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# MAPPING A LATENT CONTROVERSY ON THE STANDARD OF CIVILIZATION FOR THE COLD WAR PERIOD

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**Abstract:** *The study of the Cold War period from the viewpoint of the global international society brings to the fore the standard of civilization, a concept formulated in the 19<sup>th</sup> century which fell into disrepute after 1945 but which made a comeback in academia since the 1990s. Jack Donnelly, Yannis A. Stivachtis and Barry Buzan contributed to the return of the standard of civilization as a research topic in the field of international relations and, more specific, as an analytic category for the study of the Cold War. Each of them differently conceives the interplay between the Cold War global international society and the standard of civilization but, despite holding clearly incompatible perspectives and, in some cases, even despite citing the opinions of the other one(s), they seem to ignore what obviously separates their points of view and thus they are not aware of being engaged in a potential controversy over this issue. This paper marks out what differentiates their points of view in order to chart this controversy and thus to stimulate a real debate on its object.*

**Keywords:** *standard of civilization; Cold War; international society; English School of international relations; civilization; human rights; self-determination; sovereignty.*

## INTRODUCTION

The standard of civilization underpins the existence of international society by regulating its membership and, from the 19<sup>th</sup> century until 1945, it was explicitly recognized by scholars reflecting upon the normative framework of international relations. During the Cold War period, the process of decolonization enabled universal membership of international society, which became a global one, and made the term of standard of civilization to fall into disrepute, with the result of the relevancy of a standard of civilization for that period being called into question. After the end of the Cold War, international relations scholars from the English School of International Relations began to consider the international society corresponding to that period through the lens of the standard of civilization which resulted in very different perspectives in this respect. What is peculiarly striking about their views on this issue is that, despite reading each other, they do not seem to realize that they disagree on key aspects and, consequently, that they are engaged in a latent controversy which

this paper aims at mapping. To this end, in the first section the standard of civilization is defined, a typology is provided for it and its emergence is briefly presented. The second section is dedicated to the overlooked controversy with respect to the theorizing of the standard of civilization for the Cold War era and the final two sections describe, compare and comment on the opposing views held by Jack Donnelly, Yannis A. Stivachtis and Barry Buzan, three scholars belonging to the English School of International Relations<sup>1</sup>, on the standard of civilization for the global international society from the Cold War era.

## **The Standard of Civilization: concept, typology and emergence**

The standard of civilization in international relations is considered by one of the most authoritative researcher of this topic, Gerrit W. Gong, to be similar to conditionalities attached to membership of clubs, societies or colleges with the peculiarity that it regulates accession of a state, of a system of states or of a society of states to an international society made up of

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<sup>1</sup> On the inclusion of these scholars in the English School of International Relations see Barry Buzan, *An Introduction to the English School of International Relations. The Societal Approach*, pp. viii, 37, 58, 66, 155, 159, 160, 174.



states which consider themselves as civilized and which, consequently, label as barbarous or savage all states that do not belong to that society<sup>2</sup>. Gong concisely defines a standard of civilization as "an expression of the assumptions, tacit and explicit, used to differentiate those who belong to a particular society from those who do not"<sup>3</sup> and he borrows the meaning of *international society* from Hedley Bull for whom it designates a group of states that share common interests and values and which subject their relations to commonly recognized rules and institutions<sup>4</sup>.

It is thus obvious that a standard of civilization fulfills an evaluative function given that it asserts the superiority of the members of the international society and the inferiority of those ones that do not belong to it, which further amounts to asserting the superiority of those considered to be civilized and the inferiority of those classified as barbarians. Any standard of civilization implies therefore the sharp contradiction between civilization as a positive value and barbarity as a negative value. This contrast is well captured by Samuel Huntington who maintains that "the idea of civilization was developed (...) as the opposite of the concept of "barbarism" (...) to be civilized was good, to be uncivilized was bad"<sup>5</sup>.

Jack Donnelly advances an ideal typology of the standards of civilization which results from the combination of two criteria: substance and application<sup>6</sup>. Substance could be either positive, or negative; in the first case, the standard requires states to be engaged in a lot of actions and thus it tends to be maximalist and to define civilization in a broad and, consequently, exacting manner, while in the second case, the standard imposes states to refrain from the worst forms of barbarity and thus it tends to be minimalist and thus to define civilization narrowly and, as a result, less demanding. Application could take an inclusive form, in which case the demands are addressed predominantly

to civilized states so that universalism is favored through highlighting similarities between states, or an exclusive form and in this case the demands are primarily directed towards barbarian states, which leads to particularism being emphasized by means of pointing out differences separating them from civilized states.

According to Donnelly, the inclusive application could take a Lockean or a Hobbesian form, and the exclusive application could have a fundamentalist form, or a Burkean form. The Lockean inclusive application, equally called by Donnelly "the liberal application", conceives the state as an instrument designed through the social contract to protect the rights of its members and thus it makes the membership of international society depend upon respect for human rights. The Hobbesian inclusive application, which Donnelly also designates as the legal positivist application, is built upon the assumption of a violent state of nature and it recognizes membership in international society solely on grounds of a state exercising control over its territory and fulfilling the obligations it assumed at international level.

The Burkean exclusive application acknowledges the existence of different levels of development among states and turns them into a criteria for international society membership with only the more developed states being included within the international society and, consequently, being entitled to more rights and enjoying greater importance. As for fundamentalism, Donnelly maintains that it determines membership in international society on religious grounds and he indicates that such a criterion is advocated by Calvinists and, possibly, by Muslims who make inclusion in international society dependent on adherence to their own religion.

The European standard of civilization emerged in the 19<sup>th</sup> century and from 1860 and until 1914 it was explicitly made part of international law where, according to Gong, it encompassed five demands fulfilled by any civilized state: 1) protection of basic rights of people on its territory, particularly of foreigners; 2) existence of a political bureaucracy capable to conduct with relative efficiency the whole machinery of a state and also to provide the state with the capacity to defend itself; 3) compliance with international law and the setting up of the necessary conditions for both its own nationals and

<sup>2</sup> Gerrit W. Gong, *The Standard of „Civilization” in International Society*, pp. xi, 3 and Gerrit W. Gong, *Standards of Civilization Today*, pp. 78-79.

<sup>3</sup> *Ibidem*, p. 3.

<sup>4</sup> Hedley Bull, *The Anarchical Society. A Study of Order in World Politics*, p. 13.

<sup>5</sup> Samuel Huntington, *The Clash of Civilization and the Remaking of World Order*, pp. 40-41.

<sup>6</sup> Jack Donnelly, *Human Rights: A New Standard of Civilization?*, pp. 11,14.



foreigners to enjoy legal justice; 4) maintenance of permanent diplomatic relations; 5) compliance with those norms and practices followed by civilized states in areas like sexual relations and funeral rituals<sup>7</sup>.

