UN Security Council resolution that urged Iraq to withdraw from Kuwait, followed by economic, political and military sanctions. In the end, the UN Security Council approved the use of force to oblige Iraq to obey its resolutions. Then, the Multinational Coalition set up for the military intervention, led by the USA, defeated Iraqi forces, and re-established Kuwait's independence.



⁹² Dr. Lewis B. Ware, *Low Intensity Conflict in the Middle East*, in Lewis B. Ware (coordinator) *Low Intensity Conflict in the Third World*, Maxwell Air Force Base, Alabama, USA, Air University Press, 1988, p. 8.

⁹³ Ronald E. Bergquist, *The Role of Airpower in the Iran-Iraq War*, Maxwell Air Force Base, Alabama, USA, Air University Press, Alabama, USA, 1988, p. 31.

CONSIDERATIONS REGARDING THE OPERATION CONCLUSION, FORCES DISENGAGEMENT AND EXTRACTION

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The end of the operation coincides with the moment when the transfer of all responsibilities to local administration bodies or other structures that have replaced them in the theatre of operation takes place and is followed by the military troops and equipment extraction/redeployment/repatriation operation.

In this respect, in the authors' opinion, at strategic level, the operation is completed when the goals are reached or, sometimes, when the action of the military forces is not needed anymore. The decision in this respect is made by the same bodies that decided to launch it (NATO, the UN or OSCE). At operational level, the operation can be ended when there are required the reorganisation of the Multinational Forces or the repatriation of national contingents and, at tactical level, when the respective structure has completed the rotation cycle in the theatre of operations or is assigned a new mission, with a different characteristic.

Keywords: *operation; extraction; disengagement; redeployment; repatriation*

The problem of the end of joint multinational operations and the participation of the Romanian Armed Forces structures should be treated, in our opinion, from three points of view: a strategic one, looking on the assemble of operation in political and military terms, an operational one, looking on the competencies of participating countries, and a tactical one, looking on the time of maintaining each contingent into the theatre and on the mechanism of replacing forces.

At the strategic level, the end of operation occurs when the objectives have been fulfilled or, sometimes, when the action of military forces is not justified anymore¹. The decision in this case is taken by the same bodies that decided to launch it (NATO, the UN or OSCE). At the operational level, the end of operation may occur when it is necessary to restructure the Multinational Force and to repatriate some national contingents or to change their missions; at the tactical level,

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¹ According to *F.T. – 1, Doctrina operațiilor forțelor terestre*, București, 2007, art. 0323.

it occurs when that structure has finished the cycle of a rotation in the theatre of operations or when it receives a new mission with other specifications.

Taking into consideration these aspects, in the case of the structures belonging to the Romanian Armed Forces, the end of operation represents the moment of the transfer of all responsibilities to the bodies belonging to the local administration or other structures replacing them in the theatre of operations and is followed by the total redeployment of personnel and military equipment on the national territory.

At the strategic level, the end of joint multinational operations should occur, in our opinion, when the following political and military conditions are met: all institutions of the country work normally; there is a democratically elected government; diplomatic connections with interested countries have been re-established; there is a legislative system corresponding to a democratic society; local administration bodies are democratically elected and work normally; internal security can be assured by own forces; vital services for population are assured and the standard of living is acceptable; main infrastructure elements are remade; political and military leaders who had generated, triggered and supported the conflict were captured and trialled; war prisoners have been liberated and repatriated.

At the operational and tactical levels, the end of the response operation to crisis is not conditioned by the fulfilment of the same political, economic, social and military parameters; it may also be determined by other conditions: the period of time for which the structure was deployed in the theatre of operations elapsed and it is to be replaced by other structure taking over the mission in the frame of the force rotation; the level of stability in the area of action has been reached and the next activity belongs to reconstruction; the supreme political military has decided to put the whole territory and administration under the control of the host country and to repatriate all personnel.

The general conditions for the end of operations, as well as the proper decision for the repatriation of forces are established by the assigned constitutional authorities belonging to each contributing country, in this case by the Romanian country, as a consequence of the discussions between national/alliance/coalition political and military leaders. Once the decision for the end of military operations has been taken, the commanders apply the redeployment plans on the national territory or, when the political military factors decide, on other area into the theatre of operations. If the end of mission occurs in the frame of the rotation process of forces at the established time, without changing the mission of the contingent, the redeployment of forces should be preceded by their replacement with another structure and by regrouping them inside the area of action.

In the second case, defined by reaching the desired level of stability in the area in which the structure acted, the activity of the commands and forces at the end of operation is influenced by the fulfilment or non-fulfilment of the final aim agreed in the operational plan. To say that the final state has been reached, it is necessary to have a clear idea on the conditions that should be fulfilled. Another aspect that should be taken into consideration is that of the mutual attitude of own forces and local forces as the difficulty of a change in the mental and psychic attitude of the latter should not be underestimated. Therefore, the commander of the Romanian contingent should be sure that all conditions are met in order to avoid additional hostile actions and that there is a detailed plan referring to the way in which the responsibilities are to be transferred to local forces or other organisations. In this situation, we recommend the involvement of the local authorities keeping key functions in most activity branches as an integrant part of a collective strategy².

The successful end of a joint multinational operation presupposes the fact that military forces have been disengaged, responsibilities transferred to local authorities and own forces regrouped and ready to apply the redeployment plans on the national territory or into another theatre of operations. If the responsibilities are transferred to the local forces, the international community should support the leaders of that country through different political organisations (UN, EU, and OSCE) to achieve national reconciliation, security and good governance. If the government of that country shows political will and makes progress to fulfil those objectives, the economic, military and political support will be continued. If the government becomes more and more capable of governing, self-supporting and defending, the forces in the theatre of operations will reduce their size more and more and will transfer the command and control of the security sector to their own structure³.

The main task of the forces in the area of operations is represented by the consolidation of the state and the implementation of a democratic government. To fulfil this task, security, public order and territorial protection should be strengthened; then, command and control may be transferred to local authorities. The ideal result of the transfer is to consolidate democratic government based on laws, and democratic institutions and to develop a political cooperation to facilitate the acceleration of the process of normalisation and modernisation of the politics, economy and society in that country.

As an independent participation with forces of the Romanian country in operations outside national territory is unlikely to occur in the present security environment, we are going to approach the decisional mechanisms specific

² *Ibid*, art. 0320-0322.

³ James A. Baker III, Lee H. Hamilton, *The Iraq Study Group Report*, 2006, p. 4.1.

to the disengagement of forces that act in a multinational context; furthermore, the meaning of “*disengagement of military control*”⁴ is added to the classic one of disengagement of forces deployed in the theatres of operations and having defined missions and areas of responsibility, according to the situation of the new created security environment.

This new term means the fact that, after removing the danger or changing the strategic interests of the forces, with or without the continuation of the multinational presence, the control of operations, resources and installations is passed gradually, under direct supervision of the multinational forces, to other bodies, organisations or non-military entities. Thus, the transfer of responsibilities back to the legal authorities contains an economic component and a political one, as the process is not manifested only in the military field or in the security one; it also involves decisively the political and economic fields. From this point of view, the transfer of responsibilities has an economic connotation referring to the transfer of funds and international resources through their own economic institutions and instruments in cooperation with the assigned international organisms. On the other hand, the political disengagement is a natural consequence of the political institutions and entities involved in the theatre of operations surpassing the crisis situation.

When the process of disengagement and transfer of responsibilities to the local authorities or other military structure is finished, the operation is ended for that military structure and the forces pass to the final stage, the extraction from the theatre of operations.

As the participation of some structures belonging to the Romanian Armed Forces in joint multinational operations is assumed on the basis of a well-defined, clear, non-vague request, constituting the legal basis for the operation and representing a decisive element for the establishment of the conditions that may lead to the disengagement or the extraction of forces, the provisions stipulated in the treaties, agreements, resolutions or arrangements of the international or regional organisations should be added to meet all the requirements. The development of this type of operations in the past years has showed the necessity of some criteria (conditions) referring to the end of mission in unpredictable conditions to be added to the mandate and statute of forces. They are necessary in order to show the limits in which a structure is assigned to act on the basis of some criteria, beginning with the criteria defining success to those establishing the passing of an acceptable level of risk, failure or cases of major force.

Therefore, the disengagement criteria come out of the indicators and factors associated with objectives and tasks established during the analysis stage

⁴ Christopher Wittmann, *War Termination Theory in Operations Other Than War*, Military Issues Paper, USMC, Command and Staff College, Conference Group 9, 18 April 1995.

of the engagement strategy. Such an approach allows politicians to predefine easily the disengagement strategy for any type of operation and express in due time limits and reserves, including the financial ones. The assigned decision-making factors financing the operations of the Force should identify in detail any local or regional implications that may influence significantly the actions of forces. The subordination of operations to the political control demands that political leaders have a permanent knowledge of all the aspects of the military activity in order to be able to engage the military instrument properly; any conflict between military and political objectives becomes a possible cause of failure in the mutual understanding and a permanent source for the criticism for the relationships between civilians and military.

Generally, there are four important situations referring to the end of the participation of the Romanian Armed Forces structures in joint multinational operations: the engagement of conflicting parties in a continuous negotiating process manifested beginning with the involvement in action and the preliminary stages of it; the international political system generates a unilateral decision for the end of the military involvement in the management of crisis connected with the security interest of the Romanian state; political, economic, strategic or other reasons determining the national decision-making factors to choose the solution of ending operations; the disengagement and extraction of forces are determined by the internal political pressure when the action does not have the support of the public opinion anymore.

The first situation, the end of operation and, eventually, the end of the participation of forces in actions to make place for the negotiation, is a fundamental one referred to in all recognised theories and practices representing a rational evaluation of costs and benefits and leading to the identification of the best scenario for the Romanian state.

The unilateral end of the participation in the joint multinational operation represents the basis for the second option that is focused on the strategic interests of the Romanian state; Romania could stop its involvement when not only the economic costs of the action, but also the political, morale and imaging ones surpass the possibility of support.

The third situation presupposes the end of operation as a consequence of the option of the national decision-making factors based on justified reasons that have changed the perspective on the political-military context of the conflict; the last situation takes into consideration the effects of the internal policy in the decision leading to the end of the participation.

Of course, there are some other factors which may influence the end of the participation of the Romanian structures in joint multinational operations and the disengagement and extraction of forces; among them, the role of mass-media is important as it can generate some ideas in the public opinion determining the stop of the involvement in such an operation.

Apart from the larger plan of the political decision, the disengagement of forces and the end of operation may also occur in order to regenerate them, in the conditions of some important losses, as a stage before the redeployment in an area in the theatre of operations, in the reserve structures, or in another area to remake the operational capacity – for pure military reasons, to put it in other words. In such a situation, the decision referring to the disengagement of forces may aim at the introduction of some new structures into the operation, the redeployment at the end of the operative tour or the mandate, the rest of units that have executed long missions, the application of a larger plan or the modification of the mission.

From the tactical point of view, the disengagement of forces appears as a replacement operation or a withdrawal one, no matter if another structure is to take the responsibility of the mission or the superior echelon decides in its own area of responsibility the restructuring of the disposition and the redistribution of missions.

As most of the military operations developed by the structures belonging to the Romanian Armed Forces have a multinational character, the Romanian option to disengage and redeploy or extract its forces partially or totally depends not only on agreements, treaties and the mandate of Force constituting the grounds for the disengagement decision, but also on a series of mechanisms at the level of each country or organisation. That is why the extraction of forces should be flexible, in accordance with the political progress achieved in the process of managing the crisis; according to the situation, the operation of the force extraction out of the theatre of operations may be a partial, gradual and complete or may be a rapid (urgent) one, if the situation in the conflict area has been deteriorated⁵.

In the case of the disengagement and extraction executed on the basis of the decision after the end of missions or rotation cycles, enough time is reserved for this operation to avoid material losses; it can be executed on regions, sectors, districts, towns and directions, towards areas of waiting (concentration) for embarkation or towards ports, airports or railway stations.

The extraction of forces presupposes the transfer of units, personnel and materials out of the area of deployment for missions into another area, for a next engagement of forces. From this point of view, there are four stages for the extraction: regrouping forces and preparing activities for redeployment; moving to/and activities in embarkation ports/airports; moving to debarkation ports/airports; reception, stationing, moving to waiting areas and integrating forces.

The moment of the transfer of authority and the delivery of mission are decisive in the extraction of forces; these activities are usually executed before redeployment on the basis of previously designed plans referring to the transfer and end of mission.

⁵ *F.T. – 1, doc. cit., art. 0628.*

The end of mission may suppose the delivery of mission to host authorities or to other forces or organisations. But, no matter the circumstances, the delivery of mission needs a detailed plan and a careful coordination to allow, after the transfer of authority, the structure taking part in the joint multinational operation to focus its effort on regrouping actions and on preparing for the deployment on national territory.

Had the disengagement been achieved, the forces move on echelons to a gathering area, located outside the immediate engagement area, to be reorganised, rest and prepare for the redeployment. The movement to and from the gathering area is as hidden as possible, in conditions of reduced visibility and taking all necessary security measures. The preparation for the redeployment may be attained not only in the theatre of operations, but also in transit areas located outside it and includes activities connected with the personnel, supplying and control to assure the capacity of movement and, if necessary, the capacity of developing future operations in short time.

In the gathering areas, units are reorganised, materials are redistributed and movement towards waiting areas or directly towards embarkation ports/airports is prepared. The activities connected with the personnel are very important in this area: medical examinations, distinctions and decorations, physical exams, fighting capacity evaluation, personal and financial documents updating, filling evaluations and characterisations for personnel belonging to other structures ending activity along redeployed forces.

The waiting area for redeployment is the place in which activities focus on the movement to the embarkation port/airport. It may be the same with the gathering area, but it may be a distinct one when the dispersion of forces stops the efficient organisation in the gathering areas, the attack threat is too high in the gathering areas or the infrastructure in the gathering areas is not proper for the preparation of the redeployment. Here, activities for redeployment consist in a process of gathering, grouping and organising materials and equipment and, especially, transport vehicles for movement, separating personnel and equipment in or near the embarkation point and preparing equipment for transport. To avoid crowding in ports (airports), the waiting areas are established in their close proximity and the responsibility belongs to the assigned logistic structures. Units usually execute the preparation of personnel and equipment for the process of redeployment in these areas; when the space is insufficient, some activities may be executed in the gathering areas and the gathering areas for redeployment.

The existence of a longer period of time between the disengagement of forces and the processing in embarkation ports/airports can determine the command in the theatre of operations to establish stationing areas (usually towns or military

bases) in which forces spend a longer period of time and different types of activities may be planned to prepare redeployment or to make structures operational in certain areas of operations on national territory, if the aim of redeployment is to develop some operations to defend the country.

Along the possibility of executing air, sea or combined transport, the redeployment operation may take into consideration the railway movement as an alternative or intermediate movement modality, but railways are usually used as intermediary locations for the transport to the embarkation ports or airports. In the case of railway transport, forces execute activities specific to the other modalities of redeployment, but taking into account the differences in the specificity of railway transport. In this case, units should organise good distribution on trains; establish transport indicators and custom inspection of equipment if materials transported on railways are to be then directly loaded on ships or planes.

The finality of force redeployment on national territory is represented by a stage generically called in the allied field *RSO&I* (reception, staging, onward-movement and integration), which contains the arrival of forces in the disembarkation ports/airports or in railway stations, their movement towards the established waiting areas and the reception of personnel and equipment and the movement in their resident garrison for regeneration or for next missions. The participation in the joint multinational operation ends when forces are put under the authority of the national command and the personnel, equipment and materials are repatriated.

When the situation in the theatre of operations becomes suddenly worse or there is an urgent need for regrouping forces on the national territory, the extraction of the Romanian Armed Forces is decided by the Supreme Council of National Defence. The international military authority represented by the commander of the joint Multinational Force decides procedures for the extraction of forces out of developing operations (missions), assets to be used for the extraction in proper conditions of security and protection.

The rapid extraction of forces is executed on the basis of a plan for urgent situations; therefore, the forces deployed in the theatre of operations maintain permanently updated the evacuation plan in urgent situations, usually issued before the mission (engagement), reviewed and updated during the actions in the theatre of operations. The evacuation plan in urgent situations is applied on order, according with the situation in the field, usually when it becomes worse and the presence of the contingent in the crisis area is endangered.

The procedures and the extraction modality should be based on standard operational procedures of the Force describing the basic elements through which personnel and most important materials (weapons, communication equipment, etc.) are to be evacuated from the area.

Similar to the case of the force deployment in the theatre of operations, the operation in the case of rapid extraction is developed by respecting certain stages and executing some well-defined activities in well-established areas. As a principle, in the time established by the superior echelon in the theatre of operations for the beginning of disengagement and redeployment, forces execute dislocation and take measures to assure extraction in the same time. Taking into account the possibility that the situation determining urgent repatriation of forces on national territory may be complex and serious, a redeployment as an assault echelon or hunting force is not excluded. If the infrastructure available for transport is poor, the plan of the extraction operation may include rapid needed changes in the structure of the precursory detachments, connection elements and logistic support elements sent in the embarkation and debarkation ports, airports or railway stations or in the stationing, waiting and regrouping areas.

The coordination of the rapid extraction operation presupposes a clear vision on the operation, including coordination and synchronisation of forces on execution stages and leading actions of subordinated units and subunits by using the operational information system in the field, manoeuvres from the front to the rear, anti-aircraft defence, areas engineering, personnel protection, command, control and logistics. Even in the case of a rapid extraction determined by exceptional situations, the leading of extraction in a multinational context supposes to assume decisions, be loyal to the allies, direct forces to the desired end and anticipate the course of future operations.

The control should represent a support for the command to assure the synchronisation of the arrival of forces in ordered locations (areas, regions, ports, airports etc.), the identification of psychological and emotional states of forces facing the new situation and the full command at all levels in such a way that the forces arrive on national territory in the disembarkation areas in the desired state.

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TACTICAL AND OPERATIONAL UNIFIED COMMUNICATIONS SYSTEMS ESTABLISHED WITH SOFTWARE-DEFINED DIGITAL RADIO STATIONS

Colonel Daniel BRĂTULESCU

The software specific to unified communications makes it possible for an open communications environment to be created, one that enables information transfer radio systems in two or more ways, in order to maintain operational independence.

UCS established in this way provides real-time management of group secured communications, through the IP network, and connects the militaries using different types of radio communications equipment in a single network based on IP communications technology.

The solutions of Unified Communications Systems used in Afghanistan and Iraq have targeted the configuration of a Software-Defined Radio (SDR), consisting of HARRIS-type radio stations of different versions, enabling a compatible processor in order to use widely different radio protocols based solely on the software used.

Keywords: *Software-Defined Radio; Unified Communications Systems; Joint Tactical Radio System; Management Server*

Unified Communications Systems (UCS) established with software-defined digital radio stations allow the transmission and reception of voice and data in real time, using the fixed, mobile and portable radio equipment of the forces participating in coalition operations.

Technological developments in recent years have enabled initially, at the tactical level, and subsequently, at the operational level, the possibility of applying the UCS in an ideal framework for making efficient the flow of knowledge and information within a military structure performing combat missions in the theatre of operations by combining disparate radio communications media available to the military. Moreover, they allowed the implementation of collaborative, voice and data, solutions that can simplify the way information is transferred. The operational criteria considered have concerned the need for communications during critical C2 missions, namely those related to emergency (combat or medical evacuation)

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communications, control and verification missions carried out on the ground, as well as specific missions, developed with the purpose of maintaining the security level.

The solutions of Unified Communications Systems used in Afghanistan and Iraq have targeted the configuration of a Software-Defined Radio (SDR), consisting of HARRIS-type radio stations of different versions, enabling a compatible processor in order to use widely different radio protocols based solely on the software used. A software-defined radio can be flexible enough to avoid the *limited spectrum* by the implementation of the procedures for differentiated use, according to the missions, of the various types of radio antennas in one or more ways¹, as follows:

- combinedly using broadcasting techniques of several transmitters that emit from the same place and on the same frequency, together with others, emitting in ultra broadband with a view to detecting the errors of the radio frequencies used from the available spectrum;
- adaptively software defining the *direction signal blocking* of used antennae, so that receivers can better reject interference from other directions, allowing them to detect weak transmissions;
- using *cognitive* radio techniques, which represent the communication, by other sub-networks of own infrastructure, of the unusable radio frequencies, in order to eliminate ineffective emission situations;
- *dynamically adjusting* transmitters' power, based on information provided by receivers, combined with lowering the power up to the minimum when necessary in order to induce confusion of near-far and minimise the possibility of interference with radio frequencies used by other transmitters;
- applying the concept of *wireless mesh network*, for analysis purposes, by each master station specific to a radio sub-network or radio node, of the own frequencies propagation mode at any time. It is necessary to identify and use optimal frequencies, in order to carry out procedures for routing the information flow towards the master station considered proper both in terms of distance (which involves reducing own transmitter power) and in terms of verifying the useful signal transmitted in full volume.

The *Joint Tactical Radio System – JTRS*, is planned to represent the next generation achievement regarding voice and data radio transfer and was used, after 2010, by the US Army during the running of coalition operations in the theatre of operations

¹ Les Sabel, *Software-Defined Radio – The Solution for Multi-Standard Multimedia in the Mobile Environment*, in *Ebu Technical Review*, January 2007, http://tech.ebu.ch/docs/techreview/trev_309-radioscape.pdf, retrieved on 09.09.2011.

in Afghanistan. *JTRS* is represented as a software-defined radio that can work with different types and versions of existing military radio stations, including the possibility of integrating different types of radio encryptions (HAREXT, Coalition) and of interconnecting broadband networks in order to enable the creation of mission radio networks established ad-hoc.

