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ASSESSMENT INDICATORS TO RATE THE ACCOMPLISHMENT OF ANTI-AIRCRAFT RESPONSE MISSION

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The complexity of the military actions related to the antiaircraft response, the complete and in-depth knowledge of the systems' state implies, among others, a permanent measurement of the planned actions progress. Permanent changes, a priori accepted, can decisively influence the guidelines and conditions for carrying out a plan of operation, deviating it practically from the commander's intention. In order to maintain the initial design, but also to recognize the inherent turning points, it is necessary to establish relevant evaluation indicators starting from the action planning stage, which offer actionable sustainable decision alternatives. The accomplishment evaluation of the anti-aircraft fire system's mission cannot and should not be represented only by (pre)determined figures; it must treat, subjectively and objectively, the state of the system, while also providing irrefutable evidence of meeting the stated objectives.

Keywords: assessment; indicator; anti-aircraft response; system.

„Measure what is measurable and make measurable what is not so".
Galileo Galilei

In a very broad sense, any management process is defined, conceptually, by the following functions: planning, organization, coordination – training and control – assessment. In relation to the way in which these attributes are implemented and exercised, the procedural staging of the management (temporal and actional), integrates three phases: forecasting, operationalization and, not least, assessment and interpretation of results.

Regardless of the functional area or the type of organization, the final phase, respectively the assessment and interpretation phase, is characterized by the preponderance of exercising the control-assessment function, both on the achievement of the objectives, the correctness of the decisions and procedures applied, as well as the corrections generated by the systemic interactions. Therefore, establishing the methods, instruments and means of measurement, simultaneously with the application of the performance indicators – as a standard function – and the incremental assumption of the corrective measures, acquire defining valences in the fulfillment (or not) of the organizational objectives.

Speaking of assessment, we cannot help but mention the performance. In fact, the assessment, as a process, implies, *inter alia*, the establishment of minimum performance governance thresholds, which must be analyzed within the limits imposed by the environment in which they operate. At the level of an anti-aircraft fire system, the one that generates the active anti-aircraft response effect, the performance is itself a management process, reflecting, static and dynamic, the level of organizational maturity. This (performance) *revolves* around the received mission, contributing to the adoption of flexible, supple and dynamic decision-making.

Even those who are unfamiliar with the concepts of tactics, strategy or organizational management have spoken at least once about the cost/benefit ratio, even in its primary, rudimentary sense, of obtaining personal advantages. Transposed into military language, this eternal decision-making dilemma *would be translated* by a reference to the sufficiency of the actions *vs.* the final result or, in other words, how effective they are as a whole in counteracting the potential enemy; how far I am willing to engage my resources so that the victory obtained is not, for example, *á la Fabian*; what are the indicators that cause me to continue or to stop; how to manage to overcome critical moments, using accepted resilience values.

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Some of the key terms of this article are well known to all intelligence users in the military environment. Referring strictly to the anti-aircraft response, its meaning is superimposed, up to a point, to that of the combat function assimilated to the air defence. The differences are nuanced, implying the detailed knowledge of the role, place, characteristics, maneuverability, etc., of the artillery and anti-aircraft missiles structures, in accepting the violent characteristic of the first, in all the stages of a military conflict, in delimiting the passive side from the active ones and, why not, creating the obvious emotional impact following the effects, obtained by kinetic strikes.

Returning to a specific spectrum of analysis, that of the antiaircraft response in its implicit relationship with the air enemy, the assessment of the combat actions creates the input data for the decision-making process, in a *decision-type loop* relationship (action-reaction-counteraction). The aid granted to the decision maker refers mainly to deepening the understanding of the operational environment (as a reaction system), knowing the progress of the mission (by marking the tasks performed) and by guiding to the future projection of the forces, planning, prioritizing and introducing them into combat. The adaptive function is the answer to ”why so”, conditioned by ”what we must do” in three areas:

1. Evaluation of the task by evaluating the performance (are we doing things right?);
2. Assessment of the operational environment (do we do the right thing?);
3. Evaluate the operation by evaluating the progress (do we accomplish the mission?).

The assessment indicators focus on respecting the components of the operational design, explaining by appropriate values whether the initial plan (tactical thinking) of the commander subscribes to the success criteria, established in the planning stage. Based on these, the commander follows the progress, estimating permanently, quantitatively and qualitatively, the degree of involvement of the available resources. This balances the dependence on human judgment (the qualitative factor) with direct observation and the mathematical rigor (the quantitative factor), in order to reduce the probability of making wrong decisions. *Why* is the link between cause and effect, and the indicators the absolute values of optimizing the systemic behavior of the anti-aircraft fire system.

Concepts regarding mission assessment

The impact of the technological evolution of the means of striking from the air, the true paradigm of the reconsideration of the spatial dimensions of the *different war*, gave theoreticians, studying the phenomenon, the possibility to rethink the concept of anti-aircraft response, analyzing it directly, causally, in relation to the amplitude of the aerial threat. Passing beyond the definition from the dictionary*, the anti-aircraft response* represents the set of determined actions, planned in a unitary conception, in an actional and space field extended to all the structures of the system[1]. As a result, the essence of these efforts consist in the actual battle with an aerial enemy, carried out by the active vectors (artillery and anti-aircraft missile systems), with the general purpose of firmly defending the sovereign airspace, maintaining the freedom of movement of its own forces and to protect the critical territorial objectives / infrastructure.

The defining parameters in this multiple cause-effect assessment relationship (of reactive type) are identified in the following characteristics of the overall military actions: discovery and timely identification; precision of strikes at high speeds of the targets; combat/destruction of enemy platforms in a short time; adequate maneuvering of forces, means and fire; misleading; protection (in all its forms); resource optimization; judicious distribution; initiative; surprise (and avoidance of it). Moreover, from my point of view, the action of the active side of the anti-aircraft fire system produces its effects in all phases and stages of a military conflict, through the two components: deterrence and menace. Therefore, the role of the indicators for assessing the degree of accomplishment of a mission is very complex, allowing the generic plans to be readjusted by the ones of gradual response, integrating the dedicated crisis response system with the other strategic elements or means.

In paraphrasing Foch, we can say that, in the absence of reliable and stable indicators of assessment, continuous changes, whether it is organization, structures or maneuvers, are reached. Before analyzing the role of assessment indicators, however, I think it is necessary to briefly define the main concepts related to mission assessment and whose application helps to support the decision-making process as a whole.

Thus, the assessment represents:

• A continuous process that measures the overall efficiency of employing combat capabilities during the conduct of military operations;

• Determining the progress in fulfilling a task, creating conditions or reaching an objective[2];

• The activity that allows to measure, from a military point of view, the progress and the result of a campaign / operation, as well as the statement of conclusions and proposals, in support of the decision making[3];

• Activity by which the information on the status and functioning of a system of the results it obtains are collected, processed and interpreted, activity that leads to their assessment on the basis of criteria and to ameliorative decisions[4];

• The multidimensional process of obtaining information, with the help of assessment tools, in order to elaborate value judgments, related to the proposed criteria and which are finalized with assessments that allow decisional corrections[5].

In NATO, operations assessment is defined as ”the function that allows the measurement of the progress and results of operations in a military context and the subsequent development of conclusions and recommendations that support decision making”[6].

NATO 2011, 1-1). It is generally equivalent to the ”monitoring and assessment” used by many government agencies and civil and international organizations[7].

Assessing the progress of a mission, based on processes of objective and subjective measurement of data and information collected and verified from multiple sources, provides a set of useful tools to the commander and his team, to increase the performance and effectiveness of the actions, as well as to verify the degree of mission accomplishment.

The assessment of the mission[8] is inherently conditioned by the factors of time, resources and space, the desired effects having to be associated with the terms, the optimization and the multidimensional classification of the military action. As a distinct stage, I consider that the assessment should be applied to any decision making cycle, once the decision points (pre) built in the operational design have been reached. The psychological and information effects are much more difficult to evaluate, due to their subjective and sometimes redundant nature, and where the causal relationships between actions and effects are more difficult to establish. In such situations, assessment tools are based, mainly, on often intuitive perceptions, being influenced by the level of culture and understanding, specific to the situations themselves. Synthetically, the assessment components are presented in Table no. 1.

The critical variable is represented by that key resource or condition integrated into the operational environment that has a direct impact on the objectives and can affect the achievement of the desired final state, by influencing the effects.

In a systemic approach to the concept of anti-aircraft response, *the effects* can be defined as: the physical or behavioral state of a system, following an action, simple or complex, or another effect; the result or consequence of an action; a change in the condition of the system, its behavior or its states of freedom[9]. Derived from objectives, the effects must be interpreted as a link between these and the tasks, which gradually measures the decision.

It is imperative to understand that, regardless of the method of planning chosen, our actions will create effects, both positive and negative, thus affecting the performance. Their assessment will generate a complex range of results, throughout the entire mission, which will have to be exploited in a timely manner, both in time and in space.

Within the operational environment, we try to determine the causality of the effects, in order to develop further actions, directed to the desired result (the final state). Part of the planning process consists in estimating the outcome of actions. Even if it is an extremely complex task, especially when there are several distinct lines of effort, and we can rarely be sure of an outcome, we must issue value assumptions, precisely to establish the causality. The connection between ”X” – if we do – and ”Y” – we expect the result – becomes important only if we have established a method for determining the progress, which also includes assessment indicators.

End State – A set of necessary conditions that define the achievement of the commander’s objectives[10].

As Clausewitz wrote, ”no one begins the war – or, rather, no one should think about doing it, without first having it clear in his mind what he intends to achieve through that war and how he

Table no. 1

ASSESSMENT COMPONENTS – SYNTHETIC

Assessment issues	Task assessment	Operational environment assessment	Assessment of the mission/operation
Source/basis for criteria	Tasks/OPORD	Desired conditions / OPORD	Final objective (success criteria)
Criteria	Essential MOP	Essential MOE	MOE
Indicators	Mostly quantitative (for example, is task accomplished to the standard?) May the commander have a qualitative contribution?	Balance (quantitative and qualitative)	Balance (quantitative and qualitative)
Means of data collecting	Reports (subordinated structures)	Reports (subordinated structures); third parties	Reports (subordinated structures); third parties
Analysis and assessment	Current operations; the experience of the commander (quality)	Interaction between qualitative commander / decision cell) and quantitative (evaluation group); Based on parallel assessment; Synthesis of evaluation	Combination between quantitative and qualitative; Analytic interpretations.
Periodicity	Daily	Periodically (formal / informal – in phases)	Depending on the effects
Interactions	Staff - recommendations / commander - decisions		

Source: *own*

intends to lead it. The first is its political purpose; the second is its operational objective”[11]. Many local or foreign publications explain the importance of knowing the final state, not only as an exaggerated desire to win, naturally otherwise, but especially to understand the ways and means of achieving it.

The performance measurement, technically defined, represents a set of criteria necessary for evaluating one’s own actions, closely related to the performance of the tasks received[12]. As a process, it focuses on identifying, monitoring and communicating results through the use of performance indicators. The performance measurement is preoccupied with the *assessment of the results*, as opposed to the performance management, which includes the decision making process based on the results of the measurement, in order to obtain the desired performance. Performance measurement is a necessity to support the performance management system, facilitating the understanding, management and improvement of the results, obtained by measurement.

The indicator, in the sense explained by the dictionary, represents a numerical expression for the quantitative characterization of a social-economic phenomenon from the point of view of composition, structure, time change, mutual connection with other phenomena, etc [13]. Adapted to the military environment, it is an information carrier that, in the context of expressing the assessment, provides information about performance and / or effectiveness.

At all levels, the commanders must enforce the application of assessment indicators to track the progress of the task/mission/operation. Indicators can help decision makers both directly and indirectly. I believe that there are three major technical goals of these: providing information on the executive cleavage (in all forms); setting priorities by identifying key factors that cause pressure on the mission; monitors the effects of responses to enemy reaction (Figure 1).

The efficiency indicators (MoEs)[14] are: 1. The criteria used to evaluate their own actions and which refer to the performance of tasks; 2. Instruments that evaluate changes in system behavior, capacity or operational environment[15].

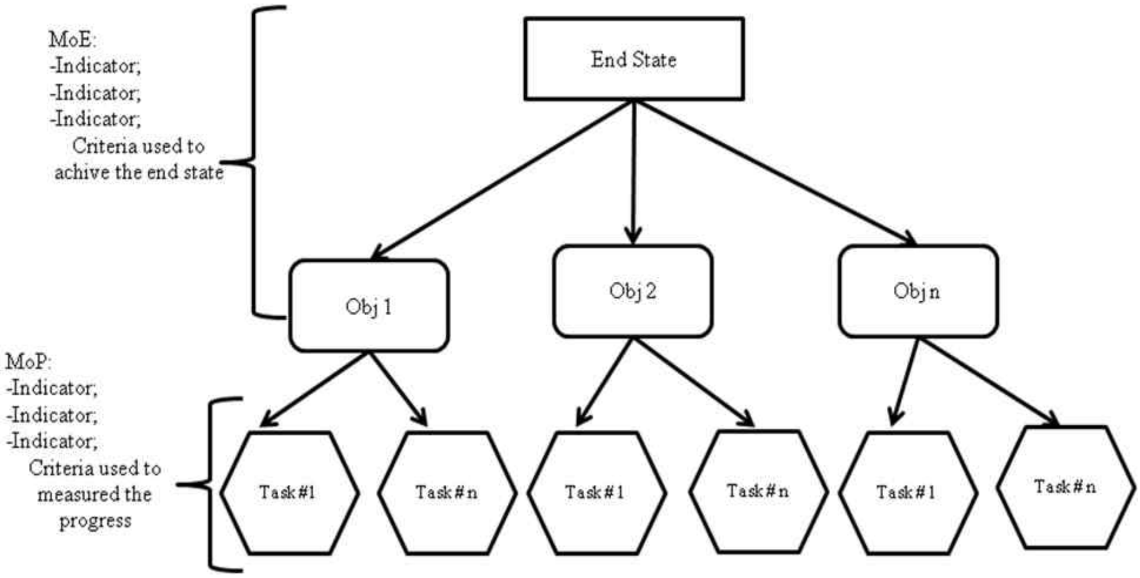

Figure 1 *The hierarchy of indicators according to the final state*
Source: *own*

At their basic level, the MoE should be developed to measure that information from the operational environment that show signs of progress towards creating the conditions, described in the final status of the commander. MoEs are evaluated using subordinate measuring instruments called indicators, which are information elements related to them. Each of the conditions can be measured by one or more MoEs, while each MoE can be supported by one or more indicators (Figure 2).

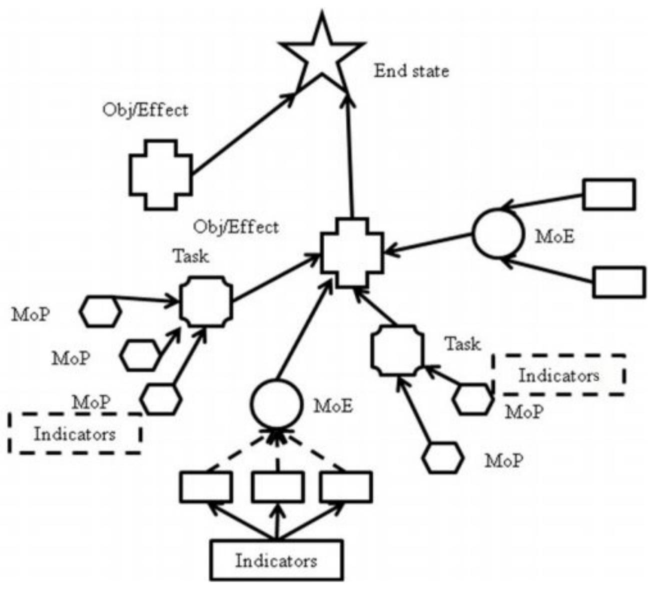

Figure 2 *Relationship between MoP - MoE - Indicators - Final status*
Source: *own*

The establishment of the MoE during the planning is a very important activity, the correctness of which results in the success or the failure of the mission, the wrong measurement could prejudice the recommendations or the subsequent decisions. In a hypothetical example, we can measure the number of destroyed or combated aerial platforms (one criterion), or the number of anti-aircraft defended objectives that had freedom of movement, due to the action of the appropriate fire system (second criterion). The perception of one’s own actions changes radically if we refer to the first criterion, no one denying that a large number of destroyed enemy targets ensures the success of one’s own mission!

Performance Indicators (MoPs) are a set of measurements or values that reflect performance in terms of progress towards reaching a goal. In other words, it is a tool within the reach of the decision maker that reflects the degree of fulfillment of some determining parameters of the system.

From the point of view of measurement reference, both MoE and MoP can be internal and external, qualitative and quantitative, with characteristics exclusively related to endogenous interactions (reference system – component elements) and exogenous (reference system – external environment). (Table no. 2).

Table no. 2

KEY FEATURES OF MoP / MoE / INDICATORS

MoE	MoP	Indicator
Answer the question: Are we doing the right thing?	Answer the question: Are we doing the correct actions (the right ones)?	Answer the question: What is the status of MoEs and MoPs?
Measure the purpose (the extent to which it is achieved)	Measures how the task is performed	Measures raw data inputs to enable MoE and MoP
Measure why? in the mission status (organizational status)	Measure what? in the mission status (organizational status)	Use the information to measure why? and what? is possible
No hierarchical relationship with MoP	No hierarchical relationship with MoE	Subordinate MoP and MoE
Often formally follows plans (design)	It often follows the execution matrix formally	Often formally follows plans (design)
Pretty difficult to choose the right ones	Pretty easy to choose the right ones	Usually just as difficult to select correctly either MoE or MoP.

Source: *Adapted according to the Operations Evaluation Manual*, S.M.G.-60, Bucharest, 2012.

It is important to endorse the main difference between MoP and MoE. As I stated earlier, the first (over which the planners have control) measures *the state of their own action*, of the effort focused on one direction, but not the resulting changes; the second, by observing system changes, measures the *impact* resulting from the progress of the operation, but without having direct control over it. For example, for an anti-aircraft fire system, a MoP can be represented by the optimization of anti-aircraft defence objectives (allocation of forces), and an MoE can be represented by the number of aerial targets combated / destroyed with an *N* number of target channels. Therefore, there is a type of inner-inner relationship (for MoP) and one inner-outer (for MoE).

Anti-Aerial Reply And Assessment Indicators

The former US Secretary of State, referring to the need to establish performance and efficiency indicators, stated in October 2003 that "Today we lack the metrics to know if we win or lose the global war on terrorism". Of course, in the years after 9/11, 2001, it was enforced, more than ever, the change of the state of the global security system, considered to be impregnable until then. And, among other things, it was necessary *ab initio* measurement of the efficiency of the international reaction, initially essentially military, against some proven terrorist organizations.

Trying to determine a list of assessment indicators for measuring the degree of antiaircraft response mission is not an easy task. By making reference to the value expression of the combat potential of a military structure, the factors taken into account in that complex equation should also be found in establishing at least the MoP[16]. Moreover, each component of the multi-system has its own limits, doctrinally, technically - tactically and procedurally positioned. And if, above all, we overlap the role and place of anti-aircraft artillery and missile forces, in a complex, multi-dimensional, integrated and dynamic approach, we have the complete image of an inter-disciplinary reporting of the assessment of an anti-aircraft combat mission.

An efficient assessment includes both quantitative (observation-based) and qualitative (cognitive) indicators. An essential aspect is precisely the dimensioning of the relationship between quantity and quality, between human judgment and mathematical rigor, between process biases and elimination of observation errors. The appropriate index depends on the situation, the nature of the mission, but also on the resources and sources of assessment.

In the assessment process, a quantitative indicator (Ic) is always based on observation data, which provides the information support about an MoE or MoP. For example, the number of combat helicopters fought at the second moment of the defensive operation, while ensuring the air defence of the forces and means of the armored brigade. During the data collection process, the choice of sources, methods and standards for observation are very important, requiring judgment (experience, knowledge, intuition), both for their integration into the MoE or MoP, as well as for refining and eliminating redundancy or information inflation.

Qualitative indicators (CI) represent *something* very complex, but that cannot necessarily be expressed metric (*opinions / views* of the commanders, as a decision maker, the organizational experience transposed in a specific way of action, a state / trait or an essential factor of the system). For example, morality is, in my view, a qualitative indicator, impossible to establish in absolute values, but which can be estimated by expressing the judgments of the experts in the field.

Differentiating between qualitative and quantitative indicators is very useful, which requires in-depth knowledge of the components of the operational environment, their operating *laws*, as well as the links between them. For an anti-aircraft response system, for example, knowing the launch locations of the UAVs and their number is a quantitative indicator, as opposed to their type, which is qualitative. Combining them will lead to an estimation by the commander regarding future enemy actions. The systemic reaction is also found in its own similar indicators, which must be evaluated only after the intervention of specialized systems (ISTAR, combat, logistics, etc.).

From my point of view, the establishment of the MoP is a more incremental activity, resulting, first of all, from the observation the results obtained during the exercises of different types. Most often reflected in the TTP, the performance indicators related to the assessment of an anti-aircraft response can be *ante factum* established, accepting the following main conditions: to be observable; to have a relationship between them and their actions; to be measurable, specific and concrete; to relate to the time factor; to clearly reflect the changes in a relevant time period.

The activity of establishing the efficiency indicators is much more sensitive and difficult, especially since, as doctrinally related to the actions of a hypothetical aerial enemy, the anti-aircraft fire system cannot (yet) have sufficient resources to anti-aircraft defend all targets from AO. Of course, in one direction it can be considered that the conditions for the rejection of air attacks are fulfilled, but in my view we should not confine ourselves, only to the direct actions (aerial – antiaircraft), but also to the preliminary, complementary or support (modeling).

For example, taking into account combat / destruction probabilities, as indicators, supports the resource optimization process, but does not fully resolve maintaining / (re) gaining control of airspace. On the other hand, a maneuver (by forces and means or fire), executed properly, can produce more effects in the general context of the fight, of course, than a battery of anti-aircraft missiles (as a target-generated effect).

The efficiency indicators must be established and integrated at all times of the battle, from the planning stage, evaluated and updated after each decision point, according to the following main criteria: organization of the anti-aircraft response system; the number of objectives to be anti-aircraft defended; the estimated calculation of the enemy’s aviation / helicopter / UAV resource; the type of major operation; estimated force ratio (COFA[17]).

From the point of view of the components of the multi-air anti-fire system, the effectiveness indicators will be found next to the fields: information; decision making; shooting; of support; CIS; protection.

From the point of view of the degree of detail in relation to the actions of the enemy, MoE can be exhaustive or minimal. Here we can strictly summarize how many enemy aerial platforms we destroyed (minimal) or how much we fought, but not only by kinetic actions, of direct hit, but also by maneuver, misleading, aerial ambushes, deception, etc. (Exhaustive).

The components of an MoE reported strictly from the moment of receiving the mission to combat / destruction must be related to: evaluating the effects produced by the anti-aircraft fire system as a whole; assessment of the side effects; assessment of the effects produced by the target channels; resumption of response.

In a strict cause-and-effect relationship, one can try to develop indicators that: 1. evaluate the physical and mental effects; 2. evaluate the functional effects; 3. self-evaluate; 4. permanently ensures an informational assessment (determining the informational report). In my opinion, the most relevant but also difficult to verify are the functional ones, which can allow, for example, an assessment of the time required for the enemy to resume the mission, reconfigure hit packs, etc.

We know that the anti-aircraft response is not just about launching or firing rockets or anti-aircraft artillery. The intermediate stages of preparation involve specific actions, within a unitary conception and for which specific assessment indicators must be established.

We may be tempted to believe that assessment indicators must be accurate values, well within absolute limits. By studying the anti-aircraft defence actions of Iraqi and Serbian troops in response to air strikes in *Desert Storm* and *Allied Force* operations, we were able to conclude that, in order to change the state of a system and achieve the set goals, it is necessary to determine critical variables, without which you cannot impose MoE. The time, the quality of the technique, the outrunning in the decision (transposed into an action-time relationship), the morale and the amount of timely information are just a few examples of critical references, even though relative.

I can realistically propose to prohibit a direction only if all the conditions are accomplished (technically, tactically and temporarily), without shading the action expressing an unrealistic intention of the enemy. This is why estimating its possibilities and permanent monitoring of actions, together with their own assessment, can determine the approximation of variables and their transposition into acceptable system conditions.

The methods and techniques for assessing the degree of mission accomplishment are also important for any decision-making element. Depending on the aggregation level of the structures, we can apply for a direct or indirect observation, for a checking-interpreting list (Check List) or assessment matrix (Assess Matrix). These can be common or adapted to each situation, with common or independent sources, objective or subjective, detailed or with a high level of generalization. For all these, the evaluators must understand the strengths and vulnerabilities inherent in the designed assessment framework and ensure the concordance between the conclusions (as created effect) and the initial state (the intention expressed).

Conclusions

The anti-aircraft response, like any combat action, has its *a priori* limits. Accepted by numerous systemic conditioning (sometimes also by previous experiences), these should not affect the generating of an expected reaction effect in conjunction with their own performance and the doctrinal guidance of the decision maker.

In the dynamics of military actions, the importance of valuing the assessment indicators has not only retrospective, *post factum* correction value, but also acquires valences of deductive predictability, leading, inevitably, to action and decision optimization. Their operational function fuels the initiation of new reactions, being the ”providers” of the information required by the managerial acts and processes carried out within the dedicated system. In extending this functional dimension we find the optimization of the information-decision-action cycle, an aspect that facilitates the quantification of mission accomplishment.

Regarded by the achievement of the objectives and the performance of the tasks under acceptable conditions and predetermined time, the assessment indicators subordinated to the antiaircraft response reflect the entropic state of the anti-aircraft fire system, after the final validation. They also provide us with the quantitative and factual basis for the evolution of the projected operation, thus eliminating cognitive errors, empiricism and emotional subjectivism.

NOTES:

1 I. Mogoș, ”Support for combat operations of the Ground Forces”, *The Doctrine Conference of the Ground Forces*, Bucharest, 28-29 October, 2009.

2 *Commander's Handbook for Assessment Planing and Execution*, Version 1.0, Suffolk, Virginia, September 9th 2011, p. I-1.

3 *Operations Assessment Manual, S.M.G.-60*, October 02, 2012, p. 9.

4 academia.edu/14259576/Teoria_si_Metodologia_Evaluării, accesed on September 21, 2019.

5 academia.edu/37710847/Tema_nr._2_Metode_tehnici_și_instrumente_de_evaluare_ROLURILE_MANAGERIALE_ALE_CADRULUI_DIDACTIC_

PLANIFICARE_ORGANIZARE_COMUNICARE_CONDUCERE_COORDONARE_ÎNDRUMARE_MOTIVARE_CONSILIERE_CONTROL_EVALUARE accessed on september 28, 2019.

6 Andrew Williams, *Innovation in Operations Assessment Recent Developments* in Measuring Results in Conflict Environments, Norfolk, VA 23551 United States, 2011, https://www.act.nato.int/images/stories/media/capdev/capdev_01.pdf, accessed on October 13, 2019.

7 *Ibidem*.

8 By *mission* we mean, for the purpose of this article, the totality of the actions carried out by the forces and the means of anti-aircraft artillery and missiles, and those of combat support or logistic support in subordinate relations, associated with the anti-aircraft response (n.a.).

9Joint Publication 3-0, *Joint Operations*, october 22nd, 2018, https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp3_0ch1.pdf?ver=2018-11-27-160457-910, accessed on September 23rd, 2019.

10 *Ibidem.*

11 Carl von Clausewitz, *On War*, Military Publishing House, Bucharest, 1982, p. 102.

12 *Ibidem.*

13 https://dexonline.ro/definitie/%0Bindicator, accessed on September 24th, 2019.

14 We use MoEs (Measures of Effectiveness) and MoPs (Measures of Performance) for efficiency indicators, respectively performance indicators, for standardization (n.a.).

15 *Operation Assessment Multi-Service Tactics, Techniques, And Procedures For Operation Assessment*, August, 2015, http://www.bits.de/NRANEU/others/amd-us-archive/ATP5-0x3%2815%29.pdf, accessed on 01.11.2019.

16 I. Bălăceanu, D. Dumitru, I. Ioana, *The combat potential of the Ground Forces in the NATO context*, TOP FORM Publishing House, Bucharest, 2006.

17 COFA – Correlation of Friendly Air –a concept that integrates the ratio of air / anti-aircraft forces, based on the potential combat power and the chances of destroying anti-aircraft artillery and missile systems (n.a.).

REFERENCES

*** *AJP – 3.3 (B) Joint Air and Space Operations Doctrine*, 2017.

*** *AAP 6 – NATO Glossary of Terms and Definitions*, 2007.

*** *AAP 15 – Abbreviations manual,* NATO Standardization Agency, 2003.

*** *Commander's Handbook for Assessment Planing and Execution*, Version 1.0, Suffolk, Virginia, 9 September 2011.

*** *The explanatory dictionary of the Romanian language*, revised, Bucharest: Academy Publishing House, 2012.

*** *Operations assessment manual S.M.G.-60*, 02 October 20, 2012.

*** *Operation Assessment Multi-Service Tactics, Techniques, And Procedures For Operation Assessment*, August, 2015.

*** *NATO glossary of abbreviations used in NATO documents and publications*, 2016.

Bălăceanu Ion, Daniel Dumitru, Ion Ioana, *The combat potential of the Ground Forces in the NATO context*,: TOP FORM Publishing House, Bucharest, 2006.

Bălăceanu Ion, *The contemporary technological revolution and its impact on military potential*, AÎSM Publishing House, Bucharest, 2001.

Clausewitz K., *On War*, Military Publishing House, Bucharest, 1982.

Foch F., *The principles of war. Leading the war*, Military Publishing House, Bucharest, 1975.

Hart B.H.L., *Indirect action strategy*, Military Publishing House, Bucharest,1973.

Martin Iulian, *Interaction of strategies in modern armed conflicts*, National defence University Publishing House, Bucharest 2012.

Mogoș I., "Support for combat operations of the Ground Forces", *The Doctrine Conference of the Ground Forces*, Bucharest, 2009.

Sun Tzî, *The art of war*, Military Publishing House, Bucharest, 1976.

Williams A., *Innovation in Operations Assessment Recent Developments in* Measuring Results in Conflict Environments, Norfolk, VA 23551 United States, 2011.

http://www.nato.int

http://www.bits.de/NRANEU/others/amd-us-archive/ATP5-0x3%2815%29.pdf

http://www.globalsecurity.org

http://www.nato.int/docu/review/index_fr.htm

http://www.bits.de/NRANEU/others/amd-us-archive/ATP5-0x3%2815%29.pdf

https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp3_0ch1.pdf?ver=2018-11-27-160457-910

https://www.act.nato.int/images/stories/media/capdev/capdev_01.pdf

academia.edu/14259576/Teoria_și_Metodologia_Evaluării

academia.edu/37710847/Tema_nr._2_Metode_tehnici_și_instrumente_de_evaluare_Rolurile_Manageriale_Ale_Cadrului_Didactic_Planificare_Organizare_Comunicare_Conducere_Coordonare_Îndrumare_Motivare_Consiliere_Control_Evaluare

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POSSIBLE EFFECTS OF COVID-19 PANDEMIC ON NATO POLICY

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The COVID-19 pandemic brought to the fore some divergent ideas that are added to the list of those already existing within NATO. Pivoting the Alliance's efforts to fight the new coronavirus (and future outbreaks) requires a different set of military capabilities. The pandemic could further contribute to a shift in NATO's strategic geography from an east-west to a north-south axis and, at the same time, shift the focus on military spending and defence preparation away from the eastern border to the Mediterranean. We are also dealing with an amplification of the Russian propaganda campaign whose target audience seems to be the population of southern and western Europe and which could call into question the value of an alliance that is not effective in the response to the crisis created by the new virus. It makes the London agenda obsolete and the Allies find the most appropriate answers and topics for discussion at the next summit in October in Beverly Hills, California, USA.

Keywords: COVID-19; pandemic; resilience; propaganda; security.

”In a way, this crisis could ultimately have an impact as serious as a world war in terms of the number of people affected, in terms of the impact on the economy and on people's way of life”[1], said Nicholas Burns, former United States ambassador to the North Atlantic Treaty Organization (NATO).

We set out to begin the article with this quote precisely to draw attention to the impact of the crisis caused by the new coronavirus and, at the same time, to address the implications it may have on what NATO will mean in the coming period. As we have heard many times lately, nothing will be the same as before, because the pandemic has effects that will be felt for a long time and requires responses not only from states as individuals, but regional and even global responses.

We consider it premature to draw any conclusions about the long-term impact of the new coronavirus crisis on the North Atlantic Treaty Organization/NATO, but we cannot fail to note that the COVID-19[2] pandemic has brought to the fore some divergent ideas that are added to the list of those already existing within the Alliance. The news that the former NATO Secretary General, Javier Solana, contracted the virus leads us to the idea that, like the people, an alliance can be strong at certain times, but it also has times when it can ”get sick”.

In the face of a not-at-all-positive public health situation coupled with the economic damage caused by isolation and quarantine measures, we believe it will become increasingly difficult for any politician in Europe and the US to argue that resources and the money collected from taxes and fees should be allocated to increase defence spending. Even before the new coronavirus produced widespread effects, there were long-running disputes amplified, in particular, by US President Donald Trump's stated views on spending and burden-sharing among NATO members. Even an increased threat from the main player counterbalancing the Alliance's influence - the Russian Federation, which wants to gain even more influence in Eastern and Southern Europe, may prove insufficient to support the spending increases we have seen undertaken by states since the 2014 annexation of Crimea and Moscow's intervention in Eastern Ukraine[3]. Economic recovery will take precedence over military spending, and this could very easily renew trade exchanges between allies and the gaps between the amounts spent by them to maintain or develop capabilities, and while some states bear the costs to ensure common defence of the Euro-Atlantic area, others are prepared to substantially reduce defence investment in order to achieve a better economic outcome.

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The international situation at the time of the threat

The coronavirus pandemic continues to change the nature of the Alliance’s perception of threats. Since the collapse of the Soviet Union about three decades ago, NATO has changed its way of perceiving security risks and has been concerned with adapting its policy to new types of threats that still have a common cause. The problem was that there was a lack of continuity in these efforts and the ideas were either too vaguely outlined (the fight against a global unrest or the growing threat from China), or too episodic in nature (e.g. the fight against terrorism), or geographically delimited (such as the threat posed by the Russian Federation that is resuming its efforts to increase its influence). Even before the virus spread outside Wuhan, NATO sought to balance the increasingly disparate geographical perspectives of its members in order to maintain a degree of solidarity and cohesion. This dynamic may worsen, especially among Eastern members, who still see Russia as a conventional threat, and members of the South, who are dealing with instability in the Middle East and North Africa and the waves of migration that have been created and can reach the conclusion that Moscow could be part of the solution.

In early 2020, following concerns over comments by French President Emmanuel Macron, who described NATO as ”brain dead”[4] and calls for a new dialogue with Moscow, both Macron (especially after his February 2020 visit to Warsaw) and German Chancellor Angela Merkel worked hard to create their own version of an Eastern European reinsurance initiative, arguing that any new efforts to promote a reset of relations with Russia will be accompanied by assistance from credible security for NATO’s Eastern area. The pandemic now threatens the personal security and economic prosperity of millions of NATO citizens in a way that terrorist threats, much more limited, or theoretical discussions about a possible Russian incursion cannot. NATO is now facing a ”coronavirus” test: the Alliance’s ability to respond to something that directly affects those who have been asked to vote in recent years to support increases in defence spending. It is no coincidence that some analysts in the Euro-Atlantic community see the virus as equivalent to an ”armed attack”[5] on NATO members, requiring joint and effective action by all allies to produce a collective response.

Of course, pivoting the Alliance’s efforts to fight the new coronavirus (and future pandemic outbreaks) requires a different set of military capabilities. If we consider that one of the impacts of the COVID-19 pandemic would be to reduce the military spending of several Alliance states, then what remains of these defence budgets is likely to be dedicated to strengthening humanitarian / rescue missions in the event of disasters, as well as improving internal security and protecting the land and sea border. The decision by the United Kingdom and other states to withdraw some of the forces involved in various theaters of operations to redistribute them in actions across the country may become a defining trend in the future. Looking ahead, each member of the alliance will have to strike a clear balance between operations outside the national territory and national missions.

At the same time, the spread of the virus brought up the issue of migration. The threat posed by refugee flows is no longer a problem that could intensify terrorism and put economic pressure on states, with migrants now also seen as potential carriers of coronavirus or other diseases. If, until now, the arguments for stopping the flow of migrants revolved around the defence of the cultural / national distinctiveness and general welfare characteristics of European states[6], arguments that were not always in the audience, the situation becomes more difficult to ignore if the movements of uncontrolled refugees poses a risk to public health.

Faced with an option to use resources to deter any Russian incursion into Eastern Europe or to strengthen its capacity to block the flow of migrants, more NATO members could choose the second option. The specter of the infected refugee can now create more fear and anxiety than the notion of ”little green people” coming to claim autonomy or conquer territories. Although too early to conclude, the pandemic could further contribute to a shift in NATO’s strategic geography from an east-west to a north-south axis and also remove the focus on military spending and defence preparation away from the border east to the Mediterranean area.

The effects of the pandemic on the cohesion within the Alliance

Another trend that the coronavirus can accelerate is the loss of cohesion and solidarity among Alliance members. Even before the outbreak of the pandemic in the West, the Pew Research Trust released its latest findings (February 2020) on how NATO is viewed by the public of certain states, whether or not they are part of the Alliance[7]. Their research concluded that there was widespread reluctance to fulfill the collective defence commitment referred to in Article 5 of NATO's founding treaty. Thus, about half of those surveyed in 16 NATO member states are of the opinion that their country should not defend an ally, as there is a reluctance to do so.

Intra-alliance cohesion was also shaken by the Idlib crisis when the impression was created that NATO members did not fully agree to give Turkey a blank check which it requested in the confrontation with Russia in Syria and by Turkey's subsequent decision to allow migrants and refugees to pass through Turkish territory again in order to reach the territory of the European Union. Turkey's perspective, of course, is that, as it is not a member of the EU, it should not be necessary to carry this burden to the benefit of European states. From a security perspective, a NATO member has chosen not to hinder, but even to encourage a trend that threatens the security of its allies.

Certainly, the new coronavirus did not create this situation, but it further erodes the confidence in the proclamations of solidarity with which each NATO summit is ritually concluded. Lately, as the virus has spread around the world, NATO (and EU) allies have seen their partners stockpile medical equipment and supplies and place restrictions on exports, regardless of the needs of others. Moreover, the borders within the Alliance were closed, both between NATO and EU members in Europe and across the Atlantic. The perception that the US is ready to fight alone and seek the welfare of its citizens alone, without worrying about its closest allies, reinforces pre-existing trends. For their part, Europeans believe that allies on the east side of the Atlantic must be prepared to disengage from Washington to ensure their own security, and the messages they receive from the United States about the coronavirus somehow amplify these perceptions and trends.

Meanwhile, China has taken a serious note on public relations through its efforts to send assistance to Italy and Spain devastated by the virus, highlighting the initial lack of concrete support from Western partners in Italy and Spain. While the European Union has received all the criticism[8], the United States has not used NATO as a way to develop a coalition to fight the virus. Turkey, as a NATO member, used its indecision on Syria to justify its willingness to support NATO solidarity in order to have a closer relationship with Russia; Italy now feels justified in working more closely with Beijing, including in the Belt and Road initiative[9], because of the perception that Western solidarity has failed to support Rome when it needed it most.

Beyond the political perception that NATO has not passed the solidarity test, the pragmatic reality of the pandemic raises the issue of NATO's deterrent mission: the ability to generate forces with sufficient power to discourage or repel any possible incursion. If a consequence of the pandemic has meant decisions for some governments to withdraw their national contingents from foreign missions to focus on the ”front” at home, then a second consequence could be growing reluctance for countries to send or receive forces for fear that they will spread the virus.

Moreover, a number of exercises have been canceled or resized under these conditions. For example, Norway canceled the regional exercise ”COLD DEFENDER”, which was supposed to take place in March 2020, and other countries, such as Finland, were reluctant to send forces abroad. Also, NATO's main European exercise for 2020, ”Defender Europe 20”, which was designed in part to demonstrate to potential adversaries the cohesion of the alliance, is much reduced, despite the US Department of defence Directive that completely banned the movement of forces and US equipment.

The position of the Russian Federation in the context of the pandemic

The signs of discord in NATO are always closely monitored by Russia. Russia's 2015 National Security Strategy[10] deems the Alliance as a threat to Russia's strategic interests, even though some of its members (such as Germany, France, Italy, Turkey and Hungary) are important bilateral strategic partners. It is therefore not surprising that the Kremlin, while not explicitly launching a disinformation campaign, considers its news and information channels that promote narratives to accelerate discord and division between NATO members and distort NATO interests to be valuable[11]. The Kremlin's decision to send military medical specialists and equipment to Italy is also at odds with the initial inert EU / NATO response.

Supported or not by the Russian Federation, multilingual online publications have taken advantage of the Alliance's lack of initiative in communication strategy and received millions of news shares claiming that, while most European countries are announcing drastic measures, due to the spread of the new virus, NATO continues to deploy impressive military numbers in Europe. In fact, NATO had planned to deploy troops for the Defender Europe 20 exercise in several European countries, and although it was clear that these deployments would be canceled amid increasing risks of the new coronavirus spread, the alliance's announcement to reduce the military delay was delayed.

Thus, news about a so-called ”American invasion” in Europe circulated on many social networks[12], and against the background of the forced translation ”word-by-word” from English, there were statements such as: ”American soldiers will spread in Europe”, ”The US military does not have the right to contract the virus” or ”the US military is exempt from contracting the virus”, expressions to support the theory that, in fact, this virus is created by NATO and the military participating in Defender Europe 20 they would already be immunized[13]. Also, the fact that NATO officials refrain from declaring who the adversary against whom discouragement exercises are intended and always use the phrase ”a hypothetical adversary” or ”discouraging any adversary who may threaten alliance members” has been successfully exploited in these discrediting narratives. Thus, the stated purpose of the Alliance is ignored, and it is argued that it would, in fact, have other purposes, either expansionist or aiming at reconfiguring international public order. Efforts to counter these types of news are more or less visible among those who redistribute them on social networks.

Depending on the course of the pandemic, we could easily see an increase in the Russian propaganda campaign. Such a campaign would target the population of southern and Western Europe and call into question the value of an alliance that is not effective in responding to the crisis created by the new virus, but which calls on its members to be prepared to risk conflict with Russia, sowing, at the same time, more doubts both among NATO members and non-NATO neighbors about how much credibility can be given to the guarantees brought by the Alliance.

However, better communication[14] will not be a sufficient answer. NATO should not assume that, once this crisis is over, there will be a return to current activities, as usual. First, there could be recurrent outbreaks of COVID-19, leading to the re-imposition of travel bans, the closure of borders and the movement of people. The economic downturn due to the pandemic will have an impact on budgets and policies for the coming years.

China's actions in anti-NATO and anti-US propaganda

The People's Republic of China has become a potential challenge to NATO. This is also true of the North American and European economies on which NATO is based, which accounts for about half of global GDP[15]. Exactly one year ago, a large number of representatives of the international media were present at the events that took place during the anniversary summit that marked 70 years since the founding of NATO. The biggest news, although little reported, was that NATO, the most lasting and successful alliance in history, defined for the first time China as a potential strategic challenge. The news was somewhat overshadowed by statements made by French leader Emmanuel Macron, Turkish leader Recep Tayyip Erdoğan, Canadian leader Justin Trudeau and President Trump, who had retorts and behavior designed to suggest that we were dealing with a weakening cohesion within the Alliance.

However, although the declaration upon the conclusion of the NATO summit was adopted unanimously, we cannot fail to notice the ambiguity of the language, reflecting the fact that Beijing is seen more as an economic opportunity than a fundamental challenge. Thus, in point 6 of the London Declaration we read: ”We recognize that China's growing influence and international policies present both opportunities and challenges that we must address together as an alliance”[16]. The message is not firm and does not seem to reflect reality, given that this country led by an authoritarian regime with a capitalist foreign policy and a deeply socialist domestic policy has already become a global center of gravity, being the largest in the world in depending on the population, ranking second, after the US in military spending.

Shortly after the London Summit, the first news of what would become a coronavirus pandemic began to appear. Many economic analyses showed that European states and the United States would be much more economically affected than China, which, at least declaratively, had overcome the epidemiological crisis and was discussing a rapid economic recovery that would propel it to a considerable distance in the top of global economies. However, it is too early to comment on this.

Yet, we must focus on another aspect: China’s propaganda machine. While there were still doubts about freedom of expression and the credibility of the Chinese government’s official statements, they were dispelled by the way the Chinese authorities responded to the protests in Hong Kong at the end of last year. The Covid-19 pandemic, in addition to the disastrous effects it has had on the world’s states, has also created some opportunities to increase the self-image of some regimes or discredit others and / or organizations such as NATO or the EU.

As we can see, Russia and China quickly identified these opportunities and took advantage of them to improve, first of all, their own image and to link somewhat morally with them European states such as Italy and Spain and at the same time to discredit organizations such as NATO and the EU, or administrations such as the US. The main topic we find is again related to the US military and NATO: Covid-19 is a biological weapon produced by the US military and spread by NATO troops in China and other regions[17].

Another recurring theme is that the European and US governments have not been able to take firm action to stop the spread of the virus and are unable to provide the resources needed to fight it and revive the economy, while praising the measures taken by the communist administration, Chinese or Russian[18]. The advantage of China and Russia is that they do not have to worry about some fundamental rights, such as freedom of expression, which are guaranteed to the citizens of the two countries only at the declarative level.

A new approach within the alliance – increasing resilience

The coronavirus pandemic can accomplish what NATO summits, the Russian incursion into Crimea and Ukraine, or the reports of the alliance’s political analysis institutions have failed to do: forcing NATO’s evolution. If we accept that the immediate results of the coronavirus crisis are renewed skepticism about the value of the alliance, less money for defence spending and the possibility of severing supply and transport, then the alliance’s main goal must be resilience.

We cannot ignore the statement of Daniel S. Hamilton, professor at the Austrian Marshall Plan Foundation, Johns Hopkins University School of Advanced International Studies and former senior US diplomat in charge of NATO policies, who in December 2019, before the coronavirus pandemic hit the West, wrote: ”When the conflict changes, the defence strategy must also change. NATO must expand its traditional investments in territorial protection and deterrence to include modern resilience approaches: strengthening the capacity of free societies to anticipate, prevent and address disruptive challenges to their critical functions and to prevent direct attack, if necessary”[19].

Moreover, Judy Dempsey, editor-in-chief of *Strategic Europe*, reiterates this conclusion as the crisis deepens: ”Resilience is a long-term approach that aims to protect vital infrastructure essential for security, stability and confidence-building citizens”[20].

Also, Ștefan Oprea, career military man and former Military Representative of Romania to NATO and the EU, also states in the article ”COVID-19 Crisis – NATO Response to Civilian Emergencies”, published in the Monitor of defence and Security: ”Without analysis of the long-term impact of the coronavirus crisis on the North Atlantic Treaty Organization, we must show, however, that the perception of threats within the Alliance will change fundamentally. Leaving aside its effects on NATO cohesion, the EU / NATO’s initial hesitant response to the pandemic crisis demonstrates that the organization’s resilience to disruptive challenges to human existence requires modern approaches to new realities”[21].

This must shift the attention of NATO and, implicitly, of the ”Defender Europe 20” type exercises from the view that the US must come by force in support of an alliance in which states have sufficient ”indigenous” capabilities to stop attacks, raids and challenges of any kind.

It would also include a situation where the US is less in favor of force generation and more in favor of balancing the remarkable ingenuity and technological capabilities that still define the Euro-Atlantic area to provide similar capabilities for each Alliance member.

If low budgets and a lack of guarantees of freedom of movement are two new conditions that NATO must adapt to, then the changing needs presented by Dr. Harlan Ullman, president of the Killowen Group, offer a new set of tools: ”a large number of drones (swarms of drones); robust anti-air, anti-surface and anti-vehicle systems; electronic warfare systems to strike command and control in enemy maneuver groups at the operational level; low-cost sensors, including satellites in lower Earth orbit, that could be deployed quickly to provide command, control, communications and research”[22]. To these other new capabilities can be added: the ability to be able to print with the help of 3D technology combat equipment (e.g. drones) and to be able to connect them with the help of ”Internet of Things” technology (in English Internet of Things, abbreviated IoT).

The next NATO summit is scheduled for October in Beverly Hills, California, USA. When Alliance leaders left London after their annual meeting in 2019, they did not agree to increase resilience measures against a NATO pandemic. But the new coronavirus is making the London agenda obsolete. From our point of view, NATO will be challenged to move towards the new realities that will be the result of the pandemic both in Europe and in the United States otherwise risking remaining stuck in the past.

NOTE:

1 Marco Werman, *COVID-19 impact could be as ”serious as a world war”,* former amb says, 16.03.2020, https://www.pri.org/stories/2020-03-16/covid-19-impact-could-be-serious-world-war-former-amb-says, accessed on 08.04.2020.

2 [World Health Organization], *Information note*, 23.03.2020, https://www.who.int/who-documents-detail/covid-19-and-ncds, accessed on 15.04.2020.

3 Jonathan Marcus, *Ukraine crisis: Nato to bolster defences*, 03.06.2014, https://www.bbc.com/news/world-europe-27675337, accessed on 09.04.2020.

4 Economist Article, *The future of the EU*, 07.11.2019, https://www.economist.com/europe/2019/11/07/emmanuel-macron-warns-europe-nato-is-becoming-brain-dead, accessed on 10.04.2020.

5 Frederick Kempe, *Op-Ed: The US should call NATO to action and defend Europe against coronavirus*, 14.03.2020, https://www.cnbc.com/2020/03/14/op-ed-the-us-should-call-nato-to-action-and-defend-europe-against-coronavirus.html, accessed on 11.04.2020.

6 Orla Barry, *In Orbán's Hungary, refugees are unwelcome — so are those who try to help*, 11.02.2019, https://www.pri.org/stories/2019-02-11/orban-s-hungary-refugees-are-unwelcome-so-are-those-who-try-help, accessed on 11.04.2020.

7 Moira Fagan, Jacob Poushter, *NATO Seen Favorably Across Member States*, 09.02.2020, https://www.pewresearch.org/global/2020/02/09/nato-seen-favorably-across-member-states/, accessed on 11.04.2020.

8 Con Coughlin, *The Continent's response to coronavirus proves that European ”solidarity” has always been a sham*, 18.03.2020, https://www.telegraph.co.uk/news/2020/03/18/continents-response-coronavirus-proves-european-solida rity-has/, accessed on 13.04.2020.

9 Alex Șerban, *Belt & Road Initiative: China caută marea strategie relevantă la nivel global*, December 2017, http://www.energynomics.ro/ro/opinii/belt-road-initiative-china-cauta-marea-strategie-relevanta-la-nivel-global/, accessed on 19.04.2020.

10 http://static.kremlin.ru/media/events/files/ru/l8iXkR8XLAtxeilX7JK3XXy6Y0AsHD5v.pdf, accessed on 21.04.2020.