Jack Donnelly argues that this standard of civilization, which he calls the classical one, belongs to the ideal type whose substance is negative and whose application is exclusive in a Burkean sense<sup>8</sup>.

It is to be mentioned that a broader standard of civilization also operated during the 19<sup>th</sup> century and it included religion, race, economic and technologic development, and intellectual capacity<sup>9</sup>.

### Differences that were overlooked in theorizing the standard of civilization for the Cold War period

Following the atrocities committed during the First World War by states which had previously proclaimed themselves as civilized, the language of the standard of civilization started to fade away but it did not completely disappear in the interwar period as it is proved by the trusteeship system created through the League of Nations and by the statute of the Permanent Court of International Justice<sup>10</sup>. The standard of civilization shortly survived the Second World War to be included in the 1945 statute of the International Court of Justice<sup>11</sup> but afterwards the concept was excluded from the realm of international law<sup>12</sup> and the concept itself disappeared from the scholarly vocabulary of international relations, including from the one used by the English School whose representatives had been the first to apply it to the study of international relations, with the consequence that *barbarian* and *savage*, two concepts intimately linked with it, have been equally abandoned<sup>13</sup>.

Barry Buzan argues that this linguistic change

<sup>7</sup> Gerrit W. Gong, *The Standard of „Civilization” in International Society*, pp. 14-15. See also Alexis Heraclides, Ada Dialla, *Humanitarian Intervention in the long Nineteenth Century*, p. 33.

<sup>8</sup> Jack Donnelly, *op. cit.*, pp. 11, 14.

<sup>9</sup> Alexis Heraclides, Ada Dialla, *op. cit.*, p. 33.

<sup>10</sup> *Ibidem*, p. 38.

<sup>11</sup> *Ibidem*, p. 38 and David P. Fidler, *The Return of the Standard of Civilization*, p. 138.

<sup>12</sup> David P. Fidler, *op. cit.*, p. 138.

<sup>13</sup> Barry Buzan, *The Standard of Civilization as an English School Concept*, p. 577.

was the result of the *standard of civilization* being too closely associated with the colonial policy of Western states to be employed in an era of decolonization and also of the international society becoming universal under the reign of the principles of self-determination and sovereign equality to the effect that the study of its membership, a traditional topic for the English School, lost its academic relevance<sup>14</sup>. The following excerpt from a forward written by Hedley Bull in 1984 is self-relevant for how the standard of civilization was conceived during the Cold War “Today, this concept has a bad name. It was, after all, part of the rationale which the European states provided, when they were at the height of their power and authority, for denying equal rights to the political communities of Asia, Africa, and Oceania, whose fate in that era was either to become colonies of the European imperial powers or to be assigned a subordinate or second class form of independence (...) The standard of “civilization” laid down by Europeans in the late nineteenth and early twentieth centuries now appears to us as part and parcel of an unjust system of domination and exploitation against which the peoples of Asia and Africa have rightly revolted”<sup>15</sup>.

Buzan argues that after 1945, the term *standard of civilization* was replaced with terms bearing no offending resonance such as *conditionality*, *good governance* and *development*<sup>16</sup>.

If one could discuss about a scholarly consensus on the abandonment of the term *standard of civilization* within the academic field shortly after the end of the Second World War, when it comes to the standard of civilization as a criteria regulating membership in the global international society corresponding to the Cold War period, the opinions of the researchers no more coincide, with some of them arguing in favor of a standard of civilization being used in that period while others holding the view that no such standard was then to be found. Moreover, even among those who share the view that a standard of civilization operated during the Cold War, there is no common view as to the content of this standard, various descriptions of it being developed. It is therefore surprising that the existence of various perspectives on the standard of

<sup>14</sup> *Ibidem*, pp. 577, 585.

<sup>15</sup> Hedley Bull, *Foreword*, pp. 7-8.

<sup>16</sup> Barry Buzan, *op. cit.*, p. 577.



civilization for the Cold War period had not been highlighted enough for enabling one to remark how different they really are and thus to realize that there is significant potential for a relevant scientific controversy. The failure to detect the disagreement on this issue could be partly explained by the fact that even researchers holding different views do cite one another without being fully aware about how much their opinions diverge.

Therefore, in the following sections three different points of view will be described and contrasted about the standard of civilization corresponding to the Cold War period that were put forward by three scholars from the English School of international relations: Jack Donnelly, Yannis A. Stivachtis, and Barry Buzan.

### **The standard of civilization as an operating criterion during the Cold War period**

The first to be investigated are the perspectives advanced by Jack Donnelly and Yannis A. Stivachtis who both maintain the existence of a standard of civilization regulating accession to the global international society from the Cold War period.

Jack Donnelly argues that during the Cold War, self-determination and sovereign equality, two paramount values promoted in the process of decolonization, made up a version of the standard of civilization which regulated the membership in the global international society<sup>17</sup>. Moreover, Donnelly maintains that, for being designed to confer to former colonies the right to become full members of global international society, this standard of civilization extended upon all states the quality of being civilized at the expense of making the concept of civilization sufficiently morally diluted to encompass the egregious human rights abuses committed within the confines of the borders of some of the new members by people like Idi Amin, the ruler of Uganda between 1971-1979, Macias Nguema who led Equatorial Guinea between 1968 and 1979, and Mobutu Sese Seko who ruled Zaire (Democratic Republic of Congo) for the period 1965-1997; as a result, he considers that the idea of civilization was compromised and it could no more be opposed in an intelligible way to the idea of barbarism which adequately described rampant human rights violations committed while

the Cold War unfolded<sup>18</sup>.

According to Donnelly, the international society became a global one by disregarding human rights and by accepting for their defense to be condemned as neo-colonialism by those who violated them. Donnelly mentions that, despite the fact that during the Cold War human rights became increasingly incorporated into the body of international law, the criteria for becoming a member of global international society and thus for being considered civilized, remained the control of the territory and the fulfillment of obligations internationally assumed so that the standard of civilization incorporating them has to be classified as negative from the point of view of the substance and as inclusive in a Hobbesian sense from the perspective of the application<sup>19</sup>. Even if Donnelly does not explicitly identify the global international society with membership in the United Nations, this equivalence seems to be operated by him since all states which emerged following the decolonization process became members of the United Nations and, moreover, since Uganda, Equatorial Guinea and Zaire (Democratic Republic of Congo) had been members of the United Nations from their independence onwards without any interruption<sup>20</sup>.

The standard of civilization identified by Donnelly in the Cold War period is well illustrated by Resolution 1514 adopted by the General Assembly of the United Nations on 14 December 1960 which reads that "immediate steps shall be taken in Trust and non-self-governing Territories, or in all other Territories which have not yet attained independence, to transfer all powers to the people of those Territories without any conditions whatsoever (...) The inadequacy of political, economic, social or educational preparedness should never serve as a pretext for delaying independence"<sup>21</sup>.

<sup>18</sup> *Ibidem*, p. 15.

<sup>19</sup> *Ibidem*, p. 14.