JTRS is built on the software communications architecture (SCA), which identifies the open framework regarding the way hardware and software designers operate, in harmony. SCA regulates the structure and functioning as a whole, in order to allow the possibility for new generation, programmable radio stations to load waveforms and to run software applications in order to allow the integration into a radio network system.

The ability to convert voice transmissions by radio waves to IP² packages (known as *Radio over IP* or *RoIP*) is what creates the strong relationship between previous communications, isolated from other possibilities of transmission to two-way radio transfer, and makes the transition to the power of collaboration and multiple voice and data services, provided by unified communications. *Radio over IP* provides many benefits that not only broaden the various possibilities of communication but also maximise the connectivity, organisation and communication options, therefore, they can be managed and accessed as a solution of unified communications, providing the following benefits³:

- compatibility with other systems/networks using IP transfer, since voice is encoded using a standard compression algorithm (codec G.711, G.729 or G.723) and transported between the IP network gateways;
- relatively easy and clear communication between users of radio equipment and other militaries using TDM or IP compatible means;
- information transfer using radio communications over long or very long distances;
- flexibility to select, modify and/or monitor radio transfer at any moment and in real time.

The interconnection of two or more software-defined digital radio networks, forming a unified communications system, that can be used at operational or tactical level, consists in certain hardware and software features. The hardware usually consists of a *patch* console, with interfacing role for several different types of radio solutions, in two or more ways, so that the software makes it possible

² *IP Platforms for the Military*, March 2008 at <http://www.satellite-evolution.com/Satellite%202007/Issues/SEA-March-2008/military.pdf>, retrieved on 18.10.2011.

³ Brent Kelly, *Integrating Two-Way Radio into Your Unified Communications Environment*, Terrance Duxbury USA, November 2008, pp. 3-4.

for a *patch* operator to have access to different radio channels and telephone lines, using a graphical user interface.

The solutions to interconnect multiple software-defined radio networks for establishing unified communications systems must meet the following requirements⁴:

- the pieces of equipment are based on custom hardware, using real-time operating systems and specialised processors;
- the goal of the end user is represented as an integrator customisation capability;
- the established systems usually have, even through a small integration capacity, a bigger solution of unified communications.

The software specific to unified communications makes it possible for an open communications environment to be created, one that enables information transfer radio systems in two or more ways, in order to maintain operational independence. UCS established in this way provides real-time management of group secured communications, through the IP network, and connects the militaries using different types of radio communications equipment in a single network based on IP communications technology. The product is compatible with any radio system, including UHF, VHF, TETRA, iDEN, Selce and P25.

A UCS established with software-defined digital radio stations⁵ has two basic software parts, server and clients (*figure 1*).

The software components server has installed the standard off-the-shelf hardware servers (configured for acquisition), which has become part of an IP organisation's infrastructure. There are two types of servers: *Management Server* and *Media Server*.

At the core of a UCS implementation is the *Management Server*, which runs a software based on the role of the processing engine and which mixes encoding, and voice traffic directs it on the routes defined in the system, two radio networks, telephony, mobile telephony and unified communications servers. Radio gateways are connected between the radio systems, they sample and encode each radio channel by converting voice signal in IP packages.

Unified communications systems established with software-defined digital radio stations provide the users, by using an integrated radio network, collaborative voice and data services, with ways through which, following an analysis

⁴ *Software-Defined Radio and JTRS*, 1 December 2004, at <http://www.militaryaerospace.com/index/display/article-display/217738/articles/military-aerospace-electronics/volume-15/issue-12/features/special-report/software-defined-radio-and-jtrs.html>, retrieved on 11.12.2011.

⁵ Brent Kelly, *op. cit.*, p. 7.

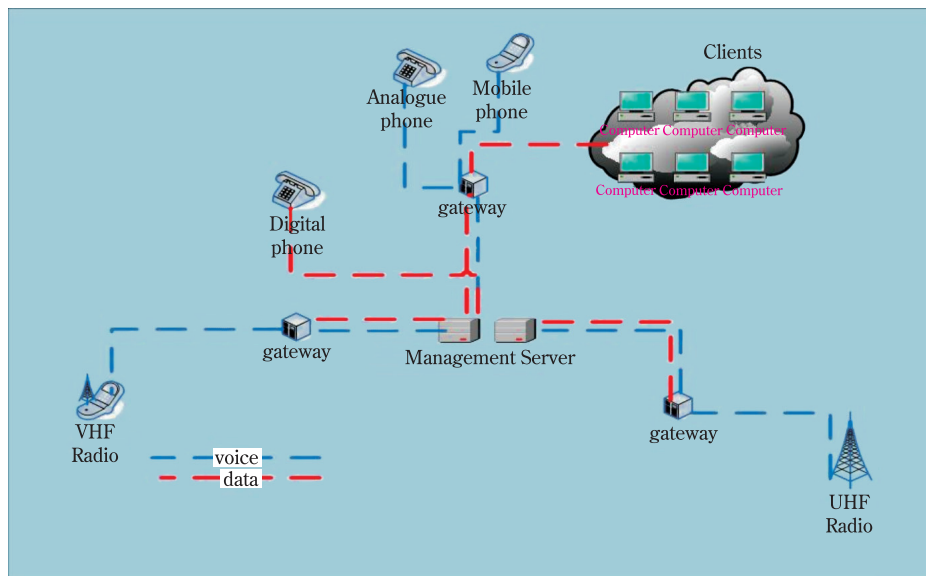


Figure 1: UCS established with software-defined radios

of the different situations on the battlefield, of the C2 requirements and of the need of connectivity and information flow with different combat units, in environments specific to the theatre of operations, existing at tactical and operational level, they impose the development by the US of five separate programmes⁶, as follows:

- a. *JTRS NED (Network Enterprise Domain)* is responsible for developing, supporting and strengthening networks. The NED products line consists of the following types of waveforms (VHF, HF, Link 16, UHF, Satcom 181/182/183/184, UHF LOS and VHF LOS), ad-hoc mobile networks, *Services Enterprise Network (SEN)* and radio management networks of the system;
- b. *JTRS GMR (Ground Mobile Radios)* is a key transformation factor of the Department of Defense, which will provide critical unified communications capabilities throughout the spectrum of joint operations. By reconfiguring the software, *JTRS GMR* can emulate with radio and can operate the IP information flow, providing voice and data transfer by using radio conversion – IP and unified management of radio networks. The *GMR* route and functionality connections internal to the system retransmit different waveforms, in different frequency bands to form

⁶ *Joint Tactical Radio System Programmable, Modular Communications System*, March 2009, at <http://www.globalsecurity.org/military/systems/ground/jtrs.htm>, retrieved on 03.10.2011.

an internal *GMR* and have the ability to scan the channels used, providing multiple levels of security and an effective use of the spectrum frequencies.

c. *JTRS HMS (Handheld, Manpack, & Small Form Fit)* is a solution of radio equipment that meets DoD requirements on integrated radio networks configuration. The communications architecture specific to this programme requires the use of software applications necessary for the individualisation of two phases:

- development and procurement of *AN/PRC (AN/VRC)* in 154 different versions SFF-A (a channel/two channel) and SFF-D (four channels), for use in unclassified mode, at fighter level, in hostile action environments by using *SRW (Soldier Radio Waveform)*;
- phase two consists in using UHF, HF, VHF, SRW, SatCom-type frequency sets, as well as a single channel ground and airborne system (SINCGARS).



THE NEED FOR INTEGRATING CIVIL AND MILITARY AIR TRAFFIC MANAGEMENT SYSTEMS IN PEACETIME, CRISIS OR CONFLICT SITUATIONS (I)

Colonel (AF) Relu PANAIT

In the author's opinion, an important aspect of regional stability and security is the air traffic common air picture. Knowing where friendly aircraft are enables the identification of the potential enemy and the potential threats. The access of civil aircraft in restricted military areas and even the distribution of a greater volume of airspace can be solved more easily, which will also have a commercial value.

In principle, international, regional and national organisations, civil airlines and other civilian airspace users have reached a developed level of cooperation in order to use airspace properly. The problem has been that the goals and objectives of civilian operators do not match the ones of military aviation and, hence, the major differences between these two big categories of airspace users.

Keywords: *military capabilities; Cold War; cooperation; airspace management*

In the dynamics of using airspace, real time data regarding aircraft position, intention and status, the way of processing these data, the systems that will be used for communications, as well as the surveillance and navigation systems are basic elements that contribute to obtaining an as complete as possible air picture, representing the ingredients necessary for achieving the interoperability between civilians and the military in the field of air traffic management.

Achieving interoperability will benefit the improvement of the effectiveness of present and future cooperation mechanisms, enabling the use of airspace at increased safety and security levels.

NATO – Challenges for the field of air traffic management

Beginning in 1990, NATO's main objective was to strengthen the relation with the other international organisations, such as the EU or the UN, and that is why it became involved, for the first time, in military actions in the Balkan area, in order to stop the ethnic violence in the region¹.

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¹ *Needed Reform: The Case of NATO*, at <http://www.isn.ethz.ch/isn/current-affairs/>

Moreover, the end of the *Cold War* opened new ways of cooperation between NATO and its former enemies, some of them becoming new members of the North Atlantic Alliance and contributing significantly to its collective security, cooperating with others, such as Russia and Ukraine, based on partnership platform².

The need for collaboration and cooperation in an as broad as possible range of domains has been the engine that has developed and maintained a system of relations between the important actors on the international scene and has represented a financial reorientation in terms of guiding the efforts of the countries, in general, towards other domains of development than the defence one.

In this time, the beginning of the new millennium has brought to our attention the new and various dangers for the humanity and for the Alliance: cross-border security, terrorism, nuclear proliferation and sophisticated weapons technologies proliferation, cyber attacks, sabotage of lines of communications – maritime and air ones, of energy transportation pipelines and others, all included in the “*unconventional*” category, and in relation to which NATO must change and, most of the time, operate very far from its boundaries.

NATO has already responded to some of these challenges – having more than 140 000 troops engaged in missions³, assisting Afghanistan, or fighting piracy in the Gulf of Aden, contributing to maritime security in the Mediterranean Sea, equipping and training Iraqi armed forces, assisting in building a stable society in Kosovo and Bosnia Herzegovina, preparing the transition in Afghanistan, fighting the policy imposed by force in Libya or responding to UN demands, whenever consensus was met in the Alliance. All these new challenges have led to the change of the centre of gravity of the imperatives regarding training and equipping, changing military capabilities, finding new more sophisticated ways of consultation in the field of security, at all levels, capable of meeting not only the interests of its members, but also other contributing, partner countries, or ones that may ask for help. NATO was not the only one to act in this way, the EU, the UN, as well as other international organisations or institutions did the same, trying to adapt to the new global context and redefine their posture.

Compared to the first decades of existence of the North Atlantic Alliance, the balance of NATO’s role tips in favour of the actions that take place more outside the border of member states than within them. The dynamic of the occurrence of the situations that require the military presence of the Alliance, the diversity of these situations, their political and economic influences, the extent to which the Alliance may intervene will also determine NATO’s posture, its place and role

² *Ibid.*

³ *NATO Operations and Missions*, at <http://www.nato.int/cps/en/natolive/topics/52060.htm/>

among the other international actors. This goal, in the context of globalisation and need for timely settlement of different situations, crises or even conflicts that may have regional or even global repercussions has brought about a broader cooperation with the international organisations and institutions that are connected to all the domains that may enable the effectiveness and rapidity of the joint intervention. The speed with which these goals will be regulated is conditioned by the use of air transportation, research and combat means.

In this context, one of the domains of cooperation that requires our attention more and more is air traffic management. The cooperation initiatives in this respect have been studied, developed and improved by different entities, either international organisations, agencies and institutions with responsibilities in this domain or especially created in order to meet the requirements related to its regulation, or even countries and/or regions that have put in practice and demonstrated the effectiveness of this type of cooperation.

The users and the need for cooperation

An important aspect regarding regional stability and security is the air traffic common air picture. Knowing where friendly aircraft are enables the identification of the potential enemy and the potential threats. The access of civil aircraft in restricted military areas and even the distribution of a greater volume of airspace can be solved more easily, which will also have a commercial value.

In principle, international, regional and national organisations, civil airlines and other civilian airspace users have reached a developed level of cooperation in order to use airspace properly. The problem has been that the goals and objectives of civilian operators do not match the ones of military aviation and, hence, the major differences between these two big categories of airspace users. The connection between military and civilian air operators is to achieve the highest possible level of air traffic safety and security and, starting from this imperative, the desire for cooperation of civil aviation corresponds to that of the military. A good coordination of movement in the airspace can be achieved only by continuously exchanging data between users, understanding priorities, knowing procedures and standards of each entity.

Between soldiers of different countries, there has always been competition to achieve higher speed means or the highest technology, to better ensure the secrecy of communications or of the fastest command and control chain. Unfortunately, these requirements do not meet the imperatives of civil aviation and the simplest solution – segregation of airspace volumes, even during crises and conflicts – is not sufficient to achieve the optimal solution. As fighters, our tendency is to focus more on kinetic effects, such as better manoeuvrability, more improved ammunition

or more accurate missiles, soft-peddalling the way in which the data and vital information needed by civilians are collected and distributed.

Following the rapid growth of civil air traffic, civil-military cooperation has become even more necessary. The undisguised competition among airlines to achieve higher levels of satisfaction for passengers at the lowest price possible, as well as the desire to obtain greater benefit have led to increased negotiations with the military aviation and other airspace users to create an as safe as possible environment for the activity of all users, capable of meeting the interests of all those involved.

That is why, airspace integration, deconfliction methods and command-control are issues that must be addressed in order to overcome current technical and cultural barriers.

To this end, in 2009, the *Civil Air Navigation Services Organisation – CANSO*, a global voice in *Air Traffic Management (ATM)*, which controls more than 85% of world air traffic, presented a global vision of the future navigation services, including: flight safety and security, optimisation of air traffic management systems, fair regulations that meet customer, environment and people, in general, requirements, and, among others, military aviation needs. In this respect, given the restrictions currently imposed by military aviation, the optimisation of airspace management and its flexible use are possible only if the military will be considered a “*client*” as any other client using airspace⁴.

According to *CANSO*, the key to successful cooperation is the credibility and transparency of both parties⁵. In the military sense, mission’s secrecy is the key to success and transparency does not mean force protection. The need to understand the requirements and responsibilities of both airspace users is the starting point of cooperation, the military being oriented towards fulfilling the missions and the civilians towards increasing transport capacity and, implicitly, profits.

Currently, there is no solution that will satisfy both parties, but any cooperation attempt and initiative, based on simple coordination mechanisms up to mixed offices and fully integrated models of military and civilian entities executing air traffic management are the pillars of today for tomorrow’s solution for the secure use of airspace.

On the other hand, *EUROCONTROL* has developed a close relationship with the North Atlantic Treaty Organisation and *EUROCONTROL*’s military experts have interacted with the Air Defence and Airspace Management Departments of this entity. Good relations and joint participation in activities correlated to air

⁴ *Civil Military Cooperation – The CANSO Perspective*, at <http://www.canso.org/cms/>

⁵ *Ibid.*

traffic management have led to a number of implementations of certain *EUROCONTROL* initiatives, such as: *Reduced Vertical Separation Minima/Minimum – RVSM* and the use of frequency 8,33 kHz above the *Flight Level – FL 270*⁶.

Furthermore, in response to terrorist threats, a group has been established regarding the coordination of ATM security, in common between NATO and *EUROCONTROL*, called *NEASCOG*, the development of ways of technical cooperation and of a system of interoperability between these entities. One of the areas where improvement is required is radar data exchange between control centres and their distribution among all beneficiaries.

The cooperation relationship between NATO and *EUROCONTROL* is an important step to improve civil-military cooperation, especially to highlight and understand the requirements of both airspace users. Based on a *memorandum of cooperation* signed by the two organisations, this objective will enable the improvement and development of formal and informal relationships and greater openness to areas of common interest, in order to increase security and safety in European airspace.

Civil-military cooperation agreements should be defined by a rigorous set of regulations, which stipulate their roles, rights, duties and responsibilities. There is also required a series of agreements signed between the Ministries of Defence and Transport in each country, which should correspond to the internationally defined format. I am aware that each nation will have certain other requirements they will add, or other requirements, already agreed upon at bilateral or wider level, to which they will not give up, some nations will not accept certain provisions, depending on the specifics of each culture and/or national legislation, but the process must be initiated and the path must be set for further progress to be made.

What else needs to be done? I think one must change the framework of development of activities, legislation, principles, missions, duties, responsibilities, obligations, one must change the way of preparation and training, operating procedures; there should also be envisioned the specific requirements for the engagement and certification of those contributing to air traffic management and the way of sending and correlating the data regarding this aspect. The regional perspective and, later, the global one follow naturally the national one in terms of air traffic management.

❖ **Cooperation coordinates between civilians and the military**

Referring to state aircraft, which can be from small air police or reconnaissance aircraft to larger, cargo aircraft or those transporting heads of state, they consist, only in Europe, of over 4 600 combat aircraft, the same number of helicopters,

⁶ *Eurocontrol*, at <http://www.eurocontrol.int/content/programmes-and-projects/>

1 400 transport, cargo, tank or maritime patrol aircraft and approximately 400 paramilitary aircraft⁷. The impact of their activity on civil aviation flights is high, representing the basic reason for achieving interoperability of air navigation control systems, navigation and air traffic management services. If one wants to establish a balanced access to airspace for both aircraft, civil and military, categories, one must harmonise the requirements of all airspace users.

There are several systems, technologies introduced in civil aviation, which may be the first steps taken in achieving the desired interoperability between the two major airspace users, such as: *Airborne Collision Avoidance System – ACAS*; *Reduced Vertical Separation Minima or Minimum – RVSM*, *FM Immunity*, *Enhanced Ground Proximity Warning System/Terrain Awareness Warning System – EGPWS*, *Flight Data Monitoring*, *Emergency Locator*, *communications*, *navigation and surveillance systems*.

ACAS is the system that improves air safety by preventing dangerous approaches or avoiding aircraft collisions in air. This system is operated by aircraft crew using the *SSR technology (secondary surveillance radar)* and can monitor other aircraft and evaluate the risk of collision with the ones in vicinity, interrogating transponders of other aircraft. Aircraft that are not equipped with transponders are not detected. This system is mandatory for all civil aircraft, the military ones being allowed to make an exception currently based on transitional arrangements between the two users.

The *RVSM system* provides a minimum vertical separation distance of 1000 ft (approximately 300 m) and, in the upper airspace, between FL 290 and 410, it may add six flight levels. To implement this objective, there are required at least two altimeters on board, allowing a minimum tolerance between them. State aircraft flying on *GAT* or *OAT* routes (*General Air Traffic – Operational Air Traffic*) intersecting corridors of civil aviation should have a vertical separation of minimum 2 000 ft, if they are not equipped with this system.

One must improve the control and warning systems, altitude measurement systems, whose accuracy must be compatible with the one of civil aircraft in order to reduce the aircraft vertical separation minima.

European airspace control centres are currently provided with improved secondary surveillance radars – *SSR*, associated with the *Mode S* and the improved data transmission system. Lately, we find that the improvement of state aircraft equipment has not kept pace with the improvement of civilians' similar technique on the ground, making thus difficult, and sometimes even impossible,

⁷ *Avionics Today*, at <http://www.aviationtoday.com/av/issue/>

the surface-to-air data transmission, reducing cooperation between the two major airspace users. The transition towards ensuring *Cooperative Separation Assurance* – *CSA* – is vital and one must take into account the pace at which technology changes, in order to meet the need for data exchange. Further requirements also include *Automatic Dependent Surveillance – Broadcast – ADS-B* and *Enhanced Ground Proximity Warning System – EGPWS*. *EGPWS* timely provides data on surrounding terrain and obstacles in the way of aircraft, at their flight height. These data are shown on a display of the aircraft and provide information in order to avoid collision with other obstacles. It should be mentioned that certain NATO member states already have these capabilities.

FM Immunity is a safety measure against possible interference with radio emissions in the VHF spectrum. Navigation systems on board aircraft such as *ILS (Instrumental Landing System)* and *VOR (VHF Omnidirectional Radar)* must be protected against this type of interference with FM radio systems. State aircraft are exempt from the provisions of this requirement, nationally, but in national aviation publications of other countries, the existence of this system is a requirement for obtaining landing permission⁸.

Communications require more attention, due to greater implications. State aircraft operators that require unrestricted access to European airspace will have to use certain types of *CNS* equipment (*communication, navigation and surveillance*). Above flight level 245, a VHF voice radio capability with 8,33 kHz is required (which, for the military, means a different system than the UHF one). Complementarily, operations below flight level 245 mean a VHF voice radio capability of 25 kHz. Subsequently, one will begin to expand the use of this frequency of 8,33 kHz on VHF channels and over flight level 195.

State aircraft operating in European airspace on *GAT* routes, based on data communications system, where *Controller Pilot Data Link Communication – CPDLC* is provided, must improve this system, in order to work in VHF, *mode 2 – ATN/VDL-2 (Aeronautical Telecommunication Network/VHF Data Link mode 2)*. This upgrade is required to support ATM automation initiative in the European flight security and safety programme.

Another important step will be harmonising technology and communication procedures, improving management and optimising the use of aeronautical frequencies. The new concept of *Transmission Control Protocol/Internet Protocol – TCP/IP* or the systems of networks through which the data regarding flights and radar surveillance are transmitted between the control centres will replace *Aeronautical Fixed Telecommunication Network – AFTN* and *CIDIN (Common ICAO*

⁸ Eurocontrol, *op. cit.*

Data Interchange Network) for ground-to-ground communications (*AMHS – Aeronautical Message Handling System*)⁹.