11 *NATO, în război cu COVID-19 și cu dezinformarea*, 03.04.2020, https://www.euractiv.ro/extern/nato-in-razboi-cu-covid-19-si-cu-dezinformarea-18352, accessed on 22.04.2020.

12 *Expert român: Adevărul din spatele amplelor manevre militare ale NATO în Europa*, 10.10.2019, http://www.vestidinrusia.ro/2019/10/10/expert-roman-adevarul-din-spatele-amplelor-manevre-militare-ale-nato-in-europa/, accessed on 15.04.2020.

13 Paul Ghițiu, *Coronavirusul european, o perdea de ceață pentru ce se pregătește prin așa-zisul exercițiu de apărare ”Europe Defender 20”?*, 12.03.2020, https://www.justitiarul.ro/coronavirusul-european-o-perdea-de-ceata-pentru-ce-se-pregateste-prin-asa-zisul-exercitiu-de-aparare-europe-defender-20/, accessed on 15.04.2020.

14 *Russia's Top Five Myths about NATO & COVID-19*, april 2020, https://www.nato.int/nato_static_fl2014/assets/pdf/2020/4/pdf/2004-Factsheet-Russia-Myths-COVID-19_en.pdf, accessed on 22.04.2020.

15 *Press conference/NATO Secretary General Jens Stoltenberg ahead of the meetings of NATO Ministers of Foreign Affairs*, 19.11.2019, https://www.nato.int/cps/en/natohq/opinions_170972.htm?selectedLocale=en, accessed on 16.04.2020.

16 *London Declaration/Issued by the Heads of State and Government participating in the meeting of the North Atlantic Council in London 3-4 December 2019*, 04.12.2019, https://www.nato.int/cps/en/natohq/official_texts_171584.htm, accessed on 16.04.2020.

17 *Disinformation and propaganda during the coronavirus pandemic*, 31.03.2020, https://www.dw.com/en/disinformation-and-propaganda-during-the-coronavirus-pandemic/a-52970643, accessed on 17.04.2020.

18 Jan van der Made, *Russia and China ”exploit Covid-19 crisis” to discredit European Union*, 07.04.2020, http://

www.rfi.fr/en/europe/20200405-russia-and-china-exploit-covid-19-crisis-to-discredit-european-union%E2%80%93-analyst, accessed on 17.04.2020.

19 Daniel S. Hamilton, *A 3-Percent Solution for NATO*, 04.12.2019, https://www.defenseone.com/ideas/2019/12/3-percent-solution-nato/161657/, accessed on 17.04.2020.

20 Judy Dempsey, *The Coronavirus Is a Test for the West*, 17.03.2020, https://carnegieeurope.eu/strategiceurope/81295, accessed on 17.04.2020.

21 Ștefan Oprea, *Criza COVID-19 – Răspunsul NATO la situaţii de urgenţe civile*, 30.03.2020, https://monitorulapararii.ro/criza-covid-19-raspunsul-nato-la-situatii-de-urgente-civile-1-30208, accessed on 18.04.2020.

22 Harlan Ullman, *U.S. defence strategy: ”Contain and engage” beats ”deter and defeat*”, 18.03.2019, https://www.upi.com/Top_News/Voices/2019/03/18/US-defense-strategy-Contain-and-engage-beats-deter-and-defeat/3471552825444/, accessed on 18.04.2020.

REFERENCES

*** *Carta albă a apărării*, Bucharest, 2017.
https://www.bbc.com
https://www.euractiv.com
https://monitorulapararii.ro/
https://www.nato.int
https://www.nytimes.com
http://www.static.kremlin.ru
https://www.who.int
https://www.pri.org
http://www.rfi.fr
https://www.defenseone.com/ideas
https://carnegieeurope.eu
https://www.dw.com
https://www.telegraph.co.uk
http://www.energynomics.ro/

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CONSIDERATIONS REGARDING ADAPTATION OF OPERATION SUPPLY CHAINS UNDER THE CONDITIONS OF BAD EFFECTS OF COVID-19 IN ROMANIA

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The current socio-economic conditions are unfavorable both nationally and internationally, due to the emergence, manifestation and spread in China and then globally of a new type of virus with adverse effects, Covid-19.

The minimization of national economic activities, as a consequence of the pandemic effects, will gradually determine the recession and then the economic crisis that will be felt from day to day, with undesirable domestic and international implications.

The gradual deterioration of the functioning of the national economy has obviously occurred as a result of the non-functioning of most supply chains with domestic, European or international components.

In this article we set out to address the particular (or not) aspects of the operation of the supply chains, based on a management adapted to situations of a crisis never encountered before, which led the Romanian state declare a state of emergency and then a state of emergency alert.

Through the originality of treating the aspects related to the economic and social risks with implications on the living and health of the population, we sought to highlight the risks and their management in the operation of supply chains in conditions of increased risk and uncertainty, generated by the adverse effects of the pandemic Covid -19.

Keywords: supply-delivery chain management; supply-delivery chain; turbulent economic environment; reconfiguration and adaptation of supply-delivery chains; socio-economic risks with implications on supply-delivery chains; risk management specific to supply-delivery chains; digitization of supply-delivery chains.

The concern for the defence and/or restoration of the health of people everywhere has led the world’s states to decide to implement restrictive and coercive measures of an economic and social nature, to prevent the spread of the Covid-19 pandemic and limit its destructive effects.

Major changes in the national, continental and global economic environment, as a result of the emergence and expansion of Covid-19 effects, have led more and more economic actors to be concerned with identifying, procuring and applying the latest innovations in business digitalization, which can allow, first, the protection of the staff employed from the risks of pathological contamination, and then the design and development of efficient economic activities by minimizing as much as possible the losses inherent in the growing disturbances manifested in the national, European and global transactional climate.

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In the current turbulent, uncertain and complex economic environment with short-term and medium-term forecasts that are not at all gratifying, economic activities must operate primarily to meet the requirements of citizens with critical goods and public services.

With each passing day, the rapid effects of restrictive economic measures taken in response to the destructive effects of Covid-19 are reflected in increasingly visible syncopes in supply-supply chains, due to the economic deadlock, but also as a result of the bankruptcy of some suppliers, producers or distributors very important for national and global economies.

In Figure 1 we notice the negative national economic effects (quite significant) in sixty-eight days from the declaration of the state of emergency, actually generated by the major disturbance of the normal functioning of the supply chains in Romania.

In order to maintain the current balance between supply and demand on national and international markets, both the European Union and the United States, as well as other countries in the world, have developed a series of economic policies that allow

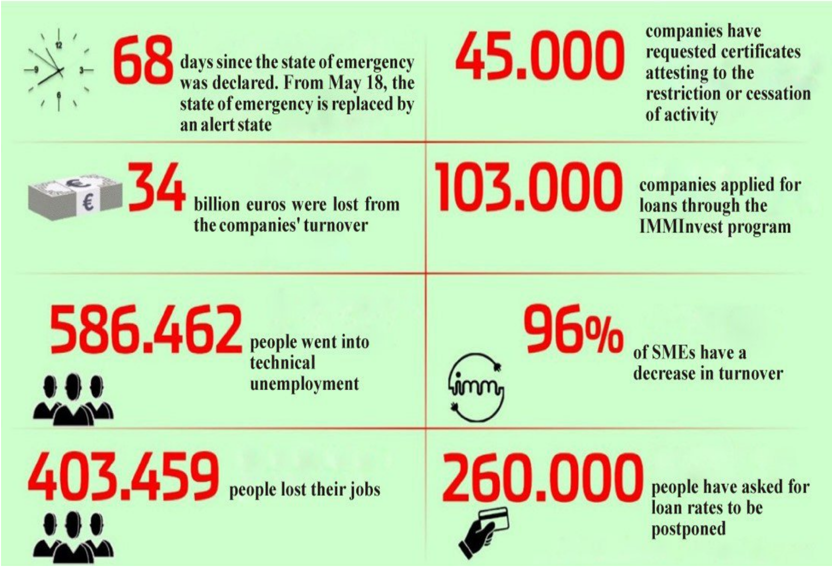

Figure 1 *The economic effects of the Covid-19 pandemic in 68 days from the application of the first restrictive national regulation*[1]

companies, regardless of size, to operate in times of crisis of the effects of Covid-19 by allocating appreciable financial resources (reimbursable and non-reimbursable) in certain periods of time. In this way, the company's managers identified ways and means to continue the replenishment flows, first of all with goods of major importance in family subsistence, as well as those necessary to ensure individual pandemic protection measures in accordance with the requirements imposed at national and international level.

Therefore, a new way of approaching the management of existing supply chains, and especially the new ones created in order to ensure the necessary resources to quickly counteract the harmful effects of the Covid-19 pandemic, is required. To this end, the new configuration of the domestic and international business environment determines important logistical changes adequate to the creation or development of supply chains according to the requirements and needs of citizens, faced with critical situations, unprecedented.

The realities of the business environments of the Member States of the European Union have highlighted the increased risks of continuing the transactions initiated before the pandemic, of setting up new ones, according to the requests of the medical structures, as well as of the national anti-pandemic bodies. Therefore, national facilities have been granted in order to refurbish and change the production profiles of some companies, which have already started to produce medical equipment and sanitary materials necessary for the specific protection of both hospital staff and citizens, according to the requirements of current regulations[2].

Elements of adaptation and reconfiguration of supply chains

In the mechanism specific to the normal economic functioning of any state, the rapid emergence and expansion of Covid-19 has led to a number of effects with implications for the existence, operation, and abolition of supply-chain chains or the establishment of others with new missions.

Given the usual structure of a supply chain, it is obvious that even during the Covid-19 pandemic such an economic system is adopted to achieve superior performance in inter-firm business (network type), as a result of the satisfying of requirements of consumers and/or end-users.

Therefore, according to those specified, an extended supply chain, which is subject to efficient profile management, includes: suppliers; suppliers'suppliers; producers; distributors; logistics service providers; retailers; consumers and/or users (individuals; legal entities)[3].

In Figure 2 we present a simple succession of the components of a supply chain presented previously, taking into account the real (variable) distances between the partner companies.

Within each company within a supply chain, there is an *internal logistics* that includes: *materials management; distribution management. The management of the production support* (with raw materials, materials, etc.) also works for the companies with a productive profile within their own logistics[5].

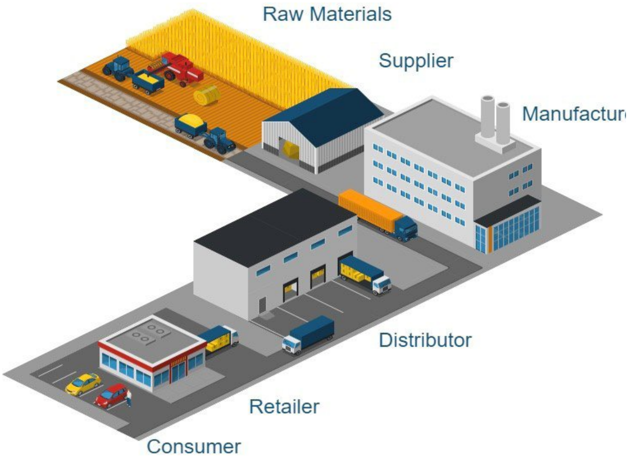

Figure 2 *A simple presentation of a supply chain*[4]

According to the experts' appreciation determined by the economic practice, currently in business, there is a change in business conduct by moving from traditional competitive relations – manifested between companies as independent entities, to competition between supply chain systems that include partner companies interrelated and functionally interconnected, such as those specified above (suppliers, manufacturers, distributors, retail entities, as well as logistics service providers, type 3PL, 4PL etc., consumers or end users)[6].

Below we present some of the effects and implications specified above, which have a major impact on the normal and efficient operation of national and/or multinational supply chains.

• The pandemic disturbances in the supply-demand relationship have produced and cause major imbalances by the sudden reduction of consumption and/or use of products, as well as the continuous decrease of the requirements for the provision of services.

• The functional adaptation of supply chains, as a result of the reduction of consumption (use) or due to the application of the restrictive provisions of national and/or EU regulations reveals, from our point of view, based on economic practice, some aspects of reconfiguration:

- continued operation of existing supply chains before the pandemic with the restriction or expansion of specific activities (eg expansion for some products: agricultural-food; family/household use; nature of fuels and lubricants, etc.).

- The cessation of operation and/or abolition of supply chains during the pandemic (for example for car sales) due to the drastic reduction of demand or due to the application of restrictive legal provisions (for example the closure of the mall for a certain period of time, restaurants, hotels, etc.).

- The establishment of new supply chains during the pandemic that may or may not include factories that have changed their production profile (according to the needs to respond to the effects of the pandemic[7]).

Specific risks and management elements in the operation of a supply chain in the current economic environment

The current realities with a strong economic and social impact require, for business people, new risk management options adequate to prevent dysfunctions (syncopes) that can manifest themselves acutely in the supply chains.

The socio-economic transformations generated by the pandemic effects of Covid-19 obviously involve the rapid transition of supply chains from traditional modes to digital mechanisms.

• *The identification of pandemic risks with implications on the supply chain* in the conditions of the continuous evolution of the Covid-19 virus pandemic at national and global levels, manifests, according to our assessment, a series of socio-economic risks, with implications on supply chains, as follows:

• numerical decline in national and continental labor force;

• the sudden reduction of economic activities at national and international level;

• major bankruptcy of companies in all economic sectors;

• deepening national, regional and global economic disparities;

• the removal of people from God, as a result of restrictive and coercive policies and measures regarding access to places of worship;

• the decrease of the quality level of educational activities, as a result of the prohibitions and their development mostly in the online environment;

• the slow manifestation of the actions specific to inventions and innovations appropriate to the moment of socio-economic balance;

• disorder of managerial and execution actions of medical-sanitary nature with zonal and national implications, as a result of variable pandemic manifestations;

• frequent manifestations of managerial errors in the socio-economic fields;

• regulated cancellation of several civil rights, sometimes unjustified;

• the closure of many economic activities in areas unaffected by the virus with major consequences for the national and continental economic decline;

• increasing the number of patients with mental disorders due to fear of infection, but also as a result of restrictive state policies and actions, for non-compliance with the rules of social and individual distancing;

• the decrease of the purchasing power of the citizens, due to the increase of the prices for the consumer goods etc;

• failure to apply effective management of the socio-economic risks involved in the continuing threat of Covid-19;

• other types of risks.

At some point, many of these risks can be combined, which could lead to major economic and social bottlenecks with a direct impact on the existence of human, material and financial resources necessary for the normal and efficient operation of each supply chain partner to a company. In this sense, the managers of the respective companies can identify pertinent solutions to overcome the crisis periods by applying a risk management appropriate to each situation[8].

• *Elements of supply chain risk management during the pandemic*

The immediate organizational and relational changes produced in the micro-environment and macro-environment components of the partner companies within the supply chains, as a result of the adverse effects of Covid-19 generate a series of new strategies in risk management behavior revealed by the management staff. Therefore, from our point of view, the most important directions to follow in the implementation of risk management strategies and policies would mainly aim at:

- the continuous development of educational actions within the member companies of the supply chains-focused on the epidemiological manifestations of Convid-19, as well as on the taking of appropriate measures to prevent infection;

- taking into account possible situations of increased absenteeism among employed staff, as a result of the possibility of infection (up to full recovery and reintegration into work teams);

- making the work within each partner company of the supply chain more flexible, taking into account the establishment and application of the staggered staff program, in order to comply with the measures established at national and organizational level for individual and social distancing;

- the organization by each company of the work in digital system from the employee's domicile, for some categories of personnel, without affecting the normal development of the economic flows within the supply chains;

- promoting actions that are the object of planning and carrying out the acquisition of resources necessary for the modernization of IT systems, according to the evolving requirements for digitization of management and execution subsystems within each member company of the supply chain[9];

- training at the level of each company integrated in a supply chain of managerial plans appropriate to the crisis situations generated by Covid-19, for each situational level of managers: top; medium level; lower level);

- rapid movement within supply chains of products requested in crisis situations by consumers (users) through direct logistics channels (related to e-commerce) or with intermediaries (based on the same system or correlated with the classic one);

- transforming the traditional linear configuration of the supply chain into a system of the same profile, but with specific digitized operations, functional in networks and with a much increased flexibility and visibility[10].

Therefore, through adequate risk management in the context of the Convid-19 pandemic, the supply chains must allow, according to the new requirements, viable alliances between key companies (partners), in order to achieve fast and efficient logistics flows, which allow the full satisfaction of the demands of products and services identified with certainty in a market or in several types of markets (local, territorial, national, European, international)[11].

Conclusions

Given the continuing expansion of the threats and adverse effects of Covid-19, the current economic crisis at national and international level is also due to the failure of the responsible factors of various companies to ensure the reserve resources (through alternative variants) necessary to overcome current functional bottlenecks, as a result of the cessation of economic activities specific to many national, European and global supply chains.

Thanks to the intervention with financial resources of the competent body of the European Union, for the support of the member states in order to restart the national economies, our country will be able to grant, according to the requirements, the necessary help first of all to small and medium companies. In this way, some existing supply chains will be restarted before the pandemic and new ones will be set up instead of the ones already abolished, as a result of the bankruptcy of the partner companies.

The decline in the purchasing power of citizens, caused by the abolition of jobs and the unemployment of employees of dissolved companies, has led to nationwide government actions to support business people in the remuneration of staff to be hired by existing or newly established companies (in order to reduce unemployment, already at alarming levels). In this way it is possible to create those supply chains that can capitalize on the national possibilities of using the resources available for the supply of raw materials, manufacturing and distribution of finished products needed to meet the wishes and requirements of current and potential consumers and/or users (in these times crisis caused by the adverse effects of Covid-19).

More than ever, it is now necessary, in the mentioned pandemic conditions, to procure and use modern technical systems adequate to carry out digital operations both in the restarted supply chains and in the newly established ones. In this way it is possible to obtain quite a reduction in the costs related to inputs and outputs that involve transport, storage, handling, conversion operations, as well as the reduction of expenses involved in the supply relationship management, customer relationship management, reverse logistics, etc.

Despite all the undesirable effects of the current crisis caused by Covid-19, many companies will embark on the new path of their economic evolution, benefitting from the need and obligation to ensure human and technological resources at levels that allow them to integrate and operate more efficiently through digitalization within supply chains competing with others of the same profile at national level and with possible favorable European or global implications.

NOTES:

1 https://m.mediafax.ro, accessed on 27.05.2020.

2 David Frederich Ross, *Introduction to Supply Chain Management Technologies*, Published October 12 by CRC Press, 2010, pp. 39-45.

3 Ivan Russo, Confente Ilenia, *Customer Loyalty and Supply Chain Management: Business-to-Business Customer Loyalty* Analysis, Publisher: Routledge, 2017, pp. 59-65.

4 https://icograms.com/templates/logistics-supply-chain-management.png, accessed on 27.05.2020.

5 Peter Baily, David Farmer, David Jessop, David Jones, *Principiile şi managementul achiziţiilor*, eight edition, ARC *Printing-House*, Chişinău, 2004, pp. 73 -75.

6 Bruce Robinson, *Supply Chain Management,* Publisher: Clanrye International, 2015, pp. 92-94.

7 *Legea nr. 55 din 15 mai 2020 privind unele măsuri pentru prevenirea și combaterea efectelor pandemiei de Covid-19,* Monitorul Oficial, no. 396, 15 may 2020, art.5: 1 a); 1b); 2b).

8 *COVID-19: Managing supply chain risk and disruptio,* https://www2.deloitte.com/global/en/ pages/risk/articles/covid-19-managing-supply-chain-risk-and-disruption.html, accessed on 01.06.2020.

9 Martin Christopher, *Logistics and Supply Chain Management*, 5th Edition pdf, free Book Hut*,* Publisher Pearson Education Limited, 2016, pp. 93-99.

10 Amitava Sengupta, *Impact Of COVID-19 On Global Supply Chains and Opportunities în the Post-COVID World,* CL Technologies, April 14, 2020; https://www.google.ro/amp/s/www. entrepreneur.com/amphtml/349229, accessed on 31.05.2020.

11 Sean Galea-Pace, *Supply Chain Risk Management - COVID 19*, Sean Galea-Pace*, Supply Chain Risk Management - COVID 19*, March 12, 2020, https:// www.google.ro/amp/s/www.supplychaindigital.com/supply-chain-management/supply-chain-risk-management-covid-19%3famp, accessed on 02.06.2020.

REFERENCES

*** *Legea nr. 55, din 15 mai 2020 privind unele măsuri pentru prevenirea și combaterea efectelor pandemiei de Covid-19,* Monitorul Oficial, nr. 396, 15 may 2020.

Amitava Sengupta, *Impact Of COVID-19 On Global Supply Chains and Opportunities in the Post-COVID World,* CL Technologies, April 14, 2020; https://www.google.ro/amp/s/www.entrepreneur.com/amp.html/349229

Baily Peter, Farmer David, Jessop David, Jones David, *Principiile şi managementul achiziţiilor*, eight edition, ARC Printing-House, Chişinău, 2004.

Christopher Martin, *Logistics and Supply Chain Management,* 5th Edition pdf, free Book Hut*,* Publisher: Pearson Education Limited, 2016.

Robinson Bruce, *Supply Chain Management*, Publisher: Clanrye International, 2015.

Ross David Frederich, *Introduction to Supply Chain Management Technologies*, CRC Press, 2010.

Russo Ivan*,* Confente Ilenia, *Customer Loyalty and Supply Chain Management: Business-to-Business Customer Loyalty Analysis*, Routledge Publishing, 2017.

Sean Galea-Pace, Mar 12, 2020*, Supply Chain Risk Management – COVID-19*, https://www.google.ro/amp/s/www.supplychaindigital.com/supply-chain-management/supply-chain-risk-management-covid-19%3famp

COVID-19: Managing supply chain risk and disruption, https://www2.deloitte.com/global/en/pages/risk/articles/covid-19-managing-supply-chain-risk-and-disruption.html

https://m.mediafax.ro

https://icograms.com/templates/logistics-supply-chain-management.pn

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UNDERSTANDING THE SITUATION – OPERATIONAL VARIABLES AND THE DIRECT AND POTENTIAL INFLUENCES BETWEEN THEM

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Conflicts between different state or non-state actors that pursue their own interests are a constant of the geopolitical regional and global environment. In this context, the military instrument of national power is more relevant than ever. The common denominator of coherent development and effective application of this instrument is the understanding of the operational environment and of the complex dynamic and volatile situations of the areas of interest. The operational variables represent a conceptual tool used to achieve it. Understanding the connections between these variables – direct or potential – facilitates the application of the military instrument of power in creative and effective ways.

Keywords: situation understanding; PMESII; operational variables; operational environment.

Recent history reveals that state and non-state actors will find themselves in conflict. These conflicts are and will remain a constant feature of the regional and global geopolitical environment. The competition to acquire resources that seem to be insufficient in the context of unprecedented technical and technological evolution, the growing desire for affirmation of dominance as well as the extraordinarily fast-paced society of today determines the emergence of frictions between different social groups.

The Heidelberg Institute for International Conflict Research conducts a quantitative study of conflict and classifies them according to different criteria. According to this Institute, conflicts are classified by the level of violence (violent and non-violent), and by their intensity (low, medium and high). The level of violence is determined based on a methodology that studies the means of generating violence (what types of weapons and personnel are used) and the consequences of this violence (victims, refugees, destruction)[1]. In this context, the Institute publishes annual bulletins on political conflicts, with data about their number and area of emergence. The data published by the Institute for the last five years reveals a constant number of medium and high intensity conflicts.

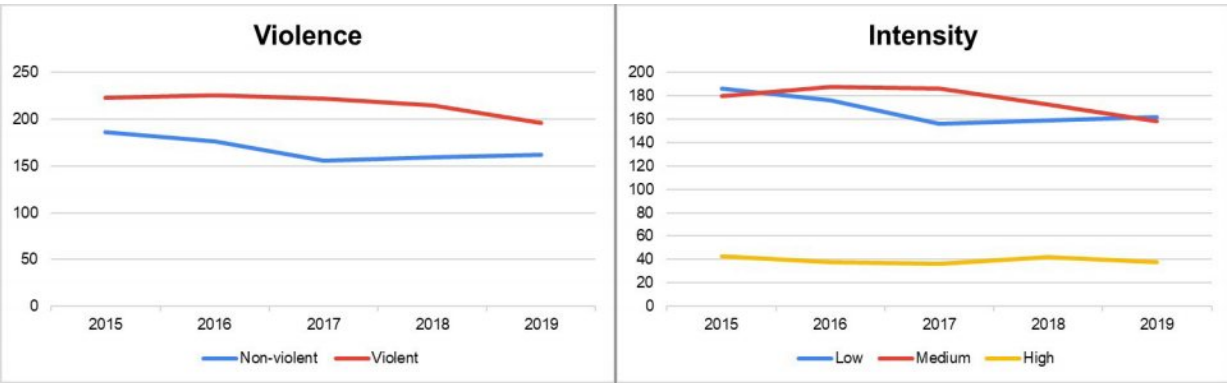

Figure 1 *Number of global conflicts between 2015 and 2019*[2]

This is true for violent conflicts as well as for the total number of conflicts, according to the data shown in Figure 1.

Data in Figure 1 shows that the military instrument of national power is and will remain more relevant than ever in promoting national

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interests. Regardless of whether these interests are directly threatened by actors with divergent interests or indirectly by the creation of instability generating crises, the capability of this instrument to effectively act is critical to achieving desired results.

Situation Understanding – prerequisite for operational success

The capability of the military instrument to answer requirements from the political decision makers is determined by the armed forces combat power. Combat power is a concept that describes the operational effectiveness of the armed forces or any of their components[3].

This concept represents the result of the armed forces capability to understand the operating environment and their determination, as well as capability to act decisively. According to NATO doctrine, combat power has three components: the conceptual component, the moral component and the physical component. None is more important than the others; they overlap and support each other[4].

The conceptual component of combat power is based on the way doctrine is developed and applied. Developing and applying doctrine (fundamental principles that guide the armed forces actions to achieving their objectives) are intellectual processes. These influence the moral and physical components of combat power. The moral component of combat power refers to the human nature of military entities. The human resource morale is a determining factor and ensures the continuity of the physical and doctrinal components in the dire conditions of conflict. The physical component ensures the means necessary for operations to be conducted. It is made of the personnel, the equipment, the training and the resources adequate for the operating environment and the set objectives.

By analyzing these components of combat power, it can be determined that the understanding of the operating environment shapes each component individually, influencing combat power as a whole. If doctrine is developed without taking into account the particularities and challenges of the operating environment, it will not be able to provide the proper conceptual framework for operation success. Developing some capabilities, inside the physical component, that are not adequate to the requirements of the operating environment will result in major difficulties in planning and commanding operations. Difficulties in adapting the physical component and the lack of a proper doctrinal framework will eventually lead to a degradation in personnel morale and trust in leadership. All these components of combat power are dependent on the understanding of the operating environment and of the complex, dynamic and volatile situations.

Understanding the operating environment does not only influence the armed forces combat power and its components, as a general parameter that defines the efficacy of the military instrument of a state, at a given time. Understanding the operating environment by the armed forces of a state, developing a coherent doctrinal framework that is adapted to the environment, generating adequate capabilities and a good morale of the human resource do not guarantee the success of any size taskforce tailored to carry on a mandate of an international organization or a national policy makers. The operations process is significantly influenced by the planning component that determines the subsequent stages, of preparing and conducting the operation.

The first step in the systematic process of operational conceptual planning is determining an operational approach. This step has to include: understanding the current situation, understanding the desired end state, formulating the problem, developing an operational approach and developing a plan[5]. Therefore, understanding the situation – defined as a sum of conditions, circumstances and influences – in a certain area of interest is the origin of any conceptual planning process. Erroneous understanding will render the entire planning process invalid.

Contemporary operating environment – a multidimensional space

Situation understanding is critical in achieving success both in regard to the process of consolidation of the armed forces combat power and in regard to operations of any size task force. The first step in understanding the situation is identifying the components and characteristics of the operating environment. This consists of several multidimensional components.

The operating environment can be seen as a multidimensional area in which different actors carry out operations. This environment consists of a multidimensional physical component, a multidimensional informational component and the electromagnetic spectrum component[6].

The physical one is the most obvious and the most familiar of the operating environment components. This includes the area of operations, the associated area of influence, but also the area of interest, all considered in the light of the relevant dimensions for conducting operations – land, maritime, aerial and space. The importance of understanding the aspects of this component is absolutely necessary, but not sufficient, especially in the context of a complex nature of operations carried out by armed forces in recent times.

The information component of the operating environment is represented by the entities that collect, store, process and disseminate information. This component consists of three closely related dimensions: the physical dimension, the cognitive dimension, and the informational dimension. The physical dimension is the tangible, concrete part of the information component of the operating environment. This dimension offers a perspective on the natural or man-made characteristics of the environment, and on the manner in which they restrict or constrain the population and the information systems. The physical aspects determine the way in which information is exchanged in the operating environment. The way in which information is exchanged is the subject of the informational dimension. Rhythmicity, platforms, and channels that characterize the flow of information are important subjects of the informational dimension. Cyberspace is paramount to understanding the aspects that determine and characterize the way information is moved. Cyberspace overlaps the physical and informational dimensions. The information component would not be useful without its cognitive dimension. It refers to the effects that information has on the behaviors of the actors in the operating environment. The perspective it offers makes it possible to understand present actions of relevant actors, but also to anticipate they potential reactions.

The operating environment would not be complete without the electromagnetic spectrum component. In this component, the most relevant parts are frequency bands and frequencies associated with the wide variety of systems used by military and non-military actors – radio, radar, laser, electrono-optical, infrared, non-lethal systems that use electromagnetic energy[7].

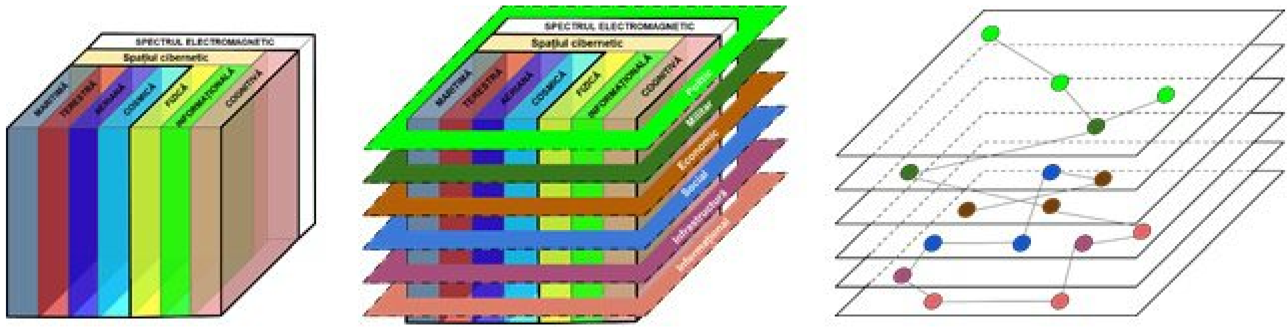
As it results from the multidimensional components of the operating environment, there are various actors that are present and interact. These actors adapt their interactions based on their own objectives and perception of the environment. In order to facilitate the understanding of the situation, the operations process uses a systemic approach. This approach is based on the understanding of the interdependencies between systems that are relevant to planning, preparing and conducting operations[8].

In this effort to understand the situation in a certain area of interest, each of the relevant systems that can influence operations can be characterized by its state and by its relationships with the other systems. The state of the system is an evaluation of its capability to perform its functions. The relationships that characterize the system represent the manner in which it interacts with the other systems of a specific environment, in order to perform its functions. All these systems characterized by states and relationships determine a high complexity of the operating environment. The interactions between the systems, the way in which they adapt to various changes in the environment based on the perception they have on it, determine the dynamic and adaptative characteristic of the operating environment.

Operational variables and the influences between them – determinant factors of operational effectiveness and efficiency

In order to solve the difficult task of understanding the operating environment, commanders and staffs use a set of variables or domains of the operating environment. These variables allow a systemic analysis of the situation and ensure that the staff activity is focused and consistent, regardless of the area of interest or operation type. The NATO armed forces all have similar approaches regarding these variables and they commonly use a set of six such domains of interest – political, military, economic, social, infrastructure, and informational.

The operational variables are used to group relevant systems by category. Conceptually, they can be viewed as six plans that cross the operating environment and result in six collections of systems, as presented in Figure 2. The operational variables include different systems, such as:



a) Operating environment b) Operational variables c) Operational variables relevant systems

Figure 2 *Concept of situation understanding*

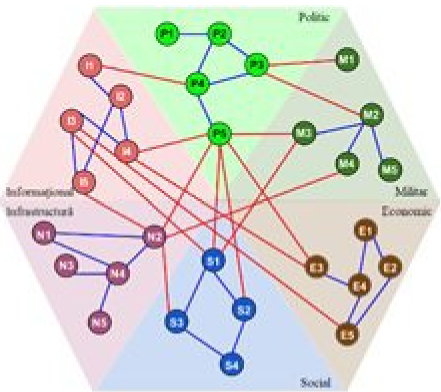
- ***Political*** (P): mainly civilian entities, formally or informally appointed, that represent the authority in different areas or environments, by applying various forms of power or political influence. Operating environment may encompass a broad range of political regimes – emergent democracies, totalitarian, and authoritarian regimes. Systems within this variable may be represented by political parties, elected representatives, tribes, ethnical groups;
- *Military (M)*: military, security or paramilitary capabilities and the infrastructure used in order to attain specific objectives. Systems within this variable may encompass armed forces, security forces, local militias, paramilitary forces;
- *Economic (E)*: entities and infrastructure build for production, distribution and sale of goods and services, income distribution, import-export, corruption. Low living standards may be the root cause of tension and friction within the area of operations. A proper understanding of the systems within this variable will enable the attainment of military objectives;
- *Social (S)*: institutions or groups that ensure the people in a certain area are able to manifest themselves and allow them to fulfill their expectations and objectives. Systems within this variable include religion, society, judicial system. Social fragmentation of the area of operations may enable totally different effects of similar actions, so it is necessary to adapt the actions in accordance with the specifics of this variable;
- *Infrastructure (I)*: facilities, services and systems that ensure basic services (lines of communication, schools, hospitals, electrical networks, water systems, sewage, irrigation). Lack or shortage of essential services may trigger tension and instability within the area of operations. Also, it affects the population perception of friendly forces or legitimate authorities;
- *Information (I)*: infrastructure, entities and components that collect, process, store, transmit and disseminate information. Systems within this variable consist in television, radio, mobile networks. Those systems are the primary force in influencing the local, regional and even global public opinion[9].

The systems that function in the multiple components and dimensions of the operating environment can be grouped through these operational variables. The relationships among these systems can appear and manifest themselves both between systems of the same variable, and between systems in different variables. As an example, we consider that 29 relevant systems have been identified in the PMESII variables. These systems are characterized by the relationships among them, shown in Figure 3-a (relevant systems of the Infrastructure variable have been noted N, to avoid confusion with systems of the Information variable, which was noted I). Relationships between systems result in influence between them. These influences manifest themselves inside the same operating environment variable, but also between variables. Identifying influences between variables is of special interest for the operations process, because these influences the nature of the operational approach, the operations and the capabilities needed to achieve desired effects, as well as developing branches and sequels.

A system's state or behavior can be modified by exerting an action on that system or on the systems it relates to. Most times, perception of direct actions is correct and immediate, which leads to a timely reaction in an operational perspective. Target systems adapt rapidly, and the desired effects may be achieved in a longer time or by using more resources. In order to make the operations process more efficient, considering the growing limitations in use of the armed forces, it is necessary to use the influences between operational variables. These influences can be direct or potential.

Direct influences are represented by the way in which relationships among systems of PMESII variables manifest themselves when a system is being subjected to an action. For the relevant systems presented in Figure 3-a, we can observe direct relationships between the P variable and the other variables (MESII), through system P5, which is related to systems M3, E3, S1, S2, N2, I4, through system P3, which is related to system M1, and also through system P4, which is related to system I1. By correctly identifying the nature and parameters of the relationships between these systems, we can determine the conditions and circumstances that enable the manifestation of influences between variables. Therefore, if we exert an adequate action on system P5 in variable P, the result will be a behavior or even state modification in systems M3 and I4, without a direct action on these two systems. In conclusion, by exerting a directed controlled influence on the systems of an operational variable, we can get effects in the other variables. So, by setting the conditions for democratic elections, that will legitimately reflect the local people support for political party P5, local security forces M3 and local state television I4 will be influenced, and these two systems will contribute to provide stability in the area. This indirect approach, which leads either directly to achieving desired effects, or creates the conditions needed to conduct a direct action of a lower intensity is usually, a more effective option. The correct perception of the action is more difficult to attain with a lower level of attribution and intensity.

Potential influences are based on having another variable between the one that is being acted upon and the one that is the intended target of the effect. By using the situation in Figure 3-a, it is apparent that we can get the desired effects on systems in Variable S by using synchronized actions on systems M4 and E5. Under proper conditions, by acting upon system M4, we may generate secondary effects on S3, by means of N2. Similarly, by acting on System E5, we may intend to change behavior in S1, by means of I3. In this context, establishing minimum security conditions in the area by training, endowing and engaging M4 security force, the potable water facility N2 may be rebuilt and reopened, providing clean water and jobs for S3 city people. Identifying potential influences between the various relevant systems is important in anticipating their reactions in different situations. Therefore, branches and sequels, as well as decision points and associated PIRs (priority information requirements) are easier to develop and identify. These potential influences facilitate the creative application of combat power and the fast use of opportunities raised in the operating environment.



a) PMESII relevant systems

P	X					
M	3	X				
E	1	0	X			
S	2	1	0	X		
I	1	2	0	1	X	
I	2	0	2	1	1	X
	P	M	E	S	I	I

b) Direct influences

P	X					
M	2	X				
E	1	1	X			
S	2	3	3	X		
I	0	1	1	2	X	
I	3	3	1	3	1	X
	P	M	E	S	I	I

c) Potential influences

Figure 3 *Direct and potential influences between operational variables*

In order to transfer these influences between the operational variables from the conceptual plan into the applied one, there is need for use of certain diagrams. The diagrams are especially useful in identifying operational opportunities. Buffer systems that can be used to influence, and further desired effects to target systems can be identified by a graphic display of the quantitative and qualitative aspects that define each relationship between systems. Influences diagram is in Figure 3-b presents the manner in which direct influences between operational variables can be quantitatively depicted. Potential influences are presented in the diagram depicted in Figure 3-c.

Understanding the way in which these influences between the operating environment variables manifest themselves allows the operations process to become more effective, because it facilitates:

- The correct identification of the causes of unacceptable conditions that determine operational necessity;
- Identification of the effects that have to be achieved in order to change the system's behavior towards the end state;
- Identification of the most effective means to achieve the desired effects (actions, forces, and resources);
- Anticipation of the way in which the systems will react to the various changes they perceive in the environment.

Regardless of the area of interest, operation type or available forces and means, understanding the situation has been and will be a paramount factor of success. The ability to visualize the operating environment as a sum of its variables, to identify and assess as correctly as possible the influences between these variables facilitate the application of the entire combat power of armed forces or task forces they generate. The operational approaches that are laying the foundation of operations process need to address both effectiveness and efficiency. Creating synergetic effects and reducing operational costs should be a concern within contemporary operating environment. The ideal proportion of direct and indirect actions, of using lethal and non-lethal means as well as the ability to act under the radar of the adverse systems may very well be the factors that make the difference in the contemporary operating environment.

Operational creativity, timely and adequate use of opportunities are indicators of a modern military leadership, one that does not reject the ambiguity of the contemporary environment but embraces it and turns it into an advantage. No matter how the military evolves, what influence technology has and how fast information is, understanding the situation will be a necessary condition to achieve the desired end state.

NOTES:

1 https://hiik.de/hiik/methodology/?lang=en, accessed on 05.01.2020.

2 Obtained by using materials available at https://hiik.de/conflict-barometer/bisherige-ausgaben/?lang=en, accessed on 05.01.2020.

3 [Land Warfare Development Centre], UK, *Army Doctrine Publication Land Operations*, 2017, p. 3-1.

4 [North Atlantic Treaty Organization], NATO, *Allied Joint Publication 01, AJP-01, Allied Joint Doctrine*, 2017, p. 1-16, 1-17.

5 [Department of the Army], USA, *Army Doctrine Publication No. 5-0, ADP 5-0, The Operations Process*, 2019, p. 2-17.

6 [Joint Chiefs of Staff], USA, *Joint Publication 3-0, Joint Operations*, 2018, p. XV.

7 [Joint Chiefs of Staff], USA, *Joint Publication 2-01.3, Joint Intelligence Preparation of the Operational Environment*, 2014, p. III-26.

8 *Ibidem*, p. I-4.

9 [Supreme Headquarters Allied Powers Europe], *NATO, Allied Command Operations Comprehensive Operations Planning Directive COPD Interim V2.0*, 2013, p. 1-8.

REFERENCES

[Department of the Army], USA, *Army Doctrine Publication No. 2-0, ADP 2-0, Intelligence*, July 2019.

[Department of the Army], USA, *Army Doctrine Publication No. 3-0, ADP 3-0, Operations*, July 2019.

[Department of the Army], USA, *Army Doctrine Publication No. 5-0, ADP 5-0, The Operations Process*, July 2019.

[Department of the Army], USA, *FM 6-0 Commander and Staff Organization and Operations*, May 2014.

[Joint Chiefs of Staff], USA, *Joint Concept for Operating in the Information Environment (JCOIE)*, July 2018.

[Joint Chiefs of Staff], USA, *Joint Publication 2-0, Joint Intelligence*, October 2013.

[Joint Chiefs of Staff], USA, *Joint Publication 2-01, Joint and National Intelligence Support to Military Operations*, July 2017.

[Joint Chiefs of Staff], USA, *Joint Publication 2-01.3, Joint Intelligence Preparation of the Operational Environment*, May 2014.

[Joint Chiefs of Staff], USA, *Joint Publication 3-0, Joint Operations*, October 2018.

[Joint Chiefs of Staff], USA, *Joint Publication 3-08, Interorganizational Cooperation*, October 2016.

[Joint Chiefs of Staff], USA, *Joint Publication 3-24, Counterinsurgency*, April 2018.

[Joint Chiefs of Staff], USA, *Joint Publication 5-0, Joint Planning*, July 2018.

[Land Warfare Development Centre], UK, *Army Doctrine Publication Land Operations*, March 2017.

[North Atlantic Treaty Organization], NATO, *Allied Joint Publication 01, AJP-01, Allied Joint Doctrine*, February 2017.

[Supreme Headquarters Allied Powers Europe], NATO, *Allied Command Operations Comprehensive Operations Planning Directive COPD Interim V2.0*, October 2013.

https://hiik.de/hiik/methodology/?lang=en.

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EFFICIENT STRATEGIES IN MEDICAL EQUIPMENT MANAGEMENT

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Medical equipment is one of the most critical resources of the healthcare system worldwide, used for diagnosing, treating, monitoring and caring for patients, so the management of these vital health technologies, developed as a comprehensive patient-centered process, is aimed towards the performance of health facilities, through rapid accessibility and availability, viability and safety, quality services and satisfaction of final beneficiaries, as well as the control of cost throughout the life cycle, allocation and optimal use of resources and overall profitability of the medical institution. This article presents a series of helpful strategies that healthcare units should use in order to increase the value of medical equipment and the success of the medical act, strategies implemented and monitored by clinical engineering structures.

Keywords: medical equipment; management; efficiency; quality and safety; clinical engineering.

The continuous development of new medical technologies, their variety and interoperability, as well as the increase in the number of patients, representative elements of increasing health costs, lead medical organizations to constantly seek for appropriate solutions for medical equipment management, to increase operational capacity, safety and quality, minimizing lifecycle cost, efficient resource planning, balancing investment expenditures, maximizing the life of medical equipment and substantiating the decision-making process on the basis of quantifiable data.

The efficiency of medical equipment management is the result of the interaction mechanisms created between clinical and administrative structures, the organization and coordination of technical and financial actions, carried out by qualified personnel from clinical engineering (CE) structures, including evaluation, planning, programming and budgeting activities, selection and procurement, records and monitoring, maintenance and training, disposal and decommissioning, as shown in Figure 1.

In the context of these challenges and financial pressures in the healthcare sector, integrated management of health technologies should be based on efficient strategies for each stage of the life cycle of the medical equipment, developed based on the mission and the objectives of the health unit. Deciding leaders in the field of medical equipment investment should understand and be aware of the costs associated with the implementation and use of new technologies before making the final decision on acquisition and operational integration.

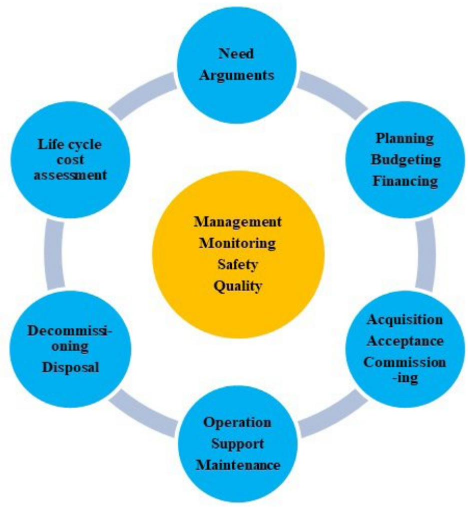

Figure 1 *Active management of medical equipment*
Source: Adaptation after [World Health Organization], ”WHO Medical devices technical series, Global Atlas of medical devices”, *3.4 Health Technology Management,* Geneva, 2017, pp. 44-69.

Medical Equipment Management Group (MEMG)

The interdependence of the processes of strategic planning and operational management of medical equipment, as well as the need to ensure

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quality, safety, cost control during the life cycle and profitability of the medical organization, determine the need to establish multidisciplinary medical equipment management groups at each health unit, for the analysis and evaluation of existing technologies in the hospital, selection of the most appropriate future investments, both adequate to the specifics and requirements of the institution, study of associated cost and the implementation of medical equipment (ME) policy.

In this regard, the United Kingdom Medicines and Healthcare Products Regulatory Agency (MHRA) has issued a recommendation as follows: ”healthcare organizations should establish a medical device management group to develop and implement policies across the organization”[1].

The group, which should include members of the Board of Directors (BOD), clinical staff (doctors and nurses), clinical engineering staff, administrative and financial specialists, is usually chaired by the medical director of the hospital or head of the CE structure and has the role of creating relationships and communication on the ME segment within the organization, in order to increase the involvement of users and technicians, to raise awareness and accountability of staff on the concept of technology management, by reporting full costs throughout the life cycle, and to establish and implement governance and policies at the health unit level.

MEMG must analyze the use of ME throughout the life cycle, the risks associated with it and the financial efficiency of the hospital, to assess the support for the strategic objectives of the medical institution. The result of this analysis must be materialized by developing a Medical Equipment Management Plan, subsequently objectified in specific work programs and procedures.

The policy developed by MEMG must include, at strategic level, the requirements of the program of evidence (inventory) – a tool to support the planning of existing ME replacements, procedures for evaluation and selection of new technologies proposed, risk management and incident management, addressing environmental problems, life cycle of ME, proper operation procedures, maintenance and decommissioning of ME, legislative support.

Equipment inventory management during its life cycle

The record of medical equipment or their inventory is the fundamental tool in the activity of clinical engineering, that permanently reflects the level of equipment endowment with by types of medical devices and the current state of existing technologies, in order to ensure their safety and efficiency in use, an integrated system of data and information useful for the informed decision-making process. The system is basically a constantly updated document, which serves as a guide for the projection and elaboration of future budgets – both in terms of capital expenditures (procurement planning based on factors such as life cycle, condition, risks and associated costs as well as operating and support (planned maintenance and calibration costs, spare parts, consumables), determining the training and education needs of medical and technical staff, establishing the need for testing and calibration equipment.

With this tool, healthcare units actually manage the entire life cycle of medical equipment, assess and analyze its technical condition at any time, monitor existing risks, schedule inspection and preventive maintenance (IPM) operations, record repair history and breakdowns, control stocks of parts and consumables, account for all life cycle costs and plan for human, material and financial resources for future periods.

Depending on the size and mission of the health facility, as well as the fleet of medical equipment, IC structures should determine the equipment that will be included in such a computerized inventory program, following an evaluation, preferably based on equipment function, risks associated with use, incident history and maintenance requirements[2]. Small medical units, such as specialized outpatient clinics, with few equipment, can include all devices in this program (up to the level of tensiometers and stethoscopes), while hospitals with developed infrastructure can focus, in particular, on nuclear equipment and facilities, magnetic resonance imaging (MRI), computed tomography (CT), radiotherapy, laboratory units, anesthesia equipment or other complex and expensive installations.

Such a program should at least include information on: the type, series and identification number of the equipment; manufacturer and year of manufacture; date of commissioning; management documents and the value of the acquisition; the operational condition of the equipment, the necessary preventive maintenance operations, the scheduled time and the cost of maintenance operations, including spare parts and consumables; corrective maintenance interventions, supporting documents and costs (own or outsourced regime); operational maintenance procedures; operating fees and licenses; calibration data and risks during operation; due dates and warranties; normal service life as well as estimated service life; monitoring the performance of service contracts. The program may generate reports on maintenance costs, periods of inactivity of equipment, the type of most common failures or spare parts used throughout the life cycle and may be a quantifiable justification in the procedure for demonstrating the opportunity for new investments, planned as replacements of existing equipment.

The more complete the inventory, the more efficient and performing the management of medical equipment is, therefore it is mandatory that the program should be continuously updated, monitored and improved, as well as audited and reviewed annually.

Prioritization, selection, and acquisition of medical equipment

The aspirations of medical staff and their continued desire to use the latest equipment or to update existing technologies, in order to increase the safety, quality and efficiency of the medical act, driving substantial annual investment needs, on the one hand, and budgetary allocations and the outcome of the identified needs analysis, on the other hand, represent a challenge for hospital boards and lead, in a balanced prioritization and justified replacement of ME, to an interactive and complex process that seeks both rational and timely use of available resources. Investments in medical technology, the driving force of expensive health services[3], must be prioritized, planned and substantiated in order to give clinical, and operational value to the medical institution.

In this regard, health facilities should be aware of their equipment needs and the availability of financial resources for a period of at least 3-5 years, in order to develop well-planned investment plans, but also be able to react quickly through revisions of plans or reprioritizations, to counter effect of changing technologies and sometimes of health regulations that may change or prohibit the use of ME.

The need to purchase new ME is identified in the following cases: replacement of obsolete existing medical devices that are no longer reliable and safe or have become too expensive to maintain and operate; the introduction of new medical technologies to serve healthcare services of the organization or to reduce the total costs of the hospital; reducing the risks associated with use by standardization and interoperability; compliance with regulatory policies in the field of medical devices.

Medical institutions must analyze and evaluate the solution for the implementation of new technologies, aiming for increasing quality, reducing costs, covering a wide range of services and, of course, in accordance with the mission and strategic objectives of the medical organization. The evaluation of medical technology must be based on the principle of value, in the light of competing demands of medical departments, by understanding the life cycle of ME and by knowing and analyzing objective factors such as: hospital *vision*, technology *efficiency*, *value* of investment in relation to market price, possible *savings* of the chosen solution, full acquisition *cost*, installation commissioning, operation, support and disposal, *maintenance* requirements and existing availabilities, in order to optimize the operation of ME and associated costs throughout the estimated life.