<sup>20</sup> Zaire (Democratic Republic of Congo) became member of the United Nations in 1960 and was followed by Uganda in 1962 and Equatorial Guinea in 1968. See United Nations, *Member States* available at <http://www.un.org/en/member-states/> accessed on 16.12.2017.

<sup>21</sup> General Assembly of the United Nations, Resolution 1514, 14 December 1960 apud Adam Watson, *The Evolution of International Society. A Comparative Historical Analysis*, p. 296. A characterization of the international society during the Cold War is provided by Watson in chapter 24 of his book.

<sup>17</sup> Jack Donnelly, *op. cit.*, pp. 13, 15, 16.





Considering now the perspective of Yannis A. Stivachtis, he maintains that, after 1945, the 19<sup>th</sup> century standard of civilization was succeeded by what he calls the *membership conditionality* applied during and after the Cold War by global international organizations, such as the United Nations, the International Monetary Fund and the World Trade Organization, which make use of it to regulate membership in global international society and also by regional international organizations like the European Union, NATO and OSCE which employ it to regulate membership in regional international societies<sup>22</sup>. The *membership conditionality*, Stivachtis argues, operated during the Cold War at the level of both the global international society and the regional international societies and it was made up of political conditionality - encompassing mainly democracy - and economic conditionality - that is concerned with capitalism and the liberalization of the market - both components being upheld by global international organizations as well as by regional international organizations<sup>23</sup>.

In support of his contention that human rights had been a constituent of the Cold War standard of civilization, Stivachtis mentions that their protection was enshrined in the Charter of the United Nations, was upheld in the work of the main organs of the United Nations and was at the core of the Universal Declaration of Human Rights adopted under the aegis of the United Nations. Stivachtis provides a further argument for the inclusion of human rights within that standard of civilization by arguing that the democracy as a political conditionality had been strongly promoted by the United Nations and encompassed a human rights dimension<sup>24</sup>. However, he mentions that during the Cold War the communist states from the Eastern part of Europe remained subjected to undemocratic regimes disrespectful of human rights and thus barbarous<sup>25</sup>.

With respect to regional international societies, Stivachtis developed an analysis of the system of conditionalities for membership elaborated by European Union during and after the Cold War<sup>26</sup>.

<sup>22</sup> Yannis A. Stivachtis, *Civilization and International Society: the Case of European Union Expansion*, p. 76.

<sup>23</sup> *Ibidem*, pp. 76-77.

<sup>24</sup> *Ibidem*, p. 76.

<sup>25</sup> *Ibidem*, pp. 78-79.

<sup>26</sup> *Ibidem*, pp. 81-85.

According to him, for the Cold War period, the economic conditionalities had been the first to be elaborated by the European Economic Community because the purpose it had been established for was an economic one. These conditionalities have been intended to promote the liberalization of the markets and, more generally, to support capitalism, but the fact that the potential candidates during the Cold War were all capitalist states prevented the economic conditionalities from acquiring a prominent status. The political conditionalities for joining the European Economic Community were the most important ones given that some potential candidates (Spain, Greece and Portugal) did not fulfill them. More exactly, democracy and the respect for fundamental human rights and freedoms became indispensable for becoming a member of the European Economic Community after 1962 when the European Parliament approved the Birkelbach report, and these conditionalities remained in use until the end of the Cold War. After the end of the Cold War both the economic and the political conditionalities became equally important in the context of the Central and Eastern European states quest for European Union membership and consequently, the European Council held in June 1993 in Copenhagen decided upon a set of criteria that any state must fulfill in order to become member of the European Union. These criteria referred to democracy, rule of law, human rights, protection of minorities, a functioning and competitive market economy, and acceptance of the objectives pursued by the European Union in the fields of politics, economy and within the monetary area.

The standard of civilization identified by Stivachtis could be classified according to the typology elaborated by Donnelly as positive from the point of view of the substance and as inclusive in a Lockean sense from the perspective of the application.

An attempt to demarcate the global international society as understood by Stivachtis proves problematic because he equates the membership in global international society with the membership in global international organizations, a category in which he includes not only the United Nations, but also the International Monetary Fund, albeit the former had, during the Cold War more members than the latter. A comparative analysis of the membership in the United Nations and in the International



Monetary Fund during the Cold War reveals that the Soviet Union, the Republic of Yemen, Bulgaria, Mongolia, and Albania have not been members of the International Monetary Fund<sup>27</sup> but they have all been members of the United Nations<sup>28</sup>. Moreover, the membership of these organizations in the Cold War era challenges its identification with the global international society because the communist states from the Eastern part of Europe, considered by Stivachtis as undemocratic, had all been members of the United Nations<sup>29</sup> and, except for Bulgaria, they had also been members of the International Monetary Fund<sup>30</sup>.

At this point it becomes apparent that Stivachtis and Donnelly differently conceive the standard of civilization for the Cold War era, their opinions with respect to human rights being totally opposed given that Stivachtis explicitly includes human rights within that standard while Donnelly explicitly excludes them from it. Donnelly does not deny that during the Cold War there was a concern for human rights at international level which caused them to become part of international law but he points out that the importance attached to human rights was insufficient to determine the creation of multilateral instruments designed to ensure compliance with them and to turn them into a diplomatic issue until the beginning of the '1980s which explains for him why human rights failed to become a constituent of the standard of civilization<sup>31</sup>.

If one agrees with Stivachtis then one has to consider that the gloomy perspective depicted by Donnelly is inaccurate with the effect that the standard of civilization must not be considered morally discredited. However, sharing Stivachtis's account of the standard of civilization raises the problem of how the relationship between the global

international society and the states from the Eastern part of Europe, which gravely violated human rights, should be conceived during that period. If the standard of civilization has the content that Stivachtis attributes to it, then either it was not accepted by the United Nations, which explains why the mentioned communist states had been accepted as its members, or it was accepted by the United Nations in which case the membership of those states remains unaccounted for. Unlike Stivachtis's reading of the standard of civilization, Donnelly's understanding enables the inclusion of these states into the global international society.

Given the big differences between how Donnelly and Stivachtis conceive the standard of civilization, one would expect Stivachtis, who makes reference to the article where Donnelly expressed his point of view and which had been published ten years before his own, to remark these differences and to comment on them. Surprisingly, Stivachtis did not do that and apparently he remained unaware of their existence. Even more surprising is the fact that Stivachtis cites Donnelly's mentioned article as an argument in support of his own point of view as one could observe by reading the following fragment „While the old standard of 'civilization' fell into disrepute, new possible successors have risen as new standards in contemporary international society. The first is the 'standard of non-discrimination' or the 'standard of human rights'. For example, *Jack Donnelly clearly argues* (emphasis added) that 'internationally recognized human rights have become very much like a new international "standard of civilization"'”<sup>32</sup>. In fact, Donnelly argues that human rights started to be incorporated into the standard of civilization only after the Cold War which for him marks an important difference between the standard of civilization operating during the Cold War and the one that was supposed to emerge after the end of the Cold War. Considering that the same standard of civilization operated during and after the Cold War and that this standard encompasses human rights, Stivachtis reads Donnelly's idea that the standard of civilization emerging after the Cold War contains human rights as an argument in support of the idea that the standard of civilization corresponding to the Cold War period equally included human rights. This proves that Stivachtis misinterprets Donnelly's

<sup>27</sup> International Monetary Fund, *List of Members* available at <https://www.imf.org/external/np/sec/memdir/memdate.htm>, accessed on 16.12.2017.