Navigation systems, just as communications, are key priorities in achieving interoperability. Navigation performance standards are requirements that need ground equipment, and corresponding equipment onboard for inertial navigation, multimodal equipment, combined with ground systems, such as *DME/TACAN (Distance Measured Electronically/Tactical Air Navigation System)*, capable of processing GPS signals from European geostationary navigation systems. It is also considered the concept of *four-dimensional navigation – 4D-RNav (Four-Dimensional Area Navigation)* to meet the requirements of air traffic management from “*gate to gate*”, where everything is calculated and executed automatically, from the boarding gate to the landing gate, by 2015. It is also necessary to implement the requirements of the *Required Navigation Performance Area – RNAV*, to rationalise the navigation infrastructure and to use approach procedures based on the vertical guidance barometric system, *ICAO APV/Baro VNAV* or *SBAS/GBAS*.

With regard to air surveillance, the main objectives are dual secondary radar coverage, *Mode S* surveillance implementation and *enhanced Mode S*, ground surveillance implementation through *ADS-B – Automatic Dependent Surveillance Broadcast* in the continental airspace and airports and *ADS-C – Automatic Dependent Surveillance Contract* for air traffic outside the continent or lower density air traffic. Airspace surveillance data collection has remained an expensive undertaking in terms of their distribution. It is much easier lately to disseminate these data than to collect them, thanks to the technologies and transmission modalities/media. It remains to determine to whom and when these data are transmitted, because the access to relevant information regarding surveillance is a prerequisite for maintaining air sovereignty and flight safety and security.

Although state aircraft are currently exempt from some of these requirements, we must see this as a transitional phase; in the future, the desired degree of interoperability will be achieved.

Across all cooperation platforms, many topics have been discussed regarding new concepts on the use of airspace, thus defining new requirements, whose settlement or application will further depend on each state by the fact that each nation is sovereign over its own airspace, the concepts being a guide, not an obligation for every nation.

It is also clear that the need for *Temporary Segregated Areas – TSA* will always exist, especially during exercises, applications and actual operations in order to reduce the risk for the civil aviation. Yet, our hope is that they will be less and less

⁹ *Eurocontrol Specifications on AMHS*, at <http://www.eurocontrol.int/ses/gallery/content/public/docs/pdf/>

frequent over the years, and their location will enable rerouting civil aircraft without major economic losses.


The systems and requirements described above must be implemented no later than the next decade. Even if many state aircraft meet some of these requirements, achieving the desired level of interoperability requires more than simply installing the necessary technology. However, the implementation strategy of this technology and the plans for achieving interoperability must take into account the current conditions and the budgetary constraints of any kind, the technical installation issues in the soldiers' cockpit, and the procurement cycles that can be time-consuming.

Every beginning requires commitment and goodwill. The fact that the military participate in meetings and working groups of this kind is promising. Any document issued by a joint civil-military team is a guidance document, with a high degree of flexibility, given the ever-changing inter-institutional agreements and the pace of the technological improvement of all navigation, communications, data transmission equipment, making it a document that is alive, accessible and improvable. We reckon that, in the future, airspace will become more crowded and more dynamic, therefore, the exceptions regarding the way of using the airspace made currently regarding certain categories of users will decrease until disappearance, if it is indeed intended that that interoperability will ensure flight security, safety and effectiveness, leaving aside the fact that airports also improve their equipment and capabilities and, consequently, those who will use them will have to harmonise their requirements with own possibilities in order to eliminate the possibility that the services required might be denied.

EUROCONTROL has a large number of military and civilian experts, with experience in air traffic management, participating in working groups and teams with different tasks related to civil-military cooperation, but it also has an interface that works with other similar structures of the two entities and is in charge of achieving interoperability in airspace and participates in all ATM forums. The working relationship with NATO has resulted in a memorandum of cooperation and regular meetings, and the relationship with *ICAO* is represented through the participation in joint working groups organised by them. *EUROCONTROL* plans are in keeping with *ICAO* plans regarding the global ATM/CNS plan. Moreover, there are established cooperation relations with the EU and the military or civil authorities that provide *ATM/CNS* of each nation.

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In the second part of the article, the author will address some aspects regarding airspace control, approaching the NATO Initiative in the field, as well as the priority situations for the Alliance.

English version by
 **Iulia NĂSTASIE**

LEGITIMACY OF PURPOSE AND LEGALITY OF MEANS IN CURRENT ARMED CONFLICTS (III)

Colonel (r.) Dr Ionel HORNEA

From the legal standpoint, from days of yore until the 20th century, war was considered a lawful activity of the sovereign state. Thus, the use of armed force was seen as a voluntary action of states, based on their discretionary power to preserve their existence and promote their interest. Therefore, the liberty to wage war became an essential prerogative of their sovereignty, as natural as the ability to sign peace treaties.

The use of armed forces with no limits of time and space does not represent a crime, in the author's opinion, but an international action, susceptible of being the object of a legal qualification.

Keywords: *UN Charter; legal system; international relations; political violence*

The beginning of the third millennium anticipates high proportion changes in the historical development of the great powers, as well as of the other states of the world, transformations of the reality which will change the concept of *modern armed conflict* itself. The changes, tendencies, evolutions and main processes of modern military operations are mainly focused on one of the worst scourges – the armed conflicts specific to the beginning of the 21st century – and on the law that governs it or that is anticipated in the new context, especially given the circumstances in which Romania joined NATO and the EU, thus strengthening the security in the entire Euro-Atlantic region and providing, at the same time, prerequisites favourable to fulfilling the goal of achieving a whole and free Europe, united through peace and shared values⁷¹.

Theoretical Aspects regarding the Framework for Carrying Out Modern Military Operations

The changes and tendencies that are manifest in the affirmation and substantiation of the new modern military operations are direct consequences for the events taking place in the security environment, therefore, I believe it is necessary

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⁷¹ According to “*Jus in bello*” and “*Jus ad bellum*” in the contemporary age, p. 6.

to address at first the political, legal and military features of the international use of force in fighting the new threats, risks and vulnerabilities to the international community of states.

The end of the *Cold War* was followed by a series of events that led to major changes in the political-military and world situation: a). *the dissolution of the Warsaw Pact* determined the end of the East-West confrontation and the collapse of the security system of the continent, based on the *relative balance* between the two military blocs; b). the continuation, in Western Europe, of the process of economic-financial and political-military integration, and, in the Eastern Europe, the establishment of a potential instability environment, characterised by the intensification of the actions for building a democratic society, some states' dissolution process as well as the emergence of new risks and threats and new military confrontations. The consequence of this evolution from the post-*Cold War* period is that "*Western Europe became the main source of power (capital, technology, information, military force) of the continent, and its central and Eastern part became the most important field for its manifestation*"⁷²; c). increased contributions to NATO in crises prevention and management; d). keeping the USA as an integral part of the future European security system and continuing the cooperation between European states for preventing and managing crises on the continent; e). *collective defence and security*, on the one hand, and *cooperative security*, on the other hand, have become fundamentally different, but complementary tools of the *international security policy*⁷³. Based on these considerations, there have been defined the general characteristics of military operations at the beginning of the third millennium, as follows: "*modern military operations will not take place only in a three-dimensional space (land, air and sea), but in a space with five dimensions, taking into account the information and the cosmic ones. The fundamental trend of modern military operations is the demassification and neutralisation of means through the selective and precise destruction of vital objectives with high-precision weaponry*"⁷⁴.

Modern military actions scenarios are characterised by a frequent tendency: (a) to aim at achieving *strategic effects with tactical value forces*; (b) not to use the nuclear weapon, but this does not exclude the possibility of using chemical and biological weapons; (c) *the armed forces of states reduce* substantially their troops, using their resources effectively, procuring equipment, advanced, high-precision,

⁷² *Ibid*, note 5.

⁷³ We can appreciate that the *security interests and objectives* of states can be reached only through *international cooperation and consist in ways of joint action of states that have shared interests and values*.

⁷⁴ According to "*Jus in bello*" and "*Jus ad bellum*" in the contemporary age, p. 7.

intelligent weapons, which provide selecting and hitting targets with precision; (d) the involvement in *modern military operations* will be done according to specific rules and norms that will reflect the *principles of international law, the laws of war*, as well as the national or Alliance interests.

These tendencies lead to a significant change of the concept of *engagement of the war*: “*the initiation and conduct of modern military operations will be determined by the strategic rationale, the support of public opinion, the opportunity of resorting to armed fight, the correlation between the rules and the extent of actions, the gradual and controlled intensification of the violence of the armed response and, last but not least, the involvement of forces and means according to the political goals pursued*”⁷⁵.

A first direct consequence of these tendencies is that related to the development of *capabilities*, to the rapid adaptation to requirements imposed in terms of procurement, preparedness and readiness by the armed forces of the states subsequently received in organisations (e.g. NATO, the EU) that want to contribute to achieving, maintaining, or imposing security and peace in the world⁷⁶.

Political, Legal and Military Aspects regarding the Use of Force in the Current World Order

I believe that it must be unanimously accepted the idea that “*humans are a summary of good and evil in different proportions: violence is intrinsic to the human personality*”⁷⁷. Man, as a social being, has always committed not just friendly acts in the relations with his fellows, but also acts of physical violence, individual or collective, at the level of all types of human community, from the family to the international one⁷⁸.

As far as *political violence* is concerned, one has always believed that the first aim of politics is to avoid violence, the acts of violence being outside the law, whether they are individual or collective. Through the law, states have monopolised the use of armed force and the organisation of military or paramilitary activities outside the state authority has been prohibited. The state monopoly over the use of armed force means that only the state can resort to legitimate coercion against criminals, as well as in situations of serious disorders of the legal order. *At the level of the international community*, violence is usually

⁷⁵ *Ibid*, note 8.

⁷⁶ Certainly, this does not *exclude the primordially* of the evolution of technologies, leadership systems, information systems and, last but not least, of the forms, ways of action in modern military operations *in the configuration* of present and future armed forces.

⁷⁷ *Ibid*, note 8, p. 8.

⁷⁸ According to “*Jus in bello*” and “*Jus ad bellum*” *in the contemporary age*, p. 9.

associated with international war, namely with physical violence through the confrontation of the armed forces of states⁷⁹. In the 20th century, the increasing interdependence between states caused them to give their consent to *limit and regulate the use of force*, realising a peaceful, harmonious coexistence that is mutually advantageous in the international society. The UN Charter defends states against any illegitimate use of force, and the Security Council should ensure that military force would not be used in the selfish interest of any state, but in the collective interest of all humanity⁸⁰.

In this domain, there are *two exceptions* to the principle of refraining from the use force, stipulated in the Charter itself – exceptions to resorting to the use and threat of use of force. The *first* is contained in Chapters VII and VIII of the Charter and refers to the monopoly of the Security Council to decide on the international use of force. The *second* exception to the fundamental principle of refraining from the use of force and the threat of force in international relations is in Article 51 of the Charter (the last article of Chapter VII), in which the legitimate individual and collective self-defence of states is stipulated. The UN Charter embraced the unwritten principle of recognising the legitimate defence of states against aggression committed by other states in accordance with the state legal systems. The doctrines of the penal law reveal that an *act committed in self-defence is not considered criminal offence*. Thus, it is admitted the possibility of pursuing the defence also in the case of imminent attack. The non-recognition of the *legitimate right of self-defence of states* would turn the *international legal order* into a suicide order for the attack states, which is why all tools that limited or prohibited the use of force recognised it explicitly or implicitly⁸¹.

Especially after the terrorist attacks of 11 September 2001, there were a series of problematic issues, which were based on the extensive interpretation of Article 51 of the Charter, arguing that states could carry out *anticipated and preventive attacks* – *even preventive wars*⁸² even if an act of aggression did not take place. Some states

⁷⁹ See I. Dragoman, M. Radu, *Modernitate în problemele fundamentale de drept internațional umanitar – teze și sinteze*, Editura Zedax, Focșani, 2005, pp. 3 and 6.

⁸⁰ See more in A. Bolintineanu, A. Năstase, *Drept internațional contemporan*, R.A. Monitorul oficial, București, 1995, p. 86; coord. D. Popescu, A. Năstase, *Sistemul principiilor dreptului internațional*, Editura Academiei, București, 1986, p. 53; R. Miga-Beșteliu, *Drept internațional, introducere în dreptul internațional public*, Editura All, București, 1997, p. 71; D. Alland, *Droit international public*, PUF, Paris, 2000, p. 531.

⁸¹ According to “*Jus in bello*” and “*Jus ad bellum*” in the contemporary age, p. 9.

⁸² Points of view regarding the concept of “*preventive war*”: (1) Arthur Schlesinger, Jr., *The Immorality of Preventive War*, at <http://hnn.us/articles/924.html>; (2) Joe Barnes and Richard J. Stoll, *Preemptive and Preventive War: A Preliminary Taxonomy*, The James A. Bakerly Institute for Public Policy Rice University, March 2007.

adopted military doctrines based on the idea of preventive war, and NATO proposed that all its actions should have prevention as a basic principle, in order to cope efficiently with the new kinds of potential risks and threats at the beginning of the new millennium. In a situation in which the *threat of armed attack* is direct and unstoppable, especially under the circumstances of the risks entailed by the new millennium, however, it would not be natural for the future victim to sit and wait for the attack to take place – even the UN Charter itself would be a suicide pact if it did not admit the interpretation that, in certain circumstances, the right of anticipatory self-defence⁸³ may be the only legitimate way of survival.

International legal order has come to be *equivalent* to state legal order, which prohibits violence between private individuals and monopolises armed constraint at the level of public institutions for the benefit of the whole community. The absence of bodies higher than states in international relations continues to generate different interpretations of international law, and greater international cooperation is needed for tailoring it to meet the new realities of the moment. Knowing the legitimacy of the use of force in international relations, the political, legal and military issues of the use of force in international relations by the military and not only (I am considering here the politicians who are members of defence committees/defence and foreign policy committees of state parliaments, regardless of the position of the states concerned) amplifies the will and power of the military to fulfil national and multinational missions.

New Political Aspects of the Issue of the Use of Force in the Current World Order

The main features of the beginning of the millennium (e.g. the number of inhabitants of the planet exceeds six billion, of which one third are living in a state of advanced precariousness; the strong development of science, much more than what was in the beginning of humanity; the strong dissemination of weapons capable of destruction; the almost instantaneous travel of information, environment degradation) have led to the emergence of an increasing number of issues to be addressed jointly. At the same time, it is very difficult to believe that there will be an adhesion of the populations whose governments are corrupt or incapable. Living in misery, with no hope of getting out of this situation and not expecting anything from *political powers*, they are constantly victims of violence and deceit. These governments and populations must be attracted into the international

⁸³ *The preventive military action* is that action that takes place against a threat that has not materialised yet and is uncertain in terms of time.

political life, included in regional organisations, alliances and coalitions in order to change hostile attitudes and must be regarded more with solidarity and less with compassion, being necessary that they receive unconditional help in changing their orientations regarding the domestic and foreign policy. The events of recent years have been marked by conflicting states, which have degenerated in open conflicts, with major implications for an entire area or region⁸⁴.

The architecture of the present is vitiated by globalisation based on interests. *The main enemy ceased to be unequivocal*, taking the form of a monster with a thousand faces, which may, in turn, look like the demographic bomb, drugs, nuclear proliferation, ethnic fanaticism, AIDS, Ebola virus, organised crime, Islamic integrism, greenhouse effect, great migrations and, last but not least, international terrorism (any threat without guarantee and of planetary magnitude that cannot be fought with the weapons of classic war). *The big issues become global* and do not consider borders and cannot find the solution locally and, therefore, *a state cannot define a new external policy*. The fundamental goals and objectives of a nation are achieved through *policy*, which directs both the efforts and the resources through its *political leaders*, who set guidelines for the military, political and economic strategy through the tools of national power⁸⁵. Considering that *war is a continuation of policy by other means*, the use of armed force between states being based on a multitude of political, military and legal considerations⁸⁶, the *general political purpose of the international use of force in the current world order* has a continuously increasing *political dimension*, due to the *political options* or *directives* from the highest level, which express the interests at a given time and materialise through: (a). choosing the targets of military actions; (b). determining forces and means involved; (c). providing military actions from the political, financial, economic, psychological etc. point of view and their correlation with other strategic actions.

Current world politics is no longer the attribute of nation states, and security, so intimately connected with the national idea that manifests itself in recent years, is strengthened by the tendency of *globalisation*.

New Legal Aspects of the Use of Force in the Current International Order

From the legal standpoint, from days of yore until the 20th century, war was considered a lawful activity of the sovereign state. Thus, the use of armed force was seen as a voluntary action of states, based on their discretionary power to preserve their existence and promote their interest. Therefore, the liberty to wage

⁸⁴ A. von Angeldorf, *Imperialismul noii ordini mondiale*, Editura Antet, p. 171; Z. Bonman, *Globalizarea și efectele ei sociale*, Editura Antet, p. 129.

⁸⁵ According to "*Jus in bello*" and "*Jus ad bellum*" in the contemporary age, p. 11.

⁸⁶ See I. Dragoman, M. Radu, *op. cit.*, p. 7.

war became an essential prerogative of their sovereignty, as natural as the ability to sign peace treaties⁸⁷.

The use of armed forces with no limits of time and space does not represent a crime, but an international action, susceptible of being the object of a legal qualification. *National legal systems* have been monopolising the use of force in favour of government institutions since their establishment, meaning that citizens have given up their right to use force in return for the guarantee provided by public authorities that they will protect their person and property. At the end of the 20th century and the beginning of the 21st century, sovereign states have given their consent for limiting and regulating the use of force, which has led to outlawing the use of force, which represents the cornerstone of the interstate community system based further on the sovereignty and independence of states, proclaiming international peace and security as the supreme value of the *world legal system*.


As mentioned, knowing the legitimacy of the use of force in international relations may increase the will and power of the military to perform their national and multinational missions, the aspects of planning and conducting military operations both in peacetime and at war being regulated by the *operational law*, defined as part of the international and domestic law.

This right is determined by all military measures taken at the strategic, operational and tactical level to apply the *legal* foundation of armed conflicts. *The legal measures* are applied by public or military authorities at the level of both the supreme commander and the various echelons of the armed forces, with respecting, in all circumstances, the international regulations and conventions. *The legal basis of the international use of force* provides the commanders and combatants with the guarantee that their actions are legal and that they will not be held accountable for their actions, in accordance with the laws and customs of war.

Applying the legal system of the international law used in armed conflicts provides: the correlation between military requirements and restrictions imposed; the fulfilment of missions without violating the rules of law; the limitation of collateral damage in relation to expectations; the discrimination in selecting targets and proportionality between the means and methods used in relation to military needs⁸⁸.

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In the next issue of our journal, the author will address certain military aspects regarding the international use of force in the current world order.

English version by
 **Iulia NĂSTASIE**

⁸⁷ The only limitations to resorting to armed forces being ethical in nature, as shown by the just war theory.

⁸⁸ According to "*Jus in bello*" and "*Jus ad bellum*" in the contemporary age, p. 13.

THE ROLE OF THE DEMOGRAPHIC VECTOR IN MAXIMISING THE POWER OF STATE ACTORS IN INTERNATIONAL RELATIONS

Major Dr Dorel BUȘE

Over time, the population, alongside the land and resources, has been the most powerful vector of state power. The larger the population of a state was, the stronger the state was. However, since ancient times, it has been proved that only these three indicators, among which the most important is the people, are not enough.

In this context, the author underlines the functions and roles of the people as a vector of power. Thus, the vector population must be analysed from the perspective of a geopolitical realism that is omnipresent in nature. At European level, but not only, a new realism is prefigured, which requires a liberation from the Munich-type pragmatism that caused the failure of the Second World War and the Vietnam one or, more recently, the Afghan and Iraq ones, which largely determines the pillars of insecurity and instability of today.

Keywords: *power sources; power tools; natural growth; maximisation of power; quality of people*

Along the years, the population, alongside the territory and the resources, has been the strongest power vector for a state. The larger population a state had, the more powerful it was. However, since Antiquity, it has been proved that only these three indicators, with population being the most important, are not enough¹. Even though, in almost all the world's battles, the force ratio was very important, and the Napoleonic principle *Les gros bataillons ont toujours raison (the big battalions always win)* applied quite often in history, there were cases in which small armies, very well-prepared, highly trained, well-equipped, and, above all, well-managed, were able to succeed. Population number, even if it is not the only power factor, counts very much in defining power². The *population*

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¹ Hans J. Morgenthau, *Politica între națiuni. Lupta pentru putere și lupta pentru pace*, Editura Polirom, București, 2007, p. 164.

² K.J. Holsti, *International Politics. A Framework For Analysis*, Prentice Hall International, 1995, passim 117-129.

indicator, however, is not enough. There also have to be taken into consideration the qualitative elements of this indicator³: composition, education, level of occupation, level of implication etc.

Population's functions and roles as power vector are very complex as a fact and as a pressure factor that every country should take into consideration. In our opinion, the *population* vector should be analysed from the perspective of an omnipresent geopolitical realism. At European level, but not only, there is a new type of realism emerging, which requires a new removal of the Munich-like pragmatism that caused the failure of the Second World War and the one in Vietnam or, more recently, the ones in Afghanistan and Iraq, which generate, to a great extent, the roots of insecurity and instability nowadays. This *effect-based reality* generates, in turn, a new special conflict situation. It requires a return to the old *geopolitical realism* and, on this basis, to the formulation of a new categorical and unexpected requirement: the reconfiguration, on the basis of certain values that cannot be denied, nor neglected, of a new geopolitical realism, which some researchers call *emergency epistemological geopolitical realism*⁴. This new type of realism rewrites classics' theories in the new formulas of the demographic, space, time, and vital interest factors.