The existing ME replacement plan must be the result of an assessment by the CE structures, based on prioritization coefficients, a process in which various factors are analyzed, such as: equipment condition and downtime, age, operational support requirements during the lifecycle time, the EOL – end of life – granted by the manufacturer for some spare parts or consumables required for operation, annual maintenance cost in relation to the purchase value of the equipment, the degree of use within the medical organization and in the context of future objectives, the degree of acceptability of the operating medical staff (physicians’ satisfaction) and the function or criticality of the ME within the health unit. Most of the analytical factors are quantifiable elements contained in the ME life cycle monitoring inventory program or database, and a small part represent subjective opinions of clinical staff, such as medical device users and final beneficiaries (patients).

A number of other factors need to be considered in evaluating the process of selecting and acquiring new ME, such as: the need to update or modernize software applications; compatibility with the electronic health system implemented at the level of the health unit; novelty or topicality of the ME standard; availability of consumables on the medical market; the availability and development of the service network at national or local level, as well as the response times to intervention requests; lifecycle training skills and ways of professional development of own staff; expected life of the technology; additional needs for equipment or plants for installation, commissioning or use.

Globally, there is no standard process of prioritization or selection, but every medical institution should, through the BOD, MEMG and CE structures, look for ways to substantiate and demonstrate the opportunity to acquire ME based and improvement. In this regard, health facilities must develop MS maintenance programs, analyze and decide, taking into account a number of critical factors, as shown in Figure 2, how to perform maintenance operations, but also MS that will be included in the program and the periodicity of IMP operations, based on risk-based assessments, in order to obtain a good cost-effectiveness ratio.

Depending on the complexity of the medical technology, the skills, testing and calibration equipment required to perform the maintenance work, as well as the number and training of qualified technical specialists, the health unit must decide which ME will be provided with outsourced maintenance support or combined support. The trend of the last decade worldwide is the development of own CE teams, trained and informed by participating in various training conferences or training programs, increasing ME warranty periods and eliminating *full service* contracts, in order to reduce costs and increase the availability of medical equipment. Unfortunately, this process

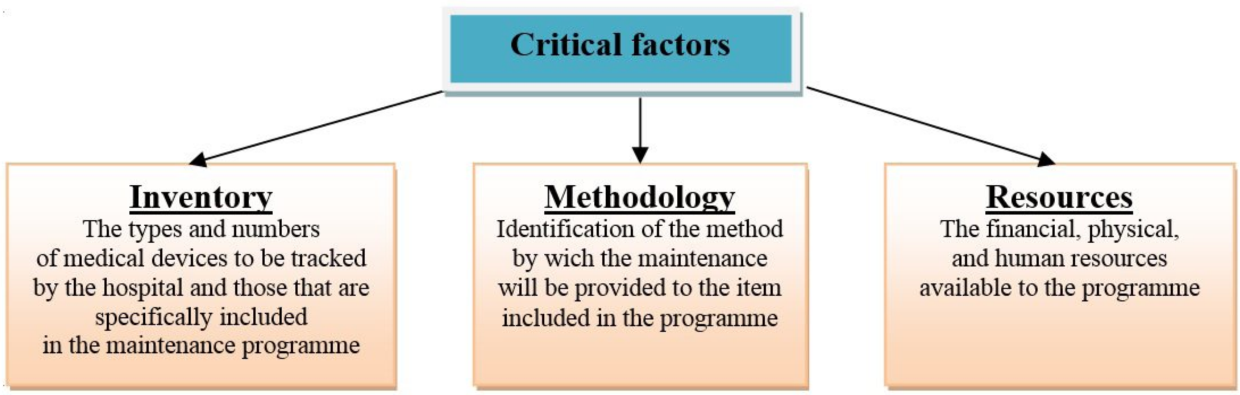

Figure 2 *Critical factors in maintenance planning*[4]

on increasing clinical and economic value of the medical organization, in the context of the constant appearance on the market of new technologies and budgetary constraints in the healthcare sector.

Management of the medical equipment maintenance program

The reliability of EM, equivalent to the safety and availability of the equipment, is the result of the effectiveness of medical technology maintenance activities, activities that require good planning, implementation, monitoring, evaluation of employing with technical and management staff of health technologies at the level of state health units in Romania is slow and difficult, due to the small number of biomedical engineers trained, but also lower salary policies compared to the private sector.

Maintenance activities and their periodicity can be planned according to the manufacturers' recommendations or based on individual strategies that respect the good practice standards of the ME field[5], as recommended by the MHRA in the UK. However, it is not considered effective to use the same maintenance planning strategies for both old and new or state-of-the-art ME (high technology).

Through the data collected through the inventory program, CE structures can analyze all ME, in terms of the specific needs of the health unit and based on three fundamental elements of the role of technology in health: patient safety (represents the risk of ME failure, with effect on patient injury), the maintenance needs of ME (periodicity of IPM operations) and the role of ME in fulfilling the basic mission of the health unit (impact of failure or its consequences on patient outcomes / satisfaction, as well as the institution's budget).

This prioritization process, developed over the years according to several models (Fenningkoh and Smith – 1989, Wang and Levenson – 2000, ECRI – 2012)[6], shows that ME with the highest maintenance needs are not the most critical in terms of patient safety, and those with the highest degree of patient safety hazard often do not require the most complex IPM activities. The EME identified as critical for the medical institution, following the analysis of the CE structure, will be included in the maintenance program and will respect the periodicity of the execution of IPM operations, according to the manufacturers' recommendations.

The Fenningkoh and Smith model[7]*,* approaches ME prioritization for inclusion in the maintenance program, based on an algorithm for evaluating three factors, as follows: equipment function (between 2 and 10 points), associated risk (between 1 and 5 points) and maintenance needs (between 1 and 5 points), and obtaining a total score (TS) by summing the resulting values for each factor, as follows:

TS= Function + Risk + Maintenance needs (1)

ME with TS≥12 will be included in the maintenance program.

Although there are still many government policies that recommend the implementation of IMP operations according to manufacturers, international studies have shown that most manufacturers' recommendations are exaggerated either in frequency and activities to be performed or parts / consumables to be replaced, so in order to save resources, in the context of budgetary constraints and the reduction of intervention and equipment downtime, in recent decades alternative maintenance plans for low-risk ME (considered routine ME) have been practiced, based on maintenance strategies, developed by professionals in the CE structure.

These strategies must not decrease safety, must be fully accepted at the level of the healthcare organization and represent the result of the CE experience, based on two principles: IPM performed according to the manufacturer's recommendations does not further increase patient safety; the same type of equipment, used in different conditions of time and space, requires different ways of performing IPM[8].

It should be noted that experts believe that alternative maintenance programs will not include new ME under warranty, imaging and radiology (CT, MRI, X-ray) or surgical lasers and that all ME, both those with increased risk, as well as routine ones, regardless of the maintenance program in which they will be included, must go through all planned maintenance operations, in order to increase the value of health technologies.

In other words, high-tech and new ME will be included in predictive maintenance programs, and older ME will be included in alternative preventive maintenance programs[9]. In both cases, the maintenance program is the instrument for allocating resources to fulfill the mission of the health unit and to ensure efficient and safe ME in use.

Another difficult decision that the CE has to make in order to achieve a balance between costs and benefits is the choice of the type of maintenance contract awarded to external providers, for ME that will be prioritized for the execution of outsourced service work. Contracts can be full maintenance commitments (full service 24x7) covering all maintenance operations, repairs, calibrations, spare parts, training, planned maintenance commitments and technical diagnostics in the event of a fall or maintenance only commitments.

Conclusions

In order to maximize the value of ME and increase the quality of medical care, any health unit must be guided in its management of ME by its own policies and strategies, specific to the size of the organization, medical mission and clinical and financial objectives, to generate strategic plans, developed, monitored and constantly updated and evaluated by MEMG. The key element of the group’s activity is to ensure that any purchase of equipment is made only with group’s approval, respecting the principles of best practices, rules and requirements of standardization and interoperability at the level of the medical organization.

Proactive management of ME, based on the concept of collecting and capitalizing on data from the life cycle of ME, is achieved through an inventory program as complete and accurate as possible, which is the basis of the quality and cost management programs of medical units, developed of CE structures, and the most eloquent element in the decision-making process to prioritize equipment purchases, whether they are the subject of replacements of existing medical equipment, physically or morally worn out, or investments in new high-performance technologies. The analysis and substantiation of capital expenditures in medical organizations must be based on factors that have a direct impact on the full costs associated with the use of ME throughout the life cycle, quality and safety of healthcare services, in order to achieve a balance between clinical and financial performance.

In order to optimize operating and support costs, CE structures need to develop ME maintenance programs based on risk and cost assessments and prioritizations, thus developing alternative plans for non-critical equipment, considering the complexity and amount of existing equipment, the skills of its own specialists and their number, the technical means of calibration and control, as well as the budgetary resources available.

The role of CE in the medical organization is not only to ensure the safety of use and reliability of equipment, but also to direct the entire management process of medical technologies in the health unit.

NOTES:

1 [Managing Medical Devices], *Guidance for healthcare and social services organizations*, Medicines&Healthcare Products Regulatory Agency, UK, 2015, p. 7.

2 [Association for the Advancement of Medical Instrumentation], *Recommended practice for a medical equipment management program,* American National Standards Institute, Inc., 2013, pp. 8-13.

3 Vivian Ho, Jerome Dugan and Meei-Hsiang Ku-Goto, ”Why Are Hospital Prices Rising?”, *Health Management, Policy and Innovation,* 2013, 1(4), pp. 1-16.

4 [World Health Organization], ”WHO Medical devices technical series”, *Medical equipment maintenance programme overview,* Geneva, 2011, p. 14.

5 [Managing Medical Devices], *op.cit.*, pp. 33-42.

6 Binseng Wang, *Medical Equipment Maintenance: Management and Oversight*, Morgan&Claypool Publishers series, Connecticut, 2012, p. 24.

7 Joseph F. Dyro, *Clinical Engineering Handbook*, Elsevier Academic Press, Burlington, USA, 2004, p. 123.

8 Binseng Wang, Emanuel Furst, Ted Cohen, Ode R. Keil, Malcolm Ridgway, and Robert Stiefel, *Medical Equipment Management Strategies*, Biomedical Instrumentation & Technology, May 2006, Vol. 40, No. 3, pp. 233-237.

9 Mana Sezdi, *Two different maintenance strategies in the hospital environment: preventive maintenance for older technology and predictive maintenance for newer high-tech devices*, Journal of Healthcare Engineering, Volume March 2016, pp. 1-16.

REFERENCES

[Association for the Advancement of Medical Instrumentation], *Recommended practice for a medical equipment management program,* American National Standards Institute, Inc., 2013.

[European Commission], *Medical Devices*, https://ec.europa.eu/growth/sectors/medical-devices_en

[World Health Organization], WHO Medical devices technical series, *Medical equipment maintenance programme overview*, Geneva, 2011.

[Managing Medical Devices], *Guidance for healthcare and social services organizations*, Medicines & Healthcare Products Regulatory Agency, UK, 2015.

Dyro F. Joseph, *Clinical Engineering Handbook*, Elsevier Academic Press, Burlington, USA, 2004.

Ho Vivian, Dugan Jerome, Ku-Goto Meei-Hsiang, ”Why Are Hospital Prices Rising?”, *Health Management, Policy and Innovation*, 1 (4) 2013.

Purcărea Victor Lorin, *Medical Technology and equipment*, University Publishing House ”Carol Davila”, Bucharest, 2008.

Rivas Rosanna, Vilcahuaman Luis, *Health Technology Management Systems*, Elsevier Academic Press, Burlington, USA, 2017.

Sezdi Mana, ”Two different maintenance strategies in the hospital environment: preventive maintenance for older technology and predictive maintenance for newer high-tech devices”, *Journal of Healthcare Engineering*, March 2016.

Wang Binseng, *Clinical Engineering Financial Management and Benchmarking: Essential Tools to Manage Finances and Remain Competitive for Clinical Engineering/Healthcare Technology*

Management Professionals, Independently Published, USA, 2018.

Wang Binseng, Furst Emanuel, Cohen Ted, Keil R. Ode, Ridgway Malcolm, Stiefel Robert, ”Medical Equipment Management Strategies”, *Biomedical Instrumentation & Technology*, vol. 40, no. 3, May 2006.

Wang Binseng, *Medical Equipment Maintenance Management and Oversight*, Morgan & Claypool Publishers series, University of Connecticut, 2012.

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OPPORTUNITIES AND CHALLENGES REGARDING THE REGIONALIZATION OF SECURITY AT THE BLACK SEA. PERSPECTIVES CONCERNING ECONOMIC COOPERATION IN THE BLACK SEA AND ITS IMPACT ON REGIONAL SECURITY

Rear Admiral (UH) Mihai PANAIT, PhD Candidate*

Within this approach, a radiography of the evolution of the regional security environment under the permanent influence of dynamic factors is made, analyzing ways of the contribution of the main regional actors to maintain a favorable climate for economic cooperation from the perspective of identifying the opportunity to regionalize security in the Black Sea.

The novelty of the approach is to decelerate, through a detailed analysis on several criteria levels, the new risks and vulnerabilities to which the regional security of the Black Sea is exposed, in the context of the global crisis generated by the pandemic, while identifying the prospects for regionalisation of the security of the Black Sea. In view of the current geopolitical situation, the realistic approach to the phenomenon will focus on revealing the algorithm of globalization and the balance of power, according to new reference points.

Keywords: geopolitics; regional security; economic partnerships; coronavirus; balance of power.

In this sense, the analysis of the regional situation will be taken into account, starting from the hypothesis that the opportunities in the field of security, economic, and financial cooperation are based on a mathematical model or an analyzing algorithm of the specific criteria in the concept of regionalization, a phenomenon due to large-scale factors manifested at the international level, namely globalization. This algorithm will be beneficial to decision-makers at the regional level to capitalize on it, as the main source of balance of power.

To validate this hypothesis, the following were established as objectives of the research: identification of the particularities of the Black Sea region; analysis of the concept of regional identity; identification of risks and threats on the regionalization and security of the Black Sea, analysis of generating security factors in the Black Sea region; identifying and implementing of several projects capable to provide opportunities for economic development in a regional security environment; analysis of current risks and threats to the Black Sea regionalization's security from the perspective of a disruptive factor such as the current global pandemic.

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The Black Sea region, located between two geographical areas with great potential for conflict as Balkans and the Caucasus, and near the eastern Mediterranean, marked by conflicts in the Middle East, and the exacerbation of Islamist terrorism, is currently highlighted by the following features as it:

- represents the interference space of three geopolitical and geostrategic areas with acute security and stability issues (Southern Europe, Eastern Europe, and the Middle East);
- facilitates the access of riparian countries to the Planetary Ocean;
- constitutes the South-Eastern flank of NATO;
- faces cross-border crime (arms trafficking from the countries of the former USSR, and even trafficking of emigrants from East to West);
- contains offshore petroleum resources;
- holds a wide network of ports and port facilities but also a pleasant coastline, thus offering multiple facilities for commercial and tourist cooperation;
- represents a good context for the extension of military cooperation within the program of the Partnership for Peace – PfP, and even for the resumption of the special partnership program NATO - RUSSIA.

The concept of regional identity refers to historical spaces and cultural characteristics superimposed on a certain region "which, from a geographical point of view, does not always coincide with the current borders of a state”[1]. Under these conditions, we can consider that a community can be identified as belonging to several territorial structures, so carried out by historical regions, counties, geographical areas, as in a region several distinct communities can coexist (multicultural coexistence).

I have noticed that theories about the meanings of the concept of *region* have evolved, being influenced by geographical, social, historical, and political factors. The main effects led to a ”stratification of space in centers and peripheries”. In this regard, we can mention the economic discrepancies between areas of the same region. Another identified effect is the manifestation mainly in ”areas where the nostalgia of empires has never died down”[2]. This means that certain areas are targets of regional actors who do not give up the idea of rebuilding old historical borders by consolidating influence in the area, often using coercive measures, often hybrid ones.

If the Black Sea region seemed to be entering in an irreversible process of modernization and democratization, after Vladimir Putin’s rise to power, the area became increasingly politically tense, with frozen conflicts in Transnistria, Georgia, Ukraine, and effectively occupied regions by Russian Federation forces such as Crimea, with the influence of liberal regimes even in NATO member countries such as Turkey, Poland or Hungary.

In the current context of combating the pandemic generated by the COVID 19 virus worldwide, the development strategy in all areas needs to be rethought, from the development of the means by which information is transferred among different entities of society to the reorganization of the current system of functioning of modern society.

Will regionalization and security on the Black Sea change radically after this pandemic? Everything we have learned about it, all the initiatives in these areas after the fall of the Iron Curtain, will they have another projection after the fight against Coronavirus is completed? These are just two of the packages of questions we can generate in a comprehensive analysis. For this, I will perform a criterion analysis based on the following factors: political-diplomatic, military, historic, economic, geographical, and legislative.

In my view, in terms of instruments of state power, diplomacy, military power, economic and innovation capacity, national (and international) legislation, finance and development efficiency will now change as globalization, security and economic cooperation reached maximum yield and then, *thanks* to this virus, it reached a historical minimum. I think at this time we cannot identify the wounds in all areas globally, but we can already see major changes in the binomial regional security - cooperation and economic development.

I also believe that this pandemic and its side effects (which we cannot yet fully identify) will radicalize and accelerate military and economic transformations in the Black Sea. All risks and threats, the forecast of macroeconomic developments, the balance of regional power, the permeability of national and regional borders will have modified or alternative lines of development and directed towards new horizons. From the security analysis process, we have always highlighted the fact that, where weaknesses and gaps appear in the regional economic-military initiatives, new opportunities and perspectives appear too.

From a political-diplomatic point of view, in certain areas of the Wider Black Sea Region, states coagulate common interests in extremely small spaces. The West promotes democratic values in stages from West to East and the main opposing force is the Russian Federation. Thus, if the criterion is membership in an alliance, then the region is clearly divided, but if the criterion is membership in a political organization, then the region is quite larger, including the twelve countries united in the BSEC. So, we have identified a political factor to define the extended region. Analyzing from the point of view of interests in the area, there are heterogeneous states: as belonging to military alliances, specific territorial, demographic, and cultural characteristics.

From a military point of view, can a crisis in an extended region be resolved by a single military operation involving all regional actors or is there a need to fragment the region? Frozen conflicts can turn into open conflicts with a direct influence on regional security in a very short time. In this case, can we speak of distinct operations? From this point of view, we can observe that from West to East, the maritime spaces become narrower and narrower until they become closed. If ships in the eastern part of the Mediterranean Sea have access without any restrictions, when we advance towards the Aegean Sea, the room for maneuver is restricted due to the adjacent islands and territorial sea. Further north, the Marmara Sea is a Turkish lake, and access to the Black Sea is limited to non-residents but also residents according to the provisions of the Montreaux Convention. Going even further North of the Black Sea, de facto, the entrance to the Sea of Azov is controlled by Russia. Access to the Caspian Sea is made on channels, obviously only with the agreement of the Russian Federation, only for ships with drafts below 3,5 meters, and with height restrictions due to bridges over the Don, channels, and over the Volga. The Caspian Sea has a special status being used in common only by residents. Through the Caspian Sea Convention signed in 2019, it is not considered a sea or a lake, but a special area exploited only by common residents.

Historically, even the modern history of the region has witnessed conflicts among the countries from region: the prolonged tension between Greece and Turkey over the island of Cyprus, the war between Armenia and Azerbaijan for Nagorno-Karabakh, Russia's insistence on maintaining extraterritorial status on Transnistria, Abkhazia's Independence War, and the Russian war in Chechnya, all prevented the development of regional relations. However, with the end of the Cold War, and the apparent entry of the world into a sign of peace, the relaxation of military rivalries in the region and the possibility for the Black Sea states to explore another political and economic dynamic under the auspices of a new European climate followed. Geographical proximity, common interests but also a similar level of development have turned the countries of the region into partners.

To this end, on June 25th 1992, the Istanbul Summit Declaration on the establishment of the Black Sea Economic Cooperation Forum was signed by the Heads of State and Government of Albania, Azerbaijan, Armenia, Bulgaria, Romania, Georgia, Greece, Moldova, the Russian Federation, Ukraine, and Turkey. Although originally founded as a forum without the legal status of a regional organization, the political will of the Member States overcame differences in mentality and agreed on the full cooperation mechanism by adopting the Yalta Charter in 1998 by transforming the forum into the Black Sea Economic Cooperation Organization. (BSEC). This was the most substantial attempt to strengthen cooperation in the region and to turn the Black Sea region into a peaceful, stable, and prosperous one. However, although the prospect of joining the most important military and economic cooperation alliances NATO and the EU, respectively, has always been a strong motivation for regional cooperation, in the Black Sea Region it has perpetuated the trend of isolation from neighbors and led to minimization of cooperation of the states from this area[3].

From an economic point of view, the Black Sea is still an untapped natural resource at the maximum level of its potential, and from an energy point of view, it is a natural reservoir of hydrocarbons. The Black Sea and the geographically delimited neighboring region offer several opportunities and challenges for riparian states and international actors, offering high development potential. From this point of view, the Black Sea is an important economic hub for energy flows and a valuable commercial, and transport hub.

Economically speaking, a new situation in the region was created following the completion and commissioning of the Turkish Stream pipeline on January 11, 2019, which makes Turkey a gas distribution node from the Caucasus to Bulgaria, Greece, and the Adriatic coast. Vladimir Putin took part in the official launch of the pipeline in Istanbul and military forces were brought to the area as a naval group consisting of a cruiser and a destroyer.

In the military geography of the area, many elements have changed with the inauguration of a road bridge over the Kerch Strait in May 2018, and a rail one on December 23rd, 2019. If until this construction, the Russian Federation had no direct access to the Crimean Peninsula other than by ship, this bridge can bring resources to the region, thus creating a great strategic advantage for blocking the area. Through these actions, the Russian Federation complements its zone ban tactics, using Anti Access / Area Denial (A2AD) measures.

The emergence of the Black Sea Economic Cooperation forum was not so much the result of a genuine commitment to regional cooperation, but the product of geopolitical interests and the same interests will prevail in the future. Although the re-establishment of consistent regional cooperation does not seem foreseeable in the near future, the Black Sea region will continue to be very important for both, Europe and the US, being a bridge in energy supply between West and East, but also a barrier against transnational threats.

In my opinion, these approaches are the basis of a regional cooperation model that would lead to the hypothetical validation of security and economic-financial cooperation opportunities in the Black Sea, based on a mathematical model or an analysis algorithm. To complete this approach, I will further coagulate certain factors characteristic of the regionalization phenomenon. For this, I will highlight those areas that can be supported by projects that strengthen the Black Sea region security.

Black Sea regionalism should be strengthened around the common values of the region. The most valuable common asset is the sea itself. The development of comprehensive maritime policies through a regional vision, led by a single actor, a strengthened regional forum, will be an advantage for all riparian states, in all activity areas, without limiting individual expression in conditions of multilateral consensus.

Efforts should focus on identifying and implementing several projects in a number of sectors that offer opportunities for economic development, under conditions of stable regional security: trade; transport networks, environmental protection; renewable energy sources; contagious diseases; natural disaster management; migration and combating trafficking of human beings.

Trade is the most affected, so that economic problems are a common point of the countries bordering the Black Sea, which necessarily involves the participation of all actors to reduce undesirable effects.

Having highlighted these particular aspects of the Black Sea region, and the factors analyzed, let us continue to see what are the current risks and threats to the regionalization of Black Sea security from the perspective of a disruptive factor such as the current global pandemic.

Global developments in border permeability, the dilution of globalization to the detriment of regionalization (or even worse, in favor of overt nationalism), the focus of each nation's efforts on saving its citizens and less those belonging to a region, organization or military bloc, will have a non-linear, asymmetric or even multi-faceted appearance. These issues will not be easy to assess and, implicitly, it will be difficult to identify such tools to address them. Thus, regionalization and security, which should have happily coexisted on the Black Sea, will suffer in the medium and long term. Moreover, the regionalization of security will be much more difficult to implement, given the current asymmetric conditions present in the wider Black Sea region, such as COVID-19 and the situation of Syrian immigrants from Turkey and the Turkish-Greek border. At the moment, it is no longer possible to speak of a unitary, global leadership carried out by multinational, regional, or global security organizations, with the emergence of much stronger national interests based only on the interests of the nation. The role of these military or economic security organizations will be diluted, if the states that do not claim to play the role of regional power do not consider that it is in their interest to act together. The great powers or states and organizations that are considered regional powers will tend to promote the regionalization of security, all the more so as this initiative will support the (otherwise selfish) effort to defend their military, economic and diplomatic interests, as well as citizen' security[4].

War under the same flag (of a military bloc, regional initiatives or a religion) is called into question at this time, when the unseen enemy, this virus that has set out to break any rules, endangers not only fighters, but also the entire population. The danger that this virus may pose was recently materialized, when an exercise led by the Norwegian army, in cooperation with troops from the USA, Great Britain, the Netherlands, Germany, France, Belgium, Denmark, and Sweden[5], was canceled. The decision to cancel this exercise was taken in cooperation with the Norwegian health authorities in order to limit the spread of the virus both within the country and to protect the other participants in the above-mentioned countries[6].

The participation of US troops in the Defender-Europe 20 exercise in Europe was canceled due to the outbreak of the COVID-19 virus, and the guidance of the Deputy Secretary of Defense, David L. Norquist[7], considering extremely important "the health, safety and operational capacity of military and civilian personnel, as well as their families is a major concern"[8]. The exercises connected to

Defender – Europe-20, namely Dynamic Front, Joint Warfighting Assessment, Saber Strike and Swift Response, did not take place[9].

On the other hand, the famous daily *New York Times* published in its pages an action of Moscow, which until a month ago would have been unimaginable. Thus, in propaganda action with maximum impact on international relations but, especially, on the American population, the largest Russian military transport aircraft AN 124, landed at the International Airport J.F. Kennedy with protective masks and mechanical ventilators on board[10]. This action initiated, from a very wide range of organizations, many pros and cons in both countries. To ease the situation, the Russian foreign minister said that the expenses were shared by both states, and the spokesman of this ministry stressed that, if the situation had been reversed, the US would have supported Moscow in the same way without any doubt. This action taken by Russia sending aid to the Americans took place two weeks after the aid granted by Russia, to Italy, sending 15 planes full of medical equipment and personnel specialized in the fight against contagious diseases. All this was loaded on Russian trucks with the message ”From Russia With Love”[11]. Russia also maintains a constant strategy to increase its geopolitical influence in the US and Europe and to promote its propaganda to increase influence in the Balkans area. With this in mind, the Kremlin will send to Serbia too eleven military aircraft loaded with materials, equipment and specialists in combating the COVID-19 epidemic[12].

The new defence budgets will be reconfigured according to the new risks and threats posed by this epidemic. The rescheduling of the postponed or canceled exercises will inevitably lead to an increase in the allocated budgets. Also, a lack of training or exercises for a longer period could lead to a temporary decrease in some abilities. Future defence budget projects could be strongly linked to massive investments in command and control systems in the field of epidemic control or citizen health, and those involving the increasing of operational efficiency.

Also, the planning of actions involving the medical field in the event of pandemics must be guided by the same planning principles, in parallel and collaboratively approach with the central structures of the National Defence System. Pandemic research should also be carried out under the auspices of the Supreme Council of National Defence, and the Prime Minister, supported by representatives of the Ministries of Health, National Defence, Internal Affairs, and other ministries, such as Economy, Energy and Business Environment, agencies, organizations and associations that have an important role in this field.

Romania will have to identify all the instruments of state power to prevent this triple threat: the global pandemic, the imminent global economic crisis, and the national security that can be threatened at any time. A triple, military-economic-pandemic, intense and long-lasting shock to the civilian population will put the state and its instruments of power to fight first against the pandemic, then to support the strengthening of society’s systems and bodies responsible for citizen security and national interests.

So far, 205 states or territories have confirmed that they have been identified as having COVID-19-infected individuals on their territory[13]. In all these countries, COVID 19 has exposed a dangerous trend in which the future of globalization seems to be collapsing in the face of this virus. Nations are extremely focused on what is happening internally to the detriment of common security. Countries around the world restrict free movement, apply isolation or quarantine measures, and fight particularly hard to limit the negative effects on society as a whole.

I believe that in this approach, we have met the proposed objectives so that by observing the field, analysis, and deductions we have managed to analyze the current risks and threats to the regionalization of Black Sea security by identifying projects that provide opportunities for economic development in an environment of regional security. Furthermore, having fulfilled the research objectives, I consider validated the hypothesis of the present approach, so that I can make some predictions on the regionalization of security on the Black Sea.

Conclusions

The Black Sea region is of particular strategic interest to the Euro-Atlantic community, but the effort to ensure regional stability and security is undergoing transformation whenever an Article 5 action is called into question, which has created some uncertainty among Black Sea riparian states. The state must ensure its border security, and contribute to common security, but the mechanism is difficult to implement.

The extended Black Sea region, including the Black Sea Region, remains in the same diplomatic tension until the opportunity to apply cooperation measures based on good neighborly relations, which in my opinion is a model of regional cooperation. The solidarity test that COVID-19 gave international relations is already deeply marked by tendencies of isolationism and independent action, directly proportional to the interest of each nation. We have noticed the tendency of security and the global market to change from global to regional, or even more, to state. Globalization has suffered, due to the negative influences of the virus, starting from the individual level, and ending with the international level, successive implosions, going through the regionalization phase and reaching the state level, or even decreasing at the point level (such red areas in each country). Borders have become impervious, citizens have much reduced freedom of movement, and the convergence of common interests in a given region or globally is no longer timely but tends to uneven convergence or, perhaps more dangerously, to a divergence dictated by the interests of states, organizations or alliances.

I believe that the transition from globalization to regionalization seems to be an unprecedented situation in international relations theory. Regionalism must be seen as a consequence of globalization that has accustomed us to living in an interconnected world where the transfer of population, goods, and services and the exchange of information in support of security can become extremely vulnerable, affecting, first and foremost, national interests.

The changes in the dynamics of the regional security environment are unprecedented. The new inflections of the security regionalization physiognomy after the identification of the current threats in the Black Sea will be observed as soon as the countries in the region have analyzed their identified lessons and implemented them in new security strategies. The old security strategies will be reanalyzed by geopolitical analysts and polished by politico-military specialists. The influence of unconventional threats will severely affect the state instruments of power.

I consider that it is extremely important for the countries in the region to find the strength to come together and (re) negotiate the ultimate goals and objectives of a regional security strategy. This security strategy must be understood, first of all, as a desire to return to a climate of respect, mutual trust, respect the rights of the citizens of each country to security and welfare, and last but not least, security will learn that the state has the tendency and reflex to (self) save oneself to the detriment of regional/collective security and to use all the tools of power for their own purpose and less in favor of the regional or international community.

It is interesting to see the solution that the great powers will choose: globalization or regionalization? Economic cooperation and regional security or their unitary and unconnected development to military alliances, initiatives or blocs? Will the powerful states try to keep their power influences and the other nations try to change the balance of power in their own interest? There are as many other questions that we can approach patiently and intelligently to identify the best answers.

The opportunities and challenges of regionalizing security on the Black Sea are unique and need to be carefully considered in the new context of the fight against the current threats. Also, the prospects for economic cooperation in the Black Sea and its impact on regional security from my point of view should be exploited with a positive, proactive attitude and even an attempt to apply the principles of modern leadership at regional level, with the clear purpose of identifying optimal solutions for the harmonious development of the Black Sea region.

I am sure that this approach will be a starting point for debates, analysis, and consolidation of solutions adapted to the new conditions of the security environment in the Black Sea region, Thus, specialists can consider this approach a bibliographic benchmark for developing the subject and completing the spectrum of security analysis criteria from a regional perspective. The arguments presented represent opportunities to manifest regionalization that will be able to strengthen a model of regional cooperation leading to the regionalization of Black Sea security.

NOTES:

1 Ilie Bădescu, Dan Dungaciu, *Sociologie şi geopolitica frontierei*, vol. II, Floarea Albastră Publishing House, Bucharest, 1995, pp. 1-2.

2 Ilie Bădescu, Dan Dungaciu, *op.cit*., pp. 3-4; Grigore Iulian, *Geopolitica şi sociologia integrării europene: teorii şi doctrine,* in *Euxin. Revistă de sociologie geopolitică şi geoistorie*, no. 1-2/1997, Bucharest, pp. 133-144.

3 BSEC, *BSEC at a glance,* http://www.bsec-organization.org/bsec-at-glance, accessed on 13.03.2020.

4 Michael T. Klare, The Nation, *From Globalization to Regionalization? The world after the coronavirus pandemic is likely to be a very different place,* March 22nd, 2020, https://www.thenation.com/article/economy/globalization-regionalization-covid/, accessed on 27.03.2020.

5 Norwegian Armed Forces, *Cold Response 2020,* https://forsvaret.no/en/coldresponse, accessed on 31.03.2020.

6 Norwegian Armed Forces, *The Norwegian Armed Forces end exercise Cold Response,* https://forsvaret.no/en/newsroom/cold-response-status, accessed on 27.03.2020.

7 US Department of Defense, Immediate Release, *Statement by the Department of defence on Domestic Travel Restrictions*, March 13, 2020, https://www.defense.gov/Newsroom/Releases/Release/Article/2112213/statement-by-the-department-of-defense-on-domestic-travel-restrictions/, accessed on 01.04.2020.

8 U.S. Army Europe, *Defender – Europe 20,* https://www.eur.army.mil/DefenderEurope/, accessed on 01.04.2020.

9 U.S. Army Europe, *Exercise Defender-Europe 20 UPDATE,* March 16, 2020, https://www.eur.army.mil/Newsroom/Releases-Advisories/Press-Release-and-Advisory-Archive/Article/2113178/exercise-defender-europe-20-update/, accessed on 01.04.2020.

10 Anton Troianovski, New York Times, April 2nd, 2020, *Turning the Tables, Russia Sends Virus Aid to U.S.,* https://www.nytimes.com/2020/04/02/world/europe/coronavirus-us-russia-aid.html, accessed on 03.04.2020.

11 Anton Troianovski, "From Russia With Love", *New York Times*.

12 I.B., Hotnews.ro, *Rusia trimite în Serbia 11 avioane cu personal şi echipamente medicale,* April 04th, 2020, https://www.hotnews.ro/stiri-international-23783596-rusia-trimite-serbia-11-avioane-personal-echipamente-medicale.htm, accessed on 07.04.2020.

13 World Health Organization, *COVID – 19 situation*, https://experience.arcgis.com/experience/685d0ace521648f8a5beeeee1b9125cd, accessed on 01.04.2020.

REFERENCES

*** [Norwegian Armed Forces], *Cold Response 2020*, https://www.forsvaret.no/en

[Norwegian Armed Forces], *Cold Response 2020,* https://www.forsvaret.no/en/coldresponse

[Norwegian Armed Forces], *The Norwegian Armed Forces end exercise Cold Response,* https://forsvaret.no/en/newsroom/cold-response-status

[US Army Europe], *Defender – Europe 20,* https://www.eur.army.mil/DefenderEurope/

[US Army Europe], *Exercise Defender-Europe 20 UPDATE*, March 16 2020, https://www.eur.army.mil/Newsroom/Releases-Advisories/Press-Release-and-Advisory-Archive/Article/2113178/exercise-defender-europe-20-update/

[US Department of Defense], *Immediate Release, Statement by the Department of Defense on Domestic Travel Restrictions*, March 13, 2020.

[World Health Organization], *COVID-19 situation*, https://www.experience.arcgis.com/experience/685d0ace521648f8a5beeeee1b9125cd

Bădescu Ilie, Dungaciu Dan, *Sociologie şi geopolitica frontierei*, Floarea Albastră Publishing House, Bucharest, 1995.

Farrell Henry, Newman Abraham, "Will the Coronavirus End Globalization as We Know It? The Pandemic Is Exposing Market Vulnerabilities No One Knew Existed", *Foreign Affairs*, March 16, 2020.

I.B., Hotnews.ro, *Rusia trimite în Serbia 11 avioane cu personal şi echipamente medicale*, 4 april 2020.

Klare T. Michael, "From Globalization to Regionalization? The world after the coronavirus pandemic is likely to be a very different place", *The Nation,* 22 March, 2020.

Oba Mie, "Coronavirus and the Future of Globalization", *The Diplomat*, March 18, 2020.

Sfinteș Laurențiu, „Coronavirusul şi ce mai rămâne din raporturile internaţionale de putere", *Monitorul Apărării și Securității,* 25 March 2020.

Troianovski Anton, "Turning the Tables, Russia Sends Virus Aid to US", *New York Times*, April 2nd, 2020.

https://www.defense.gov/Newsroom/Releases/Release/Article/2112213/statement-by-the-department-of-defense-on-domestic-travel-restrictions/

https://www.thenation.com/article/economy/globalization-regionalization-covid/

https://www.thediplomat.com/2020/03/coronavirus-and-the-future-of-globalization/

https://www.nytimes.com/2020/04/02/world/europe/coronavirus-us-russia-aid.html

https://www.foreignaffairs.com/articles/2020-03-16/will-coronavirus-end-globalization-we-know-it

https://www.hotnews.ro/stiri-international-23783596-rusia-trimite-serbia-11-avioane-personal-echipamente-medicale.htm

https://www.monitorulapararii.ro/coronavirusul-si-ce-mai-ramane-din-raporturile-internationale-de-putere-1-30153

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ECONOMIC INITIATIVES THAT SHAPE MILITARY LOGISTICS

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In the context of an enhanced competition and of the need to reach the highest objective represented by obtaining the competitive advantage, the following initiatives appeared gradually into the production sector and were implemented into the military scope, in order to gain superiority over possible opponents and to successfully accomplish the missions: Lean Logistics, Procurement Logistics, Distribution Logistics, Six Sigma Logistics, Green Logistics, Emergency/Humanitarian Logistics, Global Logistics, Reverse Logistics and Digital Logistics.

Two of these captured my attention considering the effects produced in military logistics of our times, which will continue to generate changes into the future.

Keywords: logistics; lean; limited resources; efficiency; supply chain; readiness; interoperability.

Even though logistic activities have been carried out since ancient times and allowed the clever military leaders to obtain success or conducted to a resounding failure as a result of an inappropriate approach, the concept of *logistics* was attested for the first time in England, in 1846, in the military sector, having French origins[1]. With time, its usage passed from military into the economic scope.

Transforming the military logistics into what it represents today at the army level of well developed countries or at the level of strategic alliances like NATO, did not take place abruptly. It happened gradually, as technology developed and military leaders wished to gain victories as they observed the decisive impact of logistics on the battlefield, in the context of limited resources.

Thus, developing the most flexible logistics, complemented by destroying the opponent's logistics, cutting his resources and means of transportation, have been permanent concerns for military leaders of all times.

For instance, Alexander the Great (356-323 B.C.) is said to have paid huge attention to supplying his forces during his courageous campaigns, planning them in accordance with the seasons favorable to using crops and natural resources of the territories invaded[2].

In the same manner, Hannibal (247-183/181 B.C.) taught Romans important lessons which had been identified during the Punic Wars, and Duke of Wellington (1769-1852) invented an efficient supply system making possible the victory of Anglo-Portuguese army in the Peninsular War, despite the numerical disadvantage[3].

The different types of logistic systems used during the First and the Second World Wars represented approaches meant to drive materiel to the military personnel at the right place and in the right time, but the end of the Second World War was strongly characterized by the attempts of civilian sectors to re-launch economy, the main objective being "to satisfy the increased demand for goods from the post-war years"[4].

In the context of an enhanced competition and of the need to reach the highest objective represented by obtaining the competitive advantage, the following initiatives appeared gradually into the production sector and were implemented into the military scope, in order to gain superiority over possible opponents and to successfully accomplish the missions: Lean Logistics, Procurement Logistics, Distribution Logistics, Six Sigma Logistics, Green Logistics, Emergency/Humanitarian Logistics, Global Logistics, Reverse Logistics and Digital Logistics[5].

Two of these drew my attention considering the effects produced on the military logistics of our times, which will continue to generate changes into the future, completing each other as chain of supply particularities: Lean Logistics and Six Sigma Logistics.

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These concepts cannot be found in the current Romanian military regulations and doctrines, but the principles of logistics, its functional and related areas contain activities and responsibilities which are derived from them.

The first initiative, ”Lean Logistics”, is an approach which appeared in 1980s, based on the efficiency of thinking adopted by the Japanese automobile manufacturers, as a solution to the limited resources and to the shortages faced by them, being forced somehow to implement a process of production with minimal losses. Practically, producers were in permanent search for perfection as they wished a lean production, minimizing losses and maximizing the added value, so that the final users might not have to pay for the management's lack of efficiency. The chain of supply is exempt from unnecessary activities which are identified and eliminated, obtaining an increased flow of goods[6].

Some of the initiatives listed above have an important role in obtaining Lean Logistics, as I will show below.

Thus, Procurement Logistics contributes to obtaining efficiency through activities like prospecting the market, defining the requirements, deciding whether to produce goods inside the organization or to buy them, assessing and periodically reassessing the providers, convincing them to ask for lower prices, comparing the offers, identifying the expenses which can be eliminated, launching orders and monitoring delivery of goods/services.

Distribution Logistics contributes to obtaining a Lean Logistics through the management of delivering goods towards consumers and it starts when the orders are launched or effectively manufactured, continuing with warehousing and transportation of the right quantities of goods, in the right places and at the right moment.

Green Logistics refers to all activities connected to minimizing the impact logistics has upon the environment and it is related to the concept of Reverse Logistics.

Reverse Logistics ensures producers with the customers' feedback and makes them able to offer their clients the possibility to return unsatisfactory products, which are then rethought, rebuilt, generating thus important economies of materiel resources and significant steps towards an improved offer.

Means of transportation are used for another concept, the Emergency/Humanitarian Logistics, providing speed in operating the chain of supply, so that logistics is capable to support the needs which appear in emergency or humanitarian crisis situations.

Global Logistics, the most courageous logistics approach, takes time and the interconnection of several means of transportation makes it possible for a product manufactured in a certain country to reach consumers from other places on earth.

However, all these initiatives could not have determined an instance of Lean Logistics without implementing some logistic information systems, which are attributes of Digital Logistics. The result consists in visibility over the whole organization and over the chain of supply. In other words, Digital Logistics is the key to Lean Logistics, the starting point in this matter.

In comparison with Lean Logistics, which deals with speed increase, costs decrease, identification and elimination of waste, the second initiative, represented by the *Six Sigma Logistics*, is centered on quality, on identification and control variations that can generate additional costs and on risk management.

The Six Sigma economic initiative appeared in 1986 and it belongs to Bill Smith, engineer and scientist from Motorola Company, who was interested in how much a manufacturing process can deviate from perfection[7].

The ”Six Sigma” name corresponds to the five phases that a product/process needs to complete in order to reach its final shape and it refers to defining, measuring, analyzing, improving, controlling variations, completed at the end with the implementation stage.

Because of the fact that the two initiatives complement each other and contribute synergistically to obtaining organizational efficiency, they are currently treated as a whole, generating the *Lean Six Sigma Logistics* concept, a superior step towards perfection.

I somehow find these descriptions familiar, although the military logistics presents them differently, the final objective, both in economic and military logistics, being to efficiently use resources and maximize results.

From military logistics point of view, the lean concept was implemented at both NATO and national level, but there is still room for improvement, the latter being a permanent objective of Romanian logisticians, the key to obtaining interoperability with the armies of other member states, and also of the allied logisticians, who find themselves in the situation to coordinate and complete the logistic effort of the member states.

In a military organization, the production activity is reduced, being still present in the military units specialized in maintenance or representative activities, but in order to be able to provide national security, the army purchases a varied range of products, general and infrastructure related services. This activity needs implementation of measures which are specific to Procurement Logistics, Distribution Logistics, Green Logistics and Global Logistics, to obtain litheness and to adapt to the national and NATO requirements.

The wide process of transformation and reorganization that the Romanian Army has started after 1989 and especially the changes that preceded and followed the accession to NATO determined the rethinking and the realignment of the Romanian military logistics to the new missions' requirements and to the dynamics of modern conflicts.

Taking into consideration the entire range of the main characteristics that define the economic initiatives presented above, the Romanian military logistics has undergone the following changes:

• structural reorganization, by maintaining, transforming or establishing logistic units that are suitable for the new context;

• reduction in the expenses with warehousing, by eliminating the surplus, out of date and low speed stocks, by decommissioning and capitalizing the old, out of date equipment, that has very high maintenance costs and requires efforts to procure or to produce spare parts;

• efficient organization of transportation, using modern, properly operated and loaded means of transportation;

• procurement of well justified quantities of goods, that respond to the need to accomplish the specific missions and which are in line with the real consumption;

• argumentation and compliance with provisions of norms and normative acts in force, in order to avoid costs of transportation, warehousing and damages determined by physical deterioration of goods;

• stockpiles build-up of only essential products that have to be monitored and timely changed through introduction into the current consumption, in case of interruptions in the supply chain;

• standardization measures that consist of a unique national and alliance approach, which determines identical or similar missions, activities, drills and equipment characteristics at the level of member states;

• modern and interoperable pieces of equipment, that offer efficient resource exploitation. Thus, the selling price of a product is not the only criterion when choosing the best offer. Additional costs like the ones generated by research, development, testing, exploitation and discharge are being taken into consideration, as well as the period of time in which equipment brings benefits and also the obligations the provider/producer has to ensure spare parts and maintenance on the entire life cycle. In brief, it is all about a multidimensional differentiation of a piece of equipment in comparison with another one available on the market;

• implementation of an integrated logistic system which consists in the management of material resource, equipment life cycle, movement and transportation, infrastructure, Host Nation Support (HNS), NATO Security Investment Program (NSIP), deployment and redeployment processes of military forces in different areas of the world, and finally, of the collective sustainment[8], that allow the military to train and act together. Thus, the efforts of military universities and academies are rewarded, these educational institutions having a double approach in training military leaders and logistic specialists: the first one, from the perspective of knowledge and skills needed by an officer (the ability to apply regulations, to administer public goods, to elaborate specific documents, to train and guide peers, etc.) and the second one from the essential perspective of the managerial qualities, that, together with the ability to speak foreign languages and to have solid physical training at NATO standards, complete the portrait of the Romanian military logistician, who is able to act in an international environment at any time;

• establishment of modular, deployable logistic structures, based on contribution with a wide range of commonly used resources, which are present at the third line of logistic support, like the Romanian

Joint Logistic Support Group (ROU JLSG), which acts on the national territory, the National Support Element, which is present in a theatre of operations, and the NATO Joint Logistic Support Group (JLSG) which coordinates logistic support at multinational level. In a theatre of operations there are lots of actors (soldiers and military structures from maximum 30 NATO member states, from NATO partner states, contractors, host nation representatives, governmental and non-governmental organizations, etc.). Therefore, measures to reduce logistic footprint were implemented, which means that in a multinational major operation as few as possible structures and means should participate, to make activities more efficient. As a result, each contributing nation assigns missions to predetermined forces and capabilities to avoid duplication at the Joint Task Force level. In the same manner, if troops from a contributing nation have shortages of some common types of products, that are available to troops from some other contributing nations, JLSG intervenes to direct them to the highest need, temporarily, until the problem is solved. Moreover, through JLSG, some products and services can be procured on the local market, or memoranda and agreements can be signed with the Host Nation to the benefit of all troops, generating thus economies of scale. These structures can utilize instruments to unite the effort for logistic support and, at the same time, to ensure access to each contributor to the implemented equipping programs. Remarkable in this respect is the Smart Defence project, which represents ”a pragmatic approach to support the effort of member states to provide the capabilities the Alliance needs and to eliminate shortages in an efficient cost perspective manner”[9]. Another initiative, the Pooling and Sharing one, complements Smart Defence and is conducted by the European Defence Agency (EDA);

• initiation of the procedures to refurbish and stimulate national defence industry, so that it might be able to sustain the military effort at peace and mostly, at exceptional situations;

• release of the burden the military structures had in case of those activities that in the past were executed with their own forces and means. It is about transferring them to contractors (food, security, laundry services, etc.), but only if this measure produces economies of human, materiel or financial resources or reduces the effort of military structures which carry out specific missions in exercises or military operations on a national or foreign territory;

• establishment of multinational solutions available like those referring to mutual logistic support: HNS, CSO (Contractor Support to Operations), agreements and arrangements of cooperation. Other examples of logistic multinational solutions are represented by the fact that a nation which provides logistic support to a multinational force can have two types of involvement: Logistic Lead Nation, defining a nation which assumes to provide the whole logistic support for an operation on the base of agreements, and Logistic Role Specialized Nation, the case in which a nation provides only a part or a functional area of the logistic support;

• cost estimation and monitoring for all activities specific to military structures and their inclusion in a catalogue;

• build-up and implementation of logistic informational systems to provide visibility on all kinds of resources, in order to avoid under or over-sized stockpiles. The national efforts made to implement such programs at the entire army level are remarkable. For instance, the MENTEC program was developed to ensure real-time knowledge of the technical state of equipment. Furthermore, INTEND, one of its modules, was created to record soldiers’ options for uniforms and to establish the quantities to be procured. Besides these respectable national initiatives, the LOGFAS system, which was developed and implemented at NATO level, contains a set of programs that offers each contributing nation the possibility to introduce its own force profile, making visibility upon resources available for a mission at a certain moment. This system also monitors transportation and generates logistic reports of certain templates. Moreover, the LOGFAS system contributes to obtaining a complete and timely effective logistic picture, that helps a lot during multinational exercises and operations and even during national activities of this kind, although at this level there is still room for improvement in terms of users’ training, development of the needed information infrastructure or reduction of bureaucracy.

Implemented at national and alliance level, all these measures have shaped military logistics and still tend to generate changes into the future so as to make it as lean as possible. However, these initiatives would not have had the mentioned results if it had not been for the cooperation among different actors along the chain of supply and for the lean approach of the productive and non-productive areas in the military organization. It is about producing and buying in accordance with the real needs, about recruiting human resources wisely and efficiently using all resources at hand.

In the context characterized by the fact that being fully operative represents a permanent mission of the military organization, logistics has to take measures to support forces while the available financial resources are limited. That is why actions like reducing costs of all kinds, maintaining nevertheless some "safety stocks" to cover unforeseen situations that can lead to temporary disruptions in the chain of supply, reducing the amount of time in which pieces of equipment are in repair or the contracts are being awarded, etc. make from Lean Six Sigma Logistics an initiative of strategic importance.

As the army represents an organization that does not bring profit in general, the resistance to implement these economic initiatives could be a real problem, but it can be mitigated through military leaders' openness to novelty, hierarchical (top-down) measures, clear and concise regulations, which are meant to align daily activities and the current or future operations to the present requirements and challenges to come.

Analyzing the principles at the basis of a functional logistic integrated system and especially those like efficiency, flexibility, visibility, mobility, coordination, cooperation and the continuity of providing logistic support[10], the result is that military logistics needs to continue the transformation process in order to attain the levels of ambition which will allow the Romanian Army to keep the pace with what NATO membership demands and those of the situation it might be required to act on its own.