<sup>28</sup> United Nations, Member States available at <http://www.un.org/en/member-states/> accessed on 16.12.2017.

<sup>29</sup> Czechoslovakia and Poland became members of the United Nations in 1945 and membership was granted to Bulgaria, Romania and Hungary in 1955. See United Nations, *Member States* available at <http://www.un.org/en/member-states/> accessed on 16.12.2017.

<sup>30</sup> Czechoslovakia became member of the International Monetary Fund in 1945, Romania acquired this status in 1972 and Hungary and Poland joined the organization in 1982 and 1986, respectively.

<sup>31</sup> Jack Donnelly, *op. cit.*, pp. 14-15.

<sup>32</sup> Yannis A. Stivachtis, *op. cit.*, p. 74.



view on the standard of civilization by overlooking the fact that he discriminates between two standards of civilizations, one corresponding to the Cold War era and the other one corresponding to the post-Cold War era.

### **The standard of civilization as a (quasi) absent criterion during the Cold War period**

Barry Buzan's perspective on the standard of civilization corresponding to the global international society from the Cold War period substantially differs from how Jack Donnelly and Yannis A. Stivachtis conceive it, given that he denies that such a standard really existed. Buzan grounds his view on the idea that, during the Cold War, the process of decolonization enabled all states to join the global international society solely on grounds of self-determination and sovereign equality<sup>33</sup>, an argument which shows that, unlike Donnelly, Buzan does not consider that self-determination and sovereign equality make up a standard of civilization but that they are contributing factors to the dissolution of such a standard. Consequently, it could be argued that, in contrast with Donnelly, Buzan considers that a standard of civilization must rely on a concept of civilization that is not morally diluted but morally demanding. Nevertheless and despite relying on some of Donnelly's ideas about the standard of civilization from his article analyzed above<sup>34</sup>, Buzan does not acknowledge the contradiction between their views about the standard of civilization peculiar to the Cold War years. Buzan equally mentions the article by Stivachtis which was previously discussed in this paper and he explicitly indicates that Stivachtis accepts the existence of a standard of civilization during Cold War<sup>35</sup> but, surprisingly, he does not point out the significant differences separating their understanding of that standard.

The absence of the standard of civilization for the Cold War global international society provides for Buzan a straightforward explanation for why the issue of membership in this society became irrelevant for the English School scholars writing after 1945.

However, it is to be mentioned that Buzan seems not to definitely reject the standard of civilization

underlining the global international society from the Cold War period given that he maintains that during that time "questions of membership in, and conditions of entry to, international society *largely* (emphasis added) disappeared". In case he had completely denied the existence of the standard of civilization he would clearly have been unable to justify the existence of the Cold War global international society he speaks about. The standard of civilization he refers to as somehow vaguely operating in the background is the one elaborated in Europe during the 19<sup>th</sup> century which classified states based on their degree of development so that it corresponds to what Donnelly calls the classical standard of civilization having a negative substance and an exclusive application in a Burkean sense.

Nevertheless, Buzan argues that a standard of civilization bearing Western civilizational landmarks operated during the Cold War *within* the global international society which had acquired a hierarchical structure dominated mainly by the Western world and which gave rise to various groups organized in a similar manner to clubs (e.g. European Communities/European Union) whose accession to was regulated by that standard<sup>36</sup>. According to Buzan, since the Cold War period, the "international society may have become universal, but in the process it has become both more layered and more regionally differentiated"<sup>37</sup> to the effect that the outsiders-insiders divide no more refers to the global international society, but to various international societies formed within it. It is to be remarked that, albeit Buzan speaks about multiple regional international societies, he seems to admit the existence of only one standard of civilization underpinning all of them and his opinion looks like being grounded on him conceiving these societies as having a Western descendance and thus as sharing the same civilizational background.

According to Buzan, the scholars belonging to the English School of international relations ignored the existence of this standard of civilization and thus they failed to explore it, an error which, one could argue, diminished the relevance of this approach by removing one of its traditional topics. Buzan considers that the mentioned standard, which one could rightly call a sub-global standard of civilization, encompassed

<sup>33</sup> Barry Buzan, *op. cit.*, pp. 585-586.

<sup>34</sup> *Ibidem*, pp. 579, 586.

<sup>35</sup> *Ibidem*, p. 585.

<sup>36</sup> *Ibidem*, pp. 585-586.

<sup>37</sup> *Ibidem*, p. 586.



human rights, democracy, capitalism, environment and development<sup>38</sup>, five constituents which enable one to argue that this standard does not fit into the ideal typology elaborated by Donnelly, given that it could be said to mix various of its elements by being positive from the point of view of the substance but inclusive in both a Burkean and a Lockean sense from the perspective of its application.

Buzan acknowledges that Stivachtis equally accepted the existence of a standard of civilization operating below the global international society but, from the way Buzan introduces this idea, one could argue that Buzan retained from Stivachtis only the fact that, during the Cold War, there was a standard of civilization for regional international societies. Assuming such a reading of Stivachtis by Buzan, it follows that when the latter refers to the standard of civilization described by Stivachtis he refers, in fact, only to one operating at sub-global level, leaving thus aside the second one that, according to Stivachtis, operated at the global level. It becomes now apparent why Buzan does not refer to the stark difference between how he and Stivachtis conceive the standard of civilization peculiar to the global international society formed during the Cold War.

## CONCLUSIONS

The comparative analysis of how Donnelly, Stivachtis and Buzan approach the issue of the standard of civilization corresponding to the global international society from the Cold War era revealed significant differences among them and unveiled that misinterpretation. Also, focusing on similarities resulted in Stivachtis and Buzan not remarking what tells apart their perspectives. Thus, Stivachtis is aware that he shares with Donnelly the idea that during the Cold War a standard of civilization operated at the level of the global international society but he does not perceive that the content he attributes to it sharply contrasts with the content that Donnelly ascribes to it. Buzan, albeit familiar with Donnelly's understanding of the standard of civilization, does not notice that the features he considers to have determined the dissolution of the standard of civilization during the Cold War period are for Donnelly the essential ones for that standard. Moreover, Buzan, despite

<sup>38</sup> *Ibidem*, pp. 585-592.

knowing Stivachtis's account of the standard of civilization, reads it without taking notice of the fact that he denies Stivachtis's idea that the Cold War period had a standard of civilization regulating membership in the global international society.