In an essay on geography's revenge⁵, Robert D. Kaplan shows that people and ideas influence events to a great extent, but, in fact, geography is the one that causes them. People live in geography, and geography gives them the value and identity of space. It is highly important for the people to focus more on what divides humanity rather than on what brings it together. All the world's battles will be fought for spaces and territories, even if the borders between states will dim, and the great geopolitical, geoeconomic, geonergetic, and geostrategic areas will be reconfigured. Population pressure is very important in this new evolution.

In his work, *Politische Geographie*, published in 1897, Friedrich Ratzel, the father of geopolitics, talks about space as being the natural limit of peoples' expansion, the area that they tend to occupy. In this respect, he uses only two concepts: *anthropogeographic agreement* and *disagreement*⁶. Agreement refers to internal colonisation, i.e. redistribution of population in state space. External colonisation refers to emigration from the overpopulated territory to the unpopulated or under populated one. According to Ratzel, high population density means culture.

³ *Ibid*, passim 117-129.

⁴ Teodor Frunzeti, *Consecințe ale extinderii NATO și UE asupra securității zonei extinse a Mării Negre*, in *Impact Strategic*, no. 2/2009, pp. 49-66.

⁵ Robert D. Kaplan, *The Revenge of Geography* at http://www.foreignpolicy.com/story/cms.php?story_id=4862&page=7, retrieved on 05.06.2009.

⁶ F. Ratzel, *La géographie politique*, in *Choix de textes*, Fazard, Paris, 1987, p. 214.

In order to have power, one needs to have culture. In order to have culture, one needs to have a large population, able to generate it. When it is too large, it emigrates. By emigrating, it takes the culture of the initial space to the new territories⁷.

Andrei Korponay and Paul Vida, two Hungarian authors, also notice the importance of population supremacy. They show that Hungary has lost its supremacy and political position as a consequence of the lowering of the population and, therefore, of the importance of the Hungarian people. There is a need for a population of 20 million Hungarians, states Korponay, in order to gain the supremacy over the territories that it lost. At present, Romania faces a serious problem in this respect. According to certain estimations, the population will decrease over the next 50 years with over 6,7 million, reaching only 14 to 15 million⁸. The dramatic decrease of population leads to a gradual loss of cultural identity and, as a consequence, to its vanishing⁹. Simion Mehedinți formulates a demographic axiom according to which *the nations' power increases and decreases depending on how their population increases and decreases*.

The Romanian geographer Ion Conea¹⁰ has two very important contributions for shaping the geopolitics study: geopolitics will not analyse each state, but it will study the political game between them. His vision on geopolitics is connected with Kjellen's on neighbourhood and its study, according to which geopolitics will not study states separately, but the political game between them, so that "*geopolitics will be the science of relations, or – better said – of the pressure between states*"¹¹. In order to identify and assess these pressures, he uses the term – *druckquotient*¹². This term belongs to Alexander Supan and is used in order to assess the pressure under which a state is. Because, as Kjellen highlights, every state should consider itself, in a certain way, besieged. *Druckquotient*'s formula is very simple. The *druckquotient* is obtained by summing the populations of neighbouring countries and dividing this sum by the number of state residents of the analysed state:

$$Dk = \frac{P_{v1} + P_{v2} + \dots + P_{vm}}{P_p} = \frac{\sum_1^n P_v}{P_p}$$

Dk = the Druckquotient; $P_{n1} \dots P_{nm}$ = population of the neighbouring countries; P_c = population of the analysed country.

⁷ *Ibid*, p. 215.

⁸ According to the National Statistics Institute, in <http://www.insse.ro/cms/rw/pages/index.ro.do>, retrieved on 21.03.2011

⁹ Hans Morgenthau, *op. cit.*, p. 167.

¹⁰ Ion Conea, *Geopolitica*, Editura Ramuri, Craiova, 1940.

¹¹ *Geopolitica. O știință nouă*, vol. *Geopolitica*, p. 78.

¹² Ion Conea, *op. cit.*, p. 86.

If we calculated this coefficient for Romania today and we extended the method to other components (demo-military potential, GDP value, defence expenditure), we would get the following result¹³:

Countries		Total population	Demo-militar potential (16-49 years)		GDP value	Defence expenditure % of GDP
			Men	Women		
Neighbours	Bulgaria	7 204 687	1 351 312	1 381 017	49,43	2,6
	Republic of Moldova	4 320 748	877 665	987 356	6,197	0,4
	Serbia	7 379 339	1 415 007	1 379 541	52,18	1,75
	Ukraine	45 700 395	7 056 742	9 234 717	198	1,4
	Hungary	9 907 596	1 887 755	1 934 019	131,4	2
Romania	Romania	22 215 421	4 542 720	4 604 484	213,9	1,3
<i>Druckquotient</i>		3,354	2,771	2,861	2,044	6,26

Now that every state in the area wants to become EU and NATO member and create, in this respect, good neighbouring relations, it seems that such pressure coefficients are no longer timely. However, there have to be taken into consideration not only the pressures that are generated and carried out in the near neighbourhood, but also the remote ones. We believe that this is one of the reasons for which the European Union has created a neighbourhood policy (European Neighbourhood Policy – ENP). However, the *druckquotient* shows a plausible and up-to-date reality, in the sense that states do not want the consolidation of demographical, economic, political and financial power of the neighbours, but they do want to maintain it at a level that does not allow pressure upon them. Nonetheless, these pressures exist and they actually grow¹⁴. They can be perceived as a proof or argument for what Kjellen called *siege*. Of course, it seems inappropriate to speak of a siege of a state from its neighbours today, when states are part of the European Union. It seems that such pressures do not exist, that they have no meaning. Yet, such pressures do exist and they manifest through economic, financial and even demographic means. One of the effects of the dynamic of these pressures is migration, which, for the EU, becomes one of the major problems that require a sustainable solution.

Questions that may rise are not rhetorical, they are related to outstanding geopolitical reconfigurations, i.e. new geopolitical visions on the European and Eurasian areas. If we continue to look at enlargement as an expansion, in terms of power and influence, we will find that, in fact, nothing has changed throughout history. *And if such pressures do exist, how can they be identified, assessed*

¹³ Teodor Frunzeti, *op. cit.*, passim, pp. 49-66.

¹⁴ K.J. Holsti, *op. cit.*, pp. 117-129.

and mitigated? What is and could be NATO and the EU role in reducing and managing these pressures? Are these organisations able to do this? Can they overcome the cultural, historical, economic and social characteristics of the states and transform these pressures into partnerships and collaboration? More specifically, can NATO and the EU, in cooperation with regional organisations and the respective states, create mechanisms to control and manage such pressures?

The pressures that Kjellen was speaking about continue. Some of them take the form of energy interests, others remain in terms of competition for resources, markets, power and influence or simply to obtain certain benefits. These pressures are not necessarily a result of some aggressive or conflict policies, but they are rather emerging as *a geopolitical effect of the complex dynamics of the neighbourhood relations*¹⁵. The generating sources of this effect are numerous. Many of today's conflicts and tensions arise precisely from these pressures. Pressures result from the internal dynamics of these states, from the political game from inside and outside, and from the confrontation of interests. NATO, the EU and other international organisations can reduce or manage these pressures only through the contribution they can make to optimise the internal environment of each state in the area, not through directives, but through the knowledge of this phenomenon and through ensuring the internal conditions necessary for creating an internal pressure regulator that could be called *internal control mechanism of the pressure generator*. But this also means pressure.

In general, a state, no matter which and what type, is not interested in managing or reducing the pressure it exerts on other states, but in diminishing the pressure the other exerts on it. There are three main means to reduce this pressure¹⁶, and also to create conditions for increasing its own pressure on their neighbours or other countries: the growth of state power, through the integration of its political, economic, social, information and military power; the reduction of neighbours' power or shaping it so that it does not become dangerous; creating certain international and regional mechanisms for control of power by optimising the relations between neighbouring states (for example, the European Neighbourhood Policy). During the three great empires – the Russian Empire, the Ottoman Empire and the Austro-Hungarian Empire – the pressure on the Romanian border area boundaries was so great that there was no chance to talk about a unity of this space¹⁷. The Romanian Transilvania area was divided between the three great empires, either as areas of strategic security, or as strategic castling or manoeuvre spaces

¹⁵ F. Ratzel, *op. cit.*, p. 209.

¹⁶ Joshua S. Goldstein, *International Relations*, Longman, 2001, p. 54.

¹⁷ Constantin Giurescu, Dinu Giurescu, *Istoria românilor*, Editura Științifică, București, 1976, p. 176.

on the inside or outside lines, absolutely necessary in the military campaigns of that period, in the geopolitical reconfigurations of the contact and influence areas. After 1918, with the completion of the unified national state, Romania significantly reduced the pressure on its borders, but not enough to be in a strategic safety¹⁸. For this reason, the Romanian geopolitician Ion Conea considers that the Romanian state's duty is to be constantly prepared for what it might do, so that it will not "*be dazed by a world in which it has to live, but without having a commission and responsibility worthy of what it might have represented*".

The 21st century is an age of interdependence, in which globalisation is the hallmark and integrating element¹⁹. This is the result of an unprecedented technological development and, in particular, of information technology developments, which has led more than ever to an unprecedented compression of space and time. Globalisation has both positive and negative consequences, the latter being mainly non-military and semi-military. The reform and change are necessary mandatory processes, imposed by the evolving reality and by the more and more scarce and expensive resources (natural, financial, economic, and human). On the whole, planet Earth has not changed physically, but in terms of relativity to each of us, it has a languishing living space. World population growth has multiple implications, primarily on environment and human relations, which are now determined by the access to resources and water. The excess of population implies an activation of the economic growth process, which has implications on production and consumption growth²⁰. The implications are the resources depletion and increased pollution, which implicitly lead to: climate change, loss of wetlands, degradation of ozone layer, desertification, species extinction, acid rain, environmental and political activism, human health problems, and reduced life quality²¹.

It should be noted that, in the next 20 years, two great forces will totally change the world today. The magnitude and rapidity of these phenomena will be unprecedented. China is about to become the largest economy and billions of microchips will be in use in a world in which objects will communicate with each other. The banking system will have a new role, and water, alongside CO₂, taking oil's place, will be the main cause of strategic tensions. If we looked at the terms of the population growth implication, globally and regionally,

¹⁸ *Ibid*, p. 210.

¹⁹ Joshua S. Goldstein, *op. cit.*, p. 78.

²⁰ According to The Rome Group, *The limits to growth*.

²¹ *Roata problemelor de mediu*, after Stead and Sfead, 1996.

we would see the unequal distribution of the world population and its influence on the state and regional security²².

Human evolution became a cultural fact starting from about 50 000 years ago, with two conventional phases: classical and modern²³. The delimitation of the relevant periods for population evolution may also be represented by those moments when the growth is abrupt and associated with significant progress in technology. Thus, there are three different periods, as follows²⁴: the first period – until about 8000 BC, when the growth was very modest; the second period – about 10 000 years from the agricultural revolution, population grew steadily, so that in 1950 it reached 2,5 billion inhabitants; the third period: post-1950, the average population growth rate increasing its value to 2%, the growth being caused by the medical revolution (the export of medicine in poor Latin American countries, Asia and Africa has led to the decrease of mortality by 60-80% compared to the '40s).

Certainly, the biological human needs bring into question the biological composition of the human being and it would be a mistake to neglect them, since in 1830-1930 the transition between 1 to 2 billion was done in 100 years, and the transition from 5 to 6 billion in only 11 years, from 1988-2000. This exponential evolution has occurred in the absence of a limiting environmental factor²⁵. More than 95% of the two billion individuals that will increase the world population during the next two decades will live in developing countries. Most of them will continue to live in cities, so that in 2020 more than one person in two will live in urban areas. There will then be about 60 cities with more than 5 million inhabitants and perhaps 25 mega-cities. World population would stabilise at an estimated 8 billion people around the years 2020-2025²⁶. The total fertility rate will converge to 1,85. In order to maintain a stable population, the total fertility rate must not exceed 2,1, and at a value of 1,35, the population will be halved in an interval of 45 years. The tensions driven by global population growth²⁷ arise from: the growth of the need for food by almost 40% when it is already difficult to expand plough land, and the improvement of productivity tends to decrease; the increase in energy usage so that, in 2020, developing countries will have greenhouse gases emission consistent with those of industrialised countries.

²² Teodor Frunzeti, *Geostrategie*, Editura Centrului Tehnic-Editorial al Armatei, București, 2009, p. 7.

²³ V. Trebici, *Populația Terrei*, Editura Științifică, București, 1991, p. 51.

²⁴ Florina Bran, Ildiko Ioan, *Globalizarea și mediul*, Editura Universitară, București, 2008, pp. 66-67.

²⁵ According to <http://www.populationmondiale.com/>, retrieved on 02.08.2010.

²⁶ *Ibid.*

²⁷ According to UN Reports, at www.esa.un.org, retrieved on 03.08.2010.

Regional differences are an important variable. The global values that characterise population growth cover large differences between countries and regions, which should be reflected in the demographic policy plan. The global population distribution by continents is²⁸: Europe – 12% Africa – 13% Asia – 60% North America – 9%, Latin America and the Caribbean – 5%; Oceania – 1%. The global population distribution on the criterion of economic development complies with the rate of gold, 20% in developed countries (countries in Europe, North America, Australia, New Zealand and Japan) and 80% in developing countries (countries in Africa, Asia, Latin America and the Caribbean, Oceania). We have to take into consideration the fact that the poorest 49 countries cover 11% of world population, meaning 665 million people²⁹. The population growth rate is increased in Africa and poor countries, Europe holding the last place, while the average age shows that Europe has an aging population (approximately 39-40 years) while in poor countries it is around 20 years. Hence, there is a big problem to national security arising in developed countries – illegal immigration.

In conclusion, we might say that the US is the largest economy in the world, despite a low density. In this case, the intellectual quality of the population (the acceptance of mostly intellectual immigrants after 1940) should be taken into consideration. China, a country with a population representing one quarter of world's population, with only one third of the area proper for agriculture, has had a flourishing period after 1974 with the introduction of the dual economic system. The intervention of state institutions through public education in the spirit of market economy has made China become a world economic power. Canada and Australia, countries with large territory, but with small population, developed through government programmes for implementing high technique in the economic branch. India, the country with the highest population density, despite chronic illiteracy, succeeds after 1970 in becoming nuclear power. Brazil, with a large population and a large territory, is trying to become economic power. Asia, excluding China and Japan, although it has 60% of earth population, is regarded rather as a market, because of the lack of resources, the tribal organisation and the fact that a dominant part of the population believes that it will succeed only by faith, accepting progress only between strict limits. Africa, the third world continent, divided into states with *"the ruler on the map"*, disregarding the old tribal territories, and remained without a government after the withdrawal of settlers, faces extreme illiteracy³⁰. Because of the numerous conflicts and of the large number of *"collapsed states"*, there are noticed population exoduses, poverty, emergence of severe diseases,

²⁸ According to <http://www.esa.un.org>, retrieved on 02.08.2010.

²⁹ According to <http://www.cia.gov/world factbook>, retrieved on 03.08.2010.

pandemics taking scale. These mentioned factors lead to collapse, a state in which rival gangs try to brutally occupy the territory, and favourable premises for drug, human and weapons trafficking are created. Moreover, in areas rich with resources, slavery is still practiced.

The harmonisation of population size with resources is a necessity and, if resources cannot be provided in large amounts, population control is a *sine qua non* condition for the national power. All vectors being approximately equal, a substantial decline in the number of a nation's inhabitants against its rivals on the international stage means a decline in power, and a considerable increase in this number, in similar conditions, is equivalent to an expanded national force³¹. Knowing the general demographic data of different countries is not enough for properly assessing the influence of this factor on the national power³². The distribution by age is an important element in power calculations. All elements being equal, a nation with a large segment of population at the age of maximum potential for military and productive purposes (ages of about 20 to 40 years) will have a power advantage over another one with prevalent older groups³³.

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³⁰ According to <http://www.esa.un.org>, retrieved on 09.08.2010.

³¹ Hans J. Morgenthau, *op. cit.*, pp. 167-168.

³² Joshua S. Goldstein, *op. cit.*, p. 139.

³³ Hans J. Morgenthau, *op. cit.*

ARGUMENT

FOR THE NEED TO UPGRADE

SURFACE-TO-AIR MISSILE SYSTEMS

BEng Marius RĂDULESCU

Confronted with the spectacular evolution of the aircraft and other aerial assets, the systems destined to combat them, especially air defence missile systems, went through an accelerated loss of their performance.

Even during their active life cycle, the majority of these systems are exposed to a dramatic decrease in the operational parameters; among them, the single shot kill is probability one of the most important.

Many times, it is better to improve an existing system than buy a new one.

This is a triple problem, including the cost versus performance and the cost versus the remaining lifetime or technical resource.

This article proposed a work schedule in such a case, on the basis of the authors' experience in the Air Defence Missile System upgrade activity.

Keywords: *improvement; growth; Air Defence Missile System; life cycle; cost/performance*

In modern battlefield, airpower represents a support for any military operation. Modern aircraft design and building have a spectacular evolution¹, including:

- multiplication of the threat, confronting the defence with a lot of different enemy assets, from drones and small cruise missiles up to high altitude and velocity aircraft;
- growth of the aeronautic structures resistance by using some materials with new characteristics;
- growth of the board systems reliability and redundancy, allowing for a significant enhancement of the survivability capacity;
- small *Radar Cross-Section (RCS)* combined with active/passive countermeasures in the entire radiation spectrum; this makes difficult the discovery and tracking by the *Fire Control Systems (FCS)*;
- high speed manoeuvre capacity;
- tactical engagement with a combined forces ensemble, complex situations being created in this way, surpassing the response possibilities of the defence².

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¹ N. Spassky, *Russia's Arms Catalogue*, vol. II, Air Force, Military Parade, Moscow, 1996.

² W.R. McEwen, *The Attack and Defense of Targets by Missile*, Holloman Air Force Base, New Mexico, 1962.

All these evolutions cause the real results of air-defence operations using *Air Defence Missile Systems (ADMS)* to be more modest than those estimated by calculus or obtained in training firings. Practically, the aircraft vulnerability decreases from one generation to another, in connection with a more performing aeronautical design.

The surface-to-air missiles – or *Air Defence Missiles (ADM)* – represent the main asset against the enemy air threat, with an adequate technological response.

ADMS Efficacy Parameters Decrease

The single-shot kill probability (or P_{01}) is a synthetic efficacy indicator that allows us to characterise an air defence weapon system.

The real operational conditions dramatically decrease the theoretical values, obtained in a standard range hypothesis:

- the target should be inside of the engagement envelope;
- the target should have a constant velocity and not carry out manoeuvres;
- a single target appears in sight once at a given time;
- the target does not actively counteract (SEAD – Suppression of Enemy Air Defences) and does not use ECMs.

The analytical expression³ for the single-shot kill probability applied to missiles is:

$$P_{01} = \iiint_{-\infty}^{+\infty} \varphi(x, y, z)G(x, y, z)dx dy dz$$

where: $\varphi(x,y,z)$ represents a function characterising the missile shot precision (firing error); $G(x,y,z)$ represents the target's destruction probability with a detonation in the point of (x, y, z) coordinates.

The function $G(x,y,z)$ expresses the destruction probability by damaging at least one of the vital aggregates of the target with individual splinters, causing the aircraft mission to interrupt.

The coordinates target destruction law depends on the following main factors: the target vulnerability characteristics, and the energetic performance of the warhead.

We can easily observe that both φ and G functions are variable in time, because a more agile target makes the precision poor and a much resistant one reduces its vulnerability.

³ Gh. Cernăianu, *Asupra probabilității de lovire cu un proiectil a țintei aeriene*, în *Buletinul Institutului de Cercetare-Dezvoltare al Armatei (ICDA)*, no. 8, București, 1982.

Medium Range Air Defence Missile Systems

The air defence is organised by layers (figure 1)⁴:

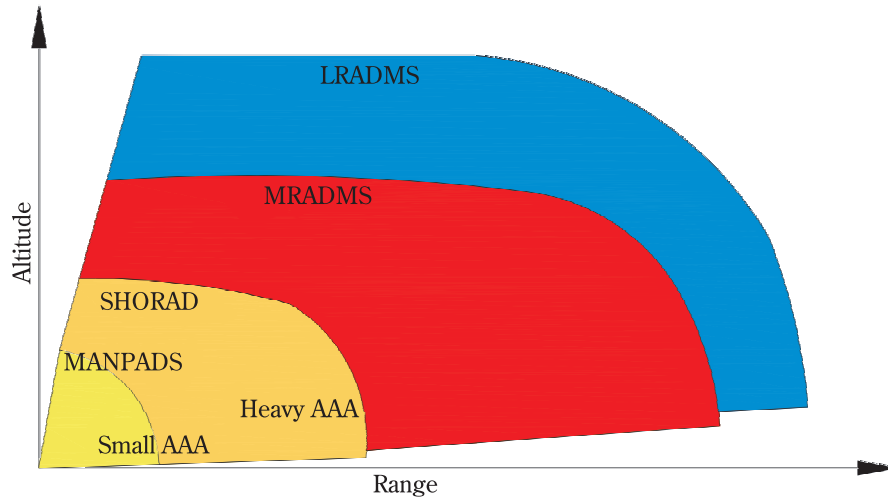


Figure 1: Layered Air Defence

Close range (up to 5 km) is covered by small calibre/high rate-of-fire gun systems and *MANPADS* (*Man Portable Air Defence Missile Systems*). Short range (up to 15 km) is covered by *SHORAD* (*Short Range Air Defence Missile Systems*) and the last (obsolete) radar guided heavy A.A. artillery systems.