In conclusion, the mentioned economic initiatives have generated and still continue to generate positive major effects upon military logistics. Digitalization, equipping programs, cost catalogs, the transition from the individual costs factors (procurement prices, warehousing costs, transportation costs, maintenance costs, etc.) to the total logistic cost, the minimizing of logistic footprint represent eloquent evidence that the military logistics has evolved under the impact of economic trends. This continuous evolution, the initiatives and their results are perfectible and have the objective to ensure the efficiency and flexibility badly needed by the military organization.

The unquestionable importance of lean logistics, from the economic point of view, in general, and from the military point of view, in particular, is proven in real crises situations, like the most recent pandemic, determined by the Corona Virus. Economies of well-developed countries began to suffer, the possibilities to manufacture essential products and to make them reach the final consumers were seriously damaged by objective disruptions in the supply chain. Solutions put in place were meant to provide a quick and efficient response. Manufacturing the necessary products locally, improvising some raw materials, uniting efforts of civilian and military organizations were only a few measures that reduced the chain of supply, but the insufficient stocks put big pressure on those fighting with the disease.

The fact that the army intervened with specific logistic support like modular and deployable campaign hospitals proves once again the importance of having this kind of solutions at hand and should make all logisticians aware of the need for a lean logistic approach in any military operation.

Finally, the recent accession of Northern Macedonia to NATO produced a new enlargement of the Alliance, an increase of operational and logistic power which might be useless without lean solutions.

NOTES:

1 https://en.wikipedia.org/wiki/Logistics, accessed on 19.03.2020.

2 Donald W. Engels, *Alexander the Great and the Logistics of the Macedonian Army,* University of California Press, Ltd. London, England, 1978, pp. 11-25.

3 https://en.wikipedia.org/wiki/Logistics#Military_logistics, accessed on 19.03.2020.

4 Carmen Bălan, *Logistica*, IIIrd Edition, Uranus Publishing House, Bucharest, 2006, p. 12.

5 https://en.wikipedia.org/wiki/Logistics#Logistics_activities_and_fields, accessed on 19.03.2020.

6 https://www.adaptalift.com.au/blog/2012-02-01-what-is-lean-logistics-understanding-the-concept, accessed on 19.03.2020.

7 Keebom Kang, Uday Apte*, Lean Six Sigma Implementation for Military Logistics to Improve Readiness,* Naval Postgraduate School, Monterey, California, 2007, p. 13.

8 *Doctrina logisticii întrunite a Armatei României*, Bucharest, 2018, pp. 33-55.

9 *Ibidem*, p. 69.

10 *Ibidem*, pp. 24-25.

REFERENCES

*** *Doctrina logisticii întrunite a Armatei României*, Bucharest, 2018.

Bălan Carmen, *Logistica*, IIIrd Edition, Uranus Publishing House, Bucharest, 2006.

Kang Keebom, Apte Uday*, Lean Six Sigma Implementation for Military Logistics to Improve Readiness,* Naval Postgraduate School, Monterey, California, 2007.

Engels W. Donald, *Alexander the Great and the Logistics of the Macedonian Army,* University of California Press, Ltd. London, England, 1978.

https://en.wikipedia.org/wiki/Logistics

https://en.wikipedia.org/wiki/Logistics#Military_logistics

https://en.wikipedia.org/wiki/Logistics#Logistics_activities_and_fields

https://www.adaptalift.com.au/blog/2012-02-01-what-is-lean-logistics-understanding-the-concept

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INTERNATIONAL HUMANITARIAN LAW AND RELIGION – INVITATION TO DIALOGUE –

Priest Lect. Sorin PITIC, PhD*

Among the major challenges in the contemporary world, which are on the agenda of all international debates, we can identify the effervescence of violence, the war in the name of religious symbols, a suffocated atmosphere of insecurity in developed countries due to terrorist attacks or the power of the new communication technologies. Experts in international humanitarian law try to analyze the causes of this violent eruption of energies within civilizations and to find solutions to stop this anger and restore peace and harmony among people. Rational words, arguments recognized by international conventions and treaties do not seem sufficient. In many debates, there are voices that argue that religion can be the solution that humanity needs again for peace, harmony and communion. I will try to make a brief analysis of the two currents that animate the today dialogue of experts in international humanitarian law: does religion have a role in solving the crisis of humanity or not?

Keywords: religion; peace; law; humanity; violence; victims; war; conflict.

From a historic perspective, the seeds of international humanitarian law were planted by the first human communities, stemming from a natural need to limit violence in times of war in order to assure the survival of the group. The emergency to secure the perpetuation of human life, embedded from the beginning of times into interdictions with sacred value intended for protecting the humans and the goods needed for living, is found today stated in principles, norms, rules, conventions and treaties applicable to the entire human kind.

A historical and an anthropological overview on the limits of violence and the protection of the victims of warfare gives us clue of the origins of humanitarian law and the motivation that determines combatants to adhere to these rules. Researchers set the origins of IHL (International Humanitarian Law) in a fundamental religious canon. Michel Veuthey, vice-president of the San Remo International Humanitarian Law Institute, opened the discussions of the ”Religions et droit international humanitaire: histoire et actualité d'un dialogue nécessaire” colloquy in Geneva[1] in 2008, by appealing to the most simple definition of IHL: ”Do unto others as you would have them do unto you!”. Veuthey calls this the „golden rule” of humanity, with an universal value, due to the fact that its spirit is found in most of the religions today – Christianity, Judaism, Islamism, Hinduism, Confucianism, Buddhism, etc. The samples that show the way in which religions internalized this golden canon are multiple: restrain hostilities in liturgical time, the Japanese code of honour, prohibition of weapons that produces unwanted harm to adversaries, human treatment of the losers, loyalty and honour in battle, etc. The researcher looks far back in time and resorts to Heraclit's[2] and Cicero's[3] writings in order to give a the religious origin of the law. Warriors were not allowed to attack women and children, to destroy crops or orchards, to poison water or destroy sacred places or buildings.

Another accepted opinion that identifies the origin of the law in religion is retrieved in Fr. Prof. Nicolae V. Dura, PhD. In his study ”Dreptul și religia. Normele juridice și normele religios-morale”, Father Dura shows that in antiquity „there was no distinction between the religious-moral norms and the legal ones, as they were both considered to be results of the same divine will, while their content was nothing but an expression of moral-religious principles «voluntas Dei» assessed as «lex vitae» (life norms)”[4].

Veuthey claims that the promoters of IHL principles, as we know them today, were religious people, who ”romoted the dignity of the human being, created in the image of God the Creator”. Examples are not few and we find them in the electronic version guide of the American Society of International Law[5]: Toma d'Aquino (1225-1274),

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the Dominican Francisco de Vitoria (1483-1546), Balthasar Ayala (1548-1584), the Jesuit Francisco Suarez 1548-1617), the Protestant Emer de Vattel (in the middle of the 18th century he wrote Le Droit des gens), the Puritan John Locke, Hugo Grotius (De Jure Belli at Pacis), Alberico Gentili (De Jure Belli). They questioned the rules of conduct in case of war.

We adhere to Veuthey's opinion and consider that the one who identified the deepest foundation of the IHL is Max Huber, president of the International Committee of the Red Cross and the Permanent Court of Justice (1925-1927). Huber saw in the Parable of the Good Samaritan from the Gospel a symbol of humanity, built around the divine example of giving unconditional help to every human being, whether known or unknown to us.

A deeply religious and charitable man was also Henry Dunant (1828-1910), considered one of the founders of the contemporary IHL. His ideas, included in the work ”A Memory from Solferino”, formed the basis of the Geneva Convention (1864), which regulated the protection of wounded soldiers on the battlefield. Laureate of the first Nobel Peace Prize (1901), Dunant founded in 1862 the ”International Committee of Aid Associations for the Care of the Wounded” which since 1876 has been called the International Committee of the Red Cross[6].

In search of IHL origins, this rapid flip through a few pages of human history is not accidental. Wars were born with the first man, who, out of disobedience to the divine command, came to be in a permanent state of conflict, both within himself, in the struggle with the unseen enemies of the passions which always try to distance him from the Creator, as well as in the seen world, giving free rein to the desire for power, for conquest, for material possessions. It took many centuries of death on the battlefields, in wars of conquest or defense, for man to begin to question coherently the need for rules applicable to the whole of humanity so as to protect individual values such as the human being, human physical and mental integrity or universal values such as cultural heritage, peace, or the environment.

The nineteenth century represented this beginning of the IHL, through the Geneva Convention, together with the Washington Convention (1863), the Lieber Code (rules of conduct and instruction applicable to the American Unionist Army during the Civil War), and St. Petersburg Convention (1868), which prohibited certain types of explosive projectiles. These three instruments represented the basis of the Geneva Law, which regulates the protection of persons who have fallen into the hands of the enemy, prisoners of war or the civilian population affected by hostilities[7]. The Hague Peace Conferences in 1899 and 1907 standardized the means and methods of conducting war and formed the basis of Hague Law. These conventions marked the emergence of a humanitarian law (which has as its domain the protection of victims) and a law of war (attempts to regulate the behavior of combatants in case of armed conflict)[8].

The limits of these regulations were to manifest themselves shortly after their appearance. The cataclysms of the twentieth century, especially the two world wars, will shed light on dramatic new situations of the wounded, sick and shipwrecked in the armed forces in the campaign, of prisoners of war, of civilians in time of war. The completion and improvement of the Geneva Law was achieved by the adoption of the four new Geneva Conventions in 1949. Two Additional Protocols to the 1949 Geneva Conventions, adopted in 1977, concern the protection of victims of international and non-international armed conflicts.

In 1954, cultural property became a universal value defended by IHL rules, with the signing of Hague Convention regarding the Protection of Cultural Property during armed conflicts.

Some contemporary researchers question the emergence of a new branch of the IHL, namely New York Law, amid the UN's concerns to ensure respect for fundamental human rights in case of armed conflict[9]. Although according to the UN Charter, the purpose of the organization is to prevent conflicts, some major issues that arose after the Second World War were discussed in this forum. It was about individual responsibility for war crimes[10] and the legal aspects of using the atomic bomb in Hiroshima and Nagasaki. From this moment, the UN began to interfere with the IHL. Thus, in 1946, UN Resolution no. 95 reaffirmed the ”Nuremberg Principles”, including the principle of individual criminal responsibility for crimes against peace, war crimes and crimes against humanity[11]. Other UN resolutions addressed legal issues that arose in the process of decolonization, during wars of national liberation, in national liberation movements, in connection with guerrilla warfare, and with the prohibition of weapons of mass destruction, such as chemical or bacteriological weapons[12].

In the opening of the mentioned colloquium, Veuthey discusses the fragility of the IHL norms. If in the last years of the twentieth century mankind celebrated a round number of years since the adoption of famous instruments of positive law (UN Charter, Universal Declaration of Human Rights, Geneva Conventions), in the early years of the next century, the rod of terrorism, with the unforgettable imprint of September 11, 2001, would shake the frame of IHL norms. On the background of the increasing danger of international terrorism, but also of technological developments (the use of unmanned aircraft), the USA has formulated and applied directions of action that have been translated into proposals for reinterpretation or reform of the law[13].

Without going into details, we will enumerate some challenges for IHL experts, arising from the global fight against terrorism, which substantially change the meaning of the terms and situations of war regulated by the conventions mentioned above: conducting military operations against specific persons, in and outside the theaters of operations, extending the geographical scope of the notion of armed conflict even outside the actual battlefields, the status of the attacked persons, respectively a combatant or a civilian person directly participating in hostilities.

The terrorist threat, the hybrid warfare, which combines subtle propaganda techniques, cyber-attacks and armed forces, the emergence of non-state actors involved in such destructive actions, the devastating effects of countermeasures taken by states or groups of states, such as massive deployments of population from the conflict areas – all these represent challenges to the viability of IHL standards.

Researchers are called upon to respond to the question about the extent that the new types of conflicts and threats to peace and humanity change, nuance or abolish IHD rules. The problem is acute, and researchers agree on different conceptions, depending on the states of origin and the geo-political role they play on the international chessboard. We agree with the IHL researchers at the San Remo Institute who, evaluating all these new challenges, translated into tendencies to litigate the IHL by states or non-state actors, strongly argue that IHL need to regain its legitimacy, moral strength and acceptability throughout humanity, starting with the religious principles from the beginning. A dialogue between religion and the IHL can sensitize once again the protagonists of present or future conflicts and motivate them to respect these humanitarian norms of universal value.

Relevantly, in the years immediately following the September 11, 2001 attacks, three international lawyers pleaded for the inclusion of the religious factor in international law: Richard Falk, a Jewish American, Yadh Ben Achour, a Tunisian Muslim, and Christopher Weeramantry, a Christian from Sri Lanka. They proposed an interdisciplinary approach to universalize international law through dialogue with religions[14]. Researchers at San Remo advocate for the "humanization of international humanitarian law" and the development of a culture of the IHL values, which can only be achieved by anchoring them in local religious traditions.

The messages of religious leaders and their role in resolving conflicts or in diluting violence come to test the energy that the religious word imprints on the norm of humanitarian law. Pope John Paul II talked about international law, which had long been a right to war and peace, but which must become exclusively one of peace, based on justice and solidarity.

"Morality must fertilize the law", said Pope John Paul II; "It may exercise a function of anticipation over the law, in so far as it indicates the direction of what is just and good"[15].

However, there are also researchers who take a more reserved position regarding the influence and insertion of religion in the IHL. For instance, Henri Coursier[16] (member of the Legal Council of the International Committee of the Red Cross) argues that contemporary international law is no longer based on theology and is not even Christian-inspired. "Apart from any religion, the modern thinking of civilized societies has formulated this notion of human dignity, which is the center and raison d'être of humanitarian law"[17], defined as "a set of rules and principles designed to save and protect at all times and in all circumstances the essential rights and dignity of the human being"[18].

A balanced attitude, trying to mirror two different views on the need for dialogue between religion and the IHL, is found in Carolyn Evans in *The Double-Edged Sword: Religious Influences On International Humanitarian Law*, a study published in 2005 in the Melbourne Journal of International Law[19]. Evans analyzes the secular view of legislators who emphasize the destructive role of religion in wartime. There is, in the secular view, a dark side of religion, which would play a negative role if it were legitimized in the international legal system. It is enough to remember, secularists say, the hatred preached in the name of religion, the discord it sows, to conclude that it is wiser to keep laws away from the potential problems created by religious influence.

Yet, at the same time, there are many areas where religion still plays a vital socio-political role, even in conflict-ridden regions. Pragmatically, Evans believes that in order to limit the potentially devastating effects that violent actions in the name of religion can have, a solution would be a balanced dialogue between legislators and religious leaders. Religious leaders and religious symbols can help to conform to and abide by the rules in certain cultures, especially where the secular legal system is perceived as degraded and decadent. Evans believes that religious precepts that contain a deep and strong tradition of respect for human beings can help create a lasting foundation on which to base mutual rights and obligations in humanitarian law. In conclusion, religion may be a ”double-edged sword”, but it remains a powerful weapon that must not be left to those who preach violence in its name. Evans challenges modern specialists in law to reflect on the paradoxical solution of using ”the edge of the sword”, religion, to promote peace.

Findings

I have tried to review some points of view of researchers in the field who addressed the issue of dialogue between IHL and religion. It is just a beginning which can open the way for further in-depth analyses. There are cautious views, especially among Western experts, strongly influenced by the Enlightenment beliefs, which emphasize reason. They plead for the exclusion of any interference between IHL and religion, admitting, at best, some distant sources with religious valences of the first norms of humanitarian law. However, researchers from the western area are also exalted by the refreshing perspective of the religious essence of IHL norms, who appreciate that only a sincere dialogue between legal experts and religious people can synergistically awaken the consciences of all people in the sense of respecting the norms aimed at protecting humanity. They accuse the tendency to technicalize IHL norms, to the detriment of the human. Only religion, through norms of sacred value, internalized and lived at group level, can give the laws of the living spirit.

In the Christian-Orthodox tradition, we appreciate that any word, including the legislative one, can be edifying in the souls and consciences of people, as long as it carries a sacred charge. The Gospels of Orthodoxy have been calling us for two thousand years, and the same words spoken for the first time by Jesus Christ the Savior resound with power, shaping consciences, healing souls, sowing the coveted seeds of peace, harmony, and communion between people, of faith, hope and true love. ”I leave my peace with you”, says the Savior Jesus Christ. ”This peace given to people in and through Christ is the foundation of people’s reconciliation with God and of the reconciliation and brotherhood of peoples among themselves”, said the head of the Romanian Orthodox Church in the 2015 Christmas Pastoral[20]. This spiritual message covers in theological words precisely this acute need of mankind to find a solid foundation for the norms that protect life to be respected.

A major argument in favor of including religion in the international dialogue, implicitly in the IHL sphere, is related to the identity changes brought about by globalization. The erasure of borders, economic, political and military alliances, the media, technological developments, social networks transform the relations between people and inter-state, leading to the relativization of identities[21].

In this context, religion remains an important coordinate in the search for and definition of identity: ”There are, on the one hand, religious movements that fight against the tendencies of relativizing identities, by defending socio-cultural pluralisms, such as Islamic fundamentalisms, for example, but there are, at the same time, religious traditions and movements that support a pluralistic global order, which propose an extension of identity, conceived in terms of a common humanity”[22].

In the current violent situation in which we live, amid escalating conflicts, including some carried out in the name of religion, to ignore religion or try to cancel religious discourse is a risky attitude, which will rather deepen the crisis of humanity: ”In the new era inaugurated by global terrorism, which often acquires religious values (…) religion has become a major force on the international stage, which must be treated as a serious variable in the conduct of international relations”[23].

Recalling the words attributed to the French writer André Malraux, ”the 21st century will be religious or it will not be at all” – we might say that there is an acute need for divinity, to search for the true meanings of this world, to find lasting and convincing arguments to combat violence, to cancel the calls for a so-called deadly holy war, to convince people that the rules that protect life need to be universally respected.

NOTES:

1 http://www.aiesc.net/blog/2014/08/23/religions-et-droit-international-humanitaire-histoire-et-actualite-dun-dialogue-necessaire-michel-veuthey/, accessed on 14.02.2016.

2 ”All human laws are nourished by a single divine law”.

3 ”There is a law according to nature, common to all men, reasonable and eternal, which obliges us to virtue and protects us from injustice”.

4 http://www.crestinortodox.ro/drept-bisericesc/dreptul-religia-normele-juridice-normele-religios-morale-69944.html, accessed on 14.02.2016.

5 Edited by Joan Policastri and Sergio D. Stone, the IHL https://www.asil.org/sites/default/files/ERG_International%20Humanitarian%20Law%20%28test%29.pdf, accessed on 15.02.2016.

6 https://ro.wikipedia.org/wiki/Henry_Dunant, accessed on 15.02.2016.

7 http://www.ujmag.ro/drept/drept-international-public-si-privat/drept-international-umanitar/rasfoire/, accessed on 15.02.2016.

8 *D.I.U.-1, Manual pentru instruirea militarilor în Drept Internațional Umanitar (Individ, grupă, pluton, companie-similare)*, Ploiești, 2005, p. 12.

9 Christine Gray, *International Law and the Use of Force,* Oxford University Press, 2000, pp. 7-8, http://www.ujmag.ro/drept/drept-international-public-si-privat/drept-international-umanitar/rasfoire/, accessed on 15.02.2016.

10 Vespasian V. Pella, *Războiul – crimă și criminalii de război. Reflecții asupra justiției penale internaționale. Ce este și ce ar trebui să fie,* introductiv study prof. Mircea Duțu, PhD, Translated from French by Andrei Duțu, PhD, Universul juridic Publishing House, Bucharest, 2013.

11 http://www.ujmag.ro/drept/drept-international-public-si-privat/drept-international-umanitar/rasfoire/, accessed on 15.02.2016.

12 *Ibidem*.

13 Ion Gâlea, *Aplicarea normelor dreptului internațional umanitar în cazul operațiunilor antiteroriste,* C.H. Beck Publishing House, Bucharest, 2013, pp. 169-266.

14 *Michel Veuthy in the opening of the colloquium*, http://www.aiesc.net/blog/2014/08/23/religions-et-droit-international-humanitaire-histoire-et-actualite-dun-dialogue-necessaire-michel-veuthey/, accessed on 14.02.2016.

15 Pope John Paul II addresses members of the diplomatic corps accredited to the Holy Seat on January 13, 1997, athttps://w2.vatican.va/content/john-paul-ii/en/speeches/1997/january/documents/hf_jp-ii_spe_13011997_diplomatic-corps.html, accessed on 17.02.2016.

16 The article ”Définition du droit humanitaire”, *Annuaire francais de droit international,* 1995, Vol. 1, No. 1, pp. 223-227, athttp://www.persee.fr/doc/afdi_0066-3085_1955_num_1_1_1164, accessed on 15.02.2016.

17 *Ibidem*, p. 225.

18 *Ibidem*, p. 227.

19 http://www.austlii.edu.au/au/journals/MelbJIL/2005/1.html, accessed on 14.02.2016.

20 http://basilica.ro/pacea-lui-dumnezeu-daruita-oamenilor-pastorala-de-craciun-2015-111028.html, accessed on 15.02.2016.

21 Natalia Vlas, *Globalizarea și religia la începutul secolului XXI*, Presa Universitară Clujeană, 2008, pp. 105-108.

22 *Ibidem.*

23 *Ibidem*.

REFERENCES

*** *DIU-1, Manual pentru instruirea militarilor în Drept Internațional Umanitar (Individ, grupă, pluton, companie-similare)*, Ploiești, 2005.

Gâlea Ion, *Aplicarea normelor dreptului internațional umanitar în cazul operațiunilor antiteroriste,* C.H. Beck Publishing House, Bucharest, 2013.

Pella Vespasian V., *Războiul – crimă și criminalii de război. Reflecții asupra justiției penale internaționale. Ce este și ce ar trebui să fie,* introductiv study prof. Duțu Mircea, PhD, Translated from French by Duțu Andrei, PhD, Universul juridic Publishing House, Bucharest, 2013.

Vlas Natalia, *Globalizarea și religia la începutul secolului XXI*, Presa Universitară Clujeană, 2008.

http://www.aiesc.net/blog/2014/08/23/religions-et-droit-international-humanitaire-histoire-et-actualite-dun-dialogue-necessaire-michel-veuthey/

http://www.crestinortodox.ro/drept-bisericesc/dreptul-religia-normele-juridice-normele-religios-morale-69944.html https://www.asil.org/sites/default/files/ERG_International%20Humanitarian%20Law%20%28test%29.pdf

https://ro.wikipedia.org/wiki/Henry_Dunant

http://www.ujmag.ro/drept/drept-international-public-si-privat/drept-international-umanitar/rasfoire/

http://www.austlii.edu.au/au/journals/MelbJIL/2005/1.html

https://w2.vatican.va/content/john-paul-ii/en/speeches/1997/january/documents/hf_jp-ii_spe_13011997_diplomatic-corps.html

http://basilica.ro/pacea-lui-dumnezeu-daruita-oamenilor-pastorala-de-craciun-2015-111028.html

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BEYOND THE SACRED AND PROFANE – MAN IN CYBERSPACE –

Priest Ciprian Ion IONIȚĂ, PhD Candidate*

Since the beginning of humanity, man has oscillated between two ontological spaces: sacred and profane. In all the great religions of the world, man understands his purpose on this earth as a search or passage to an eternity of happiness, a space and a time before which he incur an incurable nostalgia. The telluric weather and the nostalgia of paradise compel man to invoke divinity, building for this meeting sacred spaces. Technological progress and new philosophical currents have tried to cure man of this nostalgia for ever, perfecting the death of divinity. In an unprecedented creative momentum, the man got up truffles, daring to believe that he can become a creator himself. Cyberspace is the most spectacular revolution of human intelligence, in full swing. What is man related to his creation?

Keywords: religion; cyberspace; cybersociety; Internet.

”Paradise is a deep and universal human sigh, a reminder of a lost state, or an aspiration to a future state”, Nichifor Crainic said in *Nostalgia of Paradise*[1]. The idea of the constant search, of man's anxiety since the dawn of humanity is in all the works of art that have resisted the erosion of time. The Christian metaphor of exile as a form of human existence was an artistic key meant to give voice to this search. Vintila Horia speaks of man's life on earth as a constant search for the road to home, to the paradise from which he was banished in primordial times because of disobedience[2].

Christianity offers one of the most powerful expressions of this search, joining the steps of man who seeks a lost world with those of a creative deity that sets itself in search of his creation. But, as Nichifor Crainic points out, ”the idea of paradise is not specifically Christian, but is an idea that belongs to the entire human race”.

We do not intend in this paper to make an apology of the search. We ourselves embark on an adventure of research and the search for the purpose of contemporary man, wanting to understand to what extent the technological inventions of the human mind, which develop at an accelerated pace, represent a modern expression, a result of this search for the lost and happy world, or, on the contrary, a renunciation to the search and, rather, a form of creative vanity of man who, tired of effort, thinks himself capable of building his own paradise. It is a new world, made by the mind and hand of man, a matrix that expands rapidly and covers the entire Earth, connecting people through devices and electromagnetic pulses in a virtual network, diluting geographic distances, giving new meanings and new human feelings.

What is virtual space or cyberspace? Is it an alternative life, in which man can escape to meet his needs for knowledge, information, to feel happiness, to manifest his feelings of hatred or revenge? Or is it a mysterious and appealing alternative to the ordinary life of modern man? In what capacity does man step into the new world he alone has made? What is the identity of man in virtual space? Is he master of this space? Is the virtual world a happy world, a world of freedom? Are there rules that govern this new world? What are the limits of this world and how fragile is it? *Homo numericus*, the man of virtual space, is he also *homo religiosus*? Does virtual space give man the answer to all his questions and anxieties? Is this the world where man's search ends? Does the nostalgia of paradise still concern the human mind once it enters virtual space? Is eternity possible in the virtual world? What are the values of the virtual world? Are there violence and war in virtual space? Is the virtual creation perfect or is it just a copy of its creator? What are the relationships between people in the virtual world? Can the famous imperative of the French Revolution ”freedom, equality, fraternity” be exported to the virtual world? These are only a few questions from a very wide range of challenges that open up to our

*** Romanian Patriarchy**

research and to which we will try to find answers during this challenging endeavor.

A direction of research was inspired by one of the titans of the history of religions, Mircea Eliade, who talks about two existential sites assumed by man throughout his history: the sacred and the profane[3]. The man of the beginnings is a *homo religiosus*, for whom ”space is not homogeneous, but shows ruptures and cracks: ”Do not come near here, the Lord says to Moses, but take your shoes off your feet, as the place which you step on is holy ground” (Exit, 3,5)[4].

This religious experience of non-homogeneous space is classified as a rupture in space, which is actually the foundation of the World. It is the manifestation of the sacred that establishes the world ontologically, says Mircea Eliade. It gives the religious man a fixed point, an orientation in chaos. On the opposite pole is the profane man, for whom space is homogeneous, neutral, relative. For the profane man, there is no fixed point, in fact no World, but only ”an amorphous mass made up of an infinite number of more or less neutral places, in which man moves, driven by the obligations of an existence integrated into an industrial society”[5].

Mircea Eliade offers a natural explanation of how the religious man lives the space: the entrance to a church located on a busy street in a metropolis. The opening of the entrance door to the church represents the rupture between the homogeneous, profane and sacred space. The threshold of the door observes the distance between the two modes of existence and, at the same time, the paradoxical place of communication between them, the point in which the transition from the profane to the sacred world is made. The church or temple represents the gateway to another world, ”a sacred space that emerges from the cosmic environment”, where man communicates with the divinity[6]. The religious man’s desire to live in the sacred is, in fact, the expression of that nostalgia of paradise that I mentioned in the beginning. The religious man is looking for ways to make it possible to meet the divinity. Temples or churches are considered in the great oriental civilizations copies of a heavenly archetype[7]. These places are holy, the religious man giving them the attribute of the house of divinity.

On the other hand, says Mircea Eliade, the profane, modern man, feels somewhat embarrassed in the face of certain forms of manifestation of the sacred[8]. For this, it is hard to believe that the sacred can manifest itself inside buildings (temples or churches) or through objects (icons). The paradox is that the profane man, embarrassed, confused or outraged by the possibility of manifesting the sacred, interiorizes, without being fully conscious, traces of a sacred existence. The memory of the father’s house, of the first love, the unrestrained desire to visit certain places can be interpreted in the man who declares himself profane as ruptures of the linear experience and the mental or spiritual fixation of reference points meant to put in order, give meaning or to value existence.

Eliade believes that ”profane existence is never encountered in a pure state. Whatever the degree of desecration of the World which he has reached, the man who has chosen a profane life fails to completely abolish religious behavior. Even the most desecrated existence still preserves the traces of a religious value of the world”[9].

Petre Țuțea is even more emphatic in affirming man’s need for sacred space even when he declares the death of divinity. The present man ”is the descendant of the Renaissance man, whose divinity was «an event», from whose muteness he wants to bring out laws and benefits”[10].

Revival and Enlightenment were moments in the history of *homo religiosus*. These new currents declaratively elevated man to the level of divinity and tried to eliminate the idea of divinity from history. From a Christian perspective, it is the second time man has fallen. Non-religion or the declaration of ”the death of God” (Friederich Nietzsche) equates to ”a new fall of man”: the religious man seems to have lost his ability to consciously live religion, to understand it and to assume it”[11].

However, both the historian (Mircea Eliade) and the philosopher (Petre Tutea) disavow this revolt of modern man. There are two similar visions that see man’s inability to live in a completely desecrated space, to try to suffocate the ”nostalgia of paradise”: ”it is the feeling that we are of this world and yet we do not belong to it; that the world in our spirit is not identical to the world around us, that we are in the midst of it as left out of a high order of existence, which is denied to us; (...) everything that in our being rhymes in mysterious ways with eternity pushes us to overcome the current way of existence and to conquer a superior and perfect way, conceived in antinomy with the one now and here. The nostalgia of paradise is the feeling of our existential antinomy, of facts free in spirit, but contradicted by the limits that seem fatal to us; of deeds torn apart by torment, but which conceive a heavenly silence; deeds intended for death, but which we ponder immortality on; of unfortunate deeds, but which burn from the thirst of absolute happiness"[12].

Petre Tutea sees man's thirst to build new divinities or sacred pseudo-spaces. Mircea Eliade finds religiosity in the thickets of the human unconscious, although modern man can strongly believe that he has managed to quench the thirst for the sacred. "After the first fall, man's religiosity collapsed at the level of the broken consciousness; (...) though spiritually blinded, man's ancestor, the primordial man, Adam, had kept enough wisdom to find God's traces in the world. After the second fall of modern man, religiosity collapsed even further down into the depths of the unconscious, and was «forgotten»"[13]. This is how Eliade concludes his work "The Sacred and the Profane", launching the challenge for finding a new possibility or dimension in which man's religiosity will come to light again.

We consider, as Eliade alluded to, that in the face of modern man a new challenge opens: "to what extent a radically secularized existence, without God and without gods, can be the starting point for a new kind of religion... to what extent can the profane become sacred in itself? "[14]

The 20th century, the century these two great intellectuals above-quoted belong to, experienced the most terrible confrontations between people, true clashes for an illusory supremacy, springing perhaps even from that demonic thirst to master, a residue of unconscious religiosity. The world was torn in two, the geographical space was divided between West and East and for a century mankind created and experienced technologies and weapons of mass destruction, which sowed death everywhere. After two world conflagrations followed a Cold War, which ended declaratively with the collapse of one of the planet's two great superpowers, the USSR. How was that possible? It is a painful question, the answer of which can be sought precisely in man's revolt against divinity. When man declared the death of divinity, man freed himself from any moral constraint. The shadows of the unconscious where religiosity was banished gave birth to monsters of violence. Man's intelligence was put in the service of war, in a frenetic start to assert a new man, the messenger of a new era, in which everything is allowed. The Revival and Enlightenment had already been banned divinity from the West. Sacred spaces, cathedrals and temples had either been destroyed or turned into museums. The desecration and undoing of the world, begun in the West, continued frantically in the East throughout the 20th century. The Bolshevik Revolution and Communism set out in search of the refugee-divinity, tearing apart sacred places and persecuting worshipers.

Paradoxically, in the heat of this century of unseen violence in the history of humanity, a premonition was born whose fatherhood remains doubtful today. Attributed to Andre Malraux, the famous foretelling – "The 21st century will be religious or it won't be at all" has generated numerous debates that still continue today. Beyond any debate, it fits very well into the spirit of the beginning of the 21st century, when man seeks new definitions of identity, in a fragmented space, like the shards of a mirror in which, depending on the angle from which you look, you can discover new realities. The profane space knows new valences, the truth multiplies into truths, the words borrow meanings according to the issuer and, above all, man finds himself in the face of a new challenge: a new world of technology, springing from human intelligence, refined and shaped by experiences of thousands of years.

The specialized dictionaries mention, in defining the notion of cyberspace, the American-Canadian author of science fiction writings William Gibson who, in two works written in the '80s (*Burning Chrome* and *Neuromancer*) used the term to designate a virtual reality generated by a computer in the form of a matrix[15]. Later, the author disavowed the term, deeming it meaningless. Yet the concept has remained and today it refers to the virtual world created by the computer, an electronic environment used to create a global network of computers to facilitate online communication. Cyberspace provides a virtual interactive environment for a large number of participants. Cyberspace is used to share information, to interact, to exchange ideas, to play games, to discuss and create forums, to lead businesses and to create media and many other activities. In a broad sense, cyberspace is an environment for social interaction.

A few decades earlier, Marshal McLuhan, in the ”Gutenberg Galaxy”, in 1962, anticipated by the phrase ”global village” the emergence of a new form of human interaction, through the mass media.

Surprisingly, the technological advance of mankind over the past decades is unprecedented in the history of humanity. Despite a slow evolution, in which it took man centuries to learn to manufacture tools, to work the earth, to manufacture means of transport, to invent electricity, a rhythm of innovation and invention has passed in all spheres of human activity. The citizens of the ”global village”, connected at first by the news circulating across the globe via radio, then television, soon became connected to a computer network capable of interacting with people at great distances. Computers and telephone lines have become the tools that have helped build a virtual space[16] – a reality that researchers have seen since the 1990s.

Shortly after its invention, the computer became a main tool of the media. Although originally intended for office activity, the computer was connected to a network with other computers, allowing the exchange of data and the realization of large networks. Connecting several networks allowed the birth of the Internet, comparable to a spider web (web), a global computer network that connects all networks accessible to the public. Accessing search engines allows to find, starting from a simple word, a wide range of information existing on various sites.

There was an enthusiasm of the beginning. A new millennium opened up to mankind in 2000. ”The Internet has just come out of the way”, says Edward Snowden[17], ”and (...) offered a more authentic and complete embodiment of American ideals... A place where all men are equal? Checked. A place dedicated to life, freedom and the pursuit of happiness? Checked, checked, checked”. It was a revolution in which all people were invited to participate, each able to take part by developing computer skills. Snowden remembers the enthusiasm with which everyone participated in ”the establishment of a new society, based not on the place of birth or education received at home or on the popularity acquired at school, but on our technological knowledge and skills”[18]. We find this enthusiasm in ”A Declaration of the Independence of Cyberspace”, written by John Perry Barlow: ”We create a world in which absolutely all people can enter, without the privileges conferred by race, economic power, military strength or social status. We create a world in which every man can express his own beliefs wherever he wants, no matter how out of the ordinary they may be, without fear that he will be constrained to shut up or obey the rules of society”[19].

A world where all men are equal, where there are no rules, where anyone can say anything. The promise of happiness so close, a space where the impossible in the real world becomes possible, a place where hopes and desires come true. In other words, we are witnessing the birth of a new utopia, to which we are all invited to contribute. A new universe in motion, different from yesterday’s and clearly different from tomorrow’s, a permanent metamorphosis of man.

A creative act of the whole world, a new world as a refuge from the lack of fulfillment and sufferings of the real world? A creator of a new world who has the freedom to dispose of his creation?

Duke University offers religion courses where the question being debated is whether cyberspace, altering the known idea of humanity, has not turned into a religion of the new millennium[20]. The Internet explores the abyss of the human mind, the depths of consciousness, the darkness of the unconscious. In other words, the Internet can bring to light those hidden experiences that Mircea Eliade said represented the religiosity suffocated by the desecration of the world. Can virtual space be fertile ground for reassertion of religiosity? Certainly, various religious communities have turned to the Internet to promote their precepts and dogmas, to coagulate followers, to catechize and to attract new members.

The manifestation of religious behavior in the virtual environment is a subject of great topicality and will be a subject of extensive research, since it has been debated in many specialized studies. One of these (Asep Muhamad Iqbal, *When Religion meets the Internet*[21]) aims to analyze the manifestation of the religious phenomenon in the virtual space, in the context of secularization of the real world. The study identified a paradox: although the Renaissance and the Enlightenment banished religion from the public sphere, and the philosophers who followed prophesied the death of the divinity, the birth of virtual space immediately generated a regeneration of the religious strand. Numerous religious-themed sites have appeared.

The great religions of the world have created their own virtual spaces in the vast cyberspace, where symbols, dogmas, priests are found, services are held, messages are transmitted, pilgrimages are organized. The study differentiates between *online religion*, through which anyone can search for information about a particular religion or religious practice, respectively *religion online*, in which the Internet becomes an environment for practicing religion or showing religiosity.

The excitement of the beginning of the road in receiving the benefits of cyberspace is complemented on the other hand by the skepticism of many researchers, who have analyzed the virtual world from multiple angles. One of the most relevant critical analyses is represented by Jean-Claude Larchet's work, *Captives in the Internet*[22]. The author identifies the minuses of virtual space, which he considers a true copy of the real space, with dangers that threaten the mental and spiritual health of man: it creates addiction, represents a place of crime, destroys interpersonal relationships, offers a false sense of freedom, diminishes intellectual abilities, alters the normal functioning of the brain, incites violence, allows manipulation and, finally, the enslavement of man. Perhaps the most serious danger is that of dehumanization, the erasure of the boundary between good and evil. In a word, the author identifies a third fall of man, harder than the ones before, since it can kill the religiosity of man and bring the destruction of the human, a phenomenon already announced as post-humanism, in which the world created by man comes to rule and enslave him.

It is important to emphasize the importance that sociologists attach to virtual space. Cyberspace is a unique ontological environment in which a new form of being a society develops: cybersociety. It is about human interactions with a certain affective load, with a horizon of expectations and with a relative continuity. The Internet being accessed by a certain number of users leads to a new form of social organization – this is a direction of in-depth research made by Bogdan Nadolu in *Sociology of virtual spaces*[23].

From a sociological perspective, one of the most serious errors of virtual space is generated by pseudo-identities built by people who develop interactions in which no one can be sure of the identity of the other. The sociologist draws attention to the fact that ”virtual relationship between often utopian roles, assumed and played on its own initiative, in parallel with the permanence of uncertainties on others is, after all, a form of degradation of the human”.

Nadolu identifies some features of virtual space[24]:

• The virtual social space exists and manifests itself only within computer networks which thus become a vital support, similar to that offered by the natural environment for the real social space;

• The support provided by the information technology is created by man and, above all, is under the exclusive and effective control of man;

• Due to the support provided by information technology, the virtual social space is eminently dependent on the actual reality, the evolution of society, the economic structure, the cultural profile and scientific progress. Virtual society is not an independent alternative to the actual one, but merely a way of manifesting it;

• The cancellation of the geographical impediment in human interactions leads to an increase at least quantitatively, but dependence on access to computer technology structures the virtual social space on the basis of individual available resources (financial, technical, material, cognitive, etc.);

• Social actors involved in virtual interactions are engaged in individual-computer-network-computer-individual relationships, with the possibility of being able to define their own identity, but without being able to control or be controlled by others.

Cyberspace research is just at its beginnings. Moreover, including this virtual space is evaluated as being in the first phase of existence. We can talk about a precocious creature, who, like any creation, tends to imitate its creator. It is possible that, in the near future, sooner than we might anticipate it, we may also experience the Christian drama of a God banished from His own creation, isolated, haunted throughout all the corners of the world that He himself has invented. Or, by peeling off the darkness of the unconscious, to release true religiosity that will make its way into the virtual space and render it sacred, or transform it into a real tool of communication and communion between people, a real compensatory remedy to the feeling of nostalgia after a lost paradise.

NOTES:

1 Nichifor Crainic, *Nostalgia paradisului*, Edition with an introductory studio by Dumitru Staniloaie, Babel Publishing House, Bacău, 2012, p. 262.

2 Horia, Vintila, *Dumnezeu s-a născut în exil. Jurnalul lui Ovidiu la Tomis*, French translation by Ileana Cantuniari, Vremea Publishing House, Bucharest, 2016

3 Mircea Eliade, *The Sacred and the Profane*, translation by Brândușa Prelipceanu, Humanitas Publishing House, Bucharest, 1995, p. 16.

4 *Ibidem*, p. 21.

5 *Ibidem*, p. 22.

6 *Ibidem*, pp. 26-27.

7 *Ibidem*, p. 54.

8 *Ibidem*, p. 13.

9 *Ibidem*, p. 23.

10 Petre Țuțea, *Omul. Tratat de antropologie creștină. Problemele sau cartea întrebărilor*, Philosophia Perennis Colections, Timpul Publishing House, 1992, p. 180.

11 Mircea Eliade, *op.cit.*, pp. 185-186.

12 Nichifor Crainic, *op.cit.*, p. 263.

13 Mircea Eliade, *op.cit.*, p. 186.

14 *Ibidem*, p. 8.

15 https://www.techopedia.com/definition/2493/cyberspace, accessed on 29.02.2020.

16 Michael, Benedikt, *Cyberspace: First Steps*, Cambridge, The MIT Press, 1991, apud Bogdan Nadolu, *Sociology of mass communication*, Edition Excelsior Art, Timișoara, 2007, p. 153.

17 Edward Snowden, *Permanent File*, Nemira Publishing House, Bucharest, 2019, pp. 186-187.

18 *Ibidem*.

19 *Ibidem*, pp. 187-188. More about *The Declaration of Independence of Cyberspace* (Davos, 1996), https://www.eff.org/cyberspace-independence, accessed on 29.02.2020.

20 https://religiousstudies.duke.edu/courses/religion-cyberspace, accessed on 29.02.2020.

21 https://www.researchgate.net/publication/332274714_When_Religion_Meets_The_Internet_Cyber-Religion_and_the_Secularization_Thesis, accessed on 29.02.2020.

22 Jean-Claude Larchet, *Captives in the Internet*, in Romanian by Marinela Bojin, Sofia Publishing House, Bucharest, 2018.

23 Bogdan Nadolu, *Sociology of virtual spaces*, Edition Eurostampa, Timișoara, 2004, p. 155.

24 *Ibidem*, p. 144.

REFERENCES

Benedikt Michael, ”Cyberspace: First Steps”, Cambridge, The MIT Press, 1991, apud Bogdan Nadolu, ”Sociology of mass communication”, Edition Excelsior Art, Timișoara, 2007.

Crainic Nichifor, *Nostalgia paradisului*, Edition with an introductory studio by Dumitru Staniloaie, Babel Publishing House, Bacău, 2012.

Eliade Mircea, *The Sacred and the Profane*, translation by Brândușa Prelipceanu, Humanitas Publishing House, Bucharest, 1995.

Larchet Jean-Claude, *Captivi în Internet*, in Romanian by Marinela Bojin, Sofia Publishing House, Bucharest, 2018.

Nadolu, Bogdan, *Sociologia comunicării de masă*, Excelsior Art Publishing House, Timișoara, 2007.

Nadolu Bogdan, *Sociologia spațiilor virtuale*, Eurostampa Publishing House, Timișoara, 2004.

Snowden Edward, *Dosar permanent*, Nemira Publishing House, Bucharest, 2019.

Țuțea Petre, *Omul. Tratat de antropologie creștină. Problemele sau cartea întrebărilor*, Philosophia Perennis Colections, Timpul Publishing House, 1992.

Vintilă Horia, *Dumnezeu s-a născut în exil. Jurnalul lui Ovidiu la Tomis*, French translation by Ileana Cantuniari, Vremea Publishing House, Bucharest, 2016.

https://www.techopedia.com/definition/2493/cyberspace

https://www.eff.org/cyberspace-independence

https://religiousstudies.duke.edu/courses/religion-cyberspace

https://www.researchgate.net/publication/332274714_WHEN_RELIGION_MEETS_THE_INTERNET_Cyber-Religion_and_the_Secularization_Thesis

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THE INTEGRATED APPROACH – CONSIDERATIONS, POTENTIAL, AND LIMITATIONS

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The current security environment is characterized by complex challenges. The emergence of hybrid threats has determined an increase in the complexity and ambiguity of the operational environment. In order to cope with these security challenges, it is necessary to synchronize the application of the instruments of power. Therefore, it is imperative to conceptualize and operationalize an integrated approach. The solving of the wicked problem of hybrid threats can be facilitated by an integrated approach.

Keywords: security environment; hybrid threat; integrated approach; comprehensive approach; security.

The contemporary operating environment is characterized by complexity, volatility, uncertainty, and ambiguity[1]. Complexity is the result of the large number of actors and systems that operate in the environment, as well as the numerous relationships and inter-dependencies between them. Volatility is determined by the environment instability, which manifests itself in often and significant changes. Uncertainty is caused by the lack of predictability and ability to anticipate the direction or moment of changes that occur. Ambiguity, the most relevant characteristic when the need of using an integrated approach is discussed, is generated by the lack of clarity in identifying cause-effect relationships[2]. Where ambiguity is concerned, multiple actors can have multiple opinions as to what causes a particular effect. Although these effects are perceived in similar ways, their causes may be identified as different. The relevant solution obtained by adding different perspectives is probably the most realistic one.

In this context, The Strategic Concept for the defence and Security of the Members of the North Atlantic Treaty Organization has revealed the need to adopt a comprehensive approach to effectively manage crisis situations. The document, signed by the highest officials of NATO states at the Lisbon Summit in November 2010, recognizes the necessity and defines the transition from relatively isolated application of the military instrument to a more comprehensive framework, where it can be applied together with the other instruments of power. The lessons learned from NATO operations, especially the ones in Afghanistan and the Balkans, have shown that a comprehensive approach in what concerns political, civilian and military domains is needed for efficient crisis management. In this context, the Alliance is going to get actively involved, together with other international actors, before, during and after crisis situations, in order to encourage analysis, planning and conducting the activities and actions in the field in a collaborative manner, at the same time being aware of the coherence and efficacy degree of the entire international effort[3]. This approach was generated by the need to address an ever-growing array of challenges of the local and global security and stability.

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Threats to security

A conventional threat, as defined by the probability of a traditional military attack on territories of member states, although very small, is not to be neglected. In the context of the recent significant technological development, advanced military capabilities have been developed and are now available. The risk of using such capabilities cannot be ignored, as it can have serious consequences, difficult to anticipate and manage. The intention of some state actors to exert their domination at a regional and global level, by developing nuclear and mass destruction weapons presents a continuous challenge and makes the military instrument even more relevant than ever[4].

Conventional threats are completed by new challenges to the security of the states, such as terrorism, instability and conflicts at the NATO borders and beyond. Cyber threats, organized crime and their cross-border activities (weapons, narcotics and person trafficking) are added to the challenges that member states face, thus calling for a comprehensive approach to common defence through deterrence, prevention and management of crises, as well as promoting security through cooperation.

The emergence of hybrid war, as a way to synchronize the use of power instruments adapted to exploit specific vulnerabilities across the societal functions in order to obtain synergistic effects[5], determines a greater complexity and ambiguity in the current operating environment. Actions specific to this type of threat are usually characterized by a low level of attribution (they cannot be associated with the aggressor) and a low level of intensity (they cannot be detected by the target's systems). The dynamic and complex sum of threats results in multiple actions, synchronized or not, the cause interrelating effects. Figure 1 shows a representation

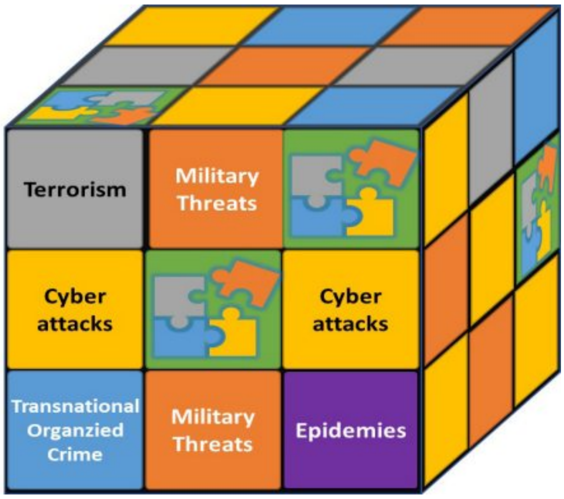

Figure 1 *Threats specific to the contemporary security environment*

of the current security environment specific threats. Ensuring security in the present operational environment is the same as managing a complex mix of threats – military, hybrid, cyber-attacks, pandemics, terrorism and organized crime.

The comprehensive approach – conceptual origin of the integrated approach to security in the context of hybrid threats

In order to implement the NATO strategic concept approved in November 2010, The Comprehensive Operational Planning Directive was developed. This directive mentions four instruments of power – military, political, economic and civilian. The military instrument refers to the application of military strength, to include threat or use of lethal or non-lethal force in order to deter, constrain or defeat an adversary, by disrupting or destroying his critical military or non-military capabilities. The political instrument includes use of political means, especially diplomatic ones, to cooperate with different actors in order to influence adversaries, or to create advantageous conditions. The economic instrument includes initiatives, incentives or sanctions that can be applied to the money or services flow, as well as financial support for state or non-state actors in crisis. The civilian instrument includes domains such as justice, public order and law enforcement, education, public communication and infrastructure that enables access to basic services (health, food, power, water)[6].

American doctrine mentions four instruments of power – diplomacy, information, military and economics, which are referred to as DIME. Diplomacy is about interactions with state or non-state actors in order to reach some agreements and accords that would allow the parts to function together, in spite of divergent interests. Information includes creating, exploiting and – in particular situations – disrupting knowledge. By using this instrument, a state intends to protect its own ability to collect and use information, as well as to diminish or disrupt the adversary's same ability. The military instrument includes the threat of force, use of force or facilitating the use of force by another party in order to promote a state's own interests. Economics concentrates on promoting or disrupting the ability to have a stable, prosperous climate[7]. Although DIME has described the instruments of national power in the American vision for some time, there is a tendency to further granulate the options policy makers have at their disposal. Therefore, by introducing domains such as financial, law, intelligence, and development, DIME has turned into MIDFIELD[8]. As a result, the instruments of national power become more focused.

In order to analyze the comprehensive approach from NATO and European Union (EU) perspective, as well as to describe the integrated approach to security, we will use a set of five characteristics: multi-instrumental, multi-phased, multi-level, multilateral and multi-*directional*. Four of these characteristics come from the EU vision on the integrated approach, the fifth has been added to address the particularities of the hybrid threat manifestation.