The obscure controversy that this paper attempted to make apparent could be used for deciding whether or not the fact that, during the Cold War period, the English School scholars ignored the topic of the standard of civilization corresponding to the global international society was justified; if in that period no such standard operated, then there was nothing to be studied, but, if a standard like that existed, an important research topic was ignored and therefore has to be studied today.

This paper also draws attention on the importance that has to be attached within the English School of international relations and, more generally, in the field of international relations, to dissimilarities which sometimes could be easily overshadowed by similarities. Equally it is proved that the examination of the Cold War era from the viewpoint of the global international society is a relevant topic which requires further consideration.

Finally, the paper shows that in the field of international relations the analysis should go beyond terms and consider the realities they stand for, given that well established terms could go out of use while what they designate could continue to exist, as it happened in the case of the term standard of civilization.

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## FEMININE PRESENCES IN THE FIRST WORLD WAR: MARIA MANCIULEA – THE HEROINE FROM OLT AND ECATERINA TEODOROIU – THE HEROINE FROM JIU

*Laura HÎMPĂ, PHD student\**

**Abstract:** *The celebration of the first Centenary of the Great Union in 1918 is a great reason to look into Romanian historiography and to bring up to light the contributions of those who participated in or were predecessors of the achievement of Romanians' ideals of unity. The historical changes that were made at the beginning of the twentieth century by the evolution of the world's first conflagration produced a major transformation in the role played in society and in the community by each individual, and the ordinary people were able to express themselves freely, performing acts of heroism led to the extreme, in unexplored directions, especially by women. In this context, the article pays tribute to Maria Manciualea – the heroine from Olt and Ecaterina Teodoroiu – the heroine from Jiu, brave Romanian women who, through their sacrifice, offered the supreme proof of love both for the country and for people. Their involvement at that time meant the support that was needed for the Romanian army to achieve historical victories.*

**Keywords:** *World War I; heroine; Maria Manciualea; Ecaterina Teodoroiu; Military Virtue.*

World War I was widely debated and the historians have always remarked the courage of the women who contributed to the success of the Romanian army.

The youngest of Maxim's daughters and Martha Manciualea, Maria (4.06.1894-27.07.1969), remained known in the history of World War I as "The Heroine of Olt". She was the first woman decorated with the "Military Virtue of War Medal" in September 1916, for brave actions on the battlefield.

The first part of her childhood was spent in Părău, Braşov county (1894-1905), and then her family ran away from drought and poverty to Constanta, to the family of her husband, to his older sister, Margareta.

For 3 years, the Manciualea family wandered, when Maria learned to speak Greek and Turkish, alongside German and Hungarian, which she already knew from the nationalities in her native village.



**Maria Manciualea**

In 1919, Maria's father died, so her mother remained to raise the two girls by herself. Hardworking and well-behaved, the two were serious involved in house-keeping work. After a while, Victoria married a village boy. In 1914, war broke out and the men were taken to fight in the Austro-Hungarian army.

After two years of neutrality, Romania entered the war and on July 15<sup>th</sup>, 1916, the Romanian army passed the Carpathians in order to release the Transylvanian territory.



The Austro-Hungarian army withdrew from the Romanian troops by taking whatever might have helped them to survive. The villagers were hiding in their way scared by the lack of humanity that they showed. In Părău, the "royal boots" took with them all the cows from the village as a source of food for the long way they had to go. But two girls, Maria Manciulea and her friend Lucreția Conja, decided to go after the soldiers to recover their animals. In the middle of the night they were caught by a German soldier who considered them spies. Maria spoke to him initially in Hungarian, believing he was an Austro-Hungarian soldier, and then, knowing some German, tried to persuade him of their innocence. Because she used the two languages, she drew suspicion from the soldier and the two were detained. Asked what they were looking for so far out of the village, Maria and Lucreția always repeated that they could not live without cows. However, it could not be fully clarified and so they were imprisoned, and the commander ordered to be shot on the following day for espionage. The girls saw how the German troops were stationed and their heavy armament, important aspect, later reported by Maria to the Romanian officers. Luckily he smiled at the two, and the sentry turned out to be a Romanian from Banat who escorted them through the roof of the room where they were locked. The soldier used "an especially tasty traditional local brandy" with which he managed to get the other girl's guard who finally fell asleep.

The two escaped and, holding their hands, they bypassed the enemy camp, going on the fields for a few hours to reach the village called Veneția de Jos. They took shelter overnight at a sheepfold where the shepherdess, left alone after her husband had gone to the war, told them that it would be risky for them to return to the village. She sent her boy, a smart twelve-year-old kid, to see what is being said in the village about Maria and Lucreția. Upon coming back, the child told her that the two were not looked for and that the "Romanian Army" could not be far away, if they were heard the cannon and machine guns. By night these noises approached the sheepfold, and the shepherd's boy was again sent to the village. He returned with good news: the Romanian army had entered Părău. That moment was expected by the girls. The joy of reunion was great and the whole village gathered to hear about

the happenings they had gone through.

At the fountain of the village Maria met a Romanian officer, who, after drinking some of the water pulled out by the girl from a well, pointed the direction where the Romanian troops went. That was none other than Camil Petrescu, who was going to narrate the entire episode later on, in the novel "The last night of love, the first night of war."

Denounced by a boy in the village to the Romanian officers that she was a spy for the enemy, Maria Manciulea was again summoned with her sister to give explanations, but this did not take place because the 22<sup>nd</sup> Infantry Regiment had begun to move quickly to the new area of the battlefield.

Thus, the two Romanian girls were compelled to enroll and, barefoot, join the rear of the platoon, until their situation would be clarified. The one who reported to the commander the girls' issue was Lieutenant Camil Petrescu, impressed by the two figures, very thinly dressed for the rainy weather that was on that day of September 1, 1916.

The Commander of Brigade 6, General Lupescu did not take long to be talked out of girls' "espionage", but he was impressed by how well they knew the places. In addition to topography knowledge, Maria also reported important information about how the enemy's heavy weaponry was located, as well as the number of enemy troops, and advised the general that it would be better to avoid that path because that was the enemy who already knew the area well. Her suggestion was that the entire battalion would bypass the main road to prevent being trapped. Following the discussion, it was established that Olt's best crossing point was at Vadul Fagului and that Maria Manciulea would lead the soldiers. The enemy troops had a well-organized and reinforced location with wires stretched among the trees, along the river, charged with electricity.

About how steep Olt bank was, Camil Petrescu himself wrote, being present at the event: "The hilly bank seems to be totally busy. There are many wire meshes, trench crenels. I wonder how we'll pass the deep and fiery water of the Olt under the machine-gun fire. I anticipated the vision of the thousands of dead people, the hurricane of bomb shells, the bodies thrown into the air. Some people think we'll never succeed to get there<sup>1</sup>."