Medium (15 to 35 km) and long-range air defence is ensured only with missile systems only. Close and short-range systems are destined mainly for self-defence or to protect small and hidden objectives, while long-range defence is an expensive strategic option and generally belongs to the Air Forces, reciprocally supporting the fighters in air space defence operations.

In these condition, the core of the air defence architecture is represented by medium range (up to 35-40 km), low and intermediate level (50 to 18 000 m) air defence missile systems (*MRADMS*), which are the only capable of defeating a mass attack before the enemy air threat takes advantageous stand-off launching positions. Due to the necessary range, usually, the guidance for these systems is semi-active radar homing (SARH) or radio frequency commands (RF CLOS).

⁴ Raytheon Company, *Threats to India from the Air Are a Concern, but Can Be Defeated*, at http://www.raytheon.com/newsroom/technology/rtn11_aeroindia/news08/index.html, 2011, retrieved on 03.04.2012.

A few of these systems, well-known on the market, are S125 (5V27) Neva, 2K12 (3M9) Kub and MIM-23 Hawk. According to public sources⁵, some technical and operational characteristics – chosen by us from contradictory data – are presented in *table 1*.

System	S 125	2 K 12	MIM-23
Missile	5V27	3M9M	I-Hawk
Range [km]	25	16	27
Missile weight [kg]	950	600	640
Missile velocity [mps]	1150	950	800
Guidance	RF CLOS	SARH	SARH
Warhead weight [kg]	72	57	74
SSKP ⁶	0.85	0.70	0.65
Resource	15	20	12

Table 1

So, if the *MRADMS* are the only ones that can combat with certain efficacy a well-organised aerial operation by number, firepower and performance (P_{01}), these pieces of equipment cannot be easily replaced in the troops procurement when their characteristics do not keep pace with the progress of potential targets.

The cost for these systems (at battery level) reaches around 50 to 150 mil. USD⁷ depending of the size of the unit and the support equipment.

Upgrading such a system instead of buying a new one becomes many times an option in order to preserve operational performance as well as to save money, given the continuous financial constraints.

MRADMS Structure Analysis and Upgrade Programme Objectives

A *MRADMS* is an entire complex of platforms, cabins, launchers, antennas, electronics and missiles and other pieces of equipment which together carry out the task of researching, distributing fire, tracking and launching against the aerial

⁵ *Internet Tech-Char*, at www.military-retia.cz, www.armyrecognition.com/russia, www.ausairpower.net, www.tetraedr.com, www.fas.org, s7.invisionfree.com, videos.mitrasites.com, www.harpoondatabases.com, www.oocities.org retrieved on 04.04.2012.

⁶ For standard fighter-bomber target and conditions.

⁷ Federation of American Scientists, *Hawk*, 2009, at www.fas.org/spp/starwars/program/hawk.htm, retrieved on 04.04.2012.

menace. From the operational point of view, it is sought at least a battery level, capable of independently covering a certain area. The system may also provide crew training, technical checking, reloads and maintenance of own elements. For exemplification, we consider such a hypothetical, but plausible system, at 3-launchers battery level, with a structure like in *figure 2*.

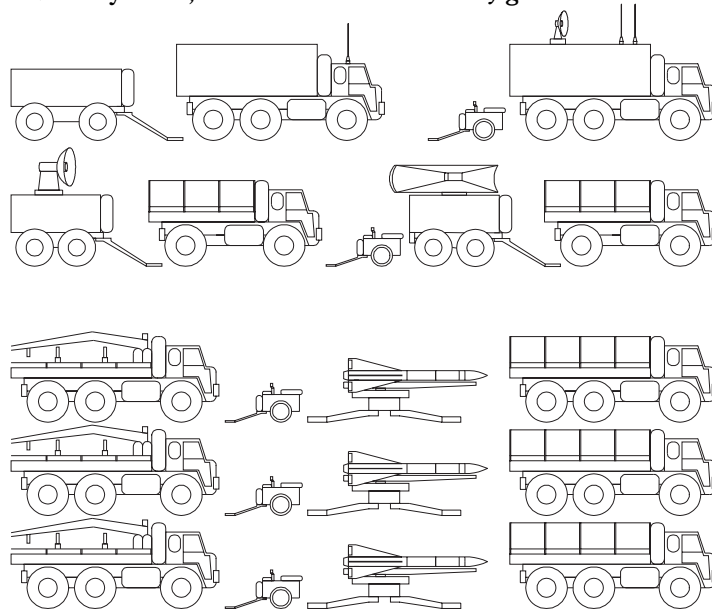


Figure 2: Un-modernised MRADMS (hypothetical) structure

This structure comprises (from right-up to left-down):

- a tactical command point;
- a missile checking post;
- a towed search radar;
- a towed track/illuminating radar;
- three towed launchers;
- three reloading trucks;
- some tractor trucks;
- some power generators;
- battery radio networks;
- different pieces of equipment.

The upgrade process can focus on all features of the system or some of them, such as the missiles or electronic modules⁸.

⁸ Agenția de Cercetare pentru Tehnică și Tehnologii Militare, *Cerere de informații privind programele de modernizare a complexelor de rachete de apărare aeriană OSA – AKM (SA-8) și KUB (SA-6)*, 2011, at <http://www.acttm.ro/doc/RFIOSAro.pdf>, retrieved on 04.04.2012.

Once established the necessity for the upgrade programme and what exactly will be upgraded, the decision-making structures from politics, armed forces and industry must review the existence of the internal scientific and technical competence, as well as the available technological facilities, eventually with support from the producer.

These objectives may aim to carry out a complete upgrade (more correctly, a re-building of the system) or a partial one. We will further refer to the first possibility, meaning a battery re-building, for a maximum life extension and a maximum performance increase. As shown in *table 2*, for the hypothetical system considered,

No.	Objective	Object	Short description
1	Range increase	Missile	New fuel (ex. HTPB)
2	Efficacy enhancement		New warhead
			Digital process of signals
3	Searching ability growth	System	New search radar
4	TCP improved conditions		Replacement of TCP's IT network, new computers and software
5	Designation ability improvement		New processors for tracking radar
6	Oil fuel consumption reduction		Replacement of all trucks with new ones having economical engines
			Integrations of pieces of equipment with platforms
7	System mobility improvement		New high mobility self-propelled platforms for battery
			Adaptation of launchers
			Installation of new remote controls
			Integration of the generators in platforms
8	Communication enhancement		Replacement of all radios with new ones
9	Maintenance capacity preservation	Logistics	New maintenance kit
10	Checking capacity preservation		New checking equipment
11	Training kit modernisation		New software and computers
12	Missile integration	Certification	
13	System integration		

Table 2

a lot of possible improvements were imagined, regarding the missiles as well as the system, logistics and certification.

With these improvements made, the system gains another structure, more flexible, mobile and modern, comprising:

- an improved tactical command point;
- a digitised missile checking post;
- a mobile phased array search radar;
- a mobile track/illuminating radar;
- a camouflage vehicle;
- a workshop vehicle;
- three self-propelled launchers;
- three reloading trucks;
- a self-propelled optical indicator;
- a self-propelled assistance vehicle;
- some new power generators;
- a new battery radio network;
- different improved pieces of equipment.

The new aspect of the battery (from right-up to left-down) is presented in *figure 3*:

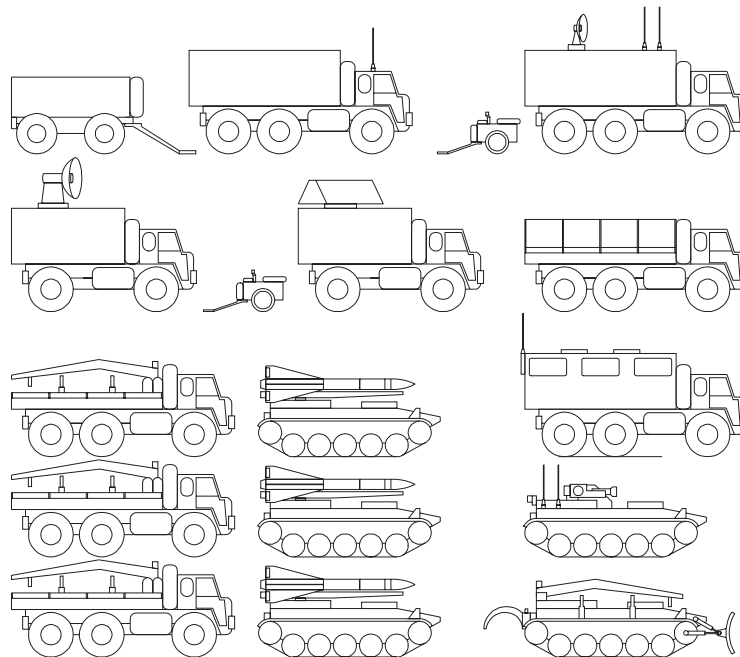


Figure 3: Upgraded MRADMS (hypothetical) structure

The missiles in particular will be upgraded, but one must not overlook that the process addresses the entire system, for all its new operational life, including reloads; spare parts; maintenance; repairs; losses replacement; training.

It is difficult to presuppose that a single industrial entity can provide all the work for an upgrade plan, according to *table 2*.

All these require a package of requirements and objectives in a relatively rigorous industrial development, for whose achievement it is necessary the establishment of a consortium of enterprises.

With the real values for the financial resources needed for covering the expenses of the upgrade programme, one can calculate its cost as well as some efficiency indicators that should enable to compare similar systems.

Such an indicator may be:

$$W = (k/T) * (CP+CT) / (P_{01}^A * R_{ef}^B * N_m)$$

where: CP – cost of the upgrade programme;

CT – cost of the entire life time maintenance;

T – new life time;

P_{01} – new single-shot kill probability;

N_m – number of system missiles;

R_{ef} – new effective range;

and: k, A and B are constants which make the “W” value easier to use.

The term “new” refers to the parameters reached through the upgrade programme. Practically, for two similar systems (1, 2), we can compare:

$$W_1 (>, <, =) W_2$$

and a decision can be made, seeking to assign the programme to some preferred allies or to guide it towards some own (internal) industrial companies.

Another synthetic indicator can be the total cost per shot and probability (C_s):

$$C_s = (CP + CT) / (P_{01} * N_m)$$

These indicators give us some arguments, but the process through which a decision is made concerns more parameters.

Conclusions Regarding the Decision to Upgrade

The situation is quite different if the customer has available one or more of the following capabilities:

- a military programme management group;
- a scientific group with expertise in upgrade programme questions;
- industrial facilities for:
 - machine-tooling operations;

- rocket motors refuelling and testing;
- warheads charging and testing;
- missile assembling and ground testing;
- field range;
- mechanical and electrical assembling;
- cars and trucks equipment replacement and repair;
- trained crew capable of signalling and operating desired modifications;
- competitive tactical advisers to guide the upgrade programme for the specific troops and terrain requirements.

Even if some of these capabilities do not exist at a given moment, the political leadership can use such a programme in order to create a basis for future developments.

In the modern warfare, it is not realistic to believe that only foreign acquisitions can support the effort of the armed forces. If the military have land forces larger than 20 000 soldiers, then they have enough *MRADMS* (and other missiles) capable of justifying its own technical base, with a number of facilities and qualified personnel.

Such a force has at least an academy, headquarters and an application school, that being sufficient arguments for the existence of a human and technological support for the upgrade programme when it is required.

Given the mentioned elements, it is obvious that many inputs concur to the substantiation of the arguments for adopting a decision for upgrading a *MRADMS*. Among them, we consider the following:

- technical and performance parameters imposed by the central command structure (effective range, single-shot kill probability, system structure etc.);
- agility/versatility of main pieces of equipment (i.e. if the search radar unit can be used independently or integrated into the *ASOC – Air Sovereignty Operation Centre*);
- existence of the internal scientific and industrial facilities;
- alliance policy;
- doctrine of the armed forces regarding the unification of pieces of equipment, tactics and training for the different force services;
- available financial support;
- strategic reasons that can impose a certain time for the setup of such a system.

In any case, an *ADMS* upgrading programme requires one or two years to complete (in the best logistic conditions) and can follow the decision-making chart as shown in *figure 4*.

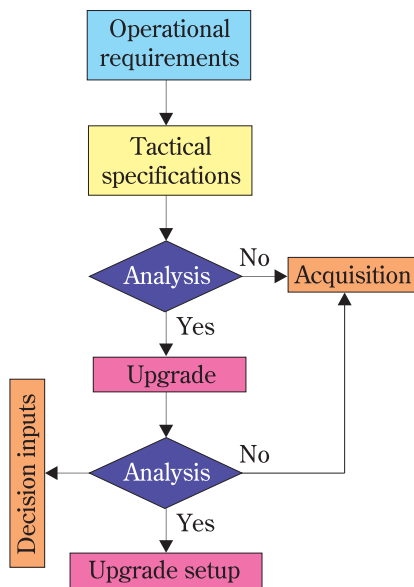


Figure 4: The logic of the decision-making process

state-of-the-art air defence technologies (like US and Russian Federation) do not give up their air defence assets until the technical resource does not consume and the upgrading possibilities are not completely introduced.

All these judgments are valid in the case of an existent domestic system that is fit for modernisation (or is previously acquired)⁹.

If, for unknown reasons, an obsolete system was acquired from the market, with limited resource, the upgrading procedure should be regarded as mandatory in the transaction package.

Any other approach represents nothing more than an economic loss, because it adds the acquisition price of a completely useless system to the cost of demilitarisation, delaboration and destruction operations, the tactical needs remaining uncovered.

The reality of the strategic environment shows that even the relatively rich armed forces (such as those in the UK or United Arab Emirates) as well as powers that possess

⁹ Wojskowe Zakłady Uzbrojenia S.A., *Technology Demonstrator: RIM-7 Sparrow Missile Integration with SA-6*, at http://www.wzu.pl/ftp/Sparrow_with_SA6.pdf, retrieved on 04.04.2012.

VÁCLAV HAVEL

– Remembering the Big Little Man –

Alexandr VONDRA

This article is an homage to Václav Havel's eventful life and key contribution to the Alliance. The author begins by mentioning one of Václav Havel's beliefs, namely that human rights and dignity are superior to any state sovereignty. Then, he writes about his contribution to the fall of communism in his country, the quick re-establishment of Czechoslovakia's independence and the important process of his country's accession to the North Atlantic Alliance. Truly convinced of the indivisibility of freedom, Havel argued that the openness of the Alliance towards new European democracies was a key part of redefining itself.

Václav Havel viewed NATO as something more than just a military organisation that provided extra security guarantees to its members. For him, NATO represented an alliance whose goal was to defend the shared values, moral principles, culture and civilisation through solidarity and strong political commitment.

Keywords: NATO; Warsaw Pact; communism; PpP; Cold War; Iron Curtain

movements reached out behind the Iron Curtain to gain support for their petition against the deployment of NATO's Pershing II missiles. To their surprise, many dissidents, including Václav Havel, refused to sign.

When Václav Havel passed away last December, the flags at the NATO Headquarters were flown at half-mast. NATO Review remembers his eventful life and key contribution to the Alliance.

The 20th century served up many paradoxes.

Václav Havel was at the heart of several of them.

Here was “*an unimportant conscript private*”, as he once labelled himself, who became the supreme commander of his country's armed forces and was celebrated as a major proponent of NATO post Cold War.

Here was a person who was denied promotion because of his political beliefs. Yet here was also a person who hated disputes and embraced harmony and agreement.

But it would be wrong to consider Václav Havel a pacifist. In the 1980s, various Western pacifist



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The article was featured in the *NATO Review*, the *NATO Chicago Summit Special Edition* issue, 2012, <http://www.nato.int/docu/review/2012/Chicago/Vaclav-Havel-Remember/EN/index.htm>



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Havel later explained why in his essay *The Anatomy of Reticence* (1985). “*The danger of war is not caused by weapons as such but by political realities*”, he wrote. Disarmament deals only with consequences and not causes.

And it was the causes that he felt most strongly about. “*Without free, self-respecting, and autonomous citizens*”, Havel argued, “*there can be no free*

and independent nations. Without internal peace, that is, peace among citizens and between the citizens and their state, there can be no guarantee of external peace”. This was the essence of his philosophy that he later projected into his views and foreign policy.

Havel’s dream was to be the master of ceremonies at the Warsaw Pact funeral

The difference between Havel and pacifists is best illustrated in their views on Iraq and the Balkans. Both agreed on the need for Western intervention in the Balkans. Yet human rights activists did not back the interventions in Iraq, while Havel did so twice.

In 1990, he insisted that the Czechoslovak armed forces join the US-led coalition, despite a poor legislative framework and no experience in such operations. From the very beginning, he was convinced that the West needed to act when it came to the first war in the Balkans or later during the Kosovo crisis.

He did not hesitate to quarrel with Jacques Chirac over the second war in Iraq, and did so vocally and against the will of the Czech government as well as the majority of Europe. Václav Havel believed that human rights and dignity were superior to any state sovereignty.

In the early 1990s, right after the fall of communism, Václav Havel wanted to quickly re-establish Czechoslovakia’s independence with a fast withdrawal of Soviet troops from the country. He set up a special team led by the foreign minister Jiří Dienstbier and his deputy Luboš Dobrovský. Another friend of Havel’s,



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rock musician Michael Kocáb, headed the parliamentary commission overseeing the withdrawal of troops.

Meanwhile, Havel's team coordinated negotiations on a speedy dissolution of the Warsaw Pact with Warsaw and Budapest. Havel's dream was to be the master of ceremonies at the Warsaw Pact funeral.

During this period, Havel's view on NATO evolved. He would often ask whether the Alliance would have any purpose once the Warsaw Pact ceased to exist. But he soon concluded that NATO had its place in Europe after the Cold War and that it should open up to new members.



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There were several reasons that contributed to this change in Havel's thinking. Havel's positive attitude towards the United States – as the key country in NATO – played a role. Havel would often speak about his trip to the United States in 1968 and was grateful for America's role in defending the freedom in Europe and worldwide. In 1991, during his visit

to NATO, he apologised to the Western democracies for the lies and communist propaganda of the previous 40 years.

Also the events of 1991 showed that there would be no end of history. A definite sobering arrived in the war in Yugoslavia, and Europe was clueless about the situation.

On 1 July 1991, Havel presided over the funeral of the Warsaw Pact Treaty in Prague. Soviet President



Alexandr Vondra, Czech Defence Minister, together with Václav Havel. © Reuters

Mikhail Gorbachev, fearful of domestic developments, decided not to attend the signing ceremony of the Pact's dissolution. He sent his deputy Gennady Yanayev, who toured the hallways of the Prague Castle unsteadily. To our surprise, several weeks later, Yanayev staged a coup against Gorbachev in Moscow. It was the final drop in our contemplation on NATO's relevance, and we were resolved to seek the full NATO membership.



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A new era on our way to NATO membership began in 1993 when US President Bill Clinton took the office. If we were to succeed, it was critical to secure the US. At that time, there were only a few Americans who favoured the enlargement of NATO, among them Ron Asmus and Paul Wolfowitz.

Two special moments drew Bill Clinton's attention

to NATO enlargement; a personal one and a political one.

In April 1993, the dedication ceremonies of the Holocaust Museum in Washington took place against the backdrop of the siege of Sarajevo. Clinton invited several holocaust survivors to this ceremony, including Elie Wiesel, as well as the presidents from Central European countries. Clinton was moved by the testimonies of the holocaust survivors. He saw a direct link between World War 2 and the situation in Bosnia and Herzegovina.

On top of that, Presidents Václav Havel and Lech Wałęsa urged Bill Clinton that NATO needed to enlarge so that there are no more wars in Central Europe – which helped cause the horrific killing.



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As Bill Clinton arrived late to the ceremony, our appeal to him on NATO enlargement grew in intensity. This may have been due to involuntary tobacco abstinence (at the newly non-smoking premises of the White House). Havel and Wałęsa presented their requests in less than diplomatic language. It was the time we finally drew Clinton's attention.

Still, having Bill Clinton on our side was not enough. Václav Havel's strength in difficult debates played a role in winning over Republicans too (who won Congress in 1994). He would outline the moral arguments and historic reminiscence of 1956 and 1968. The personal story mattered, and Havel helped convince many hardline realpolitikers, including Henry Kissinger.

The breaking point came in 1995. The Clinton administration tabled a compromise solution on NATO membership in the form of a Partnership for Peace (PfP). Initially, PfP felt like kissing through a handkerchief.

Truly convinced of indivisibility of freedom, he argued that the openness of the Alliance towards new European democracies was a key part of redefining itself

Bill Clinton sent three of his high level diplomats with roots in Central Europe (Madeleine Albright, John Shalikashvili and Charles Gati) to talk us into PfP. Clinton wanted to make sure that he would be met with enthusiasm during his upcoming visit to Prague. Yet the negotiation that preceded the visit was hard.



© Reuters

In the end, we were ready to feign our excitement with PfP in exchange for President Clinton's public announcement that PfP was a precursor to a full NATO membership. We would soon be kissing without that handkerchief.

In March 1999, a week into our accession, NATO began the bombing of Yugoslavia.