The Global Strategy for External and Security Policy of the European Union (EU) states what the characteristics of an integrated approach are for this organization. In EU's vision, the integrated approach is multi-*dimensional*, multi-phased, multi-level, and multilateral. The multi-dimensional approach means using all the policies and instruments available to the EU in order to prevent, manage and put an end to conflicts. The multi-phased characteristic refers to the involvement in all the phases of the conflict – prevention, ending, stabilization. The multi-level characteristic means acting at local, national, regional and global levels to manage conflicts. Multi-laterality refers to engaging all the actors involved in the conflict or those have a role in ending it[9]. In order to highlight the synchronized application of a state's instruments of power specific to this approach, this article will use the term multi-instrumental, as opposed to multi-dimensional. This inversion of terms will also help avoid a potential confusion, caused by the multi-dimensionality of the operational environment components. We will also introduce the term multi-directional, to highlight the necessity to adopt an integrated approach that will be appropriate to address the numerous threats in the contemporary security environment.

NATO vision on implementing the comprehensive approach includes keeping track of the contribution of all relevant actors of the operating environment to crises management efforts, based on a common goal, collective responsibility, openness and determination. Implementing the comprehensive approach to managing crisis situations is facilitated by interactions between civilians and the military at all levels of the military institutions. At a political and strategic level, the important aspect is building tighter connections and relations with relevant actors, without affecting their ability to autonomously make decisions. At an operational level, cooperation between international actors, both regional and local, is a priority for planning operations. At a tactical level, the allied forces commanders will effectively cooperate and coordinate with local and international actors and authorities, to conduct military operations[10].

This approach has, therefore, a multi-instrumental characteristic, where the role of the military instrument is the most important. This generates a slight limitation on multi-instrumentality. Implementing military art at all levels underlines the multilevel characteristic of the comprehensive approach defined by NATO. By working to involve all relevant actors in crisis management, it ensures the multi-laterality of this approach. Although the comprehensive approach intends to harmonize efforts of all relevant actors, this is very difficult to do. Therefore, multi-laterality is limited. Since the comprehensive approach addresses all phases of a crisis or a conventional military threat, it can be defined as multi-phased. However, NATO cannot actively respond to the entire spectrum of threats on security. Therefore, the multi-directional characteristic of this approach is reduced.

The Global Strategy for EU External and Security Policy adopted in 2016 mentions for the first time the concept of an integrated approach, conceptually substantiated by the four characteristics described above. Therefore, the comprehensive approach is the origin of the integrated approach concept. In the context of the contemporary security environment and especially that of hybrid threats, it is imperative to transition from a comprehensive approach to an integrated one, at least at a national level. In order to fight actions related to hybrid threats, that have effects in multiple dimensions of the operating environment, it is necessary to apply the instruments of state power in a synchronized manner, in all components and dimensions of the operating environment.

The integrated approach to security in the context of hybrid threats

In order to conceptualize an integrated approach, it is necessary to adopt a set of state power instruments. We will consider five instruments for the following model – military, economic, diplomatic, information, and civil – MEDIC. The integrated approach to security means the application of these instruments of power in order to achieve the objectives that fulfill the security interests. The integrated approach is based, therefore, on the existence of a single purpose – ensuring national security. This objective is a priority in a context in which the primary responsibility to address hybrid threats goes to the target nation. Still, NATO is ready to assist any member state when it comes to fighting hybrid threats[11]. It is, therefore, necessary to use an approach to security that will identify the manifestations of hybrid threats and ensure a proper initial response. In order for this to be possible, considering the particularities of hybrid threats, integrating the power instruments is paramount.

The synchronized application of the instruments of power offers benefits in promoting security interests. The operating environment is characterized by multiple components and dimensions. In order to understand it, a systemic perspective can be adopted. According to this, the relevant actors, no matter their affiliation – allied, neutral or opposing – are seen as systems. A system is defined as a group of elements that normally interact or are inter-dependent, being related based on functions or behaviors, and constitute a whole. These systems consist in links and nodes. The nodes represent the elements inside the system. They belong to different components and dimensions of the operating environment. Links are the connections between the nodes of the same system or of different systems. These represent the way nodes interact and are inter-related. Links can be technical, human, social, functional, organizational, any kind of connection between nodes.

The multi-instrumental characteristic of the integrated approach refers to the possibility to understand the links between nodes of different operational environment components and dimensions. In this context, we can correctly identify any situation specifics and act according, efficiently and effectively, on the critical nodes, in order to modify the system behavior in the desired direction. This multi-instrumental characteristic makes it possible to identify vulnerabilities belonging to both the adversary and to our own system. By protecting our system's vulnerabilities, especially in the context of hybrid threats, we ensure the necessary resilience. By targeting the vulnerabilities of adversaries who use hybrid war, we create the conditions to defeat them and ensure local, national or global security.

The multilateral characteristic of the integrated approach consists in establishing a wide variety of links between different actors, relevant within the context of promoting the national security interests. The typology of the links between these actors is defined by the level of interactions. This level is dynamic and will evolve while dealing with security challenges.

These levels are: coexistence, consultation, deconflicting, coordination, cooperation[12], and collaboration. Coexistence represents the simultaneous existence of several things, beings, phenomena[13]. The actors exist in the same space-time frame, with no direct interaction. Consultation is a limited interaction, in order to exchange opinions or ideas between coexisting actors. Deconflicting is the interaction between two actors, with the purpose of avoiding unwanted interferences of one's actions over the other. Coordination is defined as having all parts of a whole agree on something, guiding a series of activities to achieve the same goal[14]. Coordination is meant to make the relationship between actors efficient, by contributing different elements to complex activities. Most often, cooperation is achieved by exchanging information. Cooperation is defined as different entities working together[15].

In addition to coordination, actors work in a common manner to achieve mutual benefits. Although their objectives are different, fragments of these can be attained by common action. Responsibilities remain different. Collaboration means participating alongside other entities to achieve something that is being worked on in common[16]. This type of relationship is based on common objectives of different actors. In order to achieve the common objectives, they contribute information and resources, and they share responsibilities. The integration of the interaction, as well as the complexity of the relationships between actors are greater as these interactions levels grow, as presented in Figure 2.

The multi-laterality of the integrated approach must be understood in relation to the multi-level characteristic. The integration and the complexity of the interaction levels manifest themselves between relevant allied and neutral actors, at a global, regional, national and local level, thus resulting a multiplication of the way different levels of interaction manifest themselves. If, on a global level, two actors can coexist, on a local level, in order to manage a crisis, they can consult or deconflict actions, at least in what concerns space and time.

The multi-directional attribute of the integrated approach represents its capacity to respond adequately and timely to all threats in the security

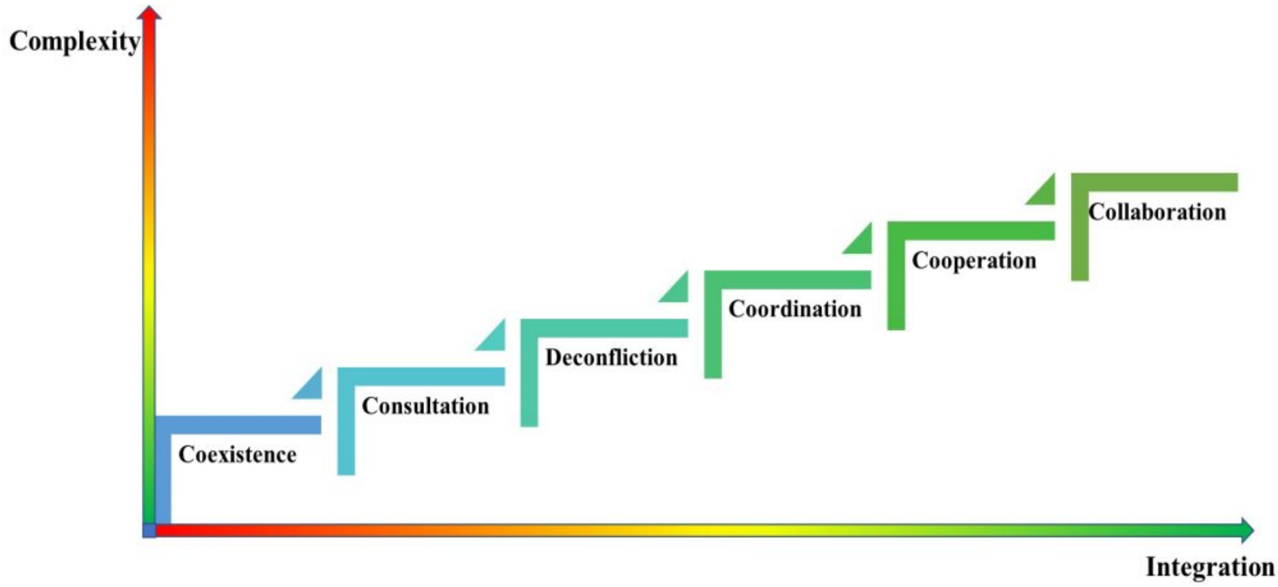

Figure 2 *Levels of interaction among actors*

environment. Military or non-military threats can manifest individually or as dimensions of a hybrid threat. By using an integrated approach, we can lower the detection threshold of the threat, as a result of easier identification of the source and cause of its actions and effects, in all domains of the operational environment. This way, it becomes possible to identify threats that are isolated, un-synchronized or synchronized as a part of a hybrid war waged by an aggressor.

The multi-phased characteristic of the integrated approach facilitates the synchronized application of power instruments at the very early stages of a threat manifesting itself. This way, not only can crises or actions related to different challenges to the security situation can be detected early on, but it offers the possibility to prevent, contain or deter such circumstances. This will allow for an effective and efficient response, by cutting operational costs.

Conceptualization of the integrated approach is ensured by its defining characteristics – multi-instrumental, multi-level, multilateral, multi-phased and multi-directional. In order to create a collaborative framework to allow implementation of this concept, procedural, technical, actional and cognitive measures need to be taken. The technical infrastructure must facilitate information exchange between actors, using safe channels, with minimal operational costs, and has to allow the implementation of the procedural and technical framework that is needed for the integrated approach. Therefore, on a cognitive level, accepting the ambiguity and complexity of the operational environment as well as proving a sufficient level of mutual trust are necessary conditions, in addition to the technical, procedural and actional ones. No matter the type of the threat, the complexity, volatility, ambiguity and uncertainty of the operational environment make the transition to an integrated approach necessary.

Synchronizing how instruments of power (MEDIC) are applied, is the foundation of the integrated approach. The degree of synchronization of the military, economic, diplomatic, information and civil instruments depends on the following factors: the levels at which they are synchronized, the phase of crisis management and threat neutralization, as well as the way in which actors in the operational environment and their connections are perceived. At the same time, the omni-directional ability of the sensors belonging to actors to identify actions specific to different threats ensure an operationalization of the integrated approach.

The potential of an integrated approach

Hybrid threats have caused a lot of concern to international and national security institutions. Hybrid threats are different from others in nature and manifestation. The first challenge in managing hybrid threats is detecting them. In order to ensure an effective and efficient response of power instruments, it is necessary to identify a manifestation of such a threat in its early phases. In other words, in order to neutralize such a threat, it is necessary to be warned against its manifestation in a timely manner, so that a proper response is planned and implemented. This concept is defined as early warning, by extending the initial definition – early notification of launching or approaching weapons or weapons carriers[17]. Based on early warning of a hybrid threat manifestation, an entity may contain the effects of initial actions, deter further actions and, eventually, defeat the aggressor that uses hybrid warfare to promote its own security interests.

Although early warning for hybrid threats is necessary, it is very difficult to obtain. One of the fundamental characteristics of these threats is that early warning in this case is not an easy task. This relative weakness in diagnosing political and economic indicators that lead to multiple directions possibly associated with a threat is a very important problem that must be solved[18].

There are currently state actors that have capabilities and resources that considerably surpass those of terrorist organizations, and have proven their willingness and intention to project hybrid threats to include non-kinetic means and capabilities in order to affect democratic states' vulnerabilities. By increasing ambiguity, evasiveness and using actions under the detection threshold of the target state, by engaging non-military instruments to attack society in its entirety, hybrid threats represent a new form of complexity[19].

Maintaining actions that represent a hybrid threat means acting in a way that can be defined by two characteristics: a very low level of attribution and performing actions under the detection threshold of the target state. These two coordinates ensure the element of surprise in relation to the institutions that are tasked with achieving and maintaining security.

Achieving a low level of attribution not only causes difficulties in detecting actions associated with hybrid war, but also ensures plausible denial and delimitation from such actions of an aggressor. In this context, the international bodies that ensure security have difficulties in acting in response to punish the aggressor.

There are different ways to achieve a low level of attribution. One way is to use an actor that is not affiliated with the aggressor as the source of the action. To this purpose, one can use different actors, such as non-governmental organizations, companies, extremist political parties, or radicalized factions of different groups. The connection to these source actors is very difficult to identify by a conventional approach to security. Another way that a hybrid aggressor can achieve a low level of attribution is by using direct and potential influences between operational environment variables.

In order to act below the detection threshold of the target state, in addition to using direct and potential influences, the aggressor can perform smaller-scale actions in different variables of the operational environment. They will help achieve desired effects by creating synergy. Instead of vertically escalating the intensity of actions, the aggressor will use a horizontal escalation throughout the operational variables, thus targeting the lack of integration in power instruments[20] – MEDIC.

Conceptually the integrated approach is multi-instrumental, multi-level and multilateral. Its multi-instrumental characteristic ensures integration of all instruments of power. This way, we can simultaneously monitor specific detection thresholds for every instrument. Therefore, we can identify actions that are over the detection threshold specific to each instrument – military, economic, diplomatic, information or civil.

The multi-level attribute of the integrated approach ensures the integration of power instruments at all levels – local, national, even regional or global. This way, the detection threshold for each instrument can be lowered. This should be achieved in a controlled manner, across all instruments of power. The potential result of the multi-instrumental and multi-level characteristics of the integrated approach is a detection ability that will identify isolated actions as part of a hybrid threat.

In the absence of multi-direction, the instruments act in a synchronized manner at all levels, but they only identify actions specific to each domain. As an example, in this context, there is a chance that a part of the economic dimension of a hybrid threat will not be identified by the economic instrument of power, but by the others. In a multidirectional situation, their integration is facilitated and the action will correctly be identified as part of a hybrid threat.

Separately, the three characteristics described above cannot solve the issue of low attribution. The major contribution in this domain comes from the multilateral characteristic of the integrated approach.

It facilitates a perspective from all the actors, no matter the variable of the operational environment they act in. The connections can be identified by common knowledge among the instruments of power, which will lead to understanding of the hybrid threat, in terms of existence and size of its manifestation. All these dimensions lead to the multi-phased attribute of the integrated approach.

The aspects presented above indicate that the integrated approach has the potential to identify the manifestation of a hybrid threat and to ensure early warning. At the same time, by offering the possibility to synchronize capabilities from different instruments of power, or to deploy groups of such capabilities especially designed to this purpose, the integrated approach offers the framework to timely and adequately manage security challenges posed by hybrid threats.

Limitations of the integrated approach

However, identifying the manifestation of a hybrid threat and early warning constitutes a wicked problem[21]. Wicked problems present ten specific traits:

- they cannot be definitively formulated. Wicked problems cannot be formulated so that they can offer to a person trying to solve them the necessary data for that endeavor. When one tries to define them, the definition depends largely on the idea used to solve them;
- they do not allow definitive solutions. Finalizing efforts to solve them is not a consequence of success, but rather of reaching an acceptable level or investing more resources, time or effort than was originally planned for solving the problem;
- they do not have true or false solutions. The attempts to solve these problems can be better, worse, or satisfactory;
- there is no way to immediately or definitely evaluate a solution. There is a possibility that some of the actions used to solve the problem may have worse consequences than the things they were trying to solve;
- each action done to solve the problem has consequences. Each change in a decision potentially generates other wicked problems;
- they do not have a set of potential solutions or a set of allowed operations. Courses of action are determined by the capacity to judge in a realistic manner, the mindset to accept out-of-the-box ideas and the degree of trust that exists among those trying to solve the problem;
- they are unique. There may be similarities between two wicked problems, but the differences will determine that similar courses of action used to solve them to not necessarily be successful;
- each wicked problem can be considered a symptom of another wicked problem;
- discrepancies associated with these problems can be explained in numerous ways. Choosing one explanation determines the approach used to solve the problem;
- those trying to solve wicked problems need to understand that the hypotheses they formulate will not be confirmed, but rather the inadequate hypotheses will be proven wrong[22].

In this light, trying to identify and have early warning on a manifestation of hybrid threats seems inadequate and deemed a sure failure. Obviously, such a challenge is difficult to solve. This exact difficulty gives its operational value and is the reason for which aggressors resort to hybrid warfare. The integrated approach cannot guarantee a definitive and universal solution to ensure security, where hybrid threats are concerned. What is does offer is the framework for identifying them, limiting and containing their effects, as well as deterring future actions by reducing the benefits and increasing operational costs for the aggressor.

Conclusion

As highlighted above, the integrated approach is necessary in the context of hybrid threats. Unfortunately, none of the implementation possibilities can be surely described as the best way to solve security challenges posed by hybrid warfare. The possible solution is influenced by vulnerabilities in the society, the possibilities of the states, the organizational culture of the power instruments and by the aggressor’s particularities, capabilities, resources, and objectives.

The integrated approach cannot offer a universal solution to such a challenge. It is not an operational silver bullet. It cannot offer all the answers and cannot guarantee success in managing the hybrid threat.

Its value resides in its potential to identify and manage the manifestation of hybrid threats. If we were to match the integrated approach against one of the wicked problems characteristics, it is the last one that describes it the best. This approach cannot be confirmed as a valid hypothesis, but it is the least probable to be proven wrong.

NOTES:

1 [Stiehm, Judith Hicks; Townsend, Nicholas W.], *The U.S. Army War College: Military Education in a Democracy*, Temple University Press, 2002, p. 6.

2 https://hbr.org/resources/images/article_assets/hbr/1401/F1401C_A_LG.gif, accessed on 05/15/2020.

3 [North Atlantic Treaty Organization], NATO, *Active Engagement, Modern Defence – Strategic Concept for the Defence and Security of the Members of the North Atlantic Treaty Organization*, 2010, p. 19.

4 *Ibidem*, p. 10.

5 Patrick J. Cullen, Erik Reichborn-Kjennerud, *Multinational capability development Campaign Countering Hybrid Warfare Project: Understanding Hybrid Warfare*, 2017, p. 8.

6 [Supreme Headquarters Allied Powers Europe], NATO, *Allied Command Operations Comprehensive Operations Planning Directive COPD Interim V2.0*, 2013, p. 1-9.

7 [Joint Chiefs of Staff], USA, *Joint Doctrine Note 1-18, Strategy*, 2018, pp. II-5–II -56.

8 [Joint Chiefs of Staff], USA, *Joint Doctrine Note 1-18, Strategy*, 2018, p. vii.

9 [EU], *Shared Vision, Common Action: A Stronger Europe a Global Strategy for the European Union's Foreign and Security Policy*, 2016, pp. 28-29.

10 [North Atlantic Treaty Organization], NATO, *AJP-01 Allied Joint Doctrine Edition E Version 1*, NATO Standardization Office, 2017, pp. 2-4.

11 https://www.nato.int/cps/en/natohq/topics_156338.htm, accessed on 05.15.2020.

12 https://www.handbook.cimic-coe.org/1.introduction/1.1nato-and-a-comprehensive-approach/, accessed on 05.01.2020.

13 https://www.dex, accessed on 05.01.2020.

14 *Ibidem*.

15 *Ibidem*.

16 *Ibidem*.

17 [NATO], *AAP-06 Edition 2019, NATO Glossary of Terms and Definitions (English and French)*, NATO Standardization Office, p. 46.

18 Patrick Cullen, *Hybrid threats as a new ”wicked problem” for early warning*, Hybrid Centre of Excellence, 2018, p. 5.

19 *Ibidem.*

20 Patrick J. Cullen, Erik Reichborn-Kjennerud, *Countering Hybrid Warfare Project: Understanding Hybrid Warfare*, Multinational Capability Development Campaign, 2017, p. 8.

21 Patrick Cullen, *op.cit.*, p. 5.

22 Horst W. J. Rittel, *Dilemmas in a General Theory of Planning*, Policy Sciences, 4:2, pp. 161-167.

REFERENCES

[Department of the Army], *Army Doctrine Publication No. 2-0, ADP 2-0, Intelligence*, USA, July 2019.

[Department of the Army], *Army Doctrine Publication No. 3-0, ADP 3-0, Operations*, USA, July 2019.

[Department of the Army], *Army Doctrine Publication No. 5-0, ADP 5-0, The Operations Process*, USA July 2019.

[Department of the Army], *FM 6-0 Commander and Staff Organization and Operations*, USA, May 2014.

[EU], *Shared Vision, Common Action: A Stronger Europe A Global Strategy for the European Union's Foreign And Security Policy*, 2016.

[Joint Chiefs of Staff], *Joint Doctrine Note 1-18, Strategy*, USA, 2018.

[Joint Chiefs of Staff], *Joint Concept for Operating in the Information Environment (JCOIE)*, USA, July 2018.

[Joint Chiefs of Staff], *Joint Publication 2-0, Joint Intelligence*, USA, October 2013.

[Joint Chiefs of Staff], *Joint Publication 2-01, Joint and National Intelligence Support to Military Operations*, USA, July 2017.

[Joint Chiefs of Staff], *Joint Publication 2-01.3, Joint Intelligence Preparation of the Operational Environment*, USA, May 2014.

[Joint Chiefs of Staff], *Joint Publication 3-0, Joint Operations*, USA, October 2018.

[Joint Chiefs of Staff], *Joint Publication 3-08, Interorganizational Cooperation*, USA, October 2016.

[Joint Chiefs of Staff], *Joint Publication 3-24, Counterinsurgency*, USA, April 2018.

[Joint Chiefs of Staff], *Joint Publication 5-0, Joint Planning*, USA, July 2018.

[Land Warfare Development Centre], *Army Doctrine Publication Land Operations*, UK, March 2017.

[North Atlantic Treaty Organization], *Active Engagement, Modern Defence - Strategic Concept for the Defence and Security of the Members of the North Atlantic Treaty Organization*, 2010.

[North Atlantic Treaty Organization], *Allied Joint Publication 01, AJP-01, Allied Joint Doctrine*, February 2017.

[NATO], *AAP-06, NATO Glossary of Terms and Definitions (English and French)*, NATO Standardization Office, 2019.

[Supreme Headquarters Allied Powers Europe], NATO, *Allied Command Operations Comprehensive Operations Planning Directive COPD Interim V2.0*, 2013.

[Supreme Headquarters Allied Powers Europe], NATO, *Allied Command Operations Comprehensive Operations Planning Directive COPD Interim V2.0*, October 2013.

Cullen J. Patrick, Reichborn-Kjennerud Erik, *Countering Hybrid Warfare Project: Understanding Hybrid Warfare*, Multinational Capability Development Campaign, 2017.

Cullen Patrick, *Hybrid threats as a new ”wicked problem” for early warning*, Hybrid Centre of Excellence, 2018.

Rittel Horst W.J., ”Dilemmas in a General Theory of Planning”, *Policy Sciences*, 4:2.

Stiehm Judith Hicks, Townsend Nicholas W., *The U.S. Army War College: Military Education in a Democracy*, Temple University Press, 2002.

https:// www.hbr.org/resources/images/article_assets/hbr/1401/F1401C_A_LG.gif

https://www.nato.int/cps/en/natohq/topics_156338.htm

https://www.handbook.cimic-coe.org/1.introduction/1.1nato-and-a-comprehensive-approach/

https://www.dex.ro/

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THE INFORMATION DIMENSION OF THE MODERN BATTLEFIELD

Maj. Advanced Instructor Petre-Răzvan ENACHE, PhD*

The current security environment is characterized by complexity and dynamism, being influenced by multiple challenges. The proliferation and diversification of information systems in the context of the technological revolution result in different effects among which the emergence of different actors that are present in the areas of military operations, especially given the more and more complex types of threats to the contemporary security environment. The new technologies brought by the information revolution become the main means able to determine the increase of the efficiency of military actions and the achievement of the surprise in the battle space. A major concern of military structures in terms of operations, regardless their level, is achieving the information advantage / upper hand creating the creating the conditions necessary for attaining success on the battlefield, avoiding as much as possible, losses of any kind. The new approach of the information-related activity, developed through appropriate actions, is able to ensure the correct asymmetric advantage in the context of any challenge.

Keywords: information environment; information systems; intelligence; information advantage; security.

”Know thine enemy, and know thyself; in a hundred battles you will not expose yourself to any danger”[1], said the great Chinese strategist Sun-Tzu, in his well-known work, *The Art of War*.

I set out to begin the article with this quote to emphasize the need to decipher and understand the information dimension of the modern battlefield or, rather, of the battle space so that we can ensure those advantages that can guarantee our success with as little loss as possible. Achieving the ultimate goal or, in other words, fulfilling the mission depends, to a large extent, on obtaining and maintaining the information advantage, essential during the planning and conduct of military operations in the context of the contemporary security environment. I believe that it is essential to understand – at all times – the nature of the threats that are becoming increasingly complex and diverse, which means that information is essential in understanding the environment in which we operate.

Defining aspects of the contemporary security environment

The current security environment is characterized by complexity and dynamism, being influenced by multiple challenges. This is mainly due to changes in the military strategies of some states due to the emergence of new types of threats different from the classic ones specific to conventional warfare.

Romania, as a member state of the North Atlantic Treaty Organization/NATO and the European Union/EU, has undergone a process of reviewing its defence strategy in recent decades, identifying optimal solutions to protect national interests against current risks and threats. At the same time, a priority of our country is represented by the fulfillment of the commitments in terms of security and defence assumed within NATO and the EU for consolidating the position of security guarantor in the eastern flank of NATO, especially in front of new types of increasingly complex and diversified threats.

We are witnessing, in the last decades, a real technological explosion with complex and extremely fast changes and evolutions of the technological discoveries in which innovation has its say. What is today of the latest generation becomes obsolete in a very short time because other more efficient systems appear and are subject to research so as to be permanently updated to the requirements of the times. In fact, I could say that the updates are more the result of market requirements as users do not have enough time to implement and get used to this technology because a much more current and efficient one appears. It is a very useful aspect because the technology comes in support of the effort made and leads, in this way, to very good

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results and with as few and insignificant errors as possible. It is inevitable that these developments will have effects in the information field, their evolution being, I consider, directly proportional to the results and effects obtained by those operating in this increasingly complex field, namely the information field.

Recent studies and experiences have shown that, periodically, with a very high frequency, military communications and information systems need to be modernized, due to the fact that the pace of development of information and communications technology is exponential compared to other areas of activity and is due to a great measure of the diversification of the beneficiaries' requirements. Also, an important role in the need to modernize the systems is played by planned and unplanned moral wear and tear.

In recent years, the dimensions of military conflicts have changed radically due to their asymmetrical nature and speed. The implementation of modern technologies within the Romanian armed forces allowed a ”compression” of space and time in the tactical field, which led to the imposition of a faster pace of execution of military actions in the areas of operations.

In the current military conflicts, the information is what dictates the conduct of future operations. No conflict is triggered until after the execution of large-scale intelligence actions by specially trained forces in this regard. Also, the paralysis of the communication system is a desideratum that the enemy will try to reach both before the outbreak of hostilities and during the execution of operations.

It is very clear that these technological developments lead to changes in the conception of modern armies in terms of the organization and equipment, training and use of different military structures in operation, as well as the protection and approach of different types of conflicts. In this regard, it is important to analyze the characteristics of information media, especially the military one in the context of the global information environment.

Military information environment

Studying and analyzing the main provisions in the field, as well as the literature, I consider the global information environment as consisting of personalities, organizations, systems, etc., most of them not under military control or central governing bodies that carry out collection activities, analysis, processing and dissemination of information of any kind to the general public.

It is clear that all military operations take place within the global information environment which has positive or negative effects in all areas of activity. It is not infrequently that we have noticed that some aspects specific to military operations are brought to the attention of the general public in almost real time and this is due to technological evolution. The speed with which they are transmitted, most of the time, being aspects with a negative touch or that affect the image of the military organization, does not offer the possibility to be filtered even if they are partially or totally untrue. All this determines a certain behavior in the conduct of military activities in any situation in order not to give the possibility to exploit a certain detail and to give a different meaning than the real one to the existing situation.

Part of the global information environment, we discuss about the military information environment in which we find ”information systems and organizational structures of their own and of the adversary, military and other categories that support or significantly influence military operations. It must provide at least the following facilities: connection of home terminals to systems in the area of operations, transition from peace to war within the planned timeframe or even sooner, provision of technical support for real-time communications necessary for the fulfillment of missions and cooperation between all categories of military, economic, social structures, as well as local, zonal and national political-administrative ones. Within this environment, military leaders will lead the operation (fight) and will face many new challenges and various situations”[2].

The multiplication and diversification of information systems in the context of the technological revolution implies multiple effects, including the emergence of a diversity of actors present in the areas of military action, especially given the emergence of new and more complex types of threats to the security contemporary environment. This certainly influences the way military operations are planned and conducted.

In this regard, we identify part of the information infrastructure of ”defence resources required for the transfer and processing of information, data storage and display, technical means for command

and control, research and other categories of means for transmitting voice, still and moving images, multimedia services etc. useful to the defence system”[3].

The wide spatial development and the unprecedented diversification of the technical means used for collecting, transmitting, storing, processing and distributing (disseminating) intelligence have made the role and importance of information systems continuously increase in all fields of activity. In the military, it has become the main means for acquiring and maintaining the information superiority, increasing the command and control capacity (management), as well as for ensuring the possibilities of time and space synchronization of the activities carried out.

The new technologies of the information revolution become the main means, able to determine the increase of the efficiency of the military actions and the achievement of surprise in the combat space.

In the conditions of the creation of the information and knowledge society, in which information and knowledge are paramount for the organization and execution of human activities, the information systems become even more important than the resulting products or services offered by the organization. Therefore, the concentration of human activities within each organization will be performed so as to obtain and process information, accumulate knowledge and use it at a higher level of human and artificial intelligence, which will lead to the proliferation of modern equipment and symbolic products (software, databases, etc.) simultaneously with the relative decrease of physical products. As a result, it will tend to dematerialize and disintermediate information.

Information systems

Although it has been studied by many specialists in different fields of activity, the information system does not have a unique definition, usually highlighting some or other of its structural or functional elements.

In this sense, we can study and analyze several approaches to this concept so that we can detach those common elements that give us an overview of what an information system means and involves.

On the one hand, according to AAP 6/2019, the information system represents a ”set of equipment, methods and procedures and, if necessary, personnel, organized to fulfill the information processing functions”[4]. On the other hand, the American military specialists define the information system as the ensemble formed by ”the entire infrastructure, circuits and information flows organized in a unitary conception, the personnel, all the components that collect, transmit, store, process, elaborate/process information and ensure their display and dissemination, in order to capitalize on the leadership process (command and control) and in the conduct of military actions”[5].

Thus, summarizing the opinions of different specialists, we can consider that information systems consist of specialized staff and structures, infrastructure and other essential elements that contribute to the collection, analysis and processing, storage and dissemination of information. All these elements represent the basis of the operations planning process in order to make the best decision to achieve the final objective or, in other words, to achieve the desired final state, ensuring the common operational image.

In this regard, I would like to emphasize that the information system should not be mistaken for those information gathering structures that support the process of planning and conducting operations. It includes, in addition to the intelligence system, the communications and IT system, i.e. not only the persons and structures that ensure the flow of information, but also the infrastructure necessary for its development. The information system consists of a complex set of specialized people and practical activities, technical equipment for gathering information (including through sensors), communications, storage, processing and display of information, software, databases and procedures, aimed at identifying the needs of information and how to satisfy them for the information assurance of the management processes (command and control), including the transmission of decisions to the subordinated operational levels (echelons).

Part of the information system, we identify as we mentioned the intelligence system, and in it we discuss the intelligence activity with a particularly important role in the process of planning and conducting military actions. The intelligence activity provides decision-makers with all that data and information about the enemy and the confrontation environment necessary for making the best decision to carry out the military mission. When we talk about the intelligence activity we refer not only to the activity carried out by the specialized structures in this domain, but also to the activities carried out by our own elements that can provide useful data to the process of planning and permanent updating of the situation. Knowledge of the confrontation environment and a more realistic picture of the enemy's actions are essential in guaranteeing success in the battle space.

I consider that the continuous update and upgrade of the communications and IT system is a priority in order to support the growing need for information, data circulated in them, and development trends. All these can be highlighted by a brief presentation of the information and tactical communications systems adopted by the armies of some NATO member states, some of which I will present in the following lines.

The U.S. Army has a system that replaces the old systems, at least tactically. Named "Warfighter Information Network-Tactical / WIN-T"[6], it is a communications system designed to provide support for C4ISR systems, secure voice, data and video communications. WIN-T has an infrastructure based on terrestrial communications, relying on high-capacity radio communications lines, network services and cellular services. WIN-T has been designed to perform missions in a variety of locations, at different echelons, to ensure quality communications regardless of tactical field conditions. WIN-T provides communications networks (satellite and terrestrial) and services that allow the exchange of information in order to carry out the mission.

During these years, the British army is also undergoing an intense process of modernization in terms of communication systems. Thus, Cormorant is the name of the project for the realization of the large-area communications network in the theater of operations, being a network that can be deployed quickly. Cormorant ensures a tactical internet capability from unit level to operations theater/strategic commander level. The main facilities offered are the following: a large area network for deployed forces, (the network can be deployed quickly by air and is tactically mobile), modular communications system, interoperability with networks of categories of armed forces and strategic support for joint forces of any size.

The Falcon communications system has replaced the previous Ptarmigan system and is a new generation of tactical communications system. It will provide secure and secure voice and data services, and the technology behind the system will be "All over IP" – all via the Internet protocol. "The key platforms will be Wide Area Switching Provision (WASP) a node with up to six radio relay links that will allow connection to Bowman local area networks and backup connections (via SATCOM) to the fixed communications system and Command Post Support (CPS) – Points which will be configured on different dimensions, depending on the missions that British forces will carry out"[7].

The BOWMAN communication system uses the latest trends in radio and IT technologies to meet the growing needs of services. It is designed to provide an integrated digital communications network, interfaced with higher-level systems and networks such as ISDN, Skynet V, Cormorant and FALCON.

"Bowman is a digital system that provides safe and secure voice and data communications, as well as an integrated global positioning system (GPS)"[8]. Bowman will provide an advanced tactical communications system using VHF, HF and UHF radio communications. It is the main means of command and control at the lower echelon of command of the brigade in ground operations. Its main features include secret communications, the ability to operate while moving platforms, independence from fixed infrastructure, light weight and size and simplicity. Bowman will also provide an integrated system of secret tactical communications for the ground component of the three categories of armed forces that participate in or directly support ground or shore operations. The system provides a wide range of services, especially at the level of the brigade and its lower echelons, including services that had not been available in the tactical environment. These services include secret communications of messages, voice and data down to the section level and a better knowledge of the tactical situation and the location of military units.

Among the armies that joined NATO a little more recently, we note the integrated communication system of the Polish army JASMINE. The technology implemented in the JASMINE system is fully compatible with the equipment in the stationary networks based on the TCP/IP protocol. The system is a reliable solution for control points at any tactical level, can connect older production equipment being fully interoperable with Cisco technology and is produced almost entirely in Poland. ”The system is available in two variants: mobile – mounted on specialized vehicles and portable – mounted in transport containers, each piece of equipment can be deployed elsewhere. The capabilities of the JASMINE system are: the possibility of developing separate data networks for the various functions of the control points, connection to infrastructure networks, information secrecy, IP applications for voice, data and video”[9].

The system consists of the following component subsystems:

- JASMINE Web Portal – allows the creation of Common Operational Picture – COP, integration of other systems, and facilitates user access to the JASMINE C3IS subsystem;
- C3IS JASMINE – battle space management software solution (example: creation of Common Operational Picture – COP);
- HMS JASMINE – Headquarter Management System, with the two components, fixed and mobile, consisting of data communication platforms dedicated to serving command points, to ensure C4I systems at the operational and tactical level;
- BMS JASMINE – Battlefield Management System for Battalion, Company, Platoon and Section, dedicated to terrestrial, air and maritime platforms at tactical level all components being of the ”on board” type;
- VIS JASMINE – Vehicle Intercom System, which ensures intercommunication at the level of platforms in IPv6 technology, with components such as ”on board”;
- DSS JASMINE – Dismounted Soldier System, which ensures their communication and integration needs at the soldier level; Information Exchange Gateway (IEG) JASMINE, is the software and hardware solution for secure exchange of information between different security domains;
- Combat IDentification Server CID JASMINE (CID JASMINE) – subsystem consisting of software and hardware modules that mainly provide the service of automatic updating of warnings on the situation of forces and monitoring of actions – situational awareness (SA) by identifying own and allied forces, exchange of data in the area of operations, security of own forces;
- JASMINE Management System (JMS), subsystem intended for the maintenance, management, monitoring and software configuration of all equipment that make up the JASMINE system.

The information component of the battle space

Regarding the information component of the battle space, my point of view is that it has involved many transformations in recent times, playing a key role in the process of planning and conducting military actions. It contributes substantially to the determination and provision of those essential issues to commanders and staffs for planning as close to reality as possible so that the fulfillment of the mission can be achieved with as little loss as possible and in a short time. Establishing and satisfying information/intelligence requirements as accurately as possible provides the staff and the commander with that relevant picture of what is happening and is likely to happen on the battlefield so that they can make the most appropriate decisions in a timely manner.

A major concern of military structures in operations, regardless of their level, is to obtain the information advantage that creates those conditions necessary for success on the battle space, avoiding, as far as possible, losses of any kind. Studying and analyzing the literature, we can say that there are three levels of information advantage, namely: information superiority, information dominance and information supremacy. I believe that in order to understand the three levels, we should start from their simple definition according to the Explanatory Dictionary, and then see their applicability in military operations.

Thus, superior means ”which is of better quality, which is distinguished by special merits. Superiority = State of that which is superior; the fact of being superior”[10]. At the same time, to dominate has the meaning ”to impose oneself by number or intensity; to predominate, to prevail. To prove clearly superior to the opponent. Domination = The act of dominating, exercising one’s influence or dominion; power, dominion, influence exercised over someone or something”[11], and supremacy presupposes ”absolute superiority united with authority and power; dominant position; preponderance”[12].

Obtaining and maintaining any of the three levels are based on both a high-performance information system, with staff and specialized structures in the intelligence field, but also on the infrastructure so that the intelligence cycle is as complete and short as possible. At the same time, we cannot ignore other aspects related to culture, religion and people's behaviors.

The definition of one of the three levels can be made taking into account:

- the possibility to collect a large amount of information from several sources and environments (political, military, social, economic, electromagnetic, computer, religious, nature), about the enemy and its own troops, both from the area of responsibility and from the of interest, necessary for the decision-making act;
- reducing the likelihood of using false or null-value information by adopting efficient collection and authentication techniques and procedures;
- the performance of the technique for collecting information and its ability to take information in a fixed format (images, sounds), which makes it possible to transmit them in the form of data and their automatic processing;
- the ability of communication systems to convey the entire flow of information with high authenticity and in a short time;
- the degree of protection and security of data and information on own troops and their actions;
- the ability of the governing bodies to use that information, to concretize it in the form of decisions, so as to advance the probable actions of the enemy”[13].

Most frequently, in military operations, the level of information superiority is obtained, which represents ”the ability to carry out all the processes of the information cycle in a shorter time than the opponent with a higher degree of security”[14]. We discuss about information superiority when we can evaluate the information systems of the parties involved. In this situation, the intelligence cycle of the one who has information superiority is superior in results of the other, i.e. collects, processes and disseminates in the shortest possible time a larger volume of information, which proves to be truthful and, especially, useful to the decision making process.

Military analysts highlight the role of information superiority in the context of qualitative changes aimed at increasing information processing power, distributed processing, increasing software processing capacity, achieving knowledge superiority through doctrines, training, education and use of higher knowledge tools, holographic display, visual means of making smart decisions[15]. All this will increase the speed of decision making and reduce the duration of the complete decision-making cycle, with leadership tending to be achieved in real time at all levels, from days and hours to minutes and seconds by working simultaneously, transforming leadership from a punctually process in a continuous one.

Thus, the main directions of action that we have identified in this regard are:

- training and education of the personnel specialized in collecting and processing information;
- elaboration and updating of specialized doctrines, regulations and manuals;
- adapting intelligence structures according to requirements to ensure flexibility, mobility and freedom of action;
- permanent modernization of the equipment used according to the requirements of the battle space;
- permanent updating of techniques, tactics and procedures specific to the collection, processing and dissemination of information;
- use of an efficient and fast reporting system.

Referring to the second level of information advantage, information domination refers to the situation where the information system of one party is far superior to the other and “represents the degree of information superiority that always gives the owner the opportunity to use its own information system to obtain operational advantages in the conflict or to control a certain situation, simultaneously with the reduction of the possibilities of the opponent to use the necessary information to him”[16].

Also, the information supremacy represents ”the maximum level of the information advantage that always offers the possessor the possibility to un-hinder its own intelligence cycle, with maximum results, simultaneously with the control and influence of all information processes of the opponent, outside his science, in order to achieve his goals with minimal losses”[17].

I believe that information supremacy, being the maximum level of information advantage, is very important because dominating information certainly ensures success in battle. We are talking, in this situation, of a clearly superior advantage over the enemy, a situation in which the enemy is unable to go through his own intelligence cycle which will clearly affect his entire process of planning operations which leads to the inability to fulfill its mission or achieve the ultimate goal.

Yet, from my point of view, we need to act gradually in terms of the information advantage so that we gradually ensure a certain level of it and act to reach the next one. I consider that information supremacy is rather a desideratum, it is very difficult to achieve and, especially, to evaluate, as there is a relatively sensitive barrier between the second level of information domination and that of information supremacy.

There are several distinct types of threats in today’s security environment. Each represents a different challenge requiring a specific “way of war” and consequently different concepts, doctrines and force structures, as well as different approaches in terms of intelligence activity.

In this area, many changes have taken place in the last period of time in order to adapt to the new types of threats that make their presence felt and have effects in the contemporary security environment. This new approach to intelligence activity, developed correctly in action, ensures the asymmetric advantage in the context of any challenge, whether violent or nonviolent, states or organizations, immediate or long-term.

The component of activities focused on precise elements should be strengthened in future intelligence work. It is very important to note that the new approach places great emphasis on history and the open source network. The analysis of history lessons is fundamental for the information activity.

Conclusions

So, in recent decades, we have witnessed a diversification of the types of threats to national and even international security. What until recently was considered a template has undergone substantial changes and we now face multiple and increasingly diverse threats. Obtaining the most complete and timely information has become essential in the battle space to make available to decision makers, regardless of level, everything necessary so that the decision is as correct as possible and adapted to the reality of the battle space.

That is why paying special attention to information systems in the process of planning and conducting military actions is essential. And we refer here, as it appears from the analysis carried out in this article, not only to the intelligence system and implicitly the intelligence activity carried out by the own intelligence structures and not only, but also to the infrastructure necessary to complete the intelligence cycle in time as short as possible.

Obtaining a high level of information advantage in the battle space offers us, practically, that upper hand of being constantly one step ahead of the enemy, so as to accomplish the mission with as few losses as possible, regardless of their nature.

NOTES:

1 Sun Tzu, *Arta războiului,* Cartex Publishing House, 2018, p. 42.

2 Ion Roceanu, *Sisteme C4I comandă și control, comunicații, computere și informații*, National Defence University Publishing House, Bucharest, 2004, p. 9.

3 *Ibidem*, p. 10.

4 *AAP6 (2019), NATO Glossary of Terms and Definitions*, 2019, p. 67.

5 *FM 101-5-1, Termeni şi simboluri operaţionale*, Land Forces HQ, SUA.

6 https://www.en.wikipedia.org/wiki/PM_WIN-T#WIN-T_Increment_1, accessed on 15.04.2020.

7 https://www.army.mod.uk/equipment/communication-and-surveillance, accessed on 15.04.2020.

8 *Ibidem*.

9 https://www.teldat.com.pl/en/offer/products/systems/165-jasmine-system-of-the-systems.html, accessed on 16.04.2020.

10 www.dexonline.ro

11 *Ibidem*.

12 *Ibidem*.

13 Ion Roceanu, *op.cit*., p. 15.

14 L. Armistead, *Information Operations: Warfare and the Hard Reality of Soft Power*, Brassey’s Inc. Publishing House, Washington, DC, 2004, p. 17.

15 *Ibidem*, p. 18.

16 *FM 3-13, Information Operations*, Headquarters, Department of the Army, 2016.

17 Ion Roceanu, *op.cit*., p. 20.

REFERENCES

*** AAP6 (2019), *NATO Glossary of Terms and Definitions*, 2019.

*** ADP 2-0 *Intelligence*, Department of the Army, July 2019.

*** FM 101-5-1, *Termeni şi simboluri operaţionale*, Statul Major al Trupelor de Uscat, SUA.

*** FM 3-13, *Information Operations*, Headquarters, Department of the Army, 2016.

*** *Carta albă a apărării*, București, 2017.

Armistead L., *Information Operations: Warfare and the Hard Reality of Soft Power*, Editura Brassey's Inc., Washington DC, 2004.

Roceanu Ion, *Sisteme C4I comandă și control, comunicații, computere și informații*, National Defence University Publishing House, Bucharest, 2004.

Sun Tzu*, Arta războiului*, Cartex Publishing House, 2018.

https://www.army.mod.uk

http://www.dexonline.ro

https://www.en.wikipedia.org/

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NEW REGULATIONS OF THE LISBON-2009 TREATY ON THE COMMON SECURITY AND DEFENCE POLICY WITH AN IMPACT ON NATIONAL SECURITY

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The world is changing and Europe is facing an increasingly complex and uncertain security environment. There is a growing desire for the European Union to become more capable, more coherent and with greater strategic ambitions as a global player. The Union now has a number of tools that can help promote peace and security where needed. A comprehensive approach, however, would be a key asset in combating complex, multi-actor and multidimensional crises and security threats that are increasingly difficult to anticipate, today and tomorrow. The Lisbon Treaty provides an opportunity to strengthen the comprehensive approach to maximizing the effectiveness of the use of the variety of policies and instruments available to the EU, in a coherent and consistent manner, so as to address the full range of challenges, through preparedness and preventive action, through timely response and crisis management, including building, stabilizing and maintaining peace, through recovery, reconstruction and return to long-term development, where appropriate.

Keywords: treaty; politics; security; defence; tools.

A united, peaceful and prosperous Europe was the ideal that inspired the creation of the European Union. The starting point of the economic and political project of the Union, represented by the European Coal and Steel Community, marks the beginning of the idea of sustainable peace to end the bloody conflicts in Europe. Evolving from this point, a set of European objectives and values common to the member countries has emerged as an integral part of the European way of life.

Any action taken by the European Union shall be based on treaties which have been approved voluntarily and democratically by all Member States. The Treaties set out the objectives of the European Union and the rules of procedure of its institutions, as well as the decision-making procedure and the relations between the Union and its Member States. Over time, they have changed every time new Member States joined the Union or occasionally changed to reform the institutions of the European Union and give it new areas of responsibility. The last amending Treaty, the Treaty of Lisbon, entered into force on 1st December 2009. The previous Treaties are now integrated into the current consolidated version, which includes the Treaty on European Union and the Treaty on the Functioning of the European Union.

The main goal of the European Union is to promote peace, respect the values of the EU and improve the well-being of nations, and the European Parliament and other institutions ensure that these goals are achieved. In short, the objectives of the European Union [1] refer to:

- maintaining and strengthening the peace established between its Member States and its neighbors;
- bringing together European countries in practical cooperation;
- ensuring that European citizens can live safely;
- promoting economic and social solidarity;
- preserving European identity and diversity in a globalized world;
- promoting the values that Europeans share.

The decision-making process is broad and complex, based at EU level on various European bodies and institutions. The essential organizations in the functioning of this construction are, in particular, the following: the European Parliament, which represents European citizens and whose members are elected by the majority of citizens with the right to vote; The European Council, which

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consists of the Heads of State or Government of the Member States; Council of Ministers, representing the governments of EU member states; European Commission, which represents the interests of the Union as a whole. The principle of separation of powers is also present in the organizational structure of the Union, schematically represented in Figure 1.

aimed at strengthening Europe's military and civilian crisis management capacity”[4]. By adopting a common security and defence policy, the Union intends to act as a worthy regional and global player.

For the most dynamic development, the EU has integrated all its efforts in the field of defence by adopting the European Security Strategy,

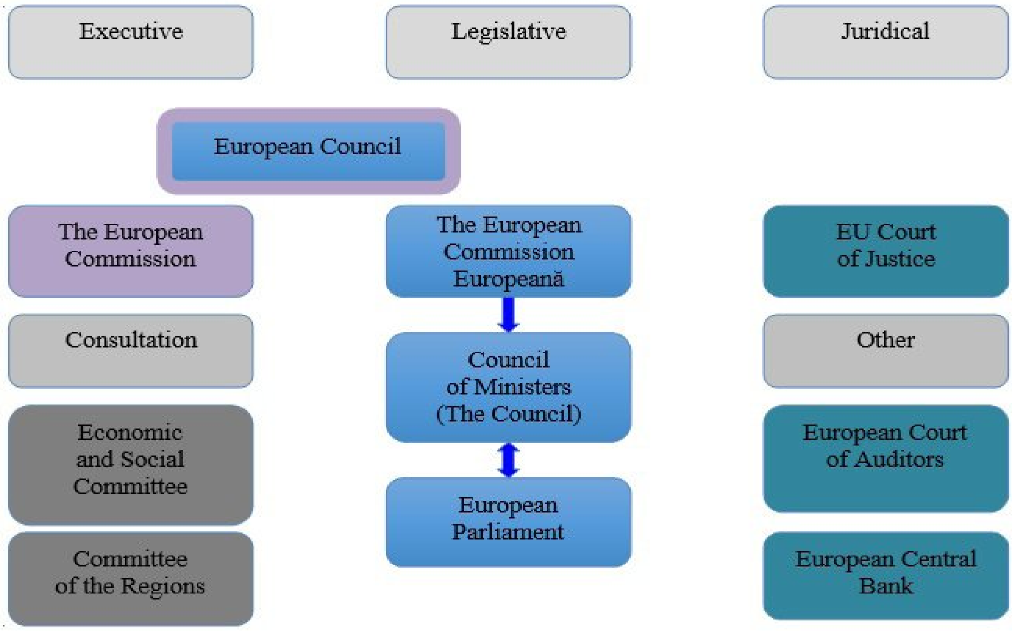

Figure 1 *Structures and institutions - overview*[2]

European policy and common security and defence policy

The Common Security and defence Policy (CSDP) is an integral part of the Union's Common Foreign and Security Policy (CFSP). The Treaty on European Union (TEU) provides the framework for funding and provides, for the first time in Europe's turbulent history, provisions on the common security and defence policy as well as protocols and declarations setting out the special role of the European institutions in this field in connection with national elements.

According to the concept launched by Karl Deutch[3], the European Union is already a ”security community, in which the specter of war between states has disappeared”, even if, he said, ”Europeans do not realize their aspiration for political union”. Thus, the European Common Security and defence Policy, as a separate special branch of the Common Foreign and Security Policy, laid the foundations for ”economic, diplomatic and political mechanisms establishing, for the first time in 2003, clear objectives and principles for promoting security interests, with the strategic goal of having control over European and international security, by converging the assumed intentions of the Member States of the Union. Subsequently, in 2016 the Union adopted a Global Strategy for Foreign and Security Policy based on ”A Common Vision, Joint Actions: A Stronger Europe”, through which it complements and reaffirms its objectives.