<sup>1</sup> Camil Petrescu, *Last night of love, the first night of war*, 100+1 Gramar Publishing House, 2000, p. 175.



**Camil Petrescu  
în timpul Primului Război Mondial<sup>2</sup>**

On the set night, two battalions moved to the area and guided by Maria Manciualea on well-known paths, the soldiers reached the water's edge, at a place where the Olt was 30 m wide. The quiet crossing was followed by the deafening noises of the weapons that unleashed all the fury of an enemy taken by surprise. At 15 o'clock the village Dăișoara was released and the Romanian soldiers occupied the area. As for Camil Petrescu, he was to find out that the "spy" herself brought in by the platoon received from the divisional general a pair of boots and a thousand lei, following the act of heroism she performed.

Injured in a hospital in Bucharest, Camil Petrescu saw Maria Manciualea's picture with Queen Mary and other ladies of honor in the shop window of Juliet. He read in the press about the gold medal, "Military Virtue", that this heroine received and the false suspicion of espionage was not mentioned. The two met in Iasi, Copou Garden,

<sup>2</sup> Lucian Ionescu-Tomșani, *The Heroine from Olt: Maria Manciualea*, Military Publishing House, Bucharest, 1979, p. 65.

and Maria Manciualea gladly told Camil Petrescu that she was "so blessed" that she had been taken under the care of the Queen<sup>3</sup>.

### THE CERTIFICATE – WAR MINISTRY

We, Stat Secretary of the Ministry, at War Department, declare by High Decree no. 306/3 November 1916, that His Majesty the King wished to award the Medal of the Second Military War Virtue to Miss Maria Manciualea from Părău, Făgăraș County, for offering to serve as a guide for an infantry regiment who had the mission to attack the enemy on the opposite bank of the Olt. She entered with the first soldiers in the water and drove them with the most impressive courage through the rain of bullets, thus contributing to the success of the attack<sup>4</sup>.

Regarding this subject, Constantin Kirițescu explicitly underlined in 1921, in the *History of the War for the Unity of Romania, 1916-1919*, that: "The passage of the Olt was facilitated in this region by the devotion of a young Romanian, Maria Manciualea from Părău. On her own initiative, she went to the Romanian commander and showed him a favorable passage, undefended by the enemy. Led by the heroic girl, the troops crossed the river and fell behind the enemy who, formidably entrenched and armed with a lot of machine guns, waited for the attempt to pass through the only place known and dominated."<sup>5</sup>

Recalling her memories of the war more than half a century ago, Maria Manciualea told the author of her monograph, Lucian Ionescu-Tomșani, that: "by midnight (maybe later) I started in front of the 30<sup>th</sup> Dorobanți Muscel Regiment, accompanied by a captain, named Giuglan and two other officers. Before I reached the bank of the river, we stopped near the village of Venice de Jos, where I also expected Colonel Alexandrescu, the commander of that regiment. At Olt I was the first who stepped into the water, holding a soldier's hand. The other officers said to them, <<Do not be afraid, I know the ford, you cannot drown!>> And so they went

<sup>3</sup> *Idem, op. cit.*, p. 183.

<sup>4</sup> "The Universe", XXXIV, no. 303/6 November 1916. Similar articles appeared in "Dimineața" and „Adevărul”.

<sup>5</sup> Constantin Kirițescu, *The History of the War for the Unity of Romania, 1916-1919*, vol. 1, Publishing House of Schools, Bucharest, 1922, p. 255.





after me, with the weapons above their heads and holding each other, all the soldiers and officers of the regiment. The water came to our chest, and the river bed was a bit stony. That's why some of the soldiers stumbled and fell. The Regiment passed the Olt well and I never heard about a soldier then or afterward to have drowned<sup>6</sup>.

After crossing Olt, I followed the soldiers of the 30 Muscel Regiment, who, advancing on the bank of the river, fell behind the fortifications about which I spoke to the brigade commander. Because I had wet clothes and it was cold, when I got to the first village I changed them with other clothes that a captain bought from a woman." The severe condition she was in after the terrible cold she got after her brave act of patriotism made our heroine to be hospitalized in Iași, where she remained after the recovery as a nurse. She also met Ecaterina Teodoroiu, "a young woman with a scarf hat on her head, and instead of a skirt wearing men's trousers, which could be seen under the long, soldier's mantle." Jiu's heroine hugged Maria Manciualea with friendship and their meeting became a long-awaited occasion to discuss the memorable event they took part in.

The crossing of Olt on a rainy day, in 1916, which had a four meters high shore in that part, was possible due to a narrow cleft caused by heavy rains that created a stream of water. The place was carefully chosen, so Mary entered into the water with bare feet because she had the purpose of feeling the sand under her feet and thus not guiding the soldiers somehow in a whirlpool. Her urge: "Ahead! After me! Do not be afraid!" gave them the power to believe in victory above any sacrifice they made in this dangerous journey. The woman with disheveled hair, with her face shining of emotions in the darkness of the night, was an unusual, electrifying guide.

From the new positions, acquired after crossing the water, the Romanian soldiers attacked rapidly, now having the upper hand. The enemy tried to keep their position, but in the end, overwhelmed by the number and strength of the men, tried to save themselves by leaving the front line. The busy area now created a strategic advantage for the Romanians who opened the track of the troops that had Halmeag as a crossing point.

In addition to losing this important area, the enemy withdrew other military units from the hills of Olt. The success of the 30<sup>th</sup> Regiment Dorobanți Muscel, commanded by Lieutenant Colonel Stelian Alexandrescu, was resounding for the positions occupied by the Romanians, to which the 760 prisoners were added together with an important amount of war material.

During the Second World War, Maria Manciualea was again in the presence of the Romanian Army soldiers, being among the nurses of the Red Cross Society, for which she received the "Faithful Service" medal. For her devotion she was buried with military honors at the Ghencea Military Cemetery in Bucharest. On the cross is written "MARIA MANCIULEA – The heroine from OLT".

**Ecaterina Teodoroiu** (14.01.1894-22.08.1917) was born in a family of peasants from the village of Vădeni, Târgu Jiu, where she lived with seven other brothers: 5 boys and 2 girls. She worked as a scout in two organizations: "Mr. Tudor" from Târgu Jiu and "Bucur Shepherd" in Bucharest<sup>7</sup>.

On October 14, 1916, she stopped the Germans from entering the city along with other scouts and with the aid of a few elders. The population was alarmed by two old soldiers at the Railway Guard in Târgu Jiu, who were shooting with old weapons, along with a few scouts, seated on the edge of the



**Ecaterina Teodoroiu**

<sup>7</sup> Alexander Daia, *Heroes at 16: Signs of a former scout. Journal of War: 1916-1918*, 2<sup>nd</sup> Edition, Ion Creangă Publishing House, Bucharest, 1988, p. 78.

<sup>6</sup> Lucian Ionescu-Tomșani, *op. cit.*, p. 65.



Jiu Dyke, taking aims as in polygon.