To Czech Ambassador Kovanda, the war in Kosovo was a baptism of fire. Against the will of the majority of the Czech politicians, Kovanda pushed through our support to the air campaign. At that time,



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President Havel was the only Czech politician who stood firmly behind the ambassador and did not back off. Kovanda thought that Prague deserved a better image and came up with the idea of organising the next NATO summit in the Czech capital.

Meanwhile, Havel continued to advance NATO's open door policy. Truly convinced of indivisibility of freedom, he argued that the openness of the Alliance towards new European democracies was a key part of redefining itself. The open door policy was to be fulfilled with concrete invitations to new members at the next NATO summit.

In Prague, seven countries from Central and Eastern Europe which did not or could not join in the first enlargement wave were invited to join the Alliance.

The Prague Summit was, in a way, a homage to Havel's role in transforming the post-*Cold War* Europe and a capstone of his long years in the presidency. A neon heart, a symbol and logo of Václav Havel shone above the Prague Castle. Inside the castle, Havel's second presidential term was coming to an end. Yet before leaving office in early 2003, Václav Havel, a man of the sixties, a "*hippie*", did not hesitate to support George Bush in his decision to remove Saddam Hussein.

Václav Havel knew that a strong NATO requires a strong commitment on both sides of the Atlantic. He also knew that the transatlantic partnership would be tested permanently.

He viewed NATO as something more than just a military organisation that provided extra security guarantees to its members. For him, NATO represented an alliance whose goal was to defend the shared values, moral principles, culture and civilisation through solidarity and strong political commitment.

This is a legacy we should carry on today and one that should be remembered at the Chicago Summit. President Havel will be remembered as a visionary and a committed Atlanticist. I was proud to serve under him.



NOT GONE – BUT NOT AS STRONG

Jason BURKE

The author reviews the evolution of al-Qaeda, especially over recent years, writing that over the 24 years since the formation of al-Qaeda, four phases can be distinguished. Each helps us in different ways to understand the nature of the threat from radical Sunni Islamic extremism today, particularly when it comes to so-called homegrown terrorism.

By 2003 or 2004, new security arrangements made it impossible to insert large groups of foreign operatives in target countries. The vanguard was replaced by the “network of networks”. For several years, there have been an increasing number of so-called “lone wolf” attackers, inspired by but in no way linked to al-Qaeda.

Significant though the death of bin Laden himself was, analysts largely agree that the al-Qaeda core leadership had been getting weaker for some time before the death of their leader.

Keywords: *al-Qaeda; homegrown terrorism; network of networks; lone-wolf attacker*

More than a decade ago, in the wake of the 9/11 attacks, many asked a very simple question: what is al-Qaeda?

The answers were manifold. Many were erroneous, wrongly describing the group founded by Osama bin Laden and a small number of associates in Pakistan in 1988 as a tightly-knit, hierarchical organisation with sleeper cells and networks established across the globe. These interpretations underestimated the ideological element of al-Qaeda and gave the group undue prominence in the varied landscape of contemporary Sunni Muslim militant activism.

Ten years on, analysts now largely agree on what al-Qaeda is and how the group – or rather the phenomenon – has evolved over recent years. Though differences of opinion still exist, often linked to a broader political sensibility on the left or right, a consensus has formed.

For many, the phenomenon of al-Qaeda can usefully be divided into various elements: the hardcore leadership, the various affiliated

The article was featured in the *NATO Review*, the *Threats from Within* issue, 2012, <http://www.nato.int/docu/review/2012/Threads-Within/Not-gone-not-as-strong/EN/index.htm>

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US embassy bombing in Tanzania in 1998

groups, the ideology and those attracted by it. The question is now which of these elements is dominant.

However, this is to misunderstand the fifth phase – which we are in now.

The historical survey above is important exactly because it is not merely historical. All the various elements found in the four previous phases exist today, complimenting and reinforcing one another. There are the lone wolves and those simply inspired by the ideology and acting independently. There are the affiliates and the networks, some new, some old, some strong, some weak, but all evolving fast and often dangerously. There is still the vanguard – Ayman al’Zawahiri, the veteran Egyptian militant who is the current leader of al-Qaeda, is still alive – and new leaders committed to the same strategy of spectacular violence as bin Laden was could still emerge.

And finally there is the general overall situation, which has many elements reminiscent of the late 1980s and early 1990s. There is the chaotic and increasingly fragmented world of the various Sunni militant groups. There is the massive historical events: the collapse of communism in the late 80s and the Arab Spring today. There is the sheer parochialism of the earlier period.

What is lacking, happily, is the complacency and ignorance vis-à-vis Islamic militancy that characterised the Western response to the phenomenon in the run up to 2001, particularly when it comes to the “*homegrown*” threat in NATO countries. Back then, it became clear that though knowledge is power, the powerful are not always knowledgeable. At great cost, that has been put right.

The threat of homegrown terrorism, if still present, is diminished as a result. It does not pose an existential threat to our societies, if it ever did. This at the very least is a very significant achievement.

Over the 24 years since the formation of al-Qaeda, four phases can be distinguished. Each helps us in different ways to understand the nature of the threat from radical Sunni Islamic extremism today, particularly when it comes to so-called homegrown terrorism

Looking back over the 24 years since the formation of the group in the last years of the war in Afghanistan against the Soviet occupiers, four phases can be distinguished. Each helps us in different ways to understand the nature of the threat from radical Sunni Islamic extremism today, particularly when it comes to so-called homegrown terrorism.

The first phase can be termed the pre-al-Qaeda phase. For too long after the 1998 attacks on US embassies in Tanzania and Kenya and then 9/11 itself brought the group to global attention, al-Qaeda was seen as synonymous with the broader world of Islamic militancy. A historical phenomenon with roots in successive waves of religious revivalism and resistance to Western influences going back centuries was reduced to the work of one man and his group.

But in fact al-Qaeda emerged from a whole series of scruffy, chaotic local insurgencies, all with deep roots in a range of local and global factors, all with long histories, all deeply parochial, with some pragmatic and short-term alliances between organisations but no overarching structural unity. Indeed it was this very disunity that prompted bin Laden to envisage his group.



*What was left of a nightclub in Bali in 2002 after it was attacked.
Some 202 people were killed.*

This has important lessons for today.

One of the key elements here for understanding the dynamics of militancy within NATO countries today is the links between volunteers in western countries and far-off conflicts. From the UK, for example, thousands of young men of Pakistani-origin headed off to Kashmir in the 1990s to fight in the insurgency there against Indian security forces. A smaller number left France to fight in Algeria – and the violence travelled the other way with Algerians committing violent attacks on French soil. In France too, the situation in their former colony contributed to local “*homegrown*” radicalisation.

Nearly 20 years later, we see young American or British men from Somali origin heading to east Africa, or Germans of Turkish origin heading to Pakistan to link up with Turkic organisations such as the Islamic Movement of Uzbekistan or its various offshoots. Historical connections to source countries of immigrants have remained important throughout the last three decades. There seems no reason why they should not do so in the future.

By 2003 or 2004, new security arrangements made it impossible to insert large groups of foreign operatives in target countries. The vanguard was replaced by the “network of networks”

The second phase, from the early 1990s to roughly 1998, could be called the “*vanguard*” phase. One understanding of al-Qaeda – al-Qaeda al’Sulbah – was formulated by the key ideologue and strategist Abdullah Azzam in the 1980s and can be translated as a revolutionary elite of hardened, committed, visionary operatives who – through their actions – would spark radical change.

This is how bin Laden and his close associates saw themselves during the 1990s. Their operations followed this template. The bombings of the east African embassies in 1998 were executed by small groups of highly-trained and highly-motivated specialists who were flown in for the purpose and backed up by local recruits. The 9/11 attacks too followed this model. So did other strikes in the immediate aftermath of that operation. This is still the model that groups such as al-Qaeda in the Arabian Peninsular and the remaining al-Qaeda senior leadership in Pakistan’s tribal regions would like to follow if they could.

The third phase was not long coming. By 2003 or 2004, new security arrangements made it impossible to insert large groups of foreign operatives in target countries. The vanguard was replaced by the “*network of networks*”. Neither independent, nor entirely controlled by al-Qaeda leaders, this dynamic, rapidly evolving matrix of cells, individuals and affiliated groups, held together by personal associations,



*Number 2 becomes number 1
– new al-Qaeda leader Ayman al-Zawahri*

tribal and family links and shared experiences, posed the greatest threat through the middle years of the decade.

The attacks in Bali, Madrid and London repeatedly showed how this hybrid form of organisation posed the greatest danger. One where “*homegrown*” volunteers provided the manpower and the local knowledge, while the central core brought the necessary logistical expertise, strategic

direction and, crucially, legitimacy. That danger still exists, as failed plots in the US and elsewhere have shown. Since 2007 or 2008, it is the “*ideology*” of al-Qaeda that has taken over as dominant.

For several years, there have been an increasing number of so-called “*lone wolf*” attackers, inspired by but in no way linked to al-Qaeda.

This is particularly the case in the US, though there are many examples in other NATO countries. In the UK, in May 2010, a young woman with no previous history of violence stabbed a member of parliament who had supported the war in Iraq. In March 2012, a young French Muslim with no obvious links to established groups or even networks went on a killing spree directed at soldiers of North African origin and Jewish targets. Helped by the propaganda work of people like the late Anwar al’Awlaqi, the ideology of al-Qaeda – *al-Qaeda-ism* – has mutated into a well-established sub-culture of jihad with its own language, dress code, internet sites and so on. This remains attractive to a large number of young people, even if only a very few of them go on to become involved in actual violence.

Significant though the death of bin Laden himself was, analysts largely agree that the al-Qaeda core leadership had been getting weaker for some time before the death of their leader. One British security official told me last year that it was entirely conceivable that the entire era of Bin Laden and al-Qaeda’s apparent dominance of contemporary Islamic militancy was not only drawing to a close but would soon be seen as “*an aberration*”.



LINEBACKER II

– Victorious Air Operation in a Lost War

• Lessons Learned –

Colonel BEng Dr Radu UNGUREANU

Motto:

*“In Vietnam, we tried and failed in a just cause.
No more Vietnams can mean that we will not try again.
It should mean that we will not fail again”.*

Richard Nixon, “No More Vietnams”

On 18 December 1972, President Nixon decided to launch operation LINEBACKER II, with the purpose of intimidating North Vietnam and guaranteeing the US full support for South Vietnam in this conflict. As the author writes, in the 11 days of devastating air strikes, Hanoi was forced to sign a ceasefire agreement with the USA, while the North Vietnamese were allowed to maintain under control vast territories of South Vietnam. The USA thus obtained enough time to withdraw troops and release war prisoners. The USA promised South Vietnam that it would intervene in the conflict in the event of a failure of the agreement. Because of the Watergate scandal, the Nixon Administration lost the support of Congress and was unable to honour the promise made to South Vietnam.

Keywords: *air strikes; political guidelines; lines of communications; combat formations*

In his book “*On War*”, Prussian military strategist Carl von Clausewitz wrote, in 1832, that war was a “*continuation of policy by other means*”. I believe that this characterisation was very well illustrated by air operation *LINEBACKER II*, carried out against the city of Hanoi, in North Vietnam, between 18 and 29 December 1972. This air operation was coordinated by President Richard Nixon, in response to the withdrawal of the North Vietnamese from the peace talks held in Paris, with the following political-military objectives:

- to get the North Vietnamese back to the negotiating table and sign a peace agreement that would enable an amiable and peaceful withdrawal of the American troops, in the context in which the population and the Congress were asking for the war to end;

Colonel BEng Dr Radu Ungureanu – Deputy Director, the General Staff, the Ministry of National Defence.

- to end talks by late 1972, because the Congress would go into session in January and decide to cut the expenses and, thus, to end the war;
- to make known to the South Vietnamese public opinion the US commitment and capacity to continue to give the necessary support even after troops withdrawal.

The American strategic and tactical airpower was massively engaged in the operation in order to annihilate the will to fight of the North Vietnamese and to destroy unrestrictedly the objectives of strategic importance in the Hanoi/Hai Phong area. Compared to previous air campaigns, the strategy applied in operation *LINEBACKER II* excluded most of the limitations to the rules of engagement, which diminished the freedom of action of aircraft during previous air operations.

Historical Consideration and Political Context

Vietnam is a country with over 2 000 years of history. From 111 BC until 939 AD, Vietnam was colonised by China. Taking advantage of China's weakness, in 939, the Vietnamese, led by Ngo Quyen, gained their independence. From the 10th century until the 18th century, Vietnam expanded towards south, up to the Mekong River delta, replacing the natives. In 1802, the Nguyen dynasty failed to deal with the unprecedented spread of colonialism and the country was under French occupation. However, the French never succeeded in eliminating the ceaseless efforts of the Vietnamese for regaining independence.

The communists gradually included all nationalist movements under their sphere of influence and finally managed to regain the independence from France in 1945. In 1954, the country was divided by the Geneva Conference and North Vietnam, a communist state from that moment, initiated unconventional military actions with revolutionary character against South Vietnam, which was trying to establish its own democratic government. Inpatient to win the war, the North Vietnamese gradually passed to a conventional war, which materialised in two major invasions carried out by North Vietnamese regular forces. The first was known as the *TET* offensive, in 1968, and essentially represented a failure in military terms. Still, the action had a major political impact on the American public opinion and imposed the consideration according to which the war in Vietnam could not be won from the military point of view, which required the forces to cease hostilities and be withdrawn from the theatre.

The second major North Vietnamese offensive was launched in the spring of 1972, during which 12 of the 13 North Vietnamese divisions passed over the demarcation line of the demilitarised area and invaded South Vietnam.

This fundamental transformation of the type of the war towards a conventional one increased the vulnerability of North Vietnamese forces to American air strikes and, thus, essentially contributed to the success of operation *LINEBACKER II*.

Preliminary Events that Led to Carrying Out Operation LINEBACKER II

Throughout the conflict in Vietnam, even if the objectives of the American bombings had elements specific to each campaign, the general ones aimed at forcing Hanoi to stop the support given to South Vietnamese insurgents and sit at the negotiating table in order to sign a peace treaty. Air operation *Rolling Thunder* was the code name of the first major air campaign carried out against North Vietnam between 1965 and 1968. The campaign was meant to establish air interdiction in order to cut off the supply lines from the North for the insurgents that acted in South Vietnam.

President Johnson and Secretary of State for Defence McNamara took the detailed tactical control of the missions. Thus, every week, the President and his assistants set their targets based on the proposals coming from armed forces services. The rules of engagement were restrictive because of the permanent concern of the American side not to carry out activities that could be interpreted as provocative and cause the involvement in the military confrontation of the Soviet Union or China. The intense political pressure exerted at the level of the American public opinion in order to diminish the US involvement in the conflict cause the gradual decrease in the intensity of air operations, followed by their cessation in November 1968.

Accordingly, operation *Rolling Thunder* failed not only because of a flawed planning and execution process, but also mostly because of the inability to adapt it to the conditions in the theatre characterised by the asymmetrical actions carried out by the North Vietnamese.

After three years and a half of political-military actions with no significant results, the Nixon Administration was marked by a feeling of frustration, which led to resuming the broad air campaigns against North Vietnam starting with 1968. Thus, in April 1972, in response to the North Vietnamese wide offensive, operation *Freedom Train* was launched in which took part all the services of the American armed forces engaged in the theatre. The operation was renamed *Linebaker I* in May 1972, its main objective being to cut off the supply and transportation lines of the North Vietnamese forces, to cease the offensive and to persuade the North Vietnamese to resume peace negotiations. The command of the American forces in the theatre was assigned increased responsibilities

in order to exert command at operational level and to set the target list, but only in keeping with the strategic guidelines received from the White House.

Certain categories of targets that were not supposed to be hit during previous operations were now included among the targets of the air strikes. The effects of the strikes, as a consequence of this new conceptual approach, caused the North Vietnamese to communicate, in mid October, their availability to resume negotiations. President Nixon decided to end operation *Linebacker I*, thus showing the willingness of the American side to cooperate and end hostilities.

During negotiations, the North Vietnamese were intransigent in approaching each detail and the South Vietnamese refused to cooperate unless the US made a firm commitment to intervene in the event of the peace treaty violation.

Under these circumstances, President Nixon decided to launch operation *LINEBACKER II*, on 18 December 1972, with the intention to intimidate North Vietnam and reassure the South Vietnamese that they were entirely supported by the USA in the conflict. In the 11 days of devastating bombings, Hanoi was forced to sign a ceasefire agreement with the USA, in the circumstances in which the North Vietnamese were allowed to maintain under their control broad territories from South Vietnam. Thus, the USA had enough time to withdraw the troops and release war prisoners. The Americans promised South Vietnam they would become involved in the conflict if the agreement was not respected. Because of the *Watergate* scandal, the Nixon Administration lost support from the Congress with a view to keeping the promise made to South Vietnam.

The Political Leadership of the War

The war in Vietnam was an important part of President Nixon's campaign and included a promise to end the war in an honourable way for the USA. In the summer of 1969, the US President announced the increase in the troops deployed in Vietnam by the end of the year up to 25 000. To facilitate this course of action, it was extended the air war against North Vietnam while initiating the "*Vietnamisation*" programme. It stipulated the phased transfer of responsibility for the execution of ground operations towards the South Vietnamese forces. The ultimate objective of this policy aimed at creating conditions for South Vietnam so that it was able to counter North Vietnamese actions without direct support from the USA. Therefore, the "*Vietnamisation*" programme indicated a step back in the US public opinion and politicians support for the continuation of the American military presence in the conflict.

Another important political actor in the Vietnam War was Henry Kissinger, Secretary of Defense during the Johnson, Nixon and Ford administrations.

He was given the responsibility for conducting negotiations in order to regulate the situation in Vietnam, from President Johnson, in 1967. In 1969, he was nominated to undertake secret negotiations with the North Vietnamese side in Paris. Henry Kissinger was the most influential advisor to Presidents Nixon and Ford regarding military policies for approaching the war in Vietnam, including regarding the “Vietnamisation” and the intensification of air operations.

Applied Military Doctrine

The doctrines regarding the use of airpower evolved considerably from the end of the First World War until the beginning of the Second World War in keeping with the gradual evolution from the doctrinaire concepts of Napoleon and Clausewitz, according to whom the strategic goal of war was to destroy enemy armed forces, to a new conceptual approach, whose centre of gravity shifted towards eliminating the economic power of the opponent by destroying production facilities and national infrastructure. This involved the development of new types of weapons, large aircraft capable of operating at long distances on enemy territory and of performing high-precision bombings of specific targets.

This technical and tactical development also represented the main asset of the American airpower during the Second World War, and later confirmed its viability in the conflict in Vietnam.

However, the way of carrying out the actions by US forces should be evaluated by taking into consideration certain variables that inherently had an impact on air operations planning and execution. They mainly consisted in the need for permanent correlation of air operations objectives with those of the other forces services involved and with the political guidelines received from the White House. These were based not only on military arguments, but mainly on political ones and demonstrated the desire of the administration to permanently maintain the political influence on the way of engaging the military power. This conduct of hostilities based on a political agenda significantly diminished the capacity of air forces to demonstrate their real capabilities.

From this perspective, it is estimated that the success of air operations *Linebacker I*, but, in particular, *LINEBACKER II* was determined by the fact that the forces involved were able to show their full potential and to concentrate all the capabilities on the destruction of the strategic objectives targeted in the operational planning documents without operational and other limitations to the rules of engagement.

National Interests and Political Objectives

Even if the opinions of military analysts on the war in Vietnam are sometimes divergent, most of them believe that the main lesson learned from this conflict is the need for the political and military leaders to examine very carefully the nature and implications of the war in which they are to be involved and, especially, to formulate precisely the method by which airpower can best be applied in order to protect and achieve national interests and objectives.

In 1945, when Vietnam gained independence from France, the USA considered Southeast Asia, particularly Indochina, as an area of strategic importance at global level. Indochina was appreciated mainly for its raw materials available, but it was even more important for the perception that its surrender in front of the expanding communism would trigger the collapse of other nations in the area. The situation in the area was considered a *Hot War*, an extrapolation of the *Cold War*, through which the Western civilisation had to confirm its determination not to give up, even by the force of arms, in front of the general trend of the expansion of communism.

In this effort, the intention was to send a clear message to the Soviet Union and China that the use of military force for the transition of third world countries in the communist sphere of influence would not be accepted. In the context of that strategic approach, it was believed that any sign of weakness in managing the situation sounded like an invitation to the communist bloc to increase support for North Vietnam.

From this perspective, I consider that the political objectives were achieved, even if the war as a whole was lost, causing the withdrawal of American forces from Vietnam and huge costs of money and casualties (over 600 000 on both sides). In air operation *LINEBACKER II*, the USA lost 15 B-52 bombers and 12 aircraft of various types. 43 crew members were killed or missing in action, and 41 were captured by the North Vietnamese. Regarding the success of air operation *LINEBACKER II*, which brought the North Vietnamese to the negotiating table and led to the end of hostilities and withdrawal of US troops, Henry Kissinger said that "*LINEBACKER II cost much less than the continuation of the war, which was the other alternative*". From a political perspective, the USA managed to get "*an honourable peace*" without excessive losses.

The Development of Operation LINEBACKER II

In August 1972, the US Air Force drafted the documents for planning an air campaign against North Vietnam suitable for engaging B-52 aircraft capable of operating in all weather conditions, of carrying a huge load of ammunition and of demonstrating the US determination for obtaining a favourable outcome

of the conflict. Under those circumstances, the planners examined and selected strategically important targets whose destruction would produce a major impact on North Vietnam and, at the same time, would minimise the losses among the civilian population and American prisoners of war in Hanoi.