The Lisbon Treaty, through the provisions in the field of the Common Security and defence Policy, clarifies the achievement of enhanced cooperation between the Member States concerned, in particular through permanent structured cooperation. The solution proposed to ensure the necessary European action and coherence was the establishment of the post of the High Representative of the Union for the Common Foreign and Security Policy. It should be noted here that, despite the fact that the establishment of this post is in many cases assigned to the Treaty of Lisbon, this post is in fact established by the Treaty of Amsterdam, even though the title was slightly different and the responsibilities changed. The European diplomatic service also contributes to these actions, as well as solidarity and mutual defence clauses, already put into practice, which catalyze joint action for a range of threats such as terrorism, disasters of human or natural origin. The Treaty of Lisbon thus proposes, for the first time, significant changes in the field of the common security and defence policy, emphasizing the need to develop general EU capabilities and capabilities to intervene with one voice in the international arena to achieve the proposed objective.

At the same time, the Treaty of Lisbon provided the EU with the necessary legal basis for action in relations with third countries around the world, acquiring the necessary tools to leverage its economic, humanitarian, political and diplomatic strength to promote European interests and values worldwide, while respecting the specific interests of the Member States in the field of foreign affairs[5].

Through the role that the UE intends to hold at a global level, the Lisbon Treaty also addresses the issue of the Common Security and defence Policy, acknowledging that it is an integral part of the Common Foreign and Security Policy. ”The Common Security and defence Policy is an integral part of the common foreign and security policy. It provides the Union with an operational capability based on civilian and military means. The Union may use them in missions outside the Union to ensure the maintenance of peace, the prevention of conflicts and the strengthening of international security, in accordance with the principles of the Charter of the United Nations. The fulfilment of these tasks is based on the capabilities provided by the Member States”[6].

The institution referred to in the Treaty, which directly contributes to the implementation of the Common Security and defence Policy, is the European defence Agency, which is an institution under the authority of the Council, and participation in it is voluntary. The Agency’s responsibilities include helping to identify Member States’ capacity requirements; promoting harmonization in procurement as well as defence research; contributing to the identification and implementation of the necessary measures to strengthen the industrial and technological bases of the defence sector.

The Treaty addresses four relevant issues in the further evolution of ESDP:

• extension of the mission spectrum;
• solidarity clause;
• mutual defence clause;
• permanent structured cooperation.

Compared to previous treaties, the Treaty of Lisbon does not replace but reaffirms the commitments of the Amsterdam Treaty, which define common defense, extending the scope and range through Petersperg-type missions. Thus, in addition to the humanitarian rescue and peacekeeping missions or crisis management and peace enforcing missions introduced in Amsterdam, this time European security also targeted joint disarmament operations, support to third countries in combating terrorism and reform in the security sector, missions carried out by fighting forces. The Lisbon Treaty includes military advice, assistance and post-conflict stabilization, stressing that ”all these missions can contribute to the fight against terrorism, including support provided to third countries in the fight against terrorism on their territory”.

The solidarity clause is perhaps the most important and expected change brought about by the Lisbon Treaty. It reinforces the idea of union and provides that when one of the Member States is the subject of a terrorist attack or a natural or man-made catastrophe, the Union and the other States shall act together in a spirit of solidarity. ”The Union shall mobilize all means at its disposal, including the military resources provided by the Member States, to prevent the terrorist threat in the territory of the Member States, to protect democratic institutions and the civilian population against any terrorist attack”[7]. However, at the moment, in the context of the COVID-19 pandemic crisis, it is precisely this clause that is being questioned, with several European countries facing catastrophic health and social situations.

Through the concept of ”Mutual Defence”, the Union asserts its firm position as a security generator for the Member States through the mutual assistance clause in case of armed aggression. In practice, it is inspired by the provisions of Article 5 of the NATO Treaty, an organization with which it cooperates in the field of security, arguing that if one of the Member States were to be subjected to armed aggression on its territory, the other participating States provide aid and assistance through all available means, military and any other, in accordance with the provisions of the UN Charter. In order to implement closer cooperation on mutual defense, ”Member States shall act in close cooperation with the North Atlantic Treaty Organization, without prejudice to the specific nature of the defence and security policy of other State actors. The commitments and cooperation in this field will be in line with the commitments to NATO, which, for the European countries members of the Alliance, continue to be the foundation of their collective defense”[8].

At the same time, in order to maximize efforts in the field of CSDP, the Treaty of Lisbon introduces the concept of permanent structured cooperation in the fields of foreign and security policy, which seeks precisely to achieve the premises of closer cooperation between the Member States concerned.[9] It is based on Member States, which meet more advanced criteria in the field of military capabilities and are willing to make additional commitments to tackle the most difficult missions. Under these conditions, ”progress in the field of European Security and defence Policy will maintain some specific decision-making modalities, while facilitating enhanced cooperation within a smaller group of Member States”[10].

To ensure the development of security and defence policy, the European Union Institute for Security Studies (EUISS) has been set up in Paris. With its development, the body becomes the main contributor to specialist consultation by providing analysis and recommendations for security and defence policy and provides analysis and forecasts for the EU and the High Representative for Foreign Affairs and Security Policy. The main task of the institute is to create a global and systemic approach to defining and meeting European security and defence needs, to promote cooperation between EU Member States and last but not least to help the development and overall restructuring of the European security and defence industry.

Conclusions

The entry into force of the Lisbon Treaty represents an important moment in achieving the EU’s goal, through the European Security Strategy, which envisages transforming the Union into a global player in terms of international security. The provisions of the Treaty of Lisbon in the field of foreign and security policy seek to achieve enhanced cooperation between the Member States concerned, especially through permanent structured cooperation. The establishment of the post of High Representative of the Union for the Common Foreign and Security Policy ensures joint European action in these areas of high visibility and coherence. The Lisbon Treaty brings significant changes in the field of the common security and defence policy, with a particular focus on developing the EU ‘s overall ability to speak with one voice in the international arena in order to achieve its goal in this area.

At Member State level, in the context of some states being NATO members, we consider that the Union’s policy is without prejudice to the specific nature of a Member State’s security and defence policy, in accordance with the obligations arising from the North Atlantic Treaty for those Member States who consider that their joint defence takes place within the North Atlantic Treaty Organization (NATO) and is compatible with the common security and defence policy established within it. Romania, for the implementation of the Union’s common security and defence policy, provides civilian and military capabilities to contribute to the objectives defined by the Council. By ratifying this treaty, Romania has committed itself to gradually improving its military capacities and capabilities. The National Agency for the Development of Defence, Research, Procurement and Armament Facilities identifies operational needs, promotes the necessary measures to meet them, contributes to the identification and, where appropriate, the implementation of any measures useful for strengthening the industrial and technological base in the defence sector, participates in the definition of a European armaments policy by supporting the Council in assessing the improvement of military capabilities[11].

Thus, it can be considered that the Lisbon Treaty is the foundation of the new European dimensions for Romania as well, likely to lead to a significant increase in the efficiency of addressing issues of interest to all citizens, starting from the socio-economic dimension of the Lisbon Strategy and continuing with on the environment and energy, international terrorism, cross-border organized crime, asylum and immigration, as well as the growing position of the European Union as a major international player in the context of globalization. With its entry into force, through its elements of innovation, the Treaty contributes, to a significant extent, to strengthening the democratic legitimacy of the Union and the European decision-making process, to strengthening the role of international actor, national parliaments becoming, in turn, important actors for the consolidation of the community construction, and the citizens being offered the possibility to get involved in the decisions that concern them.

NOTES:

1 Fontaine Pascal, *Europe in 12 lessons*, European Commision, Publications Office of the European Union, Luxembourg, 2017, p. 5.

2 [Directorate for European Affairs DEA], *The European Union,* Swiss Confederation, 2018, p. 24.

3 K.W. Deutsch, *The analysis of international relations*, Prentice Hall, USA, 1988, p. 256.

4 *European Union Foreign Security and Defence Policy: basic documents*, Romanian Institute of International Studies ”Nicolae Titulescu”, Bucharest, 2003, p. 49.

5 https://dreptmd.wordpress.com/teze-de-an-licenta/politica-externa-si-de-securitate-comuna-dusa-de-catre-statele-membre-ue-prin-prisma-prevederilor-tratatului-de-la-lisabona/, accessed on 13.05.2020.

6 *Tratatul de la Lisabona de modificare a Tratatului privind Uniunea Europeană şi a Tratatului de instituire a Comunităţii Europene*, art. 28 A, alin. 1, https://ec.europa.eu/commission/sites/beta-political/files/reflection-paper-defence_en.pdf, accessed on 13.05.2020.

7 Gabriel Naghi, ”Tratatul de reformă al UE (Lisabona) – moment important în afirmarea uniunii ca actor global în securitatea internaţională”, *Perspectivele securității în Europa*, Vol. II, ”Carol I” National Defence, Bucharest, 2009, p. 116, http://www.europedia.moussis.eu/books/Book_2/3/8/2/3/?all=1, accessed on 13.05.2020.

8 *Consolidated texts of the EU Treaties as amended by the Treaty of Lisbon*, https://assets.publishing.service.gov.uk, accessed on 12.12.2019.

9 Prof. Deirdre Curtin, PhD & Ige Dekker, PhD, *The European Union from Maastricht to Lisbon Institutional and Legal Unity out of the Shadows*, 2010 p. 14.

10 Gabriel Naghi, *op.cit.*, p. 116.

11 http://www.en.pollub.pl/files/17/attachment/106_Treaty on European Union.pdf, accessed on 13.05.2020; http://www.hamangiu.ro/upload/cuprins_extras/tratatele-uniunii-europene-actualizat-26-octombrie-2017-extras.pdf, accessed on 10.05.2020.

REFERENCES

*** *Tratatul de la Lisabona de modificare a Tratatului privind Uniunea Europeană şi a Tratatului de instituire a Comunităţii Europene*.

[Directorate for European Affairs DEA], *The European Union,* Swiss Confederation, 2018.

[Romanian Institute of International Studies ”Nicolae Titulescu”], *European Union Foreign Security and Defence Policy: basic documents*, Bucharest, 2003.

Prof. Curtin Deirdre, PhD & Dekker Ige, PhD, ”The European Union from Maastricht to Lisbon Institutional and Legal Unity out of the Shadows”, *SSRN*, 2010.

Deutsch K.W., *The analysis of international relations*, Prentice Hall, USA, 1988.

Naghi Gabriel, „Tratatul de reformă al UE (Lisabona) – moment important în afirmarea uniunii ca actor global în securitatea internaţională”, *Perspectivele securității în Europa*, vol. II, ”Carol I” National Defence University Publishing House, Bucharest, 2009.

Pascal Fontaine, *Europe in 12 lessons*, European Commision, Publications Office of the European Union, Luxembourg, 2017.

https://eeas.europa.eu/

https://dreptmd.wordpress.com/

https://ec.europa.eu/commission/

http://www.europedia.moussis.eu/

https://assets.publishing.service.gov.uk

http://www.en.pollub.pl/

http://www.hamangiu.ro/

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THE ROLE OF EUROATLANTIC SECURITY ORGANIZATIONS IN PREVENTING AND COUNTERING THE EFFECTS OF ARMED CONFLICTS NEAR THE EUROPEAN AREA

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Addressing current conflicts of any kind, whether conventional or unconventional, symmetric or asymmetric, classical or hybrid, can only be adequately achieved through synergistic action with international participation. Implicitly, the effects generated by conflicts, whether they are of social, economic, legal, military or any other nature, also require a collaborative, conjugate action. Cooperation in the field of counteracting the effects of conflicts has gained increasing importance in recent years, determined by the dynamics and complexity of the international security environment and the need for combined approaches. The involvement of Euro-Atlantic organizations in conflict resolution and mitigating their effects are based on ideology, adherence to a set of common rules, principles and interests, without which the current developments in the security environment and relations among states could not be explained. However, the export or import of the security is generally carried out within the same family. Involvement develops starting from the establishment of common, convergent objectives of the partners, but based on strategic interests of each actor involved. The efficiency of the cooperation of Euro-Atlantic security organizations in countering the effects of conflicts in the vicinity of the European space is an essential element in ensuring the continuity and consolidation of the European Union.

Keywords: security; conflict; prevention; cooperation; effect.

Armed conflicts are a mirror of regional and global trends. The relations among the great powers, the magnitude of the competition among them and the intensity of the ambitions of the regional actors are often translated into conflicts and reflect how they break out, unfold and are resolved. In most cases, these conflicts either highlight issues that the international community is obsessed with or those that it is indifferent to. When we refer to the regional level, especially to the European space, we notice that today, these conflicts tell the story of a system caught in the spiral of fundamental changes and regional leaders are both encouraged and frightened by the challenges that such a spiral offers it. Conflicts in the vicinity of Europe, from Asia to Africa, are a constant concern of the leaders of the Euro-Atlantic area, both in terms of the fact that they can affect economic, political and military relations, and in the fact that they can export instability to Europe by the large number of immigrants.

Euro-Atlantic organizations have an important role to play in resolving international disputes, but especially with focus on those in the vicinity of Europe. The close link with the UN in terms of regional peace and security policy has become an essential condition, as an effect of globalization. They are called upon to regulate balance local or regional disputes on the basis of the UN Charter, which requires the Security Council to encourage the peaceful settlement of local disputes through international regional organizations, either at the initiative of Member States or by the Security Council. Therefore, regional international organizations have an obligation to act and to inform the Security Council of their actions in order to maintain international peace and security. The UN Charter through the special chapter which provides for the peaceful settlement of international disputes, establishing in art. 33 the obligation and the means of peaceful settlement of disputes, gives legitimacy and consistency to the actions taken by Euro-Atlantic organizations in the various situations in which they have intervened[1].

Armed conflicts in the vicinity of the European space

The limits of cooperation in the field of regional security depend to a large extent on the contribution and political will of the states. The tragic events in

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the Balkans have opened new paths for European states to take on security issues[2]. The own interests of states which are not motivated to cooperate in an allied format may constitute impediments. The lack of services, capabilities or resources to meet NATO requirements does not make cooperation impossible. NATO integrates the contribution of 30 members, and what one of the members cannot offer is offered by another, thus ensuring a complementarity of efforts. Even a synthetic analysis and a selective approach to conflicts can provide us with conclusive information about the efforts that can be generated by a conflict, starting from the idea of a cause-effect-response approach.

For example, the *Georgia Conflict* (South Ossetia and Abkhazia), frozen since the early 1990s, took a new turn in late summer 2008. The separatist movements in the two provinces, South Ossetia and Abkhazia, were initially considered a Georgia's internal problem, overnight, becomes an issue of global interest that will produce important changes in international relations. The implications from the directly involved Washington to Moscow became obvious. At that time, the mediation of the conflict did not find a sense of finality or achieve a result in an international forum, therefore, it was necessary to hire a third actor. America, through its then president, George Bush, was determined not to let the Russian-Georgian confrontation escalate into a Cold War-type Russian-American confrontation. Therefore, the United States took on an active role in resolving the crisis, but only by providing political support for mediation behind the curtain.

The role of mediator was assumed by the then President of France, Nicolas Sarkozy, who was in Beijing, along with other world leaders, including Russian Prime Minister Vladimir Putin, at the opening of the Olympic Games. The attempt to mediate the conflict was met with opposition from Putin, with the French president realizing that the Russian leader did not intend to end the conflict in that situation but was prepared to teach Georgian President Mikhail Saakashvili a lesson. The role of mediator of the European Union, through the direct mediator in the person of the President of France, Nicolas Sarkozy, who held the rotating presidency of the European Union was a limited success, keeping open the line of negotiation but failing to avoid total loss of life.

From a NATO perspective, it seems that Georgia was the perfect and preferred place where Russia gave a firm response to the expansion of the Alliance. More than a decade after the end of the conflict, the authorities' attempts to join NATO and the EU continue to face opposition from Russian officials, with Dimitri Medvedev saying in 2018 that a possible decision to integrate Georgia into NATO could have disastrous consequences, expressing the hope that the leaders of the Alliance will have enough intelligence not to take steps in this direction[3]. So for now, only the dialogue remains open.

Most of the solutions proposed by the Association Agenda for the resolution of frozen conflicts are developed along the same lines as long-term solutions, in which the maintenance of constructive participation and support from the EU, the UN and the OSCE, in our case agreed in the Geneva identifying concrete ways to involve representatives of Abkhazia and South Ossetia in deepening EU-Georgia relations, intensifying contacts with the people of the two separatist republics for reconciliation and concrete measures to encourage travel, investment and trade across the administrative border.[4]

The *conflict in Syria* began with the Arab Spring, in 2011, first expressed through several demonstrations across the country. Even if the protesters were severely punished by the regime, the repression of the peaceful movement only intensified and spread the protest. According to Western intelligence services, those responsible for degenerating the peaceful protests into a violent conflict were Syrian rebels and members of the Al-Qaeda network.

The violence would have allowed the regime to regain legitimacy by stopping brutality. After the involvement of the Al-Assad regime, which accused the demonstrators of being Sunni terrorists, from the escalation of the conflict until the evolution towards the 2012 civil war there was only a step. The conflict evolved in the form of local wars between the army and the opposition for the occupation of certain cities and neighborhoods. The lack of journalists and international presence made it difficult to accurately assess the circumstances in Syria, a country of strategic importance to several countries, both in the Middle East and beyond. Thus, various powers, each with its own agenda, provided support to either the official regime or the rebels. Currently, the Al-Assad regime, with the support of the Russian Federation, has managed to regain control of Syria in large part, annihilating ISIS forces in Syria[5].

However, the worst thing is that from a humanitarian point of view the situation is critical. In addition to crimes against humanity, from the abduction and killing of civilians to widespread massacres, the war has forced some 2.8 million people to flee abroad, from Jordan, Turkey or Iraq to Europe, while a triple number of refugees seek to survive inside the borders.

In this context, the United Nations Security Council is paralyzed by the conflict, perhaps due to the fact that Russia and China have vetoed three times against an intervention resolution. Therefore, both Europe and NATO are somewhat reserved about the conflict, its effects now being exported across borders, the most affected country being Turkey, a NATO member country. Thus, the EU has adopted the diplomatic route, trying to achieve a dual game, more precisely, on the one hand not to affect too much the partnership with NATO, and on the other hand to be reserved in relation to Turkey, knowing that there is a great need of stability at the south-eastern border of the union. Instead, NATO expresses its solidarity with Turkey and seeks a solution to the conflict, using consultations on Article 4 of the Treaty[6], after Turkey suffered losses following the conflict, and calls on the parties to return immediately to a ceasefire. Although the situation is far from resolved, the attention paid to the region can avoid further aggravation of the situation and allow humanitarian access.

The 2011 *Libyan Civil War* began as a series of protests and clashes in the North African state against Muammar Gaddafi, Libya's 42-year-old leader. Most nations strongly condemned the use of force against civilians. The United States imposed sanctions on Gaddafi. The UN Security Council adopted a resolution freezing the assets of Gaddafi and 10 other members of his circle entourage. The resolution also imposed a travel ban and referred Libya to the International Criminal Court for investigations. Despite UN efforts, a substantial step towards normalizing the situation has not yet been achieved. The latest action plan to resolve the crisis, announced by the UN envoy to Libya on September 20, 2017, faced a lot of obstacles, which raises the question of whether it will ever be successful (the initial deadline was the end of 2018, long overdue).

After NATO contributed militarily to the victory of various heterogeneous armed groups against dictator Muammar Gaddafi eight years ago, Libya is today a failed state in which the authority of the internationally recognized government is reduced to the capital Tripoli, surrounded by Khalifa Haftar's troops, while the east of the country is controlled by the latter, and many armed groups are vying for supremacy and are financed by smuggling operations, especially trafficking in migrants seeking to reach Europe[7].

Even if the situation in the *Crimean Peninsula* is not an eloquent example of armed conflict, the annexation of Crimea by the Russian Federation is also a historic event, with a major and direct influence on the Euro-Atlantic area, which, according to some analysts, marks the transition from the ”post-Cold War” period to a more difficult, multi-polar one in which the new powers, including Russia, are exerting increasing geopolitical influence.

The security environment in the Black Sea basin has deteriorated significantly, with 2014 marking a turning point in recent post-Soviet history, a reaffirmation of Russia's claims to former areas of influence, supported by an accelerated arms process focused on modernizing the strategic nuclear arsenal one hundred percent by 2020. Russia justifies the annexation of Crimea on the basis of the fundamental democratic principle, the right of peoples to self-determination but also for historical reasons, including the precedent of Kosovo.

The centrifugal tendencies of the former Soviet states to move out of Moscow's sphere of influence have generated a prompt military reaction from Russia, with profound implications not only for the Black Sea area but also globally. The invasion of Crimea by Russia and its accelerated militarization pose a major threat to Europe's security environment, by extension, forcing the reshaping of security strategies on the European continent. The prospect of deploying nuclear weapons on the peninsula jeopardizes the negotiation process in order to restore a climate of mutual trust between the two blocs of power, namely NATO and the Russian Federation. Russia does not seem willing to lose control over Ukraine in the medium and long term, so the area foreshadows the establishment of a ”cold front” between NATO and Russia, which, unfortunately, has Romania on the demarcation line.

All these conflicts briefly described above represent humanitarian crises, usually characterized by: prolonged violence and loss of life; massive population movements; the disaster is transmitted to society as a whole and to the economy; the need for humanitarian assistance in many forms and on a large scale; obstacles or impediment of humanitarian assistance by military and political constraints; very high security risks for those providing humanitarian assistance in certain areas[8]. If for the natural phenomena measures can be applied to prevent or limit the negative consequences, in the situation of humanitarian crises, caused by armed conflicts or only by the human factor, the situation is more dramatic.

For extreme violence in armed conflicts, civilians are the ones who pay the ultimate price, either with their own lives or by abandoning their homes for a life in exile. Increasingly, armed conflict, epidemics, famine, natural disasters and other major emergencies can all lead to humanitarian crises that go beyond the mandate or capacity of a single international entity or state to intervene.

In order to be able to assess the extent to which Euro-Atlantic security organizations effectively and efficiently address and resolve the multiple issues on their agenda, we need to consider the ongoing changes in the security environment and, consequently, the challenges they face. Political leaders in the Euro-Atlantic area today face a complex problem: on the one hand citizens want the authorities to find solutions, on the other hand their trust in institutions is limited[9].

During the Cold War, major threats to state security were perceived to be particularly external in nature, and even when internal problems arose, they were often blamed on external challenges. The state of security was defined as a security of the state. In this context, the internal problems of the states were seen to have less to do with the policy of the state itself and with the errors of domestic policy, and more with the influence and support of ”extremist”, ”capitalist” or ”communist”, as the case may be. In fact, this vision was not entirely unmotivated, as rivalry and competition between superpowers led to an exacerbation of conflict in all components of social life. At the end of the Cold War, it turned out that, in fact the nature of the conflicts in the world in the late 1990s, was mainly internal in nature[10]. As a result, Euro-Atlantic organizations have become much more aware of this new situation and have begun to redefine the real causes of conflict.

As a result, some Euro-Atlantic organizations have managed to make progress in adapting their mandates while others have not. In order to be able to develop a new methodology for the prevention of intra-state conflicts, a deeper understanding of the causes of this distinct type of conflict was needed. The ideological approach specific to the Cold War had to be overcome and the ethnic and religious causes of the conflicts had to be studied. It has also been shown in practice that the type and quality of governance are directly related to the prevention of internal conflicts within states. Conflicts are less likely to break out where different identity groups have unrestricted access to opportunities for participation in political, economic and cultural life, as well as religious expression, and they have a better chance where these basic human needs are oppressed especially where some identity groups perceive that they are subject to discrimination and injustice, compared to other groups in the same society.

Conclusions

Promoting dialogue and cooperation are key elements in strengthening the efforts of Euro-Atlantic security organizations to respond effectively to the challenges of today’s security environment. There are no perfect solutions in international cooperation, just as there are no perfect solutions for managing crisis situations. It is difficult to reach consensus on directions of action, to level national priorities, but it is important for states to promote international cooperation within the framework of their own security interests and to intensify formal and informal cooperation, both bilaterally and multilateral, as complementary forms of cooperation.

Euro-Atlantic security organizations, as the main institutions that ensure the stability of the European space and its proximity, can cooperate to capitalize on experience, expertise and capabilities. The North Atlantic Alliance is the organization that offers perhaps the most effective framework for security consultations, dialogue and cooperation, and its potential can be further exploited by strengthening the key role in the security equation and ensuring civil-military synergy.

Human security refers to the need for an individual-centered approach to security, as the only way to achieve national, regional and even global stability[11]. Summarizing the analysis of the concept of ”human security” as the best foundation on which to base ”state security”, practice shows that states that are able to provide the highest level of human security to their population also have the highest level of state security but in a context of cooperation. The cooperative approach to security is based on four factors. The first involves efforts at the regional level to establish standards, norms and rules at the regional level, based on internationally recognized principles.

The second factor is the establishment of structures that encourage compliance with the rules established within those groups and to shape the behavior of those who initially tended to reject these standards. The third factor involves assisting states to meet their commitments. The fourth factor is finding solutions that lead to problem solving and annihilate differences in approach, both at the intra-state and interstate levels, before they generate conflicts. These methods of security through cooperation can generate constructive, gradual changes at regional level and can direct periods of rapid transition at transnational level. Thus, both the North Atlantic Alliance and the European Union must lay the foundations for this cooperation, by printing a flexible, practical dimension that responds effectively to common security interests.

NOTES:

1 *** *Carta Naţiunilor Unite*, art. 33.

2 Marius Valeriu Păunescu, *Sistemul Uniunii Europene în contextual cooperării civil-militare*, ”Carol I” National Defence University Publishing House, Bucharest, 2017, p. 98.

3 https://www.defenceromania.ro/georgia-zece-ani-de-la-razboiul-care-a-zguduit-caucazul_592830.html, accessed on 06.05.2020.

4 Cristina Bogzeanu, *Rolul Uniunii Europene în gestionarea conflictelor înghețate din vecinătatea granițelor sale*, ”Carol I” National Defence University Publishing House, Bucharest, 2015, p. 48.

5 https://www.historia.ro/sectiune/general/articol/conflictul-din-siria-lipsa-de-solutii-si-dezastru-umanitar, accessed on 13.05.2020.

6 https://www.nato.int/cps/en/natohq/opinions_173939.htm, accessed on 06.05.2020.

7 https://www.nationalisti.ro/bomba-noptii-incepe-razboiul-chiar-la-granita-europei-au-intervenit-trupele/, accessed on 13.05.2020.

8 https://www.humanitariancoalition.ca/info-portal/factsheets/what-is-a-humanitarian-crisis, accessed on 06.05.2020.

9 Constantin Iordache, *Politici ale Uniunii Europene pentru aplicarea normelor dreptului internațional umanitar*, ”Carol I” National Defence University Publishing House, Bucharest, 2017, p. 102.

10 K. Booth, T. Dunne (coordinators), *Worlds in Collision, Terror and the Future of Global Order*, Palgrave, Macmillan, 2005, pp. 1-26.

11 Alexandra Sarcinschi, *Operaţiile de stabilitate şi securitatea umană*, ”Carol I” National Defence University Publishing House, Bucharest, 2008, p. 7.

REFERENCES

*** *Carta Naţiunilor Unite.*

Booth K., Dunne T. (coordinators), *Worlds in Collision, Terror and the Future of Global Order*, Palgrave, Macmillan, 2005.

Bogzeanu Cristina, *Rolul Uniunii Europene în gestionarea conflictelor înghețate din vecinătatea granițelor sale*, ”Carol I” National Defence University Publishing House, Bucharest, 2015.

Iordache Constantin, *Politici ale Uniunii Europene pentru aplicarea normelor dreptului internațional umanitar*, ”Carol I” National Defence University Publishing House, Bucharest, 2017.

Păunescu Marius Valeriu, *Sistemul Uniunii Europene în contextul cooperării civil-militare*, ”Carol I” National Defence University Publishing House, Bucharest, 2017.

Sarcinschi Alexandra, *Operaţiile de stabilitate şi securitatea umană*, ”Carol I” National Defence University Publishing House, Bucharest, 2008.

https://www.defenceromania.ro/

https://www.historia.ro/

https://www.nato.int/

https://www.nationalisti.ro/

https://www.humanitariancoalition.ca/

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SIMPLIFICATION, EFFECT OF THE CRITICAL THINKING, IN THE CONTEXT OF CONTINUOUS TRANSFORMATION AND CHALLENGES OF THE NATIONAL DEFENCE SYSTEM

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The general aspects of the transformation, as well as the continuous challenges, generated by the dynamic evolution of the national defence system, represent the thematic context, meant to substantiate and to particularize this article. Moreover, our analysis focuses on multiple perspectives specific to the transformation of the national defence system, as well as the way in which the Romanian Army goes through this period of renewal, meant to preserve its viability and give it recognition as an army corresponding to the Euro-Atlantic security environment.

Also, starting from the idea of simplification, as an effect of critical thinking, we will formulate and present a new vision on the importance of critical thinking as the root of the decision-making process.

In this context, the purpose of our scientific approach is to present the concept of critical thinking, by appealing to a number of its definitions, found in the specialty literature, and to emphasize a strategic advantage offered by it, namely that, whenever we want to understand a factual situation or to undertake a complex, difficult action, we must approach it with simplicity, but also with a critical, innovative spirit.

Keywords: simplification; critical thinking; national defence system; transformation; OTAN; EU.

The *national defence system* has to be permanently prepared for the current and future transformations and challenges. *Transformation*, in the *military sector*, is a multidimensional process, which nevertheless generates a series of vulnerabilities at the level of the national defence system. Moreover, the process of change is influenced and depends, both by and on the internal state factors, such as the national economy and the political decision, as well as on external factors, such as the international political and military dynamics.

In this context, it can be easily noticed that such transformations must not take place chaotically, but be the result of a process aiming at fostering efficiency and flexibility, as well as at permanently ensuring the continuity and opportunity of the leadership at all levels[1].

In all this process of *reshaping the national defence system*, of real use prove to be the people who use *critical thinking* and who are, thus, able to ask pertinent questions and to evaluate arguments, who are interested in identifying new solutions, listening carefully to others before expressing their opinion, and who are, also, able to correct their opinions when they identify elements that partially or totally invalidate their point of view.

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Conceptual delimitations and possible thematic connections

Regarding the operational definition of the *critical thinking* concept, we initiate the scientific approach by presenting its evolution in time. Thus, the concept started to be more and more often employed and developed in the second half of the 20th century and, in the contemporary period, has become a topic of notoriety.

The first use of the concept of *critical thinking* seems to date back in 1941, in a course, *An Experiment in the Development of Critical Thinking* by Edward Glaser, the well-known author of one of the most widely used *critical thinking test*, *Watson-Glaser Critical Thinking Appraisal*. According to Glaser, "critical thinking is a name for the continuous effort to examine any belief or any supposed form of knowledge in the light of the evidence it is based on and, moreover, of the conclusions it is directed towards"[2].

In our approach, we shall also consider other definitions, developed in the specialiuzed literature, such as: "critical thinking is the art of analysing and assessing judgment in order to improve it"[3]; critical thinking is a continuous process of understanding, questioning, observing, analysing and formulating judgements”[4]; “critical thinking is the discipline to use rigorously and skilfully information, experience and reasoning for guiding your decision, actions and beliefs”[5].

Critical thinking is, first of all, a tool used in designing new opinions. Particularly, it is used by leaders, managers, commanders, those who, in order to accomplish the mission or the set objectives, choose the best action by employing this tool, which facilitates the making of correct decisions among a series of means and possibilities, helping them solve the problems they confront, starting directly from the cause.

Therefore, from all these definitions, presented above, we understand that the concept of *critical thinking* involves the capacity to act argumentatively in solving problems, employing clear reasoning, result-based thinking, relying on the analysis of all the available and relevant information, which the decision-making factors must have, so as to propose optimal solutions in order to solve community issues, and so as for the result and the manner of solving such problems not to generate new, additional, more complex and more serious problems than the initial ones. Thus, considering, on one hand, that the *critical thinking* is the result of open, clear judgement and, on the other hand, the fact that dynamic processes constantly take place throughout the world, it becomes evident, in this context, that there is a possibility to identify, by appealing to the methods and procedures specific to this concept, optimal solutions, including the management of new risks and vulnerabilities to national defence.

Besides, as a result of a general reflexion on the adequate role of the *critical thinking*, we can reach in time the reliable conclusion that, in spite of its rich history, this concept, which has constantly developed, keeps, at present, its character of novelty, which enjoys paradoxically a real, more and more important success.

The concept of *critical thinking* represents, in equal measure, the capacity to analyse, produce new ideas, to formulate opinions and to assess the arguments for the purpose of solving problems.

Regarding the second concept of the topic of this article, *transformation*, it is defined as *a process that allows the support of strategic interests*. The drive of the transformation is the context of the changes that occur in the society, the turn from the industrial age to the information age, the changes in the characteristics of war, as well as the asymmetric threats. The answer, from the technological point of view, is channelled towards ensuring a high level of availability in terms of information technology. As a consequence, there are essential changes in the context of security, military, departmental strategies, as well as of the strategies approaching risks and threats management[6].

The national defence system comprises: the leadership, the forces, the resources and the territorial infrastructure[7].

In this context, we consider it appropriate also to recall the fact that, in the last 31 years, i.e. after 1989, the national defence system has gone through a series of major political, economic and social changes, as a result of the evolution of the security environment and of Romania joining NATO and the EU. NATO as well as the EU concepts are the basis for *the transformation of the national defence system*, for modernization and for ensuring stability. However, at present, the transformation process is not completed, but is continuously changing, in order to build up the new security architecture.

The transformation of the national defence system, thus, takes place permanently both at organizational level and at the level of the forces and capabilities structure, considering the necessity to develop modern, adequately equipped, mobile, interoperable forces, capable of self-support and multidimensional protection, with a flexible and efficient command and control system. *The process is systemic and interdisciplinary, taking place on a medium and long term, by efficiently using the available resources*[8].

The process representing the foundation of the army transformation and modernization is the *defence planning*, a process that includes the *totality of the programmes, actions and measures initiated by Romania for the identification, development and preparation of the military and non-military capabilities required to carry out the missions and to implement the defence objectives*, for the following purposes: the fulfilment of the obligations arising from the *Constitution of Romania* and from the relevant legislation; fulfilment of Romania’s obligations in terms of ensuring the collective security and defence within

NATO; ensuring the participation of Romania to the *Common Security and Defence Policy of the European Union*; fulfilling the commitments in the context of international military cooperation in the defence sector with other states and fulfilling the obligations arising from the participation to the activity of other international organizations, as well as in other situation regulated by the international norms, as stipulated by law[9].

There have been substantial changes along the years in the very physiognomy of the forces system and other will, certainly, take place in the future.

Another part of the national defence system transformation process is the *integrated management of the defence resources*: the management of the human resources, the management of the financial resources, the management of the defence procurement, the management of the research-development and innovation system, the management of the defence infrastructure[10].

Regarding the third concept specific to this article, *simplification*, it is necessary to mention that *this process may have a positive impact on the results*, Romania playing a key role in ensuring it. Yet, experience shows us that sometimes there can be errors. The experience of the Romanian Armed Forces, in this direction, is capitalized through a critical approach of the military practice and thinking. The sharing of knowledge with other member states, as well as the training of staff, significantly contribute to the success of *the simplification of the national defence system*. The simplification actions are going to aim at an integrated approach for legislative and organizational point of view, in close correlation with the measures taken at European level, so as the useless administrative barriers might be progressively removed. In this process, obviously, we consider *critical thinking* to be a real benefit, through its simplification tools, designed to facilitate knowledge, in the first stage of the process, and, then, to provide to the people involved solutions for managing actions or measures needed to be implemented.

In this context, by referring to the etymology of the term, which leads us to the Greek word *kritikos*, which means *judgment that divides in two*, so that the information can be placed in clear categories (true or false), thus eliminating confusion, the logical relationship between the concept *critical thinking* and *simplification* becomes obvious. In other words, *simplification* is a consequence of *critical thinking*, a consequence that can have a positive impact on the results of actions taken or on the formulation of solutions.

Conclusions

The society is constantly going through stages of transformation, adaptation, modernization and development, meant to give it the opportunity to manage permanent challenges. The military institution is also going through this evolution, of course, and it is in a constant process of progress, innovation and adaptation.

In this article, we have highlighted the opportunity for leaders, whether political or military, to use methods and tools specific to *critical thinking* – as effective means to achieve performance or to apply them in the transformation process. We also pointed out that the term *critical thinking* has recently gained recognition as a recommended solution for solving, through specific techniques and procedures (*brainstorming, predictions based on key terms, deductions and inductions, analyses, comparisons,* etc.), problems, in different fields. By default, *critical thinking* can be used, successfully, in the dynamic and complex process of *transforming the national defence system*.

The changes which take place at the level of the military organization involve modern management procedures, the accumulation of new skills and new specialized knowledge. That is why the use of *critical thinking*, to facilitate and to ensure the success of *the transformation process* (by real knowledge of the particularities and by analysis all possible solutions), is a strategic advantage. In other words, by appealing to *critical thinking*, the processes and actions needed to take place in *the transformation*, *planning* or in the *management of defence resources* can be supported. Specifically, by *simplifying* different cases, specific information, *as a result of applying the tools of critical thinking* (*analysis, induction, deduction, synthesis, comparison, interpretation, observation,* etc.), depending on the context and needs, leaders / decision makers can make the best decisions, much faster and easier.

In this way, considering the fact that the process of transforming the Romanian Army is a continuous one and it represents a strategic priority (”Implementing the program provisions regarding the transformation, development and endowment of the Romanian Army until 2027 and in perspective”[11]), critical thinking becomes useful and relevant, both for this process and for the management of the continuous challenges of the national defence system.

Critical thinking thus represents an important element which ensures that success of a state, in a period when the information changes rapidly, offering different perspectives, arising from the complexity and dynamism of the national defence system. Through the abilities of the leadership factors and the responsibilities assumed in full awareness and in a reasonable manner, at all the hierarchical levels of the army, a dynamic balance, ensuring the stability of the system has been preserved during the change process.

Another conclusion, highly relevant for our approach, is formulated by professor Dumitru Iacob. We shall also resort to it: ”(...), an extremely simple idea may be formulated, an idea that works with the force of an imperative: when you face a problem and try to find and promote a solution for such a problem, look carefully at the context of the problem and of the solution; the highest risk in a moment like this is to solve the problem concerned, through the foreseen solution, but to generate other problems, more numerous and more serious than the problem solved, through the nature of the solution and through the manner of solving the problem”[12].

At the same time, considering the diversity of experiences and differences, existing at the level of the national defence system, it has become clear that what may be considered at *simplification*, in some member states, may be regarded as arduous and difficult in other states.

In order to have a clear image of *the transformation process*, the Romanian Armed Forces has to be involved directly, through its specific means, in supporting the stability and security in Europe.

The *operationalization of the Romania Armed Forces* is an essential component, based on a series of legislative and programmatic documents, such as: *Blank Charter of Defence*, *Law on the National Defence of Romania no. 45/1994 (updated)*, *Romanian Armed Forces Transformation Strategy*, *National Defence Strategy of the Country for the period 2015-2019 – A strong Romania in Europe and worldwide*[13].

Thus, operationalization is essential given the fact that the Romanian Armed Forces have become a modern and credible, strong force, trained and developed in compliance with the NATO standards, and Romania has proven a loyal partner of the Alliance, a serious ally. In this context, our country is required also to continue the process of strengthening its own armed forces and to pay special attention to the modernization and equipment of the armed forces, by modernizing the existing military equipment, as well as by procuring new one.

Even if a military crisis involving Romania is unlikely, there is a possibility for such a threat to emerge. Therefore, the national defence system must be consolidated, with military technology and personnel, in order to act rapidly in case of such confrontation, to face major changes and to adapt efficiently to the changing character of the current security environment.

The political and military alliance has adapted to the security evolutions, strengthened its reaction capabilities, consolidated its defence and deterrent position and represents, at present, a pillar of stability for Romania. In turn, our country is an active partner, a strong and reliable NATO ally, continuing to take all the responsibilities within the Alliance, being a solid Euro-Atlantic provider of stability and security.

The measures that the budgetary construction relies on, in the current known circumstances, i.e. a limited budget for the national defence system, lead to the hypothesis that those who run the transformation process, the decision-making factors, must prove excellent skills and abilities, be good managers, succeed in correlating the allocated financial resources with the national defence priority objectives and, mainly, with the human resource of the army, with a focus on the quality of the professional training of the military and civilian staff.

In order to summarize the essential aspects regarding the hypothesis formulated, which was the basis of this article, simplification, as an effect of critical thinking, in the context of the transformation and continuous challenges of the national defence system, we shall conclude by resorting again to the information presented in the book of professor Dumitru Iacob, *Changing War and Peace. National Defence – New Risks and Vulnerabilities*, and, more specifically, to an invitation to introspection, using the critical thinking tool: ”What would the Romanians do? The Romanians could, and should, clean their house, garden, front door and street. They should keep their household in good conditions and be hardworking in cities. For this, the teachers of the community, the schoolteacher and the priest, are expected to cooperated for the well-being of the community …”[14].

NOTES:

1 Anghel Andreescu, Gheorghe Toma, Vasile Marin, George Gârceavă, Gheorghe Jilavu, Sandu Crintea, Eugen Laurian, *Strategia apărării totale. Prezent și viitor*, Artprint Publishing House, Bucharest, 1999, p. 13.

2 Gheorghe Clitan, *Gândire critică. Micromonografie*, Eurobit Publishing House, Timișoara, 2003, p. 27.

3 Richard Paul, PhD, Linda Elder, PhD, ”The Miniature Guide to Critical Thinking. Concepts and tools”, *The Foundation for Critical Thinking*, https://www.criticalthinking.org/files/Concepts_Tools.pdf, accessed on 10.05.2020.

4 *** *Critical Thinking: Developing Skills for Succesful Thinking*, https://www.mindtools.com/ pages/article/newTED_95.htm, accessed on 10.05.2020.

5 *Ibidem*.

6 [Ministry of National Defence], *Romanian Armed Forces Transformation Strategy*, Chapter 1, Bucharest, 2007, https://www.mapn.ro/programe_strategii/, accessed on 11.05.2020, p. 4.

7 *** *Law on the national defence of Romania no. 45*, on July 1, 1994, updated, art. 6, https://www.legisplus.ro/Intralegis6/oficiale/afis.php?f=168143&datavig=2020-05-14&datav=2020-05-14&dataact= &showLM=&modBefore =, accessed on 14.05.2020.

8 [Government of Romania], *Carta albă a apărării*, Capitolul 4, *Principalele direcții de dezvoltare a capabilităților de apărare*, Chapter 4, Bucharest, 2017, p. 42.

9 *** *Law no. 203, on July 16, 2015, concerning defence planning*, art. 1, para. (2); https://dpap.mapn.ro/app/webroot/fileslib/upload/files/Planificare%20apararii/Legea_203-2015.pdf, accessed on 14.05.2020.

10 [Government of Romania], *Carta albă a apărării*, Chapter 5, *Politicile privind managementul integrat al resurselor de apărare*, Bucharest, 2017, p. 47.

11 https://www.gov.ro/fisiere/programe_fisiere/MApN_Plan_strategic.pdf, accessed on 03.06.2020.

12 Dumitru Iacob, *Pacea și războiul în schimbare. Apărarea națională - noi riscuri și vulnerabilități*, Tritonic Publishing House, Bucharest, 2017, p. 138.

13 [Presidential Administration], *Strategia Națională de Apărare a Țării pentru perioada 2015-2019 - O Românie puternică în Europa și în lume*, Bucharest, 2015, https://www.presidency.ro/files/userfiles/ Strategia_Nationala_de_Aparare_a_Tarii_1.pdf, accessed on 12.05.2020.

14 Dumitru Iacob, *op cit.*, p. 83.

REFERENCES

*** *Law on the national defence of Romania no. 45 on July 1,* 1994 (updated), https://www.legisplus.ro/Intralegis6/oficiale/afis.php?f=168143&datavig=2020-05-14&datav= 2020-05-14&dataact= &showLM=&modBefore=

*** *Law no. 203, on July 16, 2015, concerning defence planning*, https://dpap.mapn.ro/app/webroot/fileslib/upload/files/Planificare%20apararii/Legea_203.2015.pdf

[Presidential Administration], *Strategia Națională de Apărare a Țării pentru perioada 2015-2019 – O Românie puternică în Europa și în lume*, Bucharest, 2015, https://www.presidency.ro/files/userfiles/Strategia_Nationala_de_Aparare_a_Tarii_1.pdf

[Government of Romania], *Carta albă a apărării*, Bucharest 2017.

[Ministry of National Defence], *Romanian Armed Forces Transformation Strategy*, Bucharest, 2007, https://www.mapn.ro/programe_strategii/

Andreescu Anghel, Toma Gheorghe, Marin Vasile, Gârceavă George, Jilavu Gheorghe, Crintea, Sandu Laurian Eugen, *Strategia apărării totale. Prezent și viitor*, Artprint Publishing House, Bucharest, 1999.

Clitan Gheorghe, *Gândire critică. Micromonografie*, Eurobit Publishing House, Timișoara, 2003.

Iacob Dumitru, *Pacea și războiul în schimbare. Apărarea națională – noi riscuri și vulnerabilități*, Tritonic Publishing House, Bucharest, 2017.

Paul Richard, PhD, Elder Linda, PhD, ”The Miniature Guide to Critical Thinking. Concepts and tools”, *The Foundation for Critical Thinking*, https://www.criticalthinking.org/files/Concepts_Tools.pdf

https://www.gov.ro/fisiere/programe_fisiere/MApN_Plan_strategic.pdf

https://www.mindtools.com/ pages/article/newTED_95.htm

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MODELING AND CONSTRUCTION OF THE NEW PARTNERSHIP AGREEMENT, FOR THE NEXT PROGRAMMING PERIOD, FOR THE OPERATIONAL PROGRAMME DEDICATED TO THE DEVELOPMENT OF HUMAN RESOURCES, IN ORDER TO GENERATE RESOURCES FOR NATIONAL DEFENCE

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Human resource is, unequivocally, the most important resource of an organization, regardless of the nature of its structure, civilian or military. That's why, the constant investment in human capital is an essential element for the optimal development of the organizational activity, which a great manager/military commander must take into account.

This hypothesis was, moreover, the basis for supporting, negotiating and implementing operational programmes for investment in people, in Romania (SOPHRD 2007-2013 and OPHC 2014-2020) and it will continue to be so for the future operational programme, dedicated to human resources development, related to the financial framework 2021-2027. Moreover, our country must manifest openness, in the negotiation stage of the new Partnership Agreement, as well as a comprehensive approach to all its strategic areas, obviously military, for the modeling and construction of programmatic documents, for setting investment priorities and its thematic objectives

Keywords: Partnership Agreement (between the European Commission and Romania); the 2021-2027 programming period; Operational Human Capital Programme 2021-2027; human resources; complementary resources; national defence.

Considering, on the one hand, that the current programming period, 2014-2020, is coming to an end and, on the other hand, that the new thematic objectives and national investment priorities for the next financial framework, 2021-2027, are already, generally outlined[1], we consider opportune, on this occasion, to make the operational/programmatic analysis of the architecture of the new construction in the field of European policies, materialized at national level, which will be implemented in the next programming period, in order to facilitate a better understanding, by all stakeholders, of its specific elements, as well as the awareness, by the general public, of the need to give importance and the right place to national defence in this new programmatic edifice.

To begin with, in this article, we will direct our analysis towards a strategic national document, of overwhelming importance within the mechanism for allocating and spending European funds by Romania, the *Partnership Agreement.* Consequently, in this context, it is necessary, first of all, to make it a fair conceptual delimitation.

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Therefore, in a general sense, when we mention the concept of a *Partnership Agreement*, we are referring to a strategic national document, negotiated, in detail, by each EU Member State, separately, with the representatives of the European Commission, through which both thematic development objectives and the indicative allocation of European funds are set, within the well-established and specified time limits of a programming period[2].

Particularly, the *Partnership Agreement with Romania* is the document elaborated by our country, in its capacity as a member state of the European Union, in close cooperation with key social-economic actors, through which three essential points are established, defining such document: the *strategy, priorities*, as well as the *institutional framework* involved in the complex process of implementing European funds, in a certain programming period[3]. More precisely, the last such document, the *Partnership Agreement with Romania*, was adopted by the European Commission on August 6, 2014, and established the national strategy for the efficient and effective use of the European Structural and Investment Funds, within the financial framework 2014-2020[4]. Moreover, the *Agreement* set out the general framework within which the investment of EUR 23 billion was planned, amounting to the total funding, available under cohesion policy, for the current financial cycle, 2014-2020[5]. Romania can also access 8 billion euros for rural development and 168 million euros for the fisheries and maritime sectors[6].

For the next programming period, 2021-2027, the *Partnership Agreement* has not yet been adopted by the European Commission, a fact that gives us the possibility to formulate, in this scientific article, potential suggestions and recommendations for modeling and construction of this new national strategic document, so that strategic levels of the economic and social dimensions of national defence are the subject of non-reimbursable funding as well. In this context, the main objective of our research is the creation of knowledge and its transfer in social-economic practice by developing and providing – through dissemination to relevant actors, public and private – the premises for inclusion in the agenda of public consultation meetings, of the theme of new national investment priorities, which directly or indirectly target the socio-economic components of national defence in order to generate resources for this strategic area, by including it in future operational / national programs (*OPHC 2021-2027*; *NPH 2021-2027*; *OPSIITD 2021-2027*), programs dedicated to human resources development.

The next programming period, 2021-2027

As mentioned above, the foundations for the construction of the operational framework, related to the programs dedicated to cohesion policy 2021-2027 are currently already established.

Therefore, the main pillar underlying the next multi-annual financial period, 2021-2027, is given by the five objectives around which national investments will be made, namely: ”A SMARTER Europe”, an objective to which there have been allocated approx. 6 billion EUR; ”A GREENER Europe”, for which approx. 7 billion EUR have been allocated; ”A MORE CONNECTED Europe”, an objective that will receive approx. 4 billion EUR; ”A MORE SOCIAL Europe”, with an allocation of approx. 10 billion EUR, and ”A Europe CLOSER TO ITS CITIZENS”, for the realization of which approx. 0.6 billion EUR have been allocated[7].

In total, the financial allocation proposed to Romania for the implementation, at national level, of these objectives related to Cohesion Policy, is over 30 billion EUR[8].

Another main pillar, which we also present below, lies in the *premises that underlie this new architecture*, namely: *safeguarding the management and control system specific to the 2014-2020 programming period; simplifying, as well as improving, certain aspects so as to ensure constant support and assistance to beneficiaries; decentralization/regionalization of implementation, as well as intensification/augmentation of leadership in the sphere of all actors involved*[9].