In front of them were German soldiers, fully armed with heavy machine guns and modern weapons. They did not realize for a moment that there were children, elders and women in front of them. Among them they were running, with the hem full of bullets and dressings, Ecaterina Teodoroiu and another 17-year-old Iosefina Eiben. After four hours of shots, a 59<sup>th</sup> Infantry Regiment Company arrived, which led to the end of the mission, victory being on the side of the Romanians. The heroic resistance opposed to the Germans by the young scouts in Târgu-Jiu gave the signal of their defeat. 2,000 soldiers and 36 cannons were taken, but also the entire headquarters of the 2<sup>nd</sup> Bavarian Division. After Romania entering World War I, Ecaterina Teodoroiu worked as a nurse and joined the 18<sup>th</sup> Infantry Regiment Gorj, where she struggled together with her brother, Nicholas. After his death and three other brothers, the heroine asked to be incorporated into a unit of combatants.

Ecaterina Teodoroiu was taken prisoner in the Jiu Valley, but managed to escape and regain her regiment. In the fights of Filași she was injured and sent with an ambulance of the 35/59 Infantry Regiment that was withdrawing from the battlefield in Moldova. She was taken care of in the hospital from the National High School in Iasi. After recovery, she was decorated by Queen Mary with the Scout Golden Virtue and the Second Military Virtue and promoted to the rank of Second Lieutenant. These moments were publicized, and the newspaper "Romania" in April 1917 mentioned a funny story on the occasion of the decoration of Ecaterina Teodoroiu. The official event took place on the battlefield. In addition to officers and soldiers, the ceremony was also attended by civilians from the Red Cross and artistic team of the 2<sup>nd</sup> Army that was on those days on the battlefield. Among them was the artist Elena Zamora, who was keen on Ecaterina Teodoroiu, wondering about her youth and delicacy, not knowing she was a woman. When reading the names of the people that had been awarded a superior rank in military hierarchy, disappointment covered the artist's face, upon hearing that lieutenant Teodoroiu was a woman. Full of fun, at the end of the ceremony, Ecaterina Teodoroiu addressed Elena Zamora the following words: "Forgive me that I am not a man!" Ecaterina Teodoroiu died at the end of the Battle of

Marasesti in August 1917, while fighting as head of an infantry platoon of the Romanian Army. Her bones were taken in 1921, to a hero mausoleum built in Târgu Jiu.

As she was decorated by the Royal House and activated as a member of the scout, a reactionary organization in the view of the communist regime, the historical truth about Catherine Teodoroiu's life and deeds was kept in the shadows and only partially revealed. Since 1960, when the nationalism and contribution of peasants and workers to the history and culture of the country started to be strongly promoted, E. Teodoroiu was presented as a heroine, and in 1978 a film about her life was made, without mentioning that she was decorated by Queen Maria and was part of the scouting organization, which, according to the Dictionary of the Romanian Language Contemporary Letters from 1955-1957, was defined as "a paramilitary organization which, under the guise of sports youth guidance, was used by bourgeoisie for defending the interests of capitalists and educating young generations in a militaristic and reactionary spirit."

As a tribute to E. Teodoroiu several monuments, busts and statues were built over time. We could mention here: Slatina (1921), Brăila (1928), Tișița (1934), Târgu Jiu (1936), Azuga (1937), Muncelu-Soveja (1972), Târgu Jiu (1978) and Mărășești (1994).

The Romanian heroine's gallery was joined by young women from different epochs, animated by the love of the country and the spirit of sacrifice they were capable of in extreme situations. Archives and historical literature preserve the memory of women such as Drușa, the heroine of Bobâlna during the revolt of 1437, Anca Zin, who died in the fire of the revolt of 1514, Maria Putoiana, fighter in the army of Mihai Viteazu, Ecaterina Varga, "doamna moșilor", "arrested in revolt and imprisoned during the 1848 revolution in Transylvania, Ana Iptescu, "the shooter from the Mogosoia bridge," a tall woman with a tricolor scarf on her chest and armed as the first fighter", Elena Varnav, who, at the age of 24, wore in 1848 the flag of Moldova's liberties, Alexandrina Haralambie, the daughter of General Gheorghe Magheru, Maria Rosetti, who led the action of releasing from prison the "heads of 1948 movement", Măriuca Zaharia, the 12 year old girl, killed by a bullet on August 6/19, 1917, near the "La Răzoare" forest at Haret's Rift, while replacing



the phone operator from the observation post from the grandfather's yard, fell to duty, or nun Mina (Marina) Hociotă from Salișteea Sibiului, second lieutenant in the First World War, decorated in 1918 with the “Commemorative Cross” and in 1968 with the “Virtue of soldiers” Medal Class I. They were joined by Sergeant Elena Chiriță, the Sanitary of Păuliș detachment, volunteer in Battalion 1, the 96<sup>th</sup> Infantry Regiment, passed on to eternity on March 8, 1945, at the Arad Hospital, decorated for her brave deeds with the “Military Virtue” 2<sup>nd</sup> class, “Health Merit” classes II and I and the Order “Country Defense”.

With this impressive heroine list for nearly a century, Ecaterina Teodoroiu continues to dominate the Romanian female elite, competing with famous foreign names or legendary female figures from national fairy tales. But who was, after all, Ecaterina Teodoroiu and what brave deeds did she do in order to become so famous? The answer lies in the Romanian Military Archives, where the memoirs documents and testimonies stand out from the legend, probing and amplifying its authenticity.

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## JOINT TARGETING SYSTEM – THE SUPPORT TOOL FOR JOINT TARGETING CYCLE AND ITS APLICABILITY IN COMPUTER ASSISTED EXERCISES

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**Abstract:** *In the military system, simulation represents the most important tool that supports training because it can be efficiently used from the tactical level to the strategic one. For individual training the costs of using real or virtual simulation systems are not justified, but when it comes to the headquarters training running a live exercise is extremely expensive. Nevertheless, the units, headquarters, general staff and Multinational Division South-East headquarters need to be trained in both national and NATO exercises. Taking all those facts into consideration, the computer assisted exercises proved to be the best solution for training all the cycles within a headquarters that support the decision making process. In the last years, among all those processes, a particular interest was shown for Joint Targeting Cycle during NATO computer assisted exercises.*

**Keywords:** *training; training through simulation; constructive simulation; Joint Targeting System; Joint Targeting Cycle.*

In a military environment that is continuously changing, the power of information becomes critical for mission accomplishment. Military forces must be ready to act in different kind of situations, and the commanders need to be trained to shorten the decision making time. The link between the guidance given from strategic level and mission accomplishment at tactical level is based on different types of processes, very well structured which lead to objectives achievement.

All those processes are supported by systems, especially designed to streamline the decision-making process. Those are the basics tools to compute and manage the databases in order to provide the commander all the information needed about the blue forces and the enemy's capabilities after every phase of the battle.

The accuracy and timeframe of reporting are closely linked with the performance and the efficiency of each system used during the process. This is the reason why, within an organization, a constant upgrade of software products is needed. For organization's proper functioning, besides

systems performance, the users' level of training must also be taken into consideration, which lead us to another discussion about the significance of training process. The motto "train as you fight" is the basic stone of training through simulation, being well known that this type of training is mostly used in the military environment. It provides the staff the chance to develop their knowledge and to optimize the decision-making process by taking part to different types of computer assisted exercises and war-gaming actions. Whether we are talking about testing upgraded versions of the systems, the users' training or the military staff integration in the headquarters processes, the computer assisted exercises are the most efficient way to achieve those objectives. Those types of exercises are mostly used for training NATO units, giving them the chance not only to collective training among the echelons, but also to train the processes that are running within their own headquarters. This way the performance of every structure and their integration within the organization can also be assessed. You can take as an example the growing interest shown by NATO for optimizing the Joint Targeting process. Analyzing NATO's past two years exercises, we have noticed that every single time, Joint Targeting process was part of the training objectives. Somewhere in the lines below you will find a brief presentation of Joint Targeting Cycle

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used in NATO and some interesting information regarding the software tool Joint Targeting System which supports every single stage of this process.

### 1. Brief description of Joint Targeting

The new Theater of Operations proved that military forces need to be trained to conduct various types of activities during a mission. Whether we talk about military operations that involve the use of force in order to deter or constrain the enemy, or about humanitarian missions, peace support operations or other different types of missions, the military forces need to be able to engage the fight by using lethal or non-lethal capabilities against

Its purpose is to link the objectives to their effects by following the objectives' prioritization and the assessment of each generated effect.

The complexity of Joint Targeting Cycle is given by the roles it needs to play. This cycle can be seen as a command function used at the tactical and operational level, with the purpose of establishing the requested effects to be accomplished in order to achieve commander's guidance. Other roles played by this process are to identify available capabilities and use them in proper actions, to select and prioritize the targets and nevertheless to help synchronizing all the capabilities by assessing their cumulative efficacy.

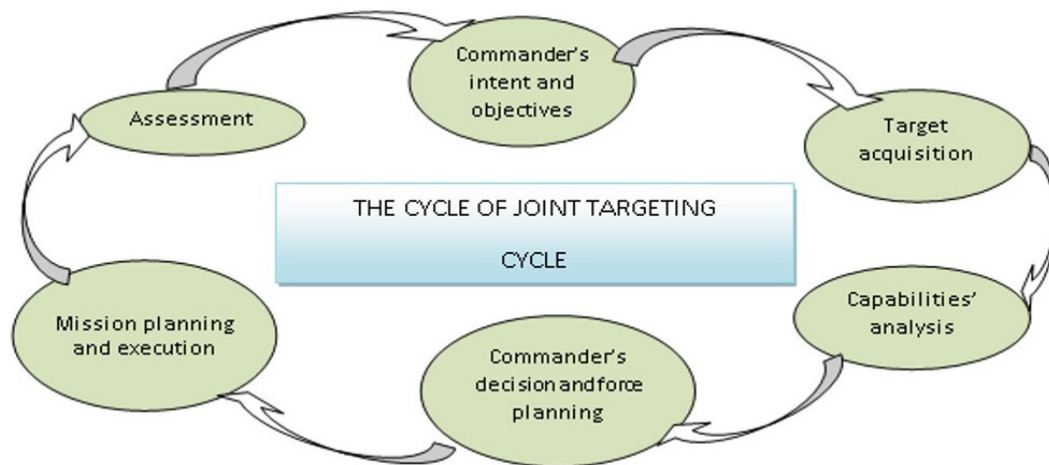


Figure no. 1. JOINT TARGETING CYCLE<sup>1</sup>

different types of actors, in an operation theater labeled by a various amount of threats.

In order to successfully conduct all those types of operations, at NATO level a flexible process - Joint Targeting - was developed, meant to be applied on different kind of missions in order to generate a large spectrum of physical or psychological effects on the enemy forces. The starting point for targeting process is the strategic guidance, followed by the operational level where it has the role to determine the effects needed to achieve commander's guidance by using either lethal or non-lethal capabilities. At the tactical level, the targets proposed to be engaged are in accordance with higher targeting directives and the Rules of Engagement (ROE).

JOINT TARGETING is a flexible process which can be adjusted to any operation and offers a useful methodology in decision making process.

The Joint Targeting cycle is structured on six phases and it proved to be efficient for both planning process and the dynamic engagement of targets. Within the military organization it cannot be played alone. This process is linked with Intelligence Cycle, both of them providing inputs for the headquarters planning process. In figure number 1 you can see the NATO model of Joint Targeting Cycle, structured on its six phases. Moving on in this article the attention will be focused on Joint Targeting System tool, the software program that supports every single step of Joint Targeting Process.

Joint Targeting is an extensive process which contains land, maritime, air and special forces' targeting cycles. It prioritizes, selects and establishes

<sup>1</sup> Source: *Allied Joint Doctrine for Joint Targeting (AJP-3.9)*, Edition A, Version 1, 2016, p.2-2.



the requested effect on targets, taking into account both the environment and the capabilities. The extent of this process is given by the organization that conducts it. North Atlantic Council (NAC) runs this cycle, guided by Allied Command Operations (ACO) plans, while the execution phase takes part at Joint Force Command level, following also the international laws of every country.

Being led by NAC, among the most important inputs brought to Joint Targeting cycle from **strategic level** perspective, we could mention the framework for strategic communications, operation plan (OPLAN), targeting annex development where both the objectives and the operation purpose are defined, the target sets that Joint Force Command is allowed to engage and last but not least, a common and integrated database for targets management is included. As I mentioned before, Joint Targeting System is used in NATO in order to create and manage this data-base.

At the **operational level**, Joint Targeting Cycle is established and directed, for both the planning process and the dynamic engagement one. At this point the two processes are coordinated and conducted in a joint operation. From targets perspective, at this level the target sets proposals are sent for approval at ACO and NAC, including Time Sensitive Targets (TST), the rules of engagement directed by ACO are implemented, the targets to lower echelons are allocated, directions regarding target prioritization and the way of engagement (lethal or non-lethal) are given and the Joint Prioritized Target List (JPTL) is developed.

The units from the **tactical level** will nominate the targets from their Area of Operation and Area of Responsibility and will prioritize the targets based on their engagement capabilities and the approved JPTL. In other words, at this point Target Nomination Lists (TNL) will be developed, which will be presented during the Joint Coordination Board (JCB). This working group establishes responsibilities for execution, prioritization and synchronization of all targets related activities, making sure that the engagement by lethal or non-lethal efforts will be focused on accomplishing commander's objectives. At this point, the results of Joint Targeting Cycle are changed into tasks for the lower units' echelons.

We need to highlight the fact that the targeting process does not run alone, it can either be the

information source that triggers other processes or