To reduce casualties among non-combatants, there were not planned air strikes in areas with concentrations of population and it was stipulated the use of procedures with minimal impact on the civilian population.

Operation *LINEBACKER II* began in the evening of 18 December 1972, when the US air force attacked North Vietnamese airbases. All B-52 strategic bombers deployed to the Anderson airbase on the Island of Guam and to U-Tapao in Thailand participated in the air strikes. Air actions typically consisted of over 50 raids (sometimes even 90) in 24 hours, performed with B-52 on the main industrial areas of North Vietnam (Hanoi, Hai Phong, Thai Nguyen), airfields, lines of communications, railway stations, heavy industry and military objectives. To reduce losses, B-52 bombers were engaged in combat only at nighttime and only accompanied by a significant force of aircraft to support the actions of the aircraft designed to execute air strikes, secure own airbases, annihilate the North Vietnamese air defence by destroying or neutralising through electronic jamming, as well as by performing aerial reconnaissance in the North Vietnamese airspace.

Therefore, operation *LINEBACKER II* essentially consisted in focusing effort on the actions of B-52-type strategic bombers, which involved a planning process focused on concentrating the strike force, carefully choosing targets, necessary time for hitting them, flight routes, allocating tactical combat support aircraft for the air support of strategic bombers, blocking airfields, annihilating North Vietnamese air defence and countering North Vietnamese fighters. B-52 formations usually consisted in a “*column of 2-7 squadrons*”, at intervals of 5-7 minutes.

The combat support air group represented approximately 60-70% of all aircraft participating in the air raid and was intended to incessantly cover B-52 formations throughout the entire flight in the North Vietnamese airspace and especially during air attacks. F-4 and F-105 fighters deployed in airbases in Ubon and Udorn in Thailand were engaged in this mission making the junction with the bombers over Laos, near the town of Sam Neua. The primary mission of F-105 aircraft consisted in detecting and annihilating air defence systems, thus allowing the penetration to the target and in the area of the combat actions of B-52 bombers. F-4 fighter aircraft ensured the actions of the B-52 detachment and acted near B-52 combat formations. Independent groups of 6-8 F-4 fighter aircraft were designed to block the North Vietnamese airfields 10-15 minutes before the arrival of B-52 bomber aircraft and to generate clouds of dipoles on the bombers flight path.

The third characteristic of the use of strategic aviation consisted in very carefully choosing the flight path of the bombers, the target engagement and strike execution direction. In this regard, there were mainly used the B-52 aircraft from U Tapao and Andersen airfields, which could each carry an average of 9-10 tons of combat cargo (27-29 bombs weighing 340 kg). The target path passed through the in-flight refuelling area, which was located east of the Philippines and was calculated so that it could avoid the strikes executed by the North Vietnamese with the air defence systems. After performing the bombing, the B-52 aircraft would retreat, most often, through Laos or the Gulf of Tonkin.

The fourth characteristic of the engagement of strategic aircraft in this confrontation consisted in carrying out electronic warfare actions by the US forces, without which the bombers that evolved slowly would have been easy targets for North Vietnamese surface-to-air missile systems.

Strategic bombers were also employed for the execution of surgical strikes against the targets located south of the 20th parallel, where North Vietnamese air defence was weaker. These targets were represented mainly by the concentration of troops and equipment at crossing points, on travel routes and in technique and staff assembly areas. Bombardments were performed on horizontal paths at heights of 10 000-11 000 meters with air support provided by F-4 fighter and EB-66 jamming aircraft all the way to the target.

At the air raid on the city of Hanoi executed on 19 December, 66 aircraft took part, of which 24 were B-52s (*figure 1*).

16 F-4 aircraft launched dipoles for jamming ground-based radar stations and acted to block the North Vietnamese airfields, 6 F-105 aircraft acted to annihilate air defence, and 20 F-4 aircraft provided the B-52 bombers actions. The total number of aircraft does not include those that participated for support, but did not enter the North Vietnamese airspace. These were: EC-135 airborne command post, aerial electronic warfare platforms (2 EB-66 and 2 EA-6B), an EC-121 long-range reconnaissance radar and 20-22 other different types of support aircraft.

The air raid on 26/27 December reflected a change in the operation tactics and planning design (*figure 2*).

Thus, the final stage of Operation *LINEBACKER II* was scheduled to accomplish a strong concentration of air strikes on targets Hanoi and Hai Phong. 147 aircraft participated, of which 63 strategic bombers, 54 F-4 fighter-bomber aircraft, 20 F-4 aircraft that launched dipoles for jamming ground-based radar stations and acted to block North Vietnamese airfields and 10 F-105 that acted to detect and annihilate air defence systems. Beside these, there also took part in the air operation aircraft that did not enter the North Vietnamese airspace and performed electronic

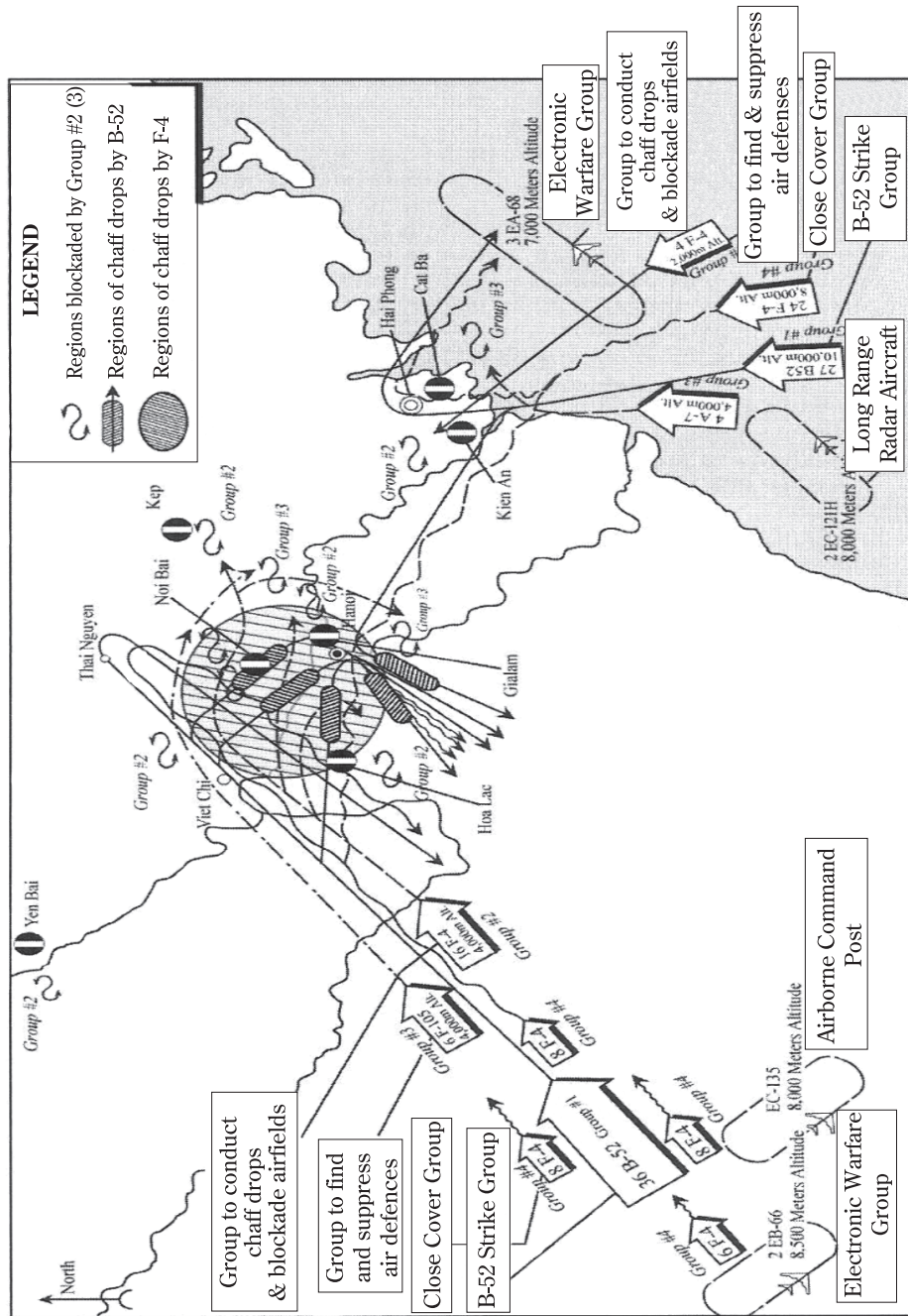


Figure 2: Air Raid on 26 December

warfare actions as follows: 5 EB-66- and EA-6B-type aircraft, 2 EC-121H with long-range reconnaissance radar, an EC-135 airborne command post and about 20-24 F-4 to cover attack air formations.

Reconnaissance actions and electronic jamming carried out by American air forces were a critical component of air operation *LINEBACKER II*. They managed to put temporarily out of service the North Vietnamese guidance and strike system, but were planned within the limits of tactical combat models that allowed the North Vietnamese side to adapt and anticipate the imminence of the air attacks.

Electronic warfare officers from B-52 aircraft crew executed, in accordance with established procedures, the checking of equipment by coupling jamming systems at the board of the B-52 aircraft in the range of frequencies while travelling to the area of operations until the entry in the area of the detection and annihilation of surface-to-air missile systems. This created large jamming areas on the screen of North Vietnamese radars, disclosing that the air

strike formations are at distances of several hundred kilometres from the objectives and the outbreak of airstrikes in about 1/2 hour was imminent.

Reports of participants in operations indicated that the jamming coupling alignments at the entry into areas of destruction of surface-to-air missiles were not well established also, being executed, in some cases, outside the jamming systems effectiveness area, which made it possible for air attack formations to be detected. It was also found that jamming systems on board the aircraft were set to preset modes, without taking into account the way in which surface-to-air missiles guidance systems operated. The steps taken by the crews on board aircraft to change operating procedures in the field of electronic warfare did not determine their reconsideration, which, according to experts, led to a high rate of the losses.

The passive jamming executed through launching radiolocation dipoles, maintained active throughout the air attack, proved highly effective, which demonstrated the advantages of timely using some of the simplest procedures and means.



Boeing B-52D 'Stratofortress'
©USAF Museum Photo Archives

Enemy Anti-aircraft Weapons. North Vietnam used 57-mm (above), 85-mm (right), and 100-mm (below) weapons, as well as surface-to-air missiles (bottom) to combat U.S. aircraft in Laos.

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From a military perspective, *LINEBACKER II* represented a victorious air campaign in a lost war. During the 11 days of devastating bombardments, there were destroyed most of the intended targets or they became inoperative, which resulted in a significant reduction of the North Vietnamese combat capacity. After years of restricted engagement of the air force in the conflict, the US managed to neutralise a modern and well-organised air defence system.

Thus, it may be considered that the political objective of the operation, namely forcing the North Vietnamese to return to the negotiating table, as well as the military objectives were met. These were:

- Destruction of war industry and support infrastructure from North Vietnam.
- Interruption of sea supply in Hai Phong port or railways supply from China.
- Destruction of the internal North Vietnamese transport system.

In the air operation, there were engaged almost entirely the strategic and tactical airpower vectors for the destruction of important targets, such as radio stations, communications lines, railways, power plants and refineries, as well as airfields in the Hanoi/Hai Phong area.

From a political perspective, *LINEBACKER II* determined the North Vietnamese side to resume peace negotiations with a new attitude, which resulted in a peace agreement. The final treaty was signed with minor changes to the previous version, proposed in October 1972. This allowed the Americans to end the war in a favourable position, to repatriate their prisoners of war and to confirm the US support for the South Vietnamese regarding their cause. Unfortunately, this commitment of the US administration was not met due to political disputes and the American public opposition to the US involvement in the conflict.

Even if *LINEBACKER II* operation was considered a military success, from the analysis of the execution of the operation resulted however a number of flaws. These were primarily reflected in the tactics for the employment in combat of B-52 bombers in the early days of Operation *LINEBACKER II*. This was considered inflexible and predictable, which explains the large number of B-52 aircraft losses in the first eight days of the operation, which caused the American planners to quickly develop new tactics of employment of B-52 aircraft, with more flexibility and novelty elements in order to achieve surprise.

In conclusion, we can say that operation *LINEBACKER II* was a military success of the Nixon administration taking into account the following strategic considerations:

- effective harmonisation of national interests, political and military objectives;

- establishment of a balance between the advantages and limitations of airpower with the political and the American public opinion positions;
- efficient and flexible use of lessons learned from previous operations and of the proper doctrine to achieve objectives.

Doctrinaire Implications

Operation *LINEBACKER II* generated a large number of studies because of the influence it had on the doctrine of the use of air force. It followed that the execution of the air operation:

- was effective in terms of conventional war; therefore, the success of operation *LINEBACKER II* was possible because North Vietnam went from asymmetric forms of warfare to extended military actions of conventional nature;
- can be inefficient, given the circumstances in which the enemy is ready to accept huge losses in exchange for reaching final objectives;
- must be linked to fighters skills to execute certain missions in specific situations;
- validated the basic design data for future B-1 strategic bombers;
- generated a new approach in designing mixed systems of arming with guided and unguided ammunition for operating in extreme weather conditions;
- must be integrated into multidimensional battlefield, with all its components, mainly with the land and sea ones, in a configuration that should ensure the synergy of the effort of war for reaching the military and political objectives;
- demonstrated the need for thinking a new operational architecture, which should allow the execution of joint multinational operations at strategic distances, on the basis of new hypotheses regarding the physiognomy of future conflicts.

The results of adopting this new strategic approach later generated the *CJTF* concept (*Combined Joint Task Force*), which was validated during the major conflicts engaged by the US forces during which the critical elements and vulnerabilities identified in Operation *LINEBACKER II* were no longer present.

The success of air actions against Iraq showed that well trained and equipped air forces could decisively influence the conduct of operations in the modern battlefield. Within a few days after the outbreak of hostilities, coalition forces were able to obtain freedom of action in the enemy airspace while annihilating the enemy ability to operate over the territories near the theatre of operations. These successes were the results of a period of investments and intense training

for the use of new battlefield surveillance capabilities, combat management, *STEALTH* technology and high-precision weapons. There was noticed a dramatic improvement of the possibility of the air force to track, identify, attack and execute electronic warfare actions.

They should focus on determining the arrangement areas and the probable enemy directions of action, setting air-defence troops and territory objective, detecting vital elements for the C4ISR meant for command, notification and guidance of aviation and surface-to-air missile systems, as well as on drawing up the database for EOB (Electronic Order of Battle), neutralising by jamming and destroying targets discovered by using guided weapons, partially or totally annihilating the enemy actions by executing electronic countermeasures (jamming, electronic misinformation or physical destruction) and on timely adopting own troops protection measures.

Electronic warfare measures adopted during operation preparation and their execution should allow the determination of radar systems coordinates, their characteristics, the command and guidance procedures for air defence means, coupling alignments, employment sectors and working arrangements. Based on these data, one will draw up the graphical and analytical model of the enemy air defence system, including radar systems positions, command posts and surface-to-air missile complexes, as well as the limits of the areas of destruction for the entire strip of combat actions.

These data will enable combatants to optimally use the forces and means on different portions of the flight route, on the way to and back from the target, to judiciously allocate the electronic warfare forces and means for executing jamming and electronic misinformation, to protect own aircraft, as well as to physically destroy air defence components.

An important conclusion is that of the need for equipping of combat technique with self-protection systems and for widespread using, during operation, the systems for reconnaissance-warning at radiation and for launching passive jamming.

I think that, given the widespread use of the high-precision guided weapons and automated reconnaissance-strike systems, a major role in the protection of own means against enemy strikes will belong to automated reconnaissance-warning systems and passive jamming launch systems, which must represent one of the basic operational requirements for equipping military technique (armoured vehicles, aircraft, ships etc.), for the automatic reconnaissance of received signals, their classification according to the degree of danger, automatic goniometry of emission sources and warning crews regarding dangers. Simultaneously, the reconnaissance data must be forwarded automatically to the active jamming stations onboard and the passive jamming launch devices, while executing the anti-missile manoeuvre.

It is estimated that, in this way, losses are decreased substantially, also creating favourable conditions for the use, at their maximum possibilities, of the combat equipment and own troops weapons, with important implications for the successful execution of the operation.

Through the analysis of an important page of military history, I tried to identify certain elements of interest that should be taken into account when planning and executing operations at strategic distances and when generating the forces meant for this purpose. It resulted that, in the new architecture, in which the operational elements, C4ISR systems and related missions depend overwhelmingly on the control of the electromagnetic space in the area of operations, the effective conduct of electronic warfare actions performed during training and leading the operation will be a key element to obtaining victory.

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English version by
✍️ Iulia NĂSTASIE

THE “VITTORIANO” AND THE TOMB OF THE “MILITE IGNOTO”

Colonel Paolo D’ONOFRIO

The fall of Rome on 20 September 1870¹, followed by the annexation of the city to the Kingdom of Italy, brought about the end of the temporal power of the Popes and the accomplishment of the long unification process of Italy. On 3 February 1871, the Capital of Italy was transformed from Florence to Rome. On 30 December 1871, King Vittorio Emanuele II² arrived in Rome to the “*Quirinale*” Palace³; thereafter, the residence of Popes became the new home for the Royal family. The move of the national apparatus to Rome significantly affected the urban structure of the city; the government institutions were gradually placed along the lines of *Via del Corso* and *Via Nazionale*, so that the political centre of the city moved from the area of the Vatican to *Piazza Venezia*. In the middle of such a transformation and expansion of the city, on 9 January 1878, the King died. His body was buried at the “*Pantheon*”⁴.

The loss of the “*Father of the Nation*”⁵, the title given to the King, aroused strong emotions among the people; in all towns and villages of Italy there were

¹ The article and photos are taken from the articles of Ernesto Bonelli (*4 giugno 2011. I cento anni del Vittoriano/4 June 2011. The Centenary of the “Vittoriano”*), by Lorenzo Cadeddu and Manuela Della Giustina (*La leggenda del Milite Ignoto/The Legend of the Unknown Soldier*), published in “*Rivista Militare*” (magazine of the Italian Army), issue no. 4, 2011 and adapted by Colonel Paolo D’Onofrio, Italian Military Representative at the General Staff of the Ministry of National Defence of Romania.

² Famous event of the Italian “*Risorgimento*”, when the “*Bersaglieri*” troops entered Rome through a breach of the Aurelian Walls at “*Porta Pia*”, one of the city gateways designed by Michelangelo.

³ Born in 1820, Vittorio Emanuele II of Savoy, former King of Sardinia (1849-1861), was one of the proponents of the process of the Italian unification. He became the first King of Italy, on 17 March 1861.

⁴ Located on the Quirinal Hill, the tallest of the seven hills of Rome. The construction of the building, as residence for the Pope, was directed by Pope Gregory XIII in 1583. Since 1946, the palace has been the residence of the President of the Italian Republic.

⁵ Ancient pagan temple built around 30 BC, dedicated to all gods, in the 7th century, it was adapted as a Christian church. Since the Renaissance, it has been used as a tomb for important people. It houses, among others, the tombs of Raffaello Sanzio, the famous painter, King Vittorio Emanuele II and King Umberto I.

⁶ Honorary title already in use in ancient Rome (Pater Patriae).



A view of the *Vittoriano*, taken from *Piazza Venezia (Roma)*. Centrally posted, the equestrian statue of King Vittorio Emanuele II and, underneath, the “Altar of the Fatherland” with the tomb of the “*Milite Ignoto*” (*Unknown Soldier*)

memorials erected and streets and squares named after the King. However, it was felt that in order to properly celebrate and pass on posterity the glory of the King, master of united Italy, something really awe-inspiring was needed, something compared to the Colosseum of Imperial Rome and to St. Peter’s Basilica of papal Rome; something that, over the centuries, could distinguish Rome as Capital of the Kingdom of Italy. Thus, in 1880, the Parliament approved the construction, in Rome, of a monument to honour King Vittorio Emanuele II and the unification of the Fatherland. In 1884, the construction work was entrusted to architect Giuseppe Sacconi. On 22 March 1885, in the presence of King Umberto I⁶, the foundation stone was placed in Piazza Venezia, near the remains of the “*Forum Romanum*” and close to “*Piazza del Campidoglio*”, on “*Capitolinus*” Hill. At the beginning, it was necessary to carry out many evictions and demolitions of old buildings in the area adjacent to the *Capitol*; during excavations, the “*Insula Ara Coeli*”⁸

⁶ Born in 1844, he became the King of Italy at the death of his father, Vittorio Emanuele II, in 1878. He died on 29 July 1900, in Monza, murdered by a gun shooter.

⁷ The existing design of “*Piazza del Campidoglio*” and the surroundings was created by Michelangelo Buonarroti in 1536-1546.

⁸ An *insula* was the most common form of housing during Imperial Rome.

was uncovered as well as other ancient ruins. Then, the construction went on by building the master walls and the lower staircases. A steam-engine driven cable railway was installed to transport materials along the slope of the hill. However, in 1895, the work came to an end due to lack of funds; international events related to the war in Abyssinia⁹ shadowed the construction of the monument that was resumed only in 1900. Further delays were caused by changes to the project and the death of Mr Sacconi, in 1905. Despite all difficulties, work was eventually completed. The whole monument, covered with white marble in a perfect “neo-classical” style, with its impressive size¹⁰ and historical features (among them, the “*Altar of the Fatherland*”, the statue of the Goddess “*Roma*”¹¹, the equestrian statue of the King¹², the two statues of the Goddess “*Victoria*” riding the 4-horse driven chariot to symbolise the “*unity of the country*” and the “*freedom of the people*”) was inaugurated on 4 June 1911, on the occasion of the celebrations of the 50th anniversary of Unification of Italy, in the presence of King Vittorio Emanuele III¹³. Finally,



“Altar of the Fatherland” and the statue of the “Goddess Roma” at the Vittoriano

⁹ Abyssinia was the ancient name of Ethiopia. The military campaign lasted from December 1895 to October 1896.