Also, the basis of the future construction consists of the following six guiding principles: an *even better coordination among the financed operations (projects)*, by permanently relating to the new challenges; *a unitary approach in the sphere of procedures and practices*, by grouping all the managing authorities within the Ministry of European Funds, the institution responsible for ensuring the horizontal coordination of the management structures; *simplification and efficiency of coordination* for the function of management authority, as well as for the accounting function; *ensuring the continuity of expertise*; *the real/pragmatic adaptation of the interventions both to the needs and to the regional specifics*, by decentralizing the management and implementation at the level of the Intermediate Bodies; *an innovative and integrated approach*, by developing multi-fund programs[10].

In this context, the *institutional architecture 2021-2027* is established on the following *four pillars*: the *Ministry of European Funds* (coordinator of Cohesion Policy); *Ministry of Public Works, Development and Administration* (in its capacity as coordinator of territorial cooperation programs); *Ministry of Agriculture and Rural Development* (coordinator of the Common Agricultural Policy, the Common Fisheries Policy and the Maritime Affairs Fund); *Ministry of Internal Affairs* – in its capacity as coordinator of the following four

Funds/Instruments: Funds related to the field of Internal Affairs; Asylum, Migration and Integration Fund (FAMI); Internal Security Fund (ISF) and the Instrument for Border and Visa Management (IMFV)[11].

Regarding the *architecture of the operational programs 2021-2027*, related to the implementation of cohesion policy, at national level, we list below the nine programs, as they were established during the last public consultation, carried out on 9 March 2020: *Operational Program Transport (OPT); Operational Program Sustainable Development (OPSD); Operational Program Intelligent Growth and Digitization (OPIGD); National Program Health (*multifund, NPH*); Operational Program Human Capital (OPHC); Operational Program Social Inclusion and Integrated Territorial Development (multifund – OPSIITD); Regional Operational Programs* – implemented at regional level; *Operational Program Technical Assistance (multifund – OPTA) and Operational Program Equitable Transition (OPET)*[12].

For these, the functions of management authority (MA) will have the following ministries: *Ministry of European Funds* - MA for OPSD, OPIGD, NPH, OPHC, OPSIITD, OPTA, OPET; *Ministry of Transport, Infrastructure and Communications* – MA for OPT and *Ministry of Public Works, Development and Administration*, through RDAs, MA for Regional Operational Programs[13].

Also in this context, we consider relevant, for our scientific approach, the following *clarifications regarding the accounting and auditing function*.

Consequently, in the first case, the accounting function, it is necessary to emphasize a new aspect, planned to change in the new programming period, namely that the *Certification and Payment Authority* (CPA), an institution within the Ministry of Public Finance, will fulfill the attributions deriving from the relationship Romania – Member State and the European Commission (receiving funds from the Commission, ensuring foreign exchange and replenishment of accounts of managing authorities, keeping accounting records on amounts received and conducting bank reconciliations, elaboration of the payment requests prognosis to be transmitted to the Commission through the SFC, in collaboration with the Ministry of European Funds) for regional and other operational/national programs[14].

In the second case, the *audit function*, we specify that it will continue to be performed in the new programming period, 2021-2027, by the *Audit Authority attached to the Court of Accounts of Romania*, an independent body from an operational point of view vis-à-vis the Court of Accounts, but also to the other authorities responsible for the management and implementation of non-reimbursable external funds[15].

Last but not least, in order to conclude, we also consider illustrative for our approach a brief review of the *most important simplification measures, which will be implemented in the margin of the next programming period, 2021-2027*.

Thus, according to the document edited by the European Commission, Directorate-General for Regional and Urban Policy, *Simplification Manual – 80 simplification measures in cohesion policy 2021-2027*[16], there are ten key points on which the concept of *simplification* will be materialized: (1) legal framework – which is intended to be transformed, through key provisions, into a clearer, simpler, unified/common regulatory framework for all funds, which provides certainty and overview from the outset and which is easy to use/apply[17]; (2) the policy framework – which will be outlined, for a simpler programming, in an streamlined framework, characterized by the following specific elements: flexibility and simpler formulation of policy objectives and rules for a thematic concentration; integrated administrative capacity with sector objectives[18]; (3) conditions/ requirements - which will be less and clearer, with automatic applicability and without checking the additional character in order to make the policy more efficient; the obligation on action plans will also be lifted[19] (4) faster and more strategic programming – for a faster and easier start of implementation (a strategic document is provided for each Member State to guide the negotiations; at the same time, the PA is not changed after the initial adoption; concentration, conciseness and clarity are recommended when adopting the Commission proposal, as well as avoiding any overlap between PAs and programs; moreover, it has been proposed to reduce the burden of documents, the new programs will be shorter and better structured, and the intervention logic will be streamlined; the need to reach a Commission decision will be eliminated for minor financial transfers made under a program, as well as for minor changes and corrections; a separate adjustment procedure will also no longer be necessary; simplified cost options and the use of independent cost financing are encouraged)[20]; (5) territorial instruments, designed flexibly, more simply, more clearly, around the same rules, and adapted to local situations - there will therefore be a single set of rules for local development under the responsibility of the community, a coherent approach to cities and a simpler structure to reach the 6% target)[21]; (6) simpler, faster and easier implementation of results through the following measures: elimination of specific rules and procedures for major and for-profit projects, in addition to state aid rules; predominant use of simplified cost options and independent cost financing (elimination of supporting invoices); proposing clearer and simpler rules on VAT eligibility; approval of expenditure and projects outside the Member State; calculating costs where projects cover different categories of regions; implementation of a simple transfer system between funds and instruments; introduction and use of the ”Emblem of Excellence” concept, applied to the integration of EU instruments[22]; (7) the management, control and audit system – desirable to also become a simpler and more proportionate system, which is largely based on national systems (the designation procedure will be stopped; the number of audits will be reduced; audits will be proportionately addressed and audit, unique; simplification of accounts will be accepted, simpler models for accounts and payment claims will be proposed[23] (8) financial instruments (FIs) – will be characterized by simpler and less detailed provisions, and they will be better integrated into the programming process, the more flexible combination of grants and financial instruments will be encouraged, rules will become simpler on costs and management fees, payment claims will be streamlined; clearer rules will be established with recycling funds; there will be a single reporting system for all forms of funding and a simplified system of grant and IF[24]; (9) monitoring and evaluation – will change in the following directions: reporting will be more frequent but easier, and the provisions streamlined – in other words, there will be no obligation to perform an ex ante evaluation; the reporting will be done in real time, instead of the annual one; a single set of indicators will be proposed for better coverage; the performance reserve will be eliminated)[25]; (10) Interreg – will have a single, integrated regulatory framework, adapted to the specific context of cooperation (the legislative act will be easier to use, comprehensively, with common rules, and the approach to audits for Interreg will become more proportionate; outside EU cooperation will be supported; the simplified review, the European cross-border mechanism and the streamlining of funds for maritime and cross-border business are also planned (Interreg – will thus become a single brand)[26].

The series of public consultations, initiated and organized by the Ministry of European Funds, with the key actors for the preparation of the next programming period, were intensified in the first part of this year in order to reach an agreement, at national level, and to finalize negotiations regarding the funds to be allocated to Romania for the next seven years[27].

The latest such consultation took place on 9 March 2020 and set out the following types of investments that could be made for human resources development under three operational programs: (1) OPHC, which covers six areas: NEETs; Education (study programs and initial teacher training, life-long learning, counseling services, guidance and educational assistance, children with specific educational needs, school minibus leasing); Education (vocational and technical education); After school; Employment and Integrated Territorial Instrument (ITI West Region - Jiu Valley, South-East Region); (2) NPH, through which investments will be made in Health, more precisely investments in: Regional Hospitals (Craiova, Cluj, Iași); Health infrastructure; eHealth (digitization); Medical services – training, family medicine, doctors’ offices in educational institutions; Medical services – training/specialization of equipment, modern methods of investigation and Research (including Cantacuzino, genetic medicine), as well as (3) OPSIITD, which will finance the following areas: Infrastructure (social, educational, leisure, sports); Social services; Social inclusion (combating early school drop-out); Social inclusion (de-institutionalization, combating poverty, migrants) and disadvantaged people (food, supplies, childcare)[28].

Conclusions

As novelty aspects, related to the future programming period, 2021-2027, we highlight the following: a separate program in the field of health is proposed, social inclusion is delimited by the program dedicated to human capital and the introduction of a new program is planned, the Operational Program Equitable Transition. Also on this level, there is the implementation of a program dedicated to Transport, which will be managed by the relevant ministry.

Moreover, at programmatic level, the European Commission has established consistent measures, of substance, in order to simplify the key elements of the process of implementing cohesion policy 2021-2027, measures that can and must become opportunities for our country as well. More precisely, starting from the initial purpose of these simplification measures, streamlining the implementation of operational programs, Romania can identify and include, from the beginning, in its new construction, due to the flexibility recommended by the European Commission, following the model already operated within OPHC 2014-2020, by the Ministry of European Funds, of the immediate possibility of redistributing funds for solving crisis situations, as, moreover, it has already been done in the case of COVID-19, to support vulnerable people in pandemics), succeeding, this way, in mitigating this threat to national defence, through European funds.

In addition, within OPHC 2021-2027, NPH or OPSIITD potential funding, direct or indirect, for the national defence can be identified in the architecture already established.

Last but not least, the main objective of our research was to create knowledge and transfer it to social-economic practice by developing and providing - by disseminating to relevant actors, public and private, the prerequisites for placing on the agenda of public consultation meetings, of the topic of new national investment priorities which, directly or indirectly, target the social-economic components of national defence in order to generate resources for this strategic area, by including it in future operational/national programs (OPHC 2021-2027; NPH 2021-2027; OPSIITD), programs dedicated to human resources development.

NOTES:

1 http://mfe.gov.ro/minister/perioade-de-programare/perioada-2021-2027/, accessed on 12.05.2020.

2 http://mfe.gov.ro/9-ce-este-acordul-de-parteneriat/, accessed on 11.05.2020.

3 https://por2014-2020.adroltenia.ro/acordul-de-parteneriat-2014-2020/, accessed on 11.05.2020.

4 *Ibidem*.

5 *Ibidem*.

6 *Ibidem*.

7 http://mfe.gov.ro/ministrul-marcel-bolos-a-avut-o-noua-runda-de-consultari-cu-reprezentantii-societatii-civile-pe-tem a-prioritatilor-din-viitoarea-perioada-de-programare/, accessed on 13.05.2020; http://mfe.gov.ro/ministrul-marcel-bolos-a-discutat-cu-reprezentantii-adr-despre-noua-arhitectura-institutionala-si-stadiul-documentelor-pentru-pregatirea-viitoare-perioade-de-programare/, accessed on 13.05.2020.

8 http://mfe.gov.ro/mfe-continua-consultarile-pentru-stabilirea-unui-acord-la-nivel-national-si-finalizarea-negocierii- fondurilor-pentru-urmatorii-sapte-ani/, accessed on 13.05.2020.

9 http://mfe.gov.ro/minister/perioade-de-programare/perioada-2021-2027/, *Arhitectura programelor operaționale – politica de coeziune 2021-2027*, p. 2, accessed on 12.05.2020.

10 *Ibidem*, p. 3.

11 *Ibidem*, p. 4.

12http://mfe.gov.ro/wp-content/uploads/2020/04/19239ff75ce05dfefee21d4d1b5013d1.pdf., accessed on 13.05.2020.

13 http://mfe.gov.ro/minister/perioade-de-programare/perioada-2021-2027/,*Arhitectura programelor operaționale – politica de coeziune 2021-2027*, p. 6, accessed on 12.05.2020.

14 *Ibidem*, http://mfe.gov.ro/wp-content/uploads/2020/04/19239ff75ce05dfefee21nd4d1b5013d1.pdf, p. 7; accessed on 13.05.2020.

15 http://mfe.gov.ro/minister/perioade-de-programare/perioada-2021-2027/, *Arhitectura programelor operaționale – politica de coeziune 2021-2027*, p. 7, accessed on 12.05.2020.

16 *** *Manual de simplificări – 80 de măsuri de simplificare în politica de coeziune 2021-2027,* http://mfe.gov.ro/minister/perioade-de-programare/perioada-2021-2027/, accessed on 11.05.2020.

17 *Ibidem*, p. 2.

18 *Ibidem*, p. 3.

19 *Ibidem.*

20 *Ibidem*, pp. 4-5.

21 *Ibidem*, p. 6.

22 *Ibidem*, pp. 7-8.

23 *Ibidem*, p. 9.

24 *Ibidem*, p. 10.

25 *Ibidem*, p. 11.

26 *Ibidem*, pp. 12-13.

27 http://mfe.gov.ro/timeline-consultari-publice/, accessed on 13.05.2020.

28 http://mfe.gov.ro/wp-content/uploads/2020/04/19239ff75ce05dfefee21d4d1b5013d1.pdf, accessed on 13.05.2020.

REFERENCES

*** *Arhitectura programelor operaționale – politica de coeziune 2021-2027*, http:// www.mfe.gov.ro/minister/perioade-de-programare/perioada-2021-2027/

*** *Manual de simplificări – 80 de măsuri de simplificare în politica de coeziune 2021-2027*, editat de Comisia Europeană, Direcția Generală Politică Regională și Urbană, Bruxelles, http:// www.mfe.gov.ro/minister/perioade-de-programare/perioada-2021-2027/

http://www.mfe.gov.ro/9-ce-este-acordul-de-parteneriat/

http://www.mfe.gov.ro/mfe-continua-consultarile-pentru-stabilirea-unui-acord-la-nivel-national-si-finalizarea-negocierii-fondurilor-pentru-urmatorii-sapte-ani

http:// www.mfe.gov.ro/minister/perioade-de-programare/perioada-2021-2027/

http:// www.mfe.gov.ro/ministrul-marcel-bolos-a-avut-o-noua-runda-de-consultari-cu-reprezentantii-societatii-civile-pe-tema-prioritatilor-din-viitoarea-perioada-de-programare/

http:// www.mfe.gov.ro/ministrul-marcel-bolos-a-discutat-cu-reprezentantii-adr-despre-noua-arhitectura-institutionala-si-stadiul-documentelor-pentru-pregatirea-viitoare-perioade-de-programare/

http:// www.mfe.gov.ro/timeline-consultari-publice/

http:// www.mfe.gov.ro/wp-content/uploads/2020/04/19239ff75ce05dfefee21d4d1b5013d1.pdf

https:// www.por2014-2020.adroltenia.ro/acordul-de-parteneriat-2014-2020

ARMY COMBAT FITNESS TEST (ACFT)

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Servicemen’s capabilities and skills represent the basis of the increasing professional level required to plan and carry out military actions within a multinutional framework, under various circumstances pertaining to geopolitics, relief and climate, tradition and civilization. The overall vision of an army must be centered on servicemen’s mental and physical training that could be, at a certain moment, the key to success on any military operation they conduct.

Servicemen deploying on NATO missions have to cope with a complex, lethal, competitive, dynamic operational environment, which has evolved over the past years, with the opponents resorting to a combination of asymmetric hybrid conventional and unconventional strategies. Thus, servicemen’s physical training programs need constant improvement in order to keep up with the requirements consistent with modern warfare. Moreover, the regular assessment aimed at checking the military personnel’s physical fitness must evolve accordingly to validate their combat readines.

Keywords: physical training; military physical education; physical exercice; kinetic ability; kinetic skills.

By the end of this calendar year, the new army physical training trial *(Army Combat Fitness Test – ACFT*) aimed at testing the military personnel in the United States of America will completely replace the former test (*Army Physical Fitness Test – APFT*) which was made up of three trials (push-ups, sit-ups, and 2 mile running) which was implemented as such in the early ’80s.

The newly-designed test is the result of the studies conducted to identify the tasks specific to combatants on military operations, as well as the ways that enable servicemen to keep fit in order to fulfil their duties and commitments.

At the beginning, specialists worked out a list (which was extended in time as a consequence of the lessons learned in the battlefield) with the skills needed by the military to conduct any military action. Furthermore, there was this misconception that these skills must be developed only by the military within operational or placement training bases. The other servicemen were meant to be trained only for a limited period of time, before deployment.

Currently, the philosophy beyond this updated list lies in the fact that all military personnel (irrespective of their rank, position and military specialty) need specific skills to develop abilities and competences complying with their job description, base mission and environment by reinforcing that servicemen fill in appropriate positions in accordance with their training.

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Army Combat Fitness Test (ACFT)

In the USA Army, over the last four decades, military servicemen were tested in terms of how many push-ups and sit-ups they could do within a given interval of time (2 minutes) and how fast they could run on a 2 mile distance. It took 6 years to conduct experiments on the implementation of a newly-worked out test that features kinetic abilities; starting this year, the American Army is poised to step forward in a new decade, with a new approach to evaluate servicemen’s kinetic qualities. As obviously shown, this test is similar to the one currently adopted by the Romanian Army nowadays. The implementation of a newly-designed test (called *Army Combat Fitness Test-henceforth ACFT*[1]) to check servicemen’s fitness is a fact.

This new test was conceived as a result of specialist scientific research conducted over a couple of years, being aimed at assessing those kinetic skills and abilities servicemen need in combat, irrespective of their arm of service within the Army. Specialists in military physical education claim that this test was also brought about by sports science evolution over the last twenty years, mainly by research conducted on the human factor (on servicemen in this particular case), which reduced the number of injury recorded on missions. ”Physical training as professional activity required by the military, must be directed towards kinetic tasks that combatants come across in real combat environment, not only towards mere training as such”[2].

ACFT test implementation cost the USA Army over 80 million dollars, amount which was considered investment in servicemen training (even if more and more jobs within the Army are becoming less challenging from a physical point of view), since the way they will fight must be tightly correlated with the physical training they benefit from and the assessment they will be subject to[3]. Irrespective of one's position in the Army, one may suddenly be asked to join a military operation. Hence, not only should one master one's specialty, but also keep fit in order to cope with the requirements needed in combat. Although the newly-designed ACFT test is more difficult than the former one (including more trials and less time to rest among them), the American Army lays emphasis on quality not on quantity when it comes to military enlistment. The results obtained in ACFT classify the military into categories based on performance, not on age or gender.

Army Combat Fitness Test (ACFT) is an assessment test made up of 6 trials that must be regulated in a given order, within an interval of maximum 70 minutes (from the moment the first trial starts until the the moment the last trial ends). Before starting the test as such, the military have 10 minutes to warm up in order to get their bodies prepared for overall effort, and 10 more minutes to warm up strictly for the first trial (including hereby accommodation to the hexagon bar iron and the establishment of the first weight). Currently, alternative versions have been worked out only for the last test trial and no exception applicable to some servicemen has been considered. The test trials come as follows[4]:

- Trial no. 1: hexagon bar iron strengthening (also called the trapeze bar or trap bar);
- Trial no. 2: throwing the medical ball aback;
- Trial no. 3: push-ups (an altered version of the type ”dead-stop-press-up”);
- Trial no. 4: joint exercise of running and material hand manoeuvre;
- Trial no. 5: horizontal bar exercise;
- Trial no. 6: resistance runningnon a two-mile distance (around 3.22 kms).

Hexagon bar iron strenghtening stands for a compound exercise, being a joint exercise between weight squat and bell strengthening. The hexagon bar iron is a type of bell that features a hexangle in the middle with two inside handlers/ holders attached that enable the exercise performance once the player is located inside the hexagon. This exercise is recommended to beginners as the pressure put on spine and knees is by far lower than olympic bell classic strengthening, and the physical movement carried out is closer to regular body movement. Furthermore, for those servicemen suffering from lumbar pains, this kind of exercise is a more complex approach since the load is equally carried out by the body joints.

Figure 1 *Hexagon bar iron strenghtening (trial no. 1)*

The trial performance consists in its carriage three times in a row by using the same weight (the latter being established by each serviceman after warming up for this particular trial at the beginning of the test). If the serviceman fails to carry out the three goes, he should be reexamined by using a lighter weight, after a 2 minute break. If the player successfully completes the three goes at first attempt, he should carry out the trial one more time by using (up to the player) a heavier weight after a 2 minute break.

The military should have maximum two attempts for this trial, and the heaviest weight sucessfully lifted three times in a row is the performance recorded in the player's individual assessment report.

Trial assessment will consist in turning the players' performance into points, as follows:

• for 60 points (at least) one must lift 140 pounds (approximately 64 kilos);

• for 100 points (the maximum to be assigned) one must lift 340 pounds (approximately 154 kilos)

There is tight correlation between the physical effort within this trial with various typical tasks combatants get on military operations, i.e. picking up and transporting heavy loads (military personnel or equipment) or evacuating the injured/ the wounded by means of a stretcher.

Figure 2 *Throwing the medical ball aback (trial no. 2)*

Throwing the medical ball aback stands for the second trial within ACFT and should be carried out after a 2 minute break, counted down against the clock the very moment the first trial is completed. Among all the test trials, this one involves the acquisition of more complicated performance techniques by coordinating the movement of lower and upper limbs.

The exercise is carried out with a 10 pound (around 4.5 kilo) ball which must be thrown backwards with both arms, feet kept apart, the player's back facing the trowing direction. The military should have a warming-up go (for mere practice) which should not be recorded and two attempts on the record that will feature in their individual assessment report, with the longest being officially considered when calculating points. Before throwing as such, players may have some preparatory attempts consisting in simulating the act of throwing. During the trial, the military participants must stay behind the throwing line. If the latter is surpassed or stepped over during trial, that particular throwing will stand for a mistake, and by making such two mistakes in a row, the attempt under consideration will be recorded as 0.0 metres[5].

Trial assessment consists in turning the players' performance into points, as follows:

• for 60 points (at least) the player must throw the medical ball at a 4.50 metre distance;

• for 100 points (the maximum players may score) the player must throw the medical ball at a 12,50 metre distance.

The bursting power, to be assessed during this trial, contributes to the acquisition of typical skills combatants need on military operations that require fast, explosive movements, in order to manipulate various pieces of equipment and personnel. Such kinetic skills may be correlated with the transportation of an injured serviceman (on either one or both shoulders) on limited distance up to safe location, equipment/material throwing on or over an obstacle, precise hand grenade throwing on short distance, providing assistance to a companion-in-arms to overcome an obstacle (wall), material manipulation (lifting, transportation, loading) and bursting power development required in various tehnical procedures in close combat.

Figure 3 *Push-up of the type "dead-stop-press-up" (trial no. 3)*

Altered push-ups (of the type *dead-stop-press-up*) is a trial aimed at testing upper body resistance through repetative and constant push (an extension movement of forearms on arms), which is used for particular combat tasks. Altered push-ups stand for the third trial within ACFT being carried out after a three-minute break, counted down against the clock the very moment final throwing of the medical ball lis completed.

The trial is carried out this way: from initial position for push-ups, the torso is lowered until it reaches the facial prostrate position without hold, palms kept on ground. During this time interval, servicemen must take constant effort, since any stoppage exceeding 5 seconds is prohibited. The trial may be interrupted by the evaluator if the serviceman adopts another body position during performance; if he cannot make continuous effort; if he lifts one of his legs up from the ground, or if he keeps one of his knees on ground. The aggregate of the successful carried out push-ups within 2 minutes will be recorded in the individual progress report. During this trial, the assessor must stay or kneel down three metres aside, above the serviceman's head in order to observe the performance better [6].

Trial assessment consists in turning the player's performance into points, as follows:

- for 60 points (at least) the player must perform 10 accurate push-up in a row;
- for 100 points (the maximum assigned to the player) the participant must perform 60 accurate push-ups in a row.

The exercise involved during such trial is required so that the military would carry out particular tasks on various military operations, i.e. unbalancing an opponent in close combat, surpassing various obstacles, pushing a military vehicle (stuck in mud, sand or snow) or subject to puncture, taking prostrate position for combat to shoot or after thrownig hand granades, or deploying forward in battlefield (jumping, crawling, elbowing, kneeling, side crawling), etc.

Joint exercise of running and material hand manoeuvre stands for the fourth trial within ACFT and is carried out after a three-minute break, counted down agaist the clock once the third trial has been completed. Such exercise is aimed at testing various forms of kinetic quality, required to fulfil numerous intense combat duties that may take from a few seconds up to a couple of minutes.

To perform this trial, each military participant needs a flat field (of 25 meters x 2 meters in size), a sledge with weights (90 pounds overall – around 41 kilos) with slings and two kettlebell dumbells (each weighing 40 pounds – approximately 18 kilos). The trial is consistent with the following procedure:

- beyond the starting line, from facial prostrate position, when hearing the audio signal, the player should sprint on a 25 metre distance up to *the returning line* (parallel to the starting line), which must be stepped over with one leg at least and touched with one hand at least; afterwards the player should sprint back to the starting line;
- once surpassing the starting line, the player should hold the handles of the slings attached to the weight sledge and pull the latter aback, until the entire sledge has crossed the returning line. A 180° turn should be performed by the player who must continue to pull the sledge back until the latter would fully cross the starting line;
- once leaving the sledge slings aside, the player should run round (on the same 25 m distance), laterally, one step added (bent-elbowed arms, kept slightly apart from his body, his palms ahead, placed at shoulder level), stepping over the returning line with one of his feet at least and touching it with one hand at least, without changing the front or crossing his legs;
- once surpassing the starting line, the player should grab the handlers of the two kettlebell

Figure 4 *Performance aspects featuring joint exercise of running and material hand manoeuvre (trial no. 4)*

drumbells by running round fast (on the same 25 m distance); he should step over the returning line with one foot at least;

• after deliberately placing the dumbells on the ground, the player should sprint round (identically to their performance at the beginning of the exercise), and once the finishing line surpassed (identical to the starting line in this particular case), the trial stops being counted down.

The exercise starts at the assessor's order, who is designated to count down the performance, which is assgned 2 minute timing. Starting from the stay-seated position, the military participant should hold the bar by jumping (with or without partner assistance), by using joint grip (one in supine and one in pronation). It is advisable for the player to keep his or her hands close, so that he or she would perform better, with the hand

Figure 5 *Iron bar exercise (trial no. 5)*

grip in supination being more strained, hence it should be brought closer to the head. The player's body weight is carried by his or her arms which should be kept stretched from the elbow. In fact, the participant's entire body should be stretched and slightly curved, his or her legs kept close to each other, and toes kept straight and compact, without crossing them or bringing them in contact with the ground. At the beginning, the body will be perpendicular to the bar, but, once the performance starts, the alternative grip will determine the body to slightly rotate outwards.

Trial assessment consists in turning the players' performance into points, as follows:

• for 60 points (at least) the player must run the entire 250 m distance within 30 minutes;

• for 100 points (the maximum the participant can get) within 1h 33 mins.

Such joint exercise contributes to the serviceman's capacity to have immediate reaction to both the enemy's direct and indirect fire, to set up an individual haven to shoot from prostrate position, or evacuate an injured serviceman from a military vehicle and transport him in a safe place.

Horizontal bar exercise stands for the fifth trial within ACFT (turning out to be the most difficult trial of the newly-designed test, especially for military women) and must be carried out after a four-minute break, counted down the very moment the fourth trial is completed. This type of exercise is professionally very relevant, being aimed at testing the military participants' strength under resistance, evaluating mainly upper muscularity.

The carried out movements will enable the military to fulfil all procedures in order to climb or jump over obstacles (such as a vertical wall, fence, etc.), to go up a latter/ rope or to transport a bergen aback on march. This exercise is aimed at maintaining vertical position of torso as long as possible, while shoulders and knees keep moving (up and down), without overbalacing the body vertically or horizontally.

The accurate exercise consists in the participant's pulling his or her knees up to the chest until they reach the elbows and then coming back to the initial position (both elbows must reach both knees or both tighs). If the participant's elbows are bent at the beginning of the attempt or if there is deliberate balance of the torso and legs to help any knee pulling up, the go will be off the record. The trial will stop when the military participant stops deliberately (getting off the iron bar), when his or her legs touch the ground on purpose, or when the two minutes are up. Any ground, line poll or iron bar contact by chance will not get penalized if the evaluator considers that the military participant takes no advantage of such manoeuvre.

Trial asessment consists in turning the participant's performance into points, as follows:

• for 60 points (at least) the player should carry out a go;

• for 100 points (the maximum the player can get) an aggregate of 20 goes is needed.

Resistance running on a 2 mile distance stands for the last trial within ACFT and is carried out after a five-miunte break, counted down against the clock the very moment the iron bar exercise is completed. Running is aerobic assessment resistance and should be performed on (indoor or outdoor) athletics track or on a given track with artificial flat (macadam or concrete-made) surface, with precise establishment of starting and finishing lines, as close as possible to each other, if possible.

Intense aerobic effort capacity enables the body to recover fast in order to get ready and carry out various physically challenging tasks that may occur on militay ground operations that involve immediate reaction: in close contact with the opponent, to get out of an ambush, to conduct amphibious assault or raid on foe’s territory, etc. Resistance is an essential requirement so that the military would cope with regular tasks in modern battlefield, such as military actions that involve landing, patrolling or getting infiltrated in the foe’s area, or any representative march.

Trial asessment consists in turning the participant’s performance into points, as follows:

• for 60 points (at least) the player must perform within a 21 minute interval of time;

• for 100 points (the maximum the player can get), the player must perform in 13.30 min due time.

Three alternative versions have been established for the last trial, also aimed at evaluating the military participant’s aerobic resistance that suffer from permanent health disorders, or various pathologic states that prevent them from running a 2 mile distance. Such alternative trials must be completed within a 25 minute interval, with the participant having the possibility to choose among 5 km fitness rowing, 15 kms fitness bike paddling, or 1km swimming in a pool (having minimal 25 metres length and minimal 1 metre water depth).

In order to pass ACFT successfully, the military must obtain 60 points at least in every trial among the 6 ones it includes (henceforth an aggregate of 360 points), with a maximal 600 point score a military participant can get within ACFT, since there is no extended scale to record any performance exceeding 100 points. Any potential individual recommendation, the points and the results obtained will be recorded in an individual progress report which will be worked out in two copies, one assigned to the military participant, and the other copy to be attached to the military participant’s portfolio.

”One of the main duties specialists in military physical education have (officers, NCOs, professors, trainers, instructors) is to work out physical education programs in accordance with the military personnel’s kinetic development level and the missions he or she has to fulfil” [7].

In this sense, specialists from the USA Army stated that the military must be trained not only to get familiar with the test tasks, but also to get trained to pass the test (with or without any equipment or material specific to the trials) [8].

Thus, a training guide has already been launched[9] to help the military to successfully get physically trained for the test. A unique program of physical education and a neutral process to measure the performance obtained by the military is the only physical education relavant measure in all military branches, since, inherently, the combat itself is neuter, irrespective of the combatants’ age or gender. Within the larger framework, ACFT stands for cultural change that each Army must prepare for the upcoming combat. Committed leaders will be needed to understand and promote new physical standards, to instill the military a wholistic life style (physical exercise being capable of improving health state and body harmony), which the Army desperately needs.

The USA Army released the information needed to apply ACFT two years before its implementation and constantly provided the military with on-line assistance with respect to how to get trained with and without specific equipment. Even if two years is more than enough for units to get prepared in order to pass ACFT, still, there were reports that say not all units got appropriate equipment to carry out training. This is the reason why similar improvised equipment was issued, which led to accidents among the military personnel.

This fact is at least strange since the iron bar exercise (to which all failures were assigned) is one that challenges mainly ventral muscularity (one accurate go being enough to meet minimal requirements), and the sit-up assessment trial within the former APFT was the only one to have the same requirements common to both men and women (differenciated only by age; with minimal requirements in between 26-53 goes).

After close research, unofficial findings obtained by the military (and posted on-line) within the accommodation period with ACFT, have shown that 30% men and 84% women did not meet the requirements in at least one trial (paticularly in iron bar exercise), which generated controversies regarding genre discriminations among women promoted by ACFT[10].

In fact, ACFT is not aimed at setting up a tournament for the military participants, but determining all candidates to meet the minimal requirements and standards needed for the military to survive in battlefield (irrespective of circumstances) and join challenging military operations from a physical point of view. However, ”women can make up for any physical disorder with more intense involvement, more attention and keener psychological sense” [11].

ACFT contributes to the Army turning the mere form into a state, changing a test with fewer requirements from women and elder military into a test focused on combat with minimal requirements, standardized on small scale. This unique standard represents the most effective way to mesaure physical fitness in combat and train subunits for the upcoming decisive operations, either independently or together with the allies, in any area and direction.

ACFT is aimed at testing all kinetic abilities (speed, strength, skillfulness, mobility and versatility), and the fact that the whole subunit must meet the same standard (irrespective of age and gender) is essential for group cohesion and physical endurance needed in figthing and winning in modern battlefield.

Conclusions

Military personnel’s physical fitness consists in their ability to promptly meet the physical requirements for any combat or work duty to fulfil the mission and subsequently continue to cope with the modern battlefield circumstances in order to win final victory.

The newly-designed test to check fitness among the military personnel within the USA Army might be a huge step in the appropriate direction and it is interesting to see when a similar counterpart could be implemented in the Romanian Army. Undoubtedly there is a better version with further research to be conducted, but this test is by far more effective to measure the kinetic ability level of the military (the capacity needed to join military operations), than the former one. Bearing in mind that contemporary military operations are not carried out with the military dressed in sports tracksuit, three years ago, the Canadian Armed Forces implemented an assessment test (called *FORCE Evaluation*) that states more exactly which is the individual’s capacity of meeting/ surpassing minimal physical requirements typical of military service.

Thus, I concur that more and more armed forces within NATO should start a gradual process of substitution (the Romanian Army hereby included) of the current physical education system, mainly centred on kinetic ability development, with one based on a new mind-set regarding physical education, designed for the military to develop and reinforce their kinetic skills.

NOTES:

1 https://www.armycombatfitnesstest.com, accessed on 18.01.2020.

2 G.C. Ciapa, *Romanian Army servicemen’s physical training in modern conflict,* ”Carol I” National Defence University Publishing House, Bucharest, 2018, p. 57.

3 https://www.thedenverchannel.com/news/national/us-army-rolls-out-new-fitness-test-with-first-major-changes-since-1980 accessed on 25.01.2020.

4 https://www.army.mil/e2/downloads/rv7/acft/acft_field_testing_manual_final.pdf, accessed on 25.01.2020.

5 https://www.army.mil/acft, accessed on 15.02.2020.

6 https://www.gpshumanperformance.com/tactical-training-guidelines-for-the-army-combat-fitness-test-acft, accessed on 04.03.2020.

7 G.C. Ciapa, *Directions and opportunities for military physical training*, ”Carol I”, National Defence University Publishing House, 2019, p. 120.

8 https://www.army.mil/e2/downloads/rv7/acft/acft_ioc.pdf, accessed on 15.03.2020.

9 https://www.atu.edu/rotc/docs/aprt_7-22.pdf, accessed on 16.03.2020.

10 https://mwi.usma.edu/critics-miss-army-combat-fitness-test-going-make-us-combat-ready-force, accessed on 20.03.2020.

11 I. Andrei, *The importance of physical education in the process of military training*, ”Carol I” National Defence University, Bucharest, 2015. p. 143.

REFERENCES

*** *ACFT IOC, Army Combat Fitness Test, Initial Operation Capability*, Headquarters, Center for Initial Military Training, Fort Eustis, 2019.

*** *US ARMY ACFT Field Testing Manual*, Army Center for Initial Military Training, TRADOC, Fort Eustis, 2018.

Andrei I., *Importanța pregătirii fizice în procesul de instruire militară*, ”Carol I” National Defence University Publishing House, Bucharest, 2015.

Băițan G.F., *Pregătirea fizică a militarilor din armata României în contextul integrării în NATO,* ”Carol I” National Defence University Publishing House, Bucharest, 2019.

Ciapa G.C., *Orientări și oportunități pentru pregătirea fizică a militarilor*, ”Carol I” National Defence University Publishing House, Bucharest, 2019.

Ciapa G.C., *Pregătirea fizică a militarilor din Armata României în conflictele moderne*, ”Carol I” National Defence University Publishing House, Bucharest, 2018.

https://www.armycombatfitnesstest.com

https://www.thedenverchannel.com/news/national/us-army-rolls-out-new-fitness-test-with-first-major-changes-since-1980

https://www.army.mil/e2/downloads/rv7/acft/acft_field_testing_manual_final.pdf

https://www.army.mil/acft

https://www.gpshumanperformance.com/tactical-training-guidelines-for-the-army-combat-fitness-test-acft

https://www.steroizi.ro/exercitii-pentru-cvadricepsi-coapse/tragerea-saniei-cu-greutati

https://www.army.mil/e2/downloads/rv7/acft/acft_ioc.pdf

https://www.atu.edu/rotc/docs/aprt_7-22.pdf

https://mwi.usma.edu/critics-miss-army-combat-fitness-test-going-make-us-combat-ready-force

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THE INVICTUS GAMES TOURNAMENT

Lt.Col. Full Instructor George-Florin BĂIŢAN, PhD*

Invictus games do not represent a mere tournament,being more than sheer sport. They generate a state of mind that steals our heart, challenge our thinking and change our lives. It is a project revolving around the idea of physical and psychological training and recovery through sport, which obviously has an educational part, too. Invictus games stimulate positive thinking, turn the military staff into kinder and self-assertive people, give hope to those who, overwhelmed by severe trauma, were not at all able to see the bright side of the picture. The injured servicemen managing to surpass their limits set an example for the entire society, instilling the sense of mutual humanity and team cohesion, beyond the well-known beneficial effects of sport and physical education.

Keywords: Invictus games; physical training; national team; Invictus serviceman; sports subjects.

Invictus Games[1] – an international sports event addressing all servicemen who got wounded or injured while being at disposal, retired, or simply withdrawn, irrespective of the military duty they have been assigned to. The games are focused on the changing power of sport that enables and facilitates the rehabilitation training (made up of all techniques that facilitate the injured servicemen's physical and psychological recovery), generating thereby mutual understanding, appreciation and due respect to all those people at service, defending their home country.

Using sport as a catalyst (along with joint health training), this tournament is against indifference and intolerance, preserving the sense of combat that characterizes those servicemen with ”permanent medical disorders and disabilities”, and featuring physical activities the latter can perform, once disabled. Sport therapy resorts to the customized principles of sport training to the serviceman's social, psychological and physical characteristics, being different from other methods already implemented in health care centres (such as therapy through movement – henceforth physiotherapy).

”Under the social aspect of the physical exercise effects, we admit that the military staff deployed in operational theatres, whose behaviour might have been affected, are likely to get integrated into society once they come back. Within the sporting social framework, servicemen could express their personal beliefs and their belonging to social values, could interact and communicate efficiently with individuals without refraining from expressing themselves, could make the most of their behaviour and previuosly-developed kinetic experience without any normative (or perhaps just moral) contraints, which we label as freedom of acting through motion”[2].

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Invictus Games

Starting 2010, the USA Army Defence Department runs annually *Warrior Games*, a national multisports event where war veterans take part along with the military staff (injured or wounded during active service). Until 2014, this sports tournament was hosted only by the Olympic and Paralympic Centre in Colorado Springs, the USA. Nevertheless, starting 2015, every edition has been alternatively run by a large military base/ institution.

As for the edition in 2013, Harry, Duke of Sussex, the British prince, who at that time was promoted to captain in the Royal Army, in his capacity of helicopter pilot as arm of service, was invited to address the Warrior Games opening. This is what inspired Harry to organize and chair, one year later, the Invictus Games tournament.

The Invictus Games tournament is an international alternative to *Worrior Games*, featuring military designated people from various armies as participants. Prince Harry was determined to turn this event into an international version, once realizing the healing part of sport that helps

”wounded combatants” recover not only physically, but also psychologically and socially.

The Invictus Games were officially launched on Sepember 10th, 2014, by Prince Harry on Copper Box sports arena located in *Queen Elizabeth* Olympic park in London (also used as venue for the Olympic Games going on in the summer of 2012). Addressing his message in the opening ceremony, Prince Harry stated that ”Invictus Games will prove the significant part sports play in urging and facilitating one’s rehabilitation and recovery, showing thereby that life goes on beyond any disability”[3], and being aimed in the long term to assure that the injured military personnel will never be ignored or neglected.

The first editions of the Invictus Games tournament hosted 400 participants from 13 nations across the world (Afghanistan, Australia, Canada, Denmark, Estonia, France, Georgia, Germany, Italy, the Netherlands, New Zealand, Great Britain and the USA). These invited states were among the state armies that sided with Great Britain in military conflicts at that time. Except for Iraq, all the other states accepted the invitation (with the specification that no country on the African continent has ever been invited).

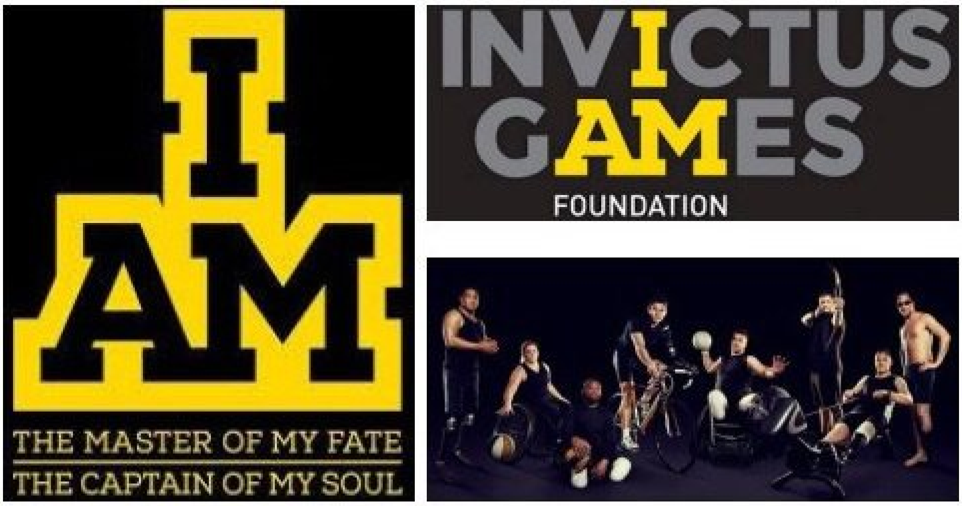

Figure 1 The *Invictus Games* logo and motto

During four days of tough tournament, the military personnel competed in nine sports disciplines (swimming, athletics, sitting volleyball, wheelchair rugby (also called *Murderball*), wheelchair basketball, archery, indoor canoeing, powerlifting, paralympic road cycling) in five distinct locations of the olympic park. In order to introduce the less popular sports disciplines to the large audience, I will try to briefly describe a few general rules applicable to these particular games.

Wheelchair rugby[4] runs on a standard basketball court, featuring two marked targetting parameters in the shape of rectangular areas, in the rear lines, inward the game surface. A team is made up of a maximum of 12 players, with 4 of them being holders, and the others, backups.

In order to score one point, the basketball holder must reach the targetting surface with a minimum of two wheels of his wheelchair, and the defence team is not allowed to have more than three players in the defence area of its targetting surface at the same time. A player that is on the ball must pass it over in a maximum of 10 seconds (or bounce it to the floor), while his team must surpass the middle line in a maximum of 12 seconds from the moment the player is on the ball (or score one point). A match is made up of two halves (rounds or rallies) of 10 minutes each, whereas attacks are restricted to 40 seconds complying, with the basketball rules. Physical contact and tackling are allowed to a certain extent.

Wheelchair basketball[5] is one of the most practiced sports discipline by kinetically-disabled people, being based on classic basketball (with the same court dimensions and basket height) with various changes and amendments to the rules, so that the wheelchair would be part of the game (and by extension, part of the player). A match is run in two halves of 15 minutes each, and a team is made up of maximum 12 players, with

5 holders. The great majority of the official rules of the International Basketball Federation (FIBA) are applicable to wheelchair basketball, with the following changes:

- once on the ball, every player must push his chair wheels only twice (meanwhile he can hold the ball with his arms, never between his knees) before bouncing the ball again;
- every player is hypothetically surrounded by a cylinder, inside which no opponent is accepted, nor his hand or other means;
- as no advantage towards one's opponents is accepted, the players should stand up their wheelchair just for a while, as they are not allowed to lose full contact with the wheelchair bottom.

Sitting volleyball[6] is a combination between classic volleyball and sitzball (a German sport which is played with no net, but a lane that divides the two game surfaces while players stay seated on the floor). It was invented with the purpose of coming up with an interactive rehabilitation sport for the injured military personnel since sitzbal was considered too pasive. The rules of the game comply with the ones issued by The International Volleyball Federation (FIVB) with the specification that players must have their bottom (al least one buttock) in tight contact with the floor each and every time they are on the ball, and service blockage is allowed. The dimensions of the game surface are 10 x 6 metres with a 2 metre attack distance, and the net height must equal 1.15 metres for men and 1.05 metres for women.

Indoor rowing is a relatively new sport that turned into a standalone one, which consists in the simulation of the movements performed by the rowers on a boat, by making use of a training device called ergometer. Using this particular device as a training means is the perfect method that enables rowers to keep fit when the weather forecast stops water training.

A lot of indoor races are run annually across the world, including *Indoor Canoeing World Championships* (WRIC), with the great majority of tournaments running on a 2000 m distance (1000 m for paracanoeing categories). Invictus games run two main trial matches against the clock (the distance run per time unit established) as folows: the endurance trial (4 minutes) and the sprint trial (1 minute).

Powerlifting is a sport which consists of one olympic bar bell lifting by resorting to three distinct methods: sit-ups, sitting push and straightening. Servicemen are assigned three trials each for every lifting method. The competition is run in accordance with weight categories, and the designated winner is the serviceman that cumulates the maximum; only the maximal repetition for reach type of lifting being on the record.

Archery consists of using an arch to shoot arrows on a target. This sport requires precision, endurance, and concentration from the involved servicemen that are subject to an intense effort during the competition run in two main sessions. The latter will concentrate their abilities to resist, using two types of arches (the olympic arch and the compound arch) and targetting 18 m distance marks.

The second edition of the Invictus Games took place in 2016, the runner being the city of Orlando, Florida (the USA). All the 10 sports events were hosted by the ESPN *Walt Disney* World Sports Complex (unlike the first edition, one more trial was added, namely wheelchair field tennis) with 500 participants from 15 nations across the world (all the countries from the previous edition, subsequently joined by Irak and Jordan).

Wheelchair field tennis is run in any standard field without bringing any changes to rackets or balls. Nevertheless, unlike classic tennis, there are two major differences: servicemen use a particularly designed wheelchair, and the ball can fall up to two times until it is returned (the second bounce with soil being accepted even outside the field). The wheelchair is considered as being part of the player's body, and the serviceman should keep one of his buttocks in close contact with his wheelchair every time he touches the ball.[7]

The third edition of the Invictus Games, hosted by the city of Toronto in Canada, was run the next year. Unlike the previous sports that took place in one sports complex only, the Canadian people established various venues in the vecinity of the city of Toronto to chair the 12 sports events, along with the opening and closing ceremonies (unlike the previous edition, two more disciplines were added: golf and a trial called *Driving Challenge*). All the 15 countries enrolled for the games in 2016 accepted the invitation of attendance, too. Romania and Ukraine also joined them.

Starting this edition of the Invictus Games, the first medals to be awarded within the competition were assigned by the main sponsor of the games[8]

Table no. 1

THE MEDALS OBTAINED BY THE MEMBERS OF THE ROMANIAN BATCH TO INVICTUS GAMES (3RD EDITION) – TORONTO 2017[11]

No.	First and last names	Sports discipline	Trial	Rank
1.	ADRIAN CIPRIAN IRICIUC	Indoor rowing	Four Minute Endurance	3
2.	LAURENȚIU ȘERBAN	Athletics	1500 m flat	3
3.	IONUȚ - CLAUDIU BUTOI	Archery	Compound arch	2
4.	DORIN PETRUȚ, IONUȚ CLAUDIU BUTOI, AUGUSTIN NICUȘOR PEGULESCU	Archery	Teams – compound arch	1

that challenged all the participating teams to pass the practical trial of driving a car. This challenge is a test of precision and skillfulness which urges two participants of different nations to work in teams in order to drive a vehicle on a driving range, with a given track set by the organizers[9].

They managed to win 4 medals by the end of the competition, among which, a golden one, a silver one, and a bronze one. Such an honorary invitation denotes respect and appreciation on the part of the allies towards the professionalism and sacrifice sense proven by the Romanian Army's military personnel in the theatres of operation where they deployed. It did not take too long for the Invictus Games to become familiar among the Romanian servicemen. Thus, anticipating the increasing

Table no. 2

THE MEDALS OBTAINED BY THE MEMBERS OF ROMANIA'S BATCH TO INVICTUS GAMES (4TH EDITION) – SYDNEY 2018

No.	First and last names	Sports discipline	Trial	Rank
1.	DUMITRU NICOLAE PARASCHIVA	Indoor canoeing	Four-minute endurance	3
2.	DORIN PETRUȚ	Archery	Compound arch	3
3.	DĂNUȚ NICOLA, ION CĂTĂLIN PÂRVU, EUGEN VALENTIN PĂTRU	Archery	Teams – recurve arch	2
4.	DORIN PETRUȚ, IONUȚ CLAUDIU BUTOI, AUGUSTIN NICUȘOR PEGULESCU	Archery	Teams – compound arch	1
5.	EUGEN PĂTRU	Archery	Recurve arch	1

Joining the Invictus Games for the first time, Romania's representative team was made of an aggregate of 15 servicemen wounded in the theatres of operations in Iraq and Afghanistan.

popularity of such genre of sport, the Ministry of National Defence established a centre for disabled people within the Army's *Steaua* Sports Club in 2015[10]. servicemen, obtained 5 medals (among which 2 golden ones, a silver one and two bronze ones) and very good places in all disciplines they attended.

Figure 2 *The participating batches of the Romanian Army at two editions of Invictus Games (to the left – Toronto 2017, to the right – Sydney 2018)*

The fourth edition of the Invictus Games took place in 2018 in the city of Sydney in Australia, along eight days full of increasingly exciting and spectacular sports competitions. All the participating 17 countries at the edition in 2017 accepted the invitation of attendance. Poland also joined them. Unlike the previous edition, one more discipline (*Navigation*) was added, the event, hosting thereby, 13 sports events.

Romania's representative batch, made up of 15 For the first time, Romania's team enrolled for *Sitting volleyball*, with the following results: 2-0 with Germany, 0-2 with Georgia (the title holder and current winner of the championship).

By the end of an Invictus Games edition, there is no overall leaderboard with the number of medals awarded to every nation since the winner of the medal is unimportant. Reaching the starting line makes participants winners, since the winning post is not worth considering.

Table no. 3

THE RECEIVING CITIES OF THE INVICTUS GAMES

Year	Running period	Country	City	Participating nations	Sports disciplines
2014	10th – 14th September	Great Britain	London	13	9
2016	8th – 12th May	USA	Orlando	15	10
2017	23rd – 30th September	Canada	Toronto	17	12
2018	19th – 27th October	Australia	Sydney	18	13
2021	May – June	The Netherlands	The Hague	20?	?
2022	10th – 19th June	Germany	Düsseldorf	?	?

As the first Invictus Games edition was successful, the Invictus Games foundation was subsequently established. The latter holds brand royalties, decides the upcoming receiving cities of the competition, makes sure that the standards regarding sports management and sports discipline rules are met. It is also the one that decides to add new sports to the already existing tournaments and accepts the participating nations. In this sense, the Invictus Games Foundation had the honour to introduce two new members of the Invictus team (Belgium and South Korea), which enroll for the upcoming editions as participating nations.