¹⁰ The monument covers an area 135 metres in width, 130 metres in length. Its top element is 80 metres high (above ground).

¹¹ Until the 2nd century BC, the Goddess Roma personified the Roman State.

¹² The statue was completed in 1910; the work required the fusion of about 50 tons of bronze.

¹³ Born in 1869, he succeeded his father, Umberto I, in 1900. During his reign, Italy faced the two world wars and the experience of “*fascism*”. In 1946, at the end of World War II, he abdicated in favour of his son, Umberto II, and went into exile in Alexandria, Egypt, where he died in 1947.

the Capital of Italy had its own national monument. Since the very beginning, the memorial complex was commonly referred to as the “*Vittoriano*”, after the name of the King.

However, the memorial lacked a “*beating heart*”. Indeed, the body of the first King of Italy remained at the Pantheon. Over the years, under the political and social transformations of the 20th century, the *Vittoriano* could have become for the people only a symbol of a forgotten period.

The turning point came at the end of World War I. The conflict had left death and devastation behind in most of European continent. In Italy it accounted for 680 000 deaths and more than 1 000 000 wounded, of whom over 670 000 permanently disabled. The state of the economy was in a bad shape. Feelings of bitterness and disappointment were widespread among most of the population. In 1920, an Italian Army officer, Colonel Giulio Douhet¹⁴ proposed to recognise and honour the suffering experienced by the national community during the war, by celebrating, in Rome, the remains of an unknown soldier, ideally representing the father, the son, the husband lost and never found. On 11 August 1921, the Parliament decided that on the forthcoming 4 November, third anniversary of the victory against Austro Hungarian troops¹⁵, the body of an unknown soldier killed in action was to be solemnly buried in Rome, at the “*Vittoriano*”.

A commission headed by Lieutenant General Giuseppe Paolini, decorated with a Gold Medal for *Military Valour*, was entrusted with the task to exhume the corpses of 11 unidentified Italian soldiers killed during the 1915-1918 war in the field of the most advanced battles, from the Alps to the Adriatic Sea, and then to choose the one to be posted at the *Vittoriano* and bury the other ten soldiers in a cemetery behind the old basilica of Aquileia¹⁶ (Udine).

On 3 October 1921, the commission went to Rovereto (Trento) to search for the first body. It is to be noticed that, during the war, dead soldiers were buried, whenever possible, in small cemeteries behind the trenches, very often in common graves; in the event of the battlefield taken over by the enemy, the caring of the dead soldiers was depending on enemy feelings. After the war, the small cemeteries were abandoned and the remains relocated in larger cemeteries. At that time,

¹⁴ An artillery officer who some years later became a promoter of the doctrine of “*airpower*” and the importance of “*strategic bombing*” in aerial warfare.

¹⁵ After the disastrous Battle of Vittorio Veneto (October 1918), the Austro-Hungarian Army was in shambles. The defeat turned into a rout no longer recovered. On 4 November 1918, the armistice between Italy and Austria came into force. The war ended.

¹⁶ Aquileia was an ancient Roman colony founded in 180 BC. Until the fourth century, it was one of the main military, commercial and religious centres of the Roman Empire, as witnessed by the great Christian church of Theodore.

near Rovereto stood the largest war cemetery in that area, with 11 000 corpses of Italian and Austro-Hungarian soldiers, of whom about 6 000 were unknown. The second body was found on Mount *Pasubio*¹⁷ (Trento) where a “*mine against mine*” war was fought. Since infantry and artillery were sheltered in caves, both parties used to mine the bottom of the mountain for “*hunting*” the enemy; at each explosion, caves and tunnels collapsed, killing hundreds of soldiers. The third body was found on Mount *Ortigara* (Asiago)¹⁸ and the fourth on Mount *Grappa*¹⁹. For the fifth corpse, the searches were made in the cemetery of Montello²⁰ (Treviso), which housed about 9 000 tombs, almost one third of whom unknown.

The corpses of the five soldiers, laid into coffins, were carried to Conegliano (Treviso), where a religion service was organised. One of the coffins did not hold an Italian flag; a family of the town offered a flag for wrapping it around the coffin. That flag is today still honoured at the barracks “*Matter*”, in the town of Mestre, home of the “*Serenissima*”, the Italian Army amphibious assault regiment.

The sixth body was drawn from a war cemetery in the area of Jesolo (east of Venice), near the mouth of “*Piave*” River, an area where the navy riflemen had fought²¹. The Committee then moved in the area of *Cadore* (Cortina d’Ampezzo) for collecting the seventh corpse. The eighth body was taken on Mount *Rombon* (Julian Alps), near *Caporetto*²². The ninth body was discovered during research on Mount *San Michele* (Gorizia), after digging underneath a rotten wooden cross. The tenth corpse was collected in the area of *Castagnevizza del Carso*²³, near the ruins

¹⁷ The area of Mount Pasubio was declared “*Sacred*” by Royal Decree in 1922. Across the landscape, there are still visible bomb craters, trenches, tunnels and shelters.

¹⁸ 2 105 metres in height, it was the place of tough fights between Italians and Austro-Hungarians, both of whom fell by the thousand, trying to take its summit.

¹⁹ 1 775 metres in height, it is part of the Veneto Prealpin region, isolated between Brenta and Piave Rivers. After the Italian defeat at Caporetto (October 1917), Monte Grappa became the pivot of the Italian defence. The Austrians tried several times, without succeeding, to get it in order to have access to the Veneto plain.

²⁰ In 1918, the Montello hill was in the middle of the defensive line of Piave. A British war cemetery is also located in the area, with the remains of about 500 soldiers who fought alongside the Italians.

²¹ The Regiment “*Fucileri di Marina*”, established in 1915, particularly distinguished itself in the defence of the city of Venice, repeatedly attacked by the Austrians from land and sea. In 1919, it assumed the name “*Navy’s Infantry*” and adopted the winged lion of Saint Mark (symbol of the city of Venice) as its logo.

²² Currently Slovenian territory, Caporetto (Kobarid) is a small village located in the Upper Valley of Isonzo River, very close to the Italian border. In that area, between 24 and 26 October 1917, the Austrian Hungarian Army breached the Italian front, forcing the Italians to withdraw to the Piave River.

²³ Castagnevizza del Carso (Kostanjevica Krasu), today in the Slovenian territory, is located 7 km from the Italian border. The village marked the eastern front most advanced line of the Italian troops, on Carso highlands.

of a trench, under a heap of stones. Once stones had been removed, the commission detected the remains of an unidentified soldier with legs broken above the knees, a large gash across the head and chest injuries; presumably, he was hit by a grenade. The eleventh body was found in a battlefield between the slopes of Mount *Hermada* (Carso)²⁴ and the Timavo River²⁵.

On 27 October, the eleven unidentified corpses, laid down in wooden coffins, holding no sign of distinction, were transported to Aquileia and placed inside the old basilica, at both sides of the altar.

For the selection of the coffin to be taken to the Vittoriano, the commission had decided to entrust a mother, among the many ones who could not find their dead sons. Many cases were investigated and eventually the choice fell on Maria Bergamas, mother of Lieutenant Antonio Bergamas, *irridento*²⁶ of Trieste, rewarded with a Silver Medal for *Military Valour*. He had been killed during an attack in the area of Tonezza (Asiago) on October 1916 and his body not being recovered, he was then listed as *missing in action*.

On 28 October 1921, day of the ceremony, the church was full with citizens and authorities. Mothers and widows of war attending the ceremony were reserved a place to the right of the altar. At 11:00 a.m., announced by the sound of the “royal march” and by military honours, the Duke of Aosta²⁷, the Commander of 3rd Italian Army, entered the Basilica and the ceremony began.



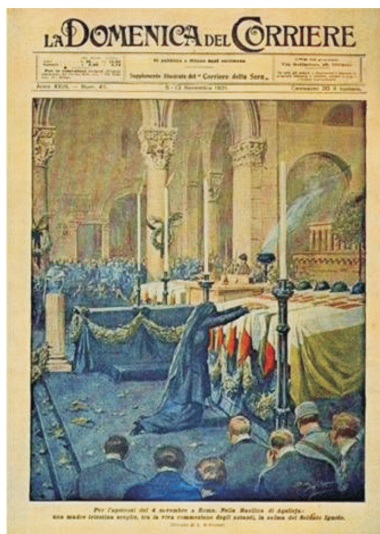
Mrs Maria Bergamas, mother of Lieutenant Antonio Bergamas, missing in action

²⁴ It was a stronghold in the Austrian defence of the city of Trieste, at that time under Austrian domain.

²⁵ “*Timavo*” (Reka in Slovenian) is a river of the Carso Mountains that originates on the slopes of the Mount Nevoso (Sneznik), in western Slovenia. Coming close to the city of Trieste, in Italy, it rushes into the cave of S. Canziano and keeps streaming underground for about 40 km, until it surfaces for about 2 km before reaching the sea, into the Gulf of Trieste. Because of such a feature, the river has been famous for its mythological nature since the ancient times among the Greeks (Strabo) and Latins (Virgil, Pliny).

²⁶ The Italian *irredentism* spread around 1860 as an anti-Austrian movement, aiming for the union to Italy of the territories of Trentino and Venezia Giulia, the city of Fiume and Dalmatia, regarded as part of Italy, but under the rule of the Austro-Hungarian Empire. Antonio Bergamas was born in Gradisca d’Isonzo (Trieste) on 9 October 1891. In 1914, he was called up by the Austrian Army. He defected in the fall of 1914, taking refuge in Italy. In 1915, he volunteered in the 2nd Infantry Regiment with the “conventional name” of Antonio Bontempelli. Conventional names were assigned by the Italian army to volunteers, who legally were still Habsburg Empire subjects.

²⁷ Emanuele Filiberto of Savoy, Duke of Aosta, born in Genoa in 1869. During World War I, he commanded the 3rd Army, heavily engaged on the eastern front. Never “*defeated in battle*”, he was also



Maria Bergamas, at the old basilica in Aquileia, chooses the coffin of the Unknown Soldier

At the end of the funeral service, the bishop of Trieste blessed the coffins with the water of the Timavo River; then it was time for choosing the “Unknown Soldier”. Maria Bergamas was escorted by Lieutenant General Paolini to the coffins and left alone. There was complete silence in the church and sobs from attendees could be heard. Maria Bergamas firstly knelt in front of the altar and then rose to her feet standing still; it seemed she was lost. After a while, she slowly walked along the coffins. Reaching the next to the last one, swinging on herself, she shouted her son’s name across the church, then dropped to her knees and, while crying, she hugged the coffin. The choice of the *Milite Ignoto* was made. The crowd released the tension in screams and tears.

The next morning, the coffin of the *Milite Ignoto* placed on a special train left Aquileia towards Rome. During the journey, the people gathered along the tracks and railway stations silently paid their homage to the corpse. The train stopped in Venice, Bologna and Arezzo before reaching “Rome Termini” railway station, on 2 November 1921, where thousands of flags and the whole Royal family awaited²⁸. The coffin was then escorted to the basilica of “Santa Maria degli Angeli”, located in Piazza dell’Esedra²⁹ where it stood for the tribute of the citizens of Rome.

On the morning of 4 November 1921, at the basilica in Aquileia, the funeral of the ten comrades of the “Unknown Soldier” was officiated by the military chaplain of the 3rd Army. At the end of the religious ceremony, the coffins were shouldered to the “Cemetery of Heroes”, set in the backyard of the church, and, one by one, let down, in a common grave underneath the newly built altar.

given the title of “Duca Invitto”. He died in 1931 and was buried, by his will, among the soldiers in the military memorial of “Redipuglia” (Gorizia), the largest one established in Italy, dedicated to the memory of soldiers who died during the First World War.

²⁸ On 2 November 2011, during the celebrations of the 150th anniversary of the Unification of Italy, a special train from Aquileia to Rome retraced the journey that took the body of the Unknown Soldier to the Capital 90 years ago. On such an occasion, the train was welcomed in Rome by President of the Republic, Mr Giorgio Napolitano.

²⁹ Today renamed as Piazza della Repubblica.

In Rome, meanwhile, everything was ready for the final ceremony. At 9:00 a.m., the coffin of the Unknown Soldier, placed on a horse-drawn gun carriage, started moving, along via *Nazionale*, towards *Piazza Venezia*, already packed with people. The procession was open by military formations in arms, followed by military flags and banners of municipalities decorated with military valour. A huge crowd was massed along the path and thousands of Italian flags were and flying at the windows.

At the Vittoriano, mothers and widows of war, people decorated for bravery, highest military and civil authorities, members of the Government,



The special train with the coffin of the Milite Ignoto



Crowds along the tracks kneel down to pay respect to the Unknown Soldier



The tomb of unknown soldiers at the "Cemetery of Heroes" in Aquileia (Udine)



The Unknown Soldier coffin escorted to the Vittoriano



Crowd at Piazza Venezia

*People standing
at the Vittoriano for the arrival
of the Unknown Soldier*



*King Vittorio Emanuele III
at the tomb
of the Unknown Soldier*

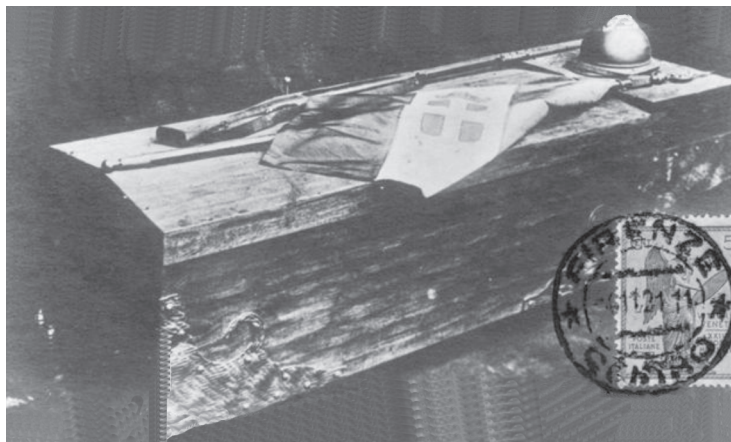


King Vittorio Emanuele III and the whole of the Royal House were all standing at the Altar of the Fatherland.

At 10:00 a.m., shots of cannons fired from on top of “*Gianicolo*” and “*Monte Mario*” hills³⁰ marked the arrival of the procession to *Piazza Venezia*. At that point, bells from all churches in Rome tolled to glory³¹.

Once at the base of the *Vittoriano*, the coffin was taken over by military personnel rewarded with Gold Medal for *Military Valour*, shouldered way up the long flight of stairs and placed on the gravestone, under the statue of the Goddess *Roma*. The drums of the bands, wrapped in mourning, marked the moment with a haunting roll. A soldier put an infantry-type helmet on top of the coffin.

The King stepped forward and pinned on the flag set upon the coffin the Gold Medal for *Military Valour* that himself, “*motu proprio*”, had decided to grant



*The coffin
of the Unknown Soldier*

³⁰ Hills surrounding the old town, right west of the Tiber River.

³¹ By order of the government, at the same time, in all municipalities of the Kingdom, all activity had to cease and all bells to be tolled.



Honour Guard permanently posted at the tomb of the Unknown Soldier

to the *"Milite Ignoto"*, with the following motivation: *"Worthy son of a valiant ancestry and millennial civilisation, firmly resisted in the most competed trenches, lavished his courage in the most bloody battles and fell fighting, with no hope for prize other than the victory and greatness of the Fatherland"*. Drums increased their harrowing roll. The coffin was then lowered into the grave and the tomb was closed by a stone holding a Latin inscription *"Ignoto Militi"*. It was 10:36, 4 November 1921. Since that moment, the eternal fire has been burning on at the *Vittoriano*³² and an honour guard has been posting at the sides of the tomb.

Maria Bergamas died in 1952 in Trieste. Her last will to be buried next to *"her ten sons"* at the *"Cemetery of Heroes"* in Aquileia could only be fulfilled in 1954, when the city of Trieste was handed back to the domain of Italy³³. At her tomb, under the statue of Jesus Christ removing his hand away from the cross to caress the wounded soldier, an inscription was engraved, as an eternal reminder: *"Maria Bergamas for all mothers – 4 November MCMLIV"*.



Cemetery of Heroes, Aquileia

³² Currently, the *Vittoriano* also houses a *"Flag Memorial"* where the *"combat flags"* of military units disbanded since 1948, the birth of the Republic, are kept.

³³ On 26 October 1954, Italy officially resumed sovereignty of Trieste, replacing the Allied military government that had run the city from 12 June 1945, when the occupation by Yugoslavian troops ended.

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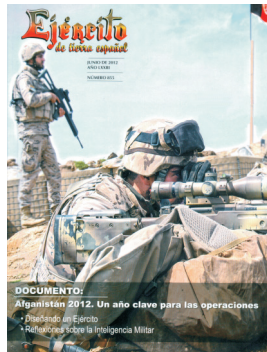
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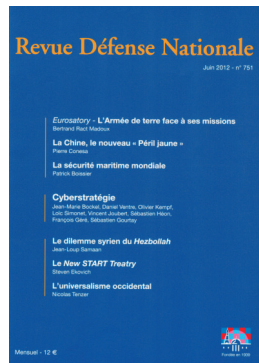
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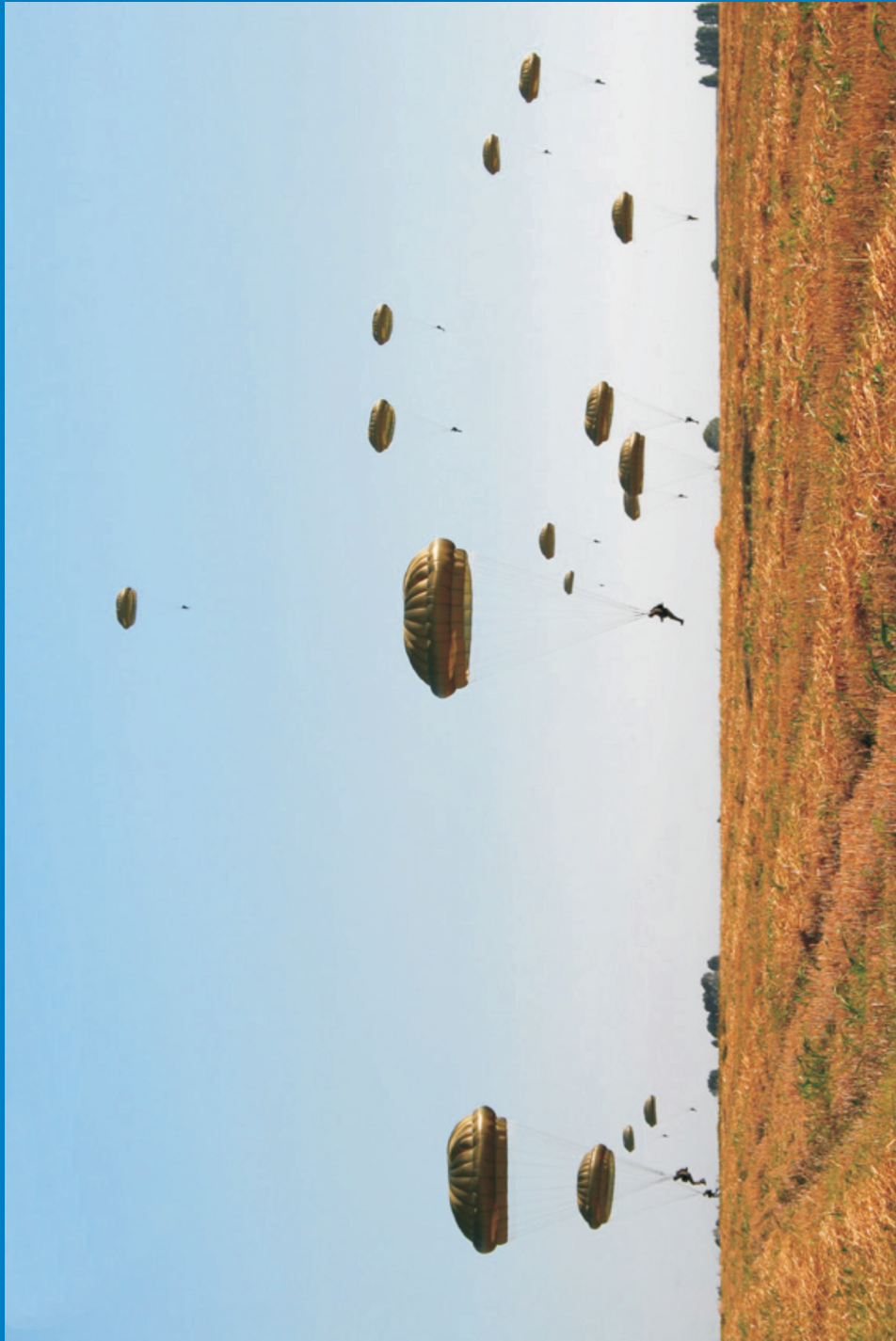


King Ferdinand I and General Eremia Grigorescu watching the evolution of operations at Cireșoia

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