Basically, Prince Harry (the founder of the event) has recently concured with representatives of the Israeli Army to welcome a designated team from Israel to the edition in 2022, which was considered outrageous by the British Muslim community and various unions advocating human rights. The latter even think that such an invitation is untolerable because of the investigation carried out by the International Law Court in Hague regarding potential war crimes committed by IDF (Defence Forces of Israel) in the Gaza Strip and the West Bank[12].

Due to coronavirus pandemic that affects the whole world this year (and in order to limit its impact on all parties involved), the tournaments that were scheduled in Hague (the Netherlands), in May 9th-16th 2020, have been postponed, being replanned in 2021, in a period to be subsequently decided, with the specification that the edition in 2022 will be hosted by the city of Düsseldorf in Germany.

Conclusions

Sport is a means that enables people to embark upon the path leading to ultimate rehabilitation. To bring about joy and excitement during this journey, Invictus Games will draw international attention to those servicemen who want to achieve their goals and strive to regain self-confidence and get down to their careers, social and family lives. These games generate a memorable exciting experience for participants to go through, with beneficial effects on the rehabilitation program and recovery training. Even if once completed, a lot of servicemen turn back home without any award, all participants end up being victorious. They proved that they can overcome their fears, disease and weakneses, which determine us to look up to them.

The poem entitled *Invictus*, written by William Ernest Henley in 1875 (to express his frustration after having his leg amputated because of severe infection), which came out in the volume called ”Book of Verses” is the embodiment of the unrested human spirit Invictus Games are revolving around.

Invictus[13]
by Ernest Henley

”Out of the night that covers me,
Black as the Pit from pole to pole,
I thank whatever gods may be
For my unconquerable soul.

Beyond this place of wrath and tears,
Looms but the Horror of the shade,
And yet the menace of the years
Finds, and shall find, me unafraid.

In the fell clutch of circumstance
I have not winced nor cried aloud.
Under the bludgeonings of chance
My head is bloody, but unbowed.

It matters not how strait the gate,
How charged with punishments the scroll.
I am the master of my fate
I am the captain of my soul.”

The Invictus serviceman’s creed is masterly illustrated in the poem written by William Ernest Henley, whose work conveys artistic sensitivity and gravity, advocating courage and dignity when surpassing life hurdles. The lyrics embody the individual that has to cope with any life challenge and move forward, bravely, his chin up, his soul free and strong.

The poetic text is a confession addressing the subject of human condition, which is supported by the occurrence of various terms pertaining to this specific lexical field, i.e. ”soul”, ”tears”, ”fate”, ”bludgeonings” and ”punishments”. The lyric discourse has confessional property being a plea the author makes use of to express his own experience. Going through a limit situation, the poetic ego experiences a wide range of feelings, from sadness, disappointment, grief, fear, indignation up to ultimate acceptance and even victory in front of the bitter fate.

The poetic message is artistically rendered through expressive language. The phrase ”the night that covers me” and the comparison ”black as the Pit from pole to pole” suggests the turmoiling sorrow that affected the serviceman’s entire life. The lack of light denotes the absence of hope as well as the darkness overwhelming him. Nevertheless, once overcoming the traumas of ”the inner Pit”, *the Invictus serviceman* comes back to life out of his own ashes, similar to Phoenix, succeeding in coping with the cruel fate, and breaking free to become worthy of praise.

The metaphor ”I am the captain of my soul” emphasizes that one’s power comes from within and that nobody can steal one’s freedom, dignity and courage. Even if he was brought to his knees by the hardships of his life, his soul is still unplagued. The bludgeonings he went through finally strengthened him, made him take full control over his life, urged him to be on his own. If at the outset of the poetic discourse, the atmosphere is bleak, it ends up turning into a bright one, full of rejoice, the lyric ego realizing that all obstacles he has gone through made him become stronger and withstand the blurred and hectic waves of life. The lines ”I have not winced nor cried aloud/ Under the bludgeonings of chance/ My head is bloody, but unbowed” illustrate the determination and ambition that enabled him to surpass the utter hurdles he had to deal with.

Furthermore, the title contributes to getting an insight into the message conveyed by the poem. *The invictus serviceman* stands for a winner since he has the motivation and inner power to stand up even after overcoming the most serious hardships. In a world full of passions, tears and curses the lyric ego manages, along with God, to create a free spirit, a winner, a fate overcommer out of pain and sorrow. Strong personality, honour, ambition and dignity are all qualities to be assigned to the *invictus serviceman*.

Therefore, the ”Invictus” poem written by William Ernest Henley has a moving sensitive lyric message that impresses through the intensity and depth of the feelings conveyed, coming to be compared to a praise brought to *the invictus serviceman* that overpasses his physical condition through ambition, faith, hope, courage and dignity when coping with the resisting odds.

The current poem urges to endurance and dignity, a combination of memories and feelings, a clear ”No!” spoken out to fate. The present lines passed down generations on end in order to convey strength in hard times, featuring the unrested human spirit Invictus Games are revolving around.

NOTES:

1 The Latin word *Invictus* means: undefeatable, unconquerable, unbeatable, invincible.

2 G.C. Ciapa, *Romanian Army servicemen’s physical training in modern conflict*, ”Carol I” National Defence University, Bucharest, 2018, p. 73.

3 https://www.youtube.com/watch?v=Im-5ey1-siY, accessed on 24.03.2020.

4 http://www.rugby.ro/cum-se-joaca-rugby-in-scaun-rulant-16238.html, accessed on 27.03.2020.

5 https://www.paralimpicromania.ro/wp-content/uploads/2019/10/Regulament_basketball.pdf, accessed on 27.03.2020.

6 https://en.wikipedia.org/wiki/Sitting_volleyball, accessed on 27.03.2020.

7 https://npc.org.ro/sporturi/regulamente-ipc, accessed on 29.03.2020.

8 Sponsor principal: *Jaguar Land Rover*.

9 https://www.youtube.com/watch?v=mkEJu8WUPqA, accessed on 25.03.2020.

10 https://familiaregala.ro/stiri/articol/echipa-romaniei-la-invictus-games-toronto-2017, accessed on 29.03.2020.

11 http://results.invictusgames2017.com/index.cfm/en/grid/showResults/athleteCountry/ROU.html, accessed on 28.03.2020.

12 https://www.ynetnews.com/article/ByKuDCTIL, accessed on 30.03.2020.

13 http://poezii.citatepedia.ro/de.php?a=William+Ernest+Henley, accessed on 26.03.2020.

REFERENCES

Băițan G.F., *Pregătirea fizică a militarilor din Armata României în contextul integrării în NATO,* ”Carol I” National Defence University, Bucharest, 2019.

Ciapa G.C., *Pregătirea fizică a militarilor din Armata României în conflictele moderne*, ”Carol I” National Defence University, Bucharest, 2018.

Delaney T., Madigan T., *The sociology of sports – an introduction*, Second Edition, McFarland & Company, Inc., Publishers, Jefferson, North Carolina, 2015.

Grant A., *You’ll Never Walk*, DeCoubertin Books, Reprint edition, UK, 2019.

Jones E., *Who are veterans?*, KidHaven Publishing, New York, 2020.

Marano K., Tsallis, A., *Invictus Games Sydney 2018*, Australian International Military Games Limited, 2019.

Starling B., *Unconquerable: The Invictus Spirit*, HarperCollins Publishers, New York, 2017.

https://www.youtube.com/watch?v=Im-5ey1-siY

http://www.rugby.ro/cum-se-joaca-rugby-in-scaun-rulant-16238.html

https://www.paralimpicromania.ro/wp-content/uploads/2019/10/Regulament_basketball.pdf

https://www.en.wikipedia.org/wiki/Sitting_volleyball

https://www.npc.org.ro/sporturi/regulamente-ipc

https://www.youtube.com/watch?v=mkEJu8WUPqA

https://www.familiaregala.ro/stiri/articol/echipa-romaniei-la-invictus-games-toronto-2017

http://www.results.invictusgames2017.com/index.cfm/en/grid/showResults/athleteCountry/ROU.html

https://www.ynetnews.com/article/ByKuDCTIL

http://www.poezii.citatepedia.ro/de.php?a=William+Ernest+Henley

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EFFECTS OF SMOKING AND ALCOHOL ON THE HUMAN BODY AND PHYSICAL EFFORT

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According to the World Health Organization, cigarette and alcohol consumption are one of the leading causes of illness, disability and death worldwide, the life expectancy of regular consumers of these products being drastically diminished in many situations. Diseases caused by the consumption of these ”drugs” and exposure to cigarette smoke are some of the most serious and can affect both the internal organs and the whole body. This material manages to capture some of the most important negative effects that alcohol and cigarettes have on the human body and their implications from the perspective of physical effort. The fundamental role of this material is given not only by the presentation of the effects on the body and physical effort, but also by its raising awareness regarding the negative impact that smoking and alcohol create in the personal-social entourage of the consumer.

Keywords: physical effort; alcohol; smoking; physical exercise; cigarettes; effect.

The society in which man carries out his activity and lives is an inexhaustible resource of stimuli that subject him to social adaptations and re-adaptations but also to behavioral changes. It is not always that these changes have a positive role on the body, as they cause disturbances to the normal functionality of the body. Interestingly, we expose ourselves to such disturbances, in many situations, voluntarily and consciously (for example, ingestion of foods containing preservatives and chemical compounds, cigarette and alcohol consumption, etc.) but also involuntarily (for example, passive smoking).

Living in this society based on a consumption of a whole range of products, more quantitative than qualitative, inevitably, attention will also be directed to alcoholic beverages and/or cigarettes. ”What if I tried?” ”What happens if I drink a glass or smoke a cigarette?” ”Nothing” is the answer given to these questions, in most situations. From this answer to forming a habit and causing an addiction to be created from consuming these two products is just one step. The result of addiction and individual consumption of alcohol and cigarettes, combined with each other or with other products that can harm the human body, will eventually be found in the appearance of harmful effects on the functionality of the human psyche and physique.

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According to the World Health Organization (WHO), cigarette consumption tends to become the main cause of global mortality, a situation that can be avoided by precise and enforceable policies and measures taken by the responsible institutions in each country. It is estimated that there are over one billion smokers worldwide, most of whom are in countries with developing economy, almost three times more than in developed countries. Considering population gender, men are the most numerous when it comes to smoking. The same organization states that, annually, more than 4,2 million people die because of it. More than one million are Europeans.

Romanians are no exception to cigarette consumption. During the period 2011-2018, Romania registered an increase of almost 15% in the number of smokers, mainly due to the explosion of this vice among young people and women. In Romania, it is estimated that there are over 4,3 million daily smokers, of which men are almost double the number of women who smoke.

Out of the total number of people diagnosed with lung cancer, according to the specifications of the Romanian Society of Pneumology, approximately 89% are or have been smokers who have recently quit. The same society also states that more than 42,000 deaths recorded annually are due to cigarette consumption. This consumption causes more deaths annually than obesity, traffic accidents, alcohol consumption, suicide and drug consumption together.

In terms of alcohol, there are more than 3,3 million deaths worldwide each year, of which more than two-thirds are, in this case also, men. In Romania, according to the World Health Organization, in 2016, of the more than 11,000 people who suffered from alcohol consumption, more than half of the cases resulted in deaths. At the European level, Romania ranks ninth in alcohol consumption per capita and tenth in the world[1].

Effects of smoking on the human body and physical effort

Even if, at the global and national level, there is a policy to raise awareness, prevent and combat the negative effects of cigarette consumption, the population is exposed to this vice, from a very early age. Teenage can also be marked by the onset of cigarette consumption, with multiple motivations. The onset of smoking can be found in reasons such as rebelliousness, the need to stand out and to be recognized in the social environment where young people carry out their main activities, curiosity, the need for acceptance in groups with common passions and interests, the tendency not to be derided by the group which one belongs to and, sometimes, even out of obligation.

We are all aware that the main residue of cigarette burning, smoke, is a real storehouse of toxic substances (over 500 substances), some being demonstrated to have a carcinogenic effect (tar, nitrosamine, zinc oxide, benzene, etc.), others being poisonous (carbon monoxide, nicotine, cyanides, etc.). Whether it is one or the other, all these substances affect the great functions of the body, the great systems of the body, the internal organs, putting human life at risk.

An extremely interesting element, with negative effects on the body, should be mentioned regarding hemoglobin[2] and carbon monoxide. There is an extremely strong connection between the two of them, in terms of their association. They combine approximately 200 times better compared to the oxygen-hemoglobin bond. Thus, carbon monoxide reaches the blood faster than oxygen, the concentration of carboxyhemoglobin being approximately 1% in a non-smoker and with values of 5%-25% in a cigarette consumer. The result of the association of carbon monoxide with hemoglobin and its transport in the body produce a series of negative effects on the body, two of which being sufficient to indicate its harmful nature: ”due to its association with hemoglobin, over time, it will become unable to carry oxygen, which will negatively affect the body’s respiratory capacity, cells, human physical performance; another effect, this time chronic, consists in destroying the inner layer of blood vessels, an important fact for the exacerbation of cardiovascular diseases”[3].

Another element of cigarette smoke that negatively affects the human body is nicotine. Out of the total amount of smoke, only 30% of it reaches the mouth. As a result of the particular way of smoking, of this percentage, values between 5% and 95% of the total inhaled nicotine may reach the bloodstream, under the conditions of air retention. It should be noted that a dose of nicotine with values between 40-50 mg causes death for an adult. In children, only 10 mg is sufficient[4]. Specifically, to reach this amount, an adult must consume approximately 20-40 cigarettes in a time interval of 90-180 minutes.

In low concentrations (approximately 1 mg of absorbed substance), nicotine can be an exciting factor or a stimulant of the central nervous system, leading to a – reduced, it is true – increase in an individual’s chances of achieving more intense physical exertion than without it. Nicotine also stimulates the body’s wakefulness.

However, the presence of nicotine in the body in large quantities and for a long period of time materializes in the increase of chances of adverse effects in the human body. Of these, I mention only a few, that I consider very important from the perspective of body function:

- nicotine is a trigger and a stimulant for adrenaline, having the effect of accelerating the heart rate and increasing blood pressure. The smoke of a single cigarette is enough to increase the heart rate by up to 20 beats per minute.
- another effect is that of vasoconstriction[5]of blood vessels. It can be a determining factor for the occurrence of vascular spasms (the smoke of a single cigarette lowers the temperature of the extremities of the body (fingers, nose, ears) with values between 0,6-3,8 degrees). Vasoconstriction, along with other cardiovascular diseases developed in the body, can lead to myocardial infarction.
- high heart rate combined with vasoconstriction leads to structural changes in the walls of blood vessels and to circulatory disorders[6].

• nicotine reduces ”expiratory volume and causes a deterioration of alveolar gas exchange processes, a decrease in respiratory flow, an increase in the oxygen requirements of the muscles”[7].The cause of such effects is the decrease in the degree of permeability of the membranes of the pulmonary alveoli due to the ”attachment” of cigarette smoke substances to them.

• Following the reduction in the amount of oxygen in the blood, there are negative changes in the metabolism of lipids in the body, changes that occur in a fairly short time when there is an increase in free fatty acids[8], but also some long-term changes in terms of decreasing good cholesterol (HDL) and increasing total cholesterol.

From the point of view of the influences of smoking on physical exercise, the carbon monoxide-hemoglobin combination reduces the amount of oxygen necessary for the muscles to perform effort; nicotine and carbon dioxide contribute to blood coagulation, as it becomes more viscous, it favors the accumulation of fat on the blood vessels, thus creating a predisposition to reduce the amount of blood that can reach the organs and muscles. These two elements lead to the limitation of the amount of oxygen and blood rich in nutrients necessary for muscle contractions to support and perform physical efforts, either intense and short-term, or long-term, but of low or moderate intensity.

Combating this vice and preventing cigarette consumption, implicitly its effects on our body, can be achieved through: ”education in all educational structures in the country (primary and secondary schools, universities, etc.), in order to reduce the number of potential smokers; banning commercial agents from owning and marketing cigarettes or their substitutes near educational structures; enforcement of and compliance with the existing laws on combating and preventing the negative effects of smoking; a total ban on smoking in public spaces and in the vicinity of educational institutions; within the limits of possibilities and technological developments, the reduction of the quantities of harmful substances in cigarettes; aggressive advertising campaigns and highlighting the negative changes that smoking has on the body”[9].

Cigarette smoke, with the toxic and carcinogenic substances in its composition, is one of the main causes for the emergence and development of some of the most serious human diseases, some of them even causing death. Diseases developed as a result of cigarette consumption do not affect only a part of the body. They can include all the major functions of the body, in some cases even generalizing at the level of the whole body. In this presentation I will list only some of them, that are most relevant for this cause-effect relationship of cigarette consumption: ”diseases of the cardio-respiratory system (lung cancer, myocardial infarction, peripheral vascular diseases, stroke, favoring the emergence of a series of diseases of the respiratory system – flu, pneumonia, etc.), changes of the skin system (skin appears older), reproductive system dysfunction (erectile dysfunction, impotence, high risk of infertility in women), miscarriage and deficiencies of the fetus and, later, the newborn, sudden death or shortening of life by up to 10 years in the case of a lifelong smoker”[10].

Decreasing the number of cigarettes consumed or giving up this vice completely is, first and foremost, an exercise of self-control, a manifestation of personal will in removing a harmful factor for the body. Quitting cigarette consumption, from my point of view, can be achieved by two approaches: the first – directly quitting smoking and using a firm attitude related to this consumption, the second – gradually quitting and reducing cigarettes, going through several phases of consumption, less and less quantitative.

Regardless of the way we approach to reduce or stop cigarette consumption, an essential contribution is the knowledge and awareness of their effects on the body. Along with this knowledge, the following can also be helpful: finding a sufficiently strong motivation to give up cigarettes (reasons such as those related to the health condition of the consumer, the financial situation and the expenses incurred as a result of this consumption, etc.); removing from the private environment the products that facilitate smoking and direct attention and thought towards it (ashtrays, lighters, tobacco pipes, pictures of cigarette packs, tobacco pipes, cigarettes, etc.); real support from family and acquaintances; drug treatment; rational consumption of healthy products as substitute for cigarettes; giving up products that require cigarette consumption until the complete disappearance of this ”demand” of the body (coffee, for example); consuming foods and beverages that contain very low doses of nicotine in order to combat this addiction in stages; carrying out sports activities. It is known that physical exercise alleviates the ”craving” for nicotine. The long-term benefits as a result of quitting smoking are summarized in Figure 1.

I mentioned earlier that alcohol can positively influence the human body, or from this point of view the vital condition for determining the appearance of beneficial effects must be taken into account: *its rational and moderate consumption.* What can this condition mean? It all comes down to the amount and content of pure alcohol in that amount. The recommendations, in the vast majority of studies and data provided by the WHO, have as upper limit the following figures: 350 ml of beer (5%) or 120 ml of wine (12%) or 50 ml of spirit drink (40%). It is not to be understood that all this may be consumed daily. Another type of recommendation considers only pure alcohol in the drink, as follows: for men it can reach a maximum of 30 g of pure alcohol, while for women this maximum threshold is only 15 g. Moderation and rational consumption of alcohol can lead to ”reducing the risk of diabetes emergence and development; reducing the chances of a stroke; lowering the amount of bad cholesterol (LDL) and increasing the good cholesterol (HDL); increasing the blood coagulation time – this effect can prevent or even stop a possible myocardial infarction”[12].

Figure 1 *Benefits of quitting smoking*[11]

Effects of alcohol on the human body and physical effort

If, previously, we presented a stringent problem, quite pressing on the smoking population as well as on some of those who do not have this habit (to be understood as passive smokers), in this part we will focus on addressing another product that, along with cigarettes, causes the death of millions of people each year: alcohol.

Adults and, unfortunately, more and more young people have turned alcohol consumption into an element that leads to the rapid change in the human general condition, into an element of connection between mental and physical changes and real life, a factor that generates negative but also positive influences on the body. The onset of this gesture, to consume alcohol, has as substrate, in most situations, real life and the feelings it offers, the reasons being extremely diverse: happiness and sadness can be clothed or stifled by alcohol, driving away the feeling of loneliness and alleviating this feeling, joy, curiosity, the need for socialization, stimulation of courage and partial cancellation of fear, access to a certain social group, partial reduction of stress, irritability, celebration, imitation of the behavior of those in the immediate vicinity and, last but not least, habit.

Even if alcohol causes the appearance of positive effects on the body, unfortunately irrational consumption creates premises for affecting both the internal organs and the whole body, which will inevitably lead to the emergence and development of certain diseases, some of them resulting in the death of the person concerned.

The effects of alcoholic beverages can be observed a few minutes and even hours after starting consumption, being well known: reduced ability to think logically, impaired quality of the visual apparatus, impaired distributive attention, decreased ability to segmental physical coordination, inability to maintain body balance, reduced possibilities of spatial and temporal orientation, nausea and vomiting, coma, death.

"In the long term, diseases of the digestive system can emerge (for example, cirrhosis – with its most often fatal effect, ulcer, gastritis, cancer, pancreatitis, etc.), diseases of the respiratory and circulatory systems (tuberculosis, myocardial infarction, stroke, hypertension, increased heart rate), central nervous system (dementia, aggression, alcoholic insanity, depression, etc.), diseases of the reproductive system (reduction to the disappearance of libido, impotence, sterility, etc.), diseases of the osteoarticular system (decreased functional capacity of the muscles, a factor conducive to the emergence and development of osteoporosis), death"[13].

Unfortunately, these effects do not only target man as a distinct, anatomical and functional entity. The effects of alcohol consumption are also found on other levels, where it creates a series of shortcomings, negatively influencing the development of the social life of the consumer but also their economic evolution. Alcohol consumption is a determining element for poor work organization, for favoring the occurrence of individual labor disputes, activity disruption and non-compliance with tasks at work, indifference, diminished sense of responsibility, lack of interest in carrying out household chores, neglect of children and family, contradictory social tendencies, for social self-exclusion. The effects of alcohol consumption can be found very well synthesized in Figure 2.

The effects of alcohol consumption on the body are directly proportional to the concentration of alcohol in the drink itself, the amount in the bloodstream and in the metabolization process, the amount of enzymes genetically present in the body that contribute to alcohol decomposition. The effects are caused by a series of elements, of which I mention:

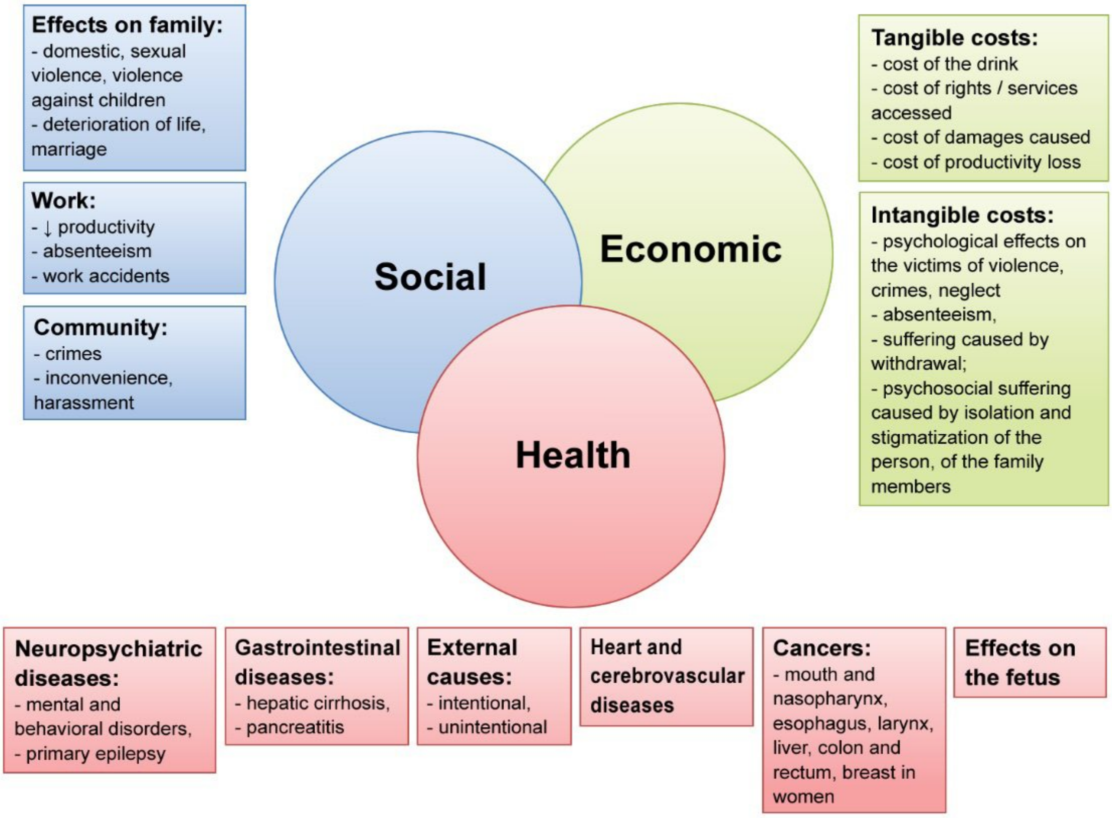

Figure 2 *Effects of alcohol consumption*[14]

• the amount of alcohol ingested – a larger amount will lead to increasing the level of its concentration in the body and blood circulation. Such increase will intensify the particular symptoms of this type of consumption. An amount of alcohol with a blood alcohol index between 3,5-5 per thousand can also be a cause for death;

• alcohol concentration – a drink with a lower alcohol concentration compared to a strong alcoholic one (with a concentration between 40°-50° or above 50°) will cause less intense effects, the period until the onset of the particular symptoms of alcohol consumption being higher, the specific signs being partially visible or impossible to identify.

• the time elapsed from the first *sip* until its passage into the blood. The same amount of alcohol passes into the blood faster when consumed *on an empty stomach*, compared to the state in which it is ingested after a high-fat meal. Alcohol is metabolized in a proportion of 90% by the liver, the remaining 10% approximately being eliminated by the kidneys and lungs. The absorption of alcohol in the blood occurs immediately after ingestion, along almost the entire length of the digestive tract.

• speed and time elapsed for the elimination of alcohol from the body – ”the speed rises to 0,1 g per kilogram of body weight per hour in men and 0.085 g per kilogram of body weight per hour in women. The decrease in blood alcohol levels occurs linearly, depending on time, amounting to approximately0.15 per thousand/hour”[15].

• body mass and the amount of water in the body – a person’s higher body mass decreases the possibility of increasing the blood alcohol index compared to a person with a lower mass, mainly due to a high dilution body volume.

• the habit of consuming alcohol – an individual who develops this type of totally unhealthy behavior leads to decreased sensitivity of the central nervous system, the main symptoms specific to alcohol consumption being more difficult to develop.

Considering the practice of various sports as performance or leisure activities, carrying out physical education training activity, the effects of alcohol consumption are also present in this field, negatively influencing the performance of practitioners. Among the most important effects I mention the following:

• increasing of the time until the onset of the motor reaction, as a result of the occurrence of an external or internal stimulus – this is because alcohol acts as a blocker making it ”impossible to suddenly increase muscle permeability to sodium”[16]. Sodium is an essential mineral with an important role in the excitability and achievement of muscle contractions, and implicitly in the regulation of muscle activities.

• diminishing the possibility of the human body to perform coordinated movements, either segmentally or as a unitary whole. Alcohol is a disruptive factor for all motor control centers in the brain. It acts as a barrier between the command received from the motor centers and the performance of the motor action or gesture itself.

• ”restricting certain metabolic processes – alcohol reduces or may even stop metabolic processes by which glucose can be synthesized from non-carbohydrate resources (for example, lactic acid), extremely important for developing and maintaining muscle effort. Reducing or preventing the re-synthesis of glucose in endurance (long-term) efforts can lead to the development of hypoglycemia, a factor conducive to the occurrence of situations that can degenerate and endanger human life”[17].

• decreased muscle performance – the influences mentioned above will have a negative finality on the performance of most muscle groups, body motor skills (strength, endurance, mobility, speed, skillfulness).

• increasing number of heartbeats (heart rate) – acceleration of the heart rate of the resting person occurs due to the vasodilating effect of alcohol. Alcohol consumption causes a dilation of the skin blood vessels. This dilation requires a higher blood flow than usual, the heart, in this situation, having to pump more blood. Or, the amount of blood needed for the vessels is supported by a higher heart rate than usual.

• creating predispositions for contracting certain diseases and infections – alcohol acting as a blocker and inhibitor of the body’s defense processes, it limits the action of the body’s immune system and its fight against pathogenic factors, this being an indirect cause with negative implications for the performance of motor actions and activities.

Conclusions

I presented a series of data indicating the nature of alcohol and cigarette consumption favoring the occurrence of important changes in the proper functioning of the human body. Both alcohol and cigarettes, but also their combination in the situation of simultaneous consumption, are the basis for disorders of metabolic processes, dysfunction of internal organs, negative influences on the activity of the central nervous system.

Whether it is about immediate or long-term effects of alcohol and cigarette consumption, the consequences will be reflected for a long time on the human health condition. In the short term, the subtlety of simultaneous consumption, given that cigarettes act as a mild activator and alcohol as an inhibitor, premises are created for the consumption of a larger amount of alcohol (there is a sensation of not feeling drunk). In the long term, their combination and simultaneous or individual consumption will lead to a series of serious medical problems and various social issues, in the absence of control and reason.

NOTES:

1 http://apps.who.int/gho/data/node.sdg.3-5-viz?lang=en, accessed on 05.03.2020.

2 ”A ferruginous organic substance which is the coloring matter of red blood cells and which, by its property of oxidizing and reducing itself easily, has a role in the respiratory process, spreading the inspired oxygen in the body”, https://dexonline.ro/definitie/hemoglobina

3 G.C. Ciapa, *Guidelines and opportunities for the physical training of military personnel*, ”Carol I” National Defence University Publishing House, Bucharest, 2019, p. 103.

4 G. Kuschinsky, Lullmann, *KurzesLehrbuch der Pharmakologie*, Thieme, Sttutgart, 1974, p. 285.

5 Diameter reduction of blood vessels.

6 K. Focke, *Auswirkungen des Zigarettenrauchens. Fur die Bundesregierungantwortet der Budesminister fur Jungend. Familie und Gesudheit dem Parlament*, Drucksache 7/2070 des DeutschenBundestages von 10.5.1974, p. 5.

7 J. Weineck, *Biologie du Sport*, Research Center for Sports Problems, Bucharest, 1995, p. 334.

8 They are associated with an increased cardiovascular risk.

9 G.C. Ciapa, *Guidelines and opportunities for the physical training of military personnel*, ”Carol I” National Defence University Publishing House, Bucharest, 2019, p. 104.

10 *Ibidem*, p. 105.

11 www.formaremedicala.ro/educatie-pacienti/beneficiile-renuntarii-la-fumat (CO – carbon monoxide; MI – myocardial infarction; CVA – Cerebrovascular accident/stroke; COPD – Chronic obstructive pulmonary disease – Pathology of the lower respiratory tract, with high mortality rate).

12 G.C. Ciapa, *op.cit.*, p. 105.

13 *Ibidem*.

14 F. Furtunescu, A. Galan, C. Mihăiescu-Pinția, *Study on the economic impact of harmful alcohol consumption on the Romanian health system*, Bucharest, 2013, p. 24.

15 J. Weineck, *Biologie du Sport*, Research Center for Sports Problems, Bucharest, 1995, p. 338.

16 *Ibidem*, p. 339.

17 G.C. Ciapa, *Guidelines and opportunities for the physical training of military personnel*, ”Carol I” National Defence University Publishing House, Bucharest, 2019, p. 106.

REFERENCES

Ciapa G.C., *Guidelines and opportunities for the physical training of military personnel*, ”Carol I” National Defence University Publishing House, Bucharest, 2019.

Focke K., *Auswirkungen des Zigarettenrauchens. Fur die Bundesregierung antwortet der Budesminister fur Jungend. Familie und Gesudheit dem Parlament*, Drucksache 7/2070 des Deutschen Bundestages von 10.5.1974.

Furtunescu F., Galan A., Mihăiescu-Pinția C., *Study on the economic impact of harmful alcohol consumption on the Romanian health system*, Bucharest, 2013.

Kuschinsky G., Lullmann: *Kurzes Lehrbuch der Pharmakologie*, Thieme, Sttutgart, 1974.

Sullivan V.E., et. al., *Alcohol's Effects on Brain and Behavior,* Alcohol Research & Health, Vol. 33, Nos. 1 and 2, 2010.

Weineck J., *Biologie du Sport*, Centrul de Cercetări pentru Probleme de Sport, București, 1995.

World Health Organization, *Global report on trends in prevalence of tobacco smoking,* 2015.

World Health Organization, *Global status report on alcohol and health*, 2018.

http://www.formaremedicala.ro

http://www.apps.who.int

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THE IMPORTANCE OF PHYSICAL EXERCISE FOR COMBATING DEPRESSION AND ANXIETY

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Human activity is characterized by positive or negative manifestations of man, most of them being made consciously, rationally, dictated by the social demand or the need to exist. These human manifestations can undergo changes due to external and internal influences, in which various factors cause the occurrence of positive psycho-behavioral changes or, in some situations, with a negative impact on the human psyche and mental health. The human psyche is a fact of nature, extremely complex and, at the same time, very fragile. Its fragility can have harmful consequences, leading to the emergence of mental disorders. This material provides information and creates an overview of depression and anxiety, of the changes caused by them, as well as specific means in the field of physical education and sports, with a role in combating and preventing the emergence of the mental disorders mentioned above.

Keywords: physical education; depression; anxiety; means; physical exercise; mental disorders.

Society, the environment in which man carries out his activity, genetic inheritance, but also man's relationship with his fellows are central elements of influence on human behavior and psyche. Also, another factor that contributes and influences the human psyche is given by the information bombardment given by the internet, radio and television network, to which man is subjected. This human-information flow interaction can lead to the occurrence of a general comparison between two distinct societies, between poorly developed and strong states, between social strata and categories of the same country, but also of a particular comparison between people as distinct entities. In fact, the human-human comparison may cause the reduction of the quality of interpersonal relationships and the disturbance of the human psyche. The influences that these elements have on man create the chances of his behavior changes, transformation and adaptation to the emerging situation.

The last decades of the last century and the first of our century are marked by the spread of diseases with an impact on the human psyche and physique, mental disorders gaining a special status, becoming part of our habit, of everyday life. Of the mental disorders, two tend to be considered the diseases of the modern world: depression and anxiety. Depressive disorders are widespread in all social strata, affecting women and men alike, complaining more and more often of discouragement, sadness, despair, lack of energy, as well as reduced self-confidence.

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Depression and anxiety

The World Health Organization, through the report titled "Depression and Other Common Mental Disorders, Global Health Estimates", states that in 2015, approximately 4,4% (approximately 322 million people) of the world's total population suffer from depressive disorders and 3,6% from anxiety disorders (approximately 264 million people). The same report provides other extremely interesting information. Thus, depressive disorders are more common in women (5,1%) than in men (3,6%), while anxiety disorders follow the same pattern, in which women are affected in proportion of 4,6% and men only 2,6%. The age range most affected by depressive disorders is between 60 and 64, for both women and men, and for anxiety disorders, the values are between the ages of 40 and 49, for women, and 15 to 24, for males.

In the case of Romania, according to the same report, over 900,000 cases of depressive disorders were detected, a figure that represents approximately 5% of the country's population and over 685,000 cases of anxiety disorders (3,7% of the country's population). The number of women suffering from depressive and anxiety disorders tends to reach almost double the number of men. Why is this number almost double? Although we are equally sensitive to all daily challenges, an explanation for the higher number of women is given by the occurrence of additional reasons, such as: pregnancy, menstrual problems, infertility, menopause, postnatal depression, increased focus on negative feelings, stress (it is known that women have a greater predisposition for the emergence of depression and anxiety, at a lower level of stress compared to men) and even problems with self-image (for example, dissatisfaction with the image of their own body, facial features, hair, etc.).

But what is depression? It is a mental disorder as a result of mutual conditioning between a number of social, economic, physiological, genetic, psychological and environmental factors, being characterized by a state of ”sadness, loss of interest or pleasure, feelings of guilt or self-confidence, of depression, people's functional capacity is drastically reduced, not being successful in the activity they carry out or in everyday life, and in some situations being even able to commit suicide.

According to the WHO (World Health Organization), depressive disorders include two main subcategories: ”major depressive disorder/depressive episode, involving symptoms such as depressive mood, loss of interest and pleasure, and decreased energy; depending on the number and severity of symptoms, a depressive episode can be classified as mild, moderate or severe; and dysthymia, a persistent or chronic form of mild depression; the symptoms of dysthymia are similar to the depressive episode, but tend to be less intense and last longer”[2].

The symptoms range of depressive disorders is very wide, it can be divided into two categories: psychological and physical (Table no. 1), the

Table no. 1

SYMPTOMS OF DEPRESSION[3]

Depressive disorders	
Psychological symptoms of depression	*Physical symptoms of depression*
• Continuous low mood or sadness	• Slow movement or reduced speech
• Feelings of hopelessness and helplessness	• Change in appetite or weight
• Low self-esteem	• Constipation
• Feelings of guilt	• Unexplained pain
• Irritability and intolerance towards others	• Lack of energy
• Lack of motivation and little interest in things and/or activities	• Unjustified fatigue
• Difficulty in making decisions	• Lack of interest in sexual intercourse
• Lack of pleasure, pessimism	• Changes in the menstrual cycle
• Suicidal thoughts or thoughts of doing harm	• Disturbed sleep
• Lack of concentration	
• Anxiety or worry	
• Reduced interest in sexual intercourse	

disturbed sleep or appetite, feelings of fatigue and poor concentration”[1], uselessness, a decrease and change in the cognitive and somatic-locomotor process, in some cases accentuating the state of nervousness, irritability. Severe forms of depressive disorders can lead to delusions or hallucinations. By the exacerbation of these symptoms, without a concrete intervention to combat the effects diagnosis of depression should be made by specialized staff, not based on personal findings.

Depressive disorders can emerge in anyone, regardless of age, and it has been shown that young people are not immune to this disease, while in middle-aged and elderly people it can coincide with other incurable or serious diseases: cancer, Parkinson's, cardiovascular diseases, diabetes etc. Medicines recommended and administered to treat such diseases may contribute to the onset and spread of depression. Also, a major contribution to the development of depressive disorders, regardless of age, can be made by excessive or constant stress, major traumas occurring throughout life, significant changes occurred in everyone’s life, as well as the genetic inheritance of mental illness of the family.

Anxiety, the second mental disorder addressed in this presentation, is a natural mental and physical reaction of the human body to a series of external factors, materialized in the emergence of a state of restlessness, fear, fright, tension, unjustified concern most often for imaginary dangers. All these emotional states are accompanied by specific gestures and agitation. In fact, gestures and agitation materialize in the movement of segments or of the whole body, sometimes illogical, simultaneously with a heart rate increase, with the possibility of sweating, with the appearance of a tremor throughout the body and changes in the respiratory process, in the sense of accelerating or decreasing respiratory rhythm.

The World Health Organization states that ”anxiety disorders refer to a group of mental disorders characterized by feelings of anxiety and fear, including generalized anxiety disorder (GAD), panic disorder, phobias, social anxiety disorder, obsessive-compulsive disorder (OCD) and post-traumatic stress disorder (PTSD). As with depression, symptoms can range from mild to severe. The duration of symptoms commonly experienced by people with anxiety disorders makes it more of a chronic than an episodic disorder”[4].

If we analyze anxiety and understand it as a normal, natural emotion, it tends to acquire positive connotations. If it does not turn into a mental disorder, anxiety can become a factor that helps us combat the possible effects of situations in which we may find ourselves. For example, the fear of failing an exam causes us to change our behavior and study much more; the concern caused by traveling in the mountains in winter causes an inner unrest, leading to taking additional preventive measures, for example, the purchase of specific, high-performance materials. From this point of view, we can understand anxiety as a preventive factor for a potential threat, becoming beneficial for our behavior.

From the point of view of the emergence and intensity of anxiety-specific symptoms (Table no. 2), of their negative effects, cumulated with the occurrence of important disturbances and disorders in everyday life (affecting social life, willingness to work, etc.), we must admit that anxiety disorders play a negative role in our lives.

Table no. 2

SYMPTOMS OF ANXIETY[5]

Anxiety disorders	
Psychological symptoms of anxiety	***Physical symptoms of anxiety***
•Restlessness •A feeling of fear •Constant state of marginalization •Difficulty to focus •Irritability •Impatience •Extremely easy distraction •Agitation	• Dizziness • Sleepiness and fatigue • Palpitations • Muscle pain and tension • Dry mouth • Excessive sweating • Shortness of breath • Stomachache • Nausea • Diarrhea • Headache • Excessive thirst • Insomnia

To the aforementioned conditions caused by anxiety others can also be added, such as: the impossibility of neuromuscular relaxation, unjustified mental and physical exhaustion, exaggeration of seemingly normal states of mental tension, endless repetition of negative thoughts, experiencing the feeling of mental and physical overwhelm, exacerbated sensitivity to the appearance of the slightest feeling of discomfort.

The symptoms associated with depression and anxiety are not limited to behavioral changes related to the human physique and psyche. The specific symptoms of the two mental disorders are also found in man’s everyday life, in the social context. These are called social symptoms. According to Physical Activity and Mental Health, some of them are ”difficulties in family life, participation in fewer hobbies and interests, participation in fewer social activities and avoiding contact with friends, things do not go well at work”[6].

Whether it is about anxiety or depression, in women or men, young or elderly people, these mental disorders affect both the lives of each of those diagnosed by specialist doctors and the lives of those around them, directly influencing them through their behavior.

The importance of physical exercise in combating depression and anxiety

The effectiveness of treatment for these two mental disorders is high and complete healing can be achieved if an early diagnosis has been made. For severe cases, a much longer period is needed for treatment and healing. Mainly, the treatment is based on pharmacological intervention and psychotherapy. It must also be customized at an individual level, as there is no single treatment solution. When the patient’s situation or condition requires it, a treatment can be performed by combining the two of them.

An alternative and/or a complement to the two possibilities of treating depression and anxiety can be physical activity, an activity defined as ”any body movement produced by the contraction of skeletal muscles that leads to a substantial increase in energy consumption compared to the rest period”[7]. The mere fact that we get out of bed and go to the kitchen or to the market does not mean that we carry out a physical effort based on physical exercise and precise planning, within a physical training program. In fact, physical exercise is ”a motor action with instrumented value, designed and programmed to achieve the objectives specific to physical education and sports”[8]. It is a physical activity, because there is energy consumption and movement of the body, but it cannot be included in the specificity of sports or physical education field.

In support of this statement, there are numerous studies attesting and proving the importance of physical exercise in combating and treating the mental disorders mentioned above. Of these, I will only mention a few that are relevant to this presentation. Thus, in the study titled ”Physical Exercise Counteracts Genetic Susceptibility to Depression”, the authors propose to study the link between physical exercise and the possibility of occurrence of depression due to the genetic component. The study involved 55 participants diagnosed with a form of depression. The study marked the analysis of a genetic factor that has an impact on emotion and that can materialize in increasing the risk of occurrence of depression. Following the study, the researchers obtained a statistically significant result indicating that those who participated in sports activities such as jogging were protected from the action of such gene.

The second study, ”Physical exercise for late life depression: effects on cognition and disability”, analyzes the relationship between depression developed in the elderly and the effects of physical exercise on cognitive processes and disabilities. 121 people aged close to 75 participated in the study. Knowing that physical exercise is an effective antidepressant and that it can positively influence cognitive processes, the researchers applied it as a stimulant in addition to drug treatment. The conclusions of their study state that the progressive introduction of aerobic exercise (physical effort made in the presence of oxygen) as an adjuvant offers an important advantage in treating depressive disorders, exercise also being a therapeutic measure.

The study called ”Antidepressant Efficacy of Adjunctive Aerobic Activity and Associated Biomarkers in Major Depression: A 4-Week, Randomized, Single-Blind, Controlled Clinical Trial” supports, through the research carried out, the point of view mentioned above. Thus, a group of 57 patients aged between 18 and 55, who had been diagnosed with a form of major depression and who were given only sertraline[9] during the observation (28 days), was divided into two experiment groups. The first, consisting of 29 people, underwent an aerobic exercise program, in addition to sertraline treatment, for 4 weeks, 4 times a week. The other group made no physical effort. The results obtained are again favorable to movement, indicating an evolution of the functional capacity of patients, concluding that physical exercise based on aerobic effort can be a short-term therapeutic alternative.

One of the interesting studies, conducted in 2019, ”Physical exercise improves quality of life, depressive symptoms, and cognition across chronic brain disorders: a transdiagnostic systematic review and meta-analysis of randomized controlled trials”, carried out a meta-analysis considering 122 profile studies, with a total of 7,231 participants. The study considered the involvement of physical exercise in the quality of life, treatment of depression symptoms and chronic brain disorders. The conclusion reached is extremely important. On chronic disorders, physical exercise showed weak effects, on the quality of life, they indicated medium-sized effects. Regarding the symptoms of depression, physical exercise indicated the most important effects, reiterating once again that exercise-based therapy is not to be neglected and, at the same time, it can be an additional source to drug treatments.

Although there are many studies in the case of depression, anxiety is less approached in research involving it in relation to physical exercise. However, there is information that creates this connection. Thus, in the research paper called ”Habitual physical activity and the risk for depressive and anxiety disorders among older men and women”, the authors manage to demonstrate, with a total of 547 eligible subjects, that regularly practiced physical activity is ”protective against the subsequent risk of developing novodepressive and anxiety disorders”[10]. At the same time, the symptoms of anxiety, according to the same study, can be reduced in number and intensity, by practicing physical activities in the spare time.

The role of physical exercise in preventing and combating the symptoms of depression and anxiety is that it can supplement or replace psychotherapy if the manifestations of the disorders are not accentuated, that it can increase the response rate to medication, it can reduce the frequency of mental disorder episodes and the amount of medication ingested and, in some situations, it can lead to the installation of a state of mental and muscular relaxation.

The importance of physical exercise in combating the effects of anxiety and depression also has as a starting point the social function of physical education. Thus, physical education is ”a gateway for integration into social groups, for expressing personal ideas and belonging to social values, for effective networking and communication with peers, for capitalizing on behavior in relationships with others... for social reintegration”[11] to those whose mental structure has been affected by these mental disorders. Group physical exercise can bring an additional benefit as a result of the social support provided.

Although there is so much evidence that physical activity and exercise show us their importance to our physical and mental health, still, physical activity is a huge resource, untapped to its full potential, for promoting well-being and mental health among people.

Conclusions

The classic approach based mainly on medication is a normal option for treating mental disorders. Yet, extending the prevention and treatment possibilities to areas other than the medical field, can be a viable solution. As presented in this analysis, the field of physical education can support drug treatment for depression and anxiety, while also being an accessible individual remedy for combating them.

Preventive attitude and behavior must turn into a state of affairs, a habit from the perspective of mental disorders. The emergence and development of depression and anxiety can be prevented through a series of gestures and behaviors, without making an exaggerated physical or intellectual effort. Thus, planning tangible, realistic activities and goals, spending spare time in the company of people and friends, trusting family and friends, selfless acceptance of outside help and advice, making important decisions in moments of peace, documenting these disorders, living an active life, practicing group physical exercise, are just a few suggestions that may help.

Regarding the field of physical education, it has been demonstrated and admitted that physical activity and exercise contribute to maintaining and improving human health, but also to combating stress and its effects. The positive result of the physical exercise actions on the human body and brain is a strong enough stimulus for physical education together with its means to make a significant contribution to preventing and combating depression and anxiety.

NOTES:

1 [World Health Organization], *Depression and Other Common Mental Disorders. Global Health Estimates*, 2017, p. 7.

2 *Ibidem*.

3 A. Clow, S. Edmund, *Physical Activity and Mental Health,* Human Kinetics, University of Westminster, USA, 2014, p. 167.

4 [World Health Organization], *Depression and Other Common Mental Disorders. Global Health Estimates*, 2017, p. 7.

5 A. Clow, S. Edmund, *op.cit.*, p. 167.

6 *Ibidem*.

7 [American College of Sports Medicine], *ACSM's Health-Related Physical Fitness Assessment Manual*, Fourth Edition, Philadelphia: Lippincott Williams & Wilkins, 2014, p. 2.

8 G.F. Băițan, *Physical training of the Romanian military in the context of NATO integration*, ”Carol I” National Defence University Publishing House, Bucharest, 2019, p. 306.

9 Antidepressant drug used to treat depression.

10 J.A. Pasco et al., *Habitual physical activity and the risk for depressive and anxiety disorders among older men and women*, International Psychogeriatrics Association, Cambridge University Press, pp. 292-298.

11 G.C. Ciapa, *Physical training of the Romanian army military in modern conflicts*, ”Carol I” National Defence University Publishing House, Bucharest, 2018, p. 46.

REFERENCES

[American College of Sports Medicine], *ACSM's Health-Related Physical Fitness Assessment Manual*, Fourth edition, Lippincott Williams & Wilkins, Philadelphia, 2014.

[American Psychiatric Association], *DSM-5, Manual de Diagnostic si Clasificare Statistica a Tulburarilor Mintale,* Medical Publishing House Callisto, 2016.

[Centers of Disease Control and Prevention], *Surgeon General's Report on Physical Activity and Health,* 1999, http://www.cdc.gov/nccdphp/sgr/contents.htm

[World Heatlh Organization], *Depression and Other Common Mental Disorders. Global Health Estimates*, 2017.

Băițan G.F., *Pregătirea fizică a militarilor din armata României în contextul întegrării în NATO*, ”Carol I” National Defence University Publishing House, Bucharest, 2019.

C.C and colab, *Antidepressant Efficacy of Adjunctive Aerobic Activity and Associated Biomarkers in Major Depression: A 4-Week, Randomized, Single-Blind, Controlled Clinical Trial*, SUA, 2016.

Ciapa G.C., *Orientări și oportunități pentru pregătirea fizică a militarilor*, ”Carol I” National Defence University Publishing House, Bucharest, 2019.

Ciapa G.C., *Pregătirea fizică a militarilor din armata României în conflictele moderne*, ”Carol I” National Defence University Publishing House, Bucharest, 2018.

Clow A., Edmund S., *Physical activity And Mental health,* Human Kinetics, University of Westminster, USA, 2014.

Dauwan M. și colab., ”Physical exercise improves quality of life, depressive symptoms, and cognition across chronic brain disorders: a transdiagnostic systematic review and meta-analysis of randomized controlled trials”, *Journal of Neurology*, Springer Berlin Heidelberg Publisher, 2019.

Haslacher H. și colab., ”Physical Exercise Counteracts Genetic Susceptibility to Depression”, *Neuropsychobiology*, 2015.

Neviani F. and colab., *Physical exercise for late life depression: effects on cognition and disability,* International Psychogeriatrics Association, 2017.

Pasco J.A. și colab., *Habitual physical activity and the risk for depressive and anxiety disorders among older men and women*, International Psychogeriatrics Association, Cambridge University Press, 2011.

http://www.insp.gov.ro

http://www.nimh.nih.gov

http://www.tratamentanxietate.ro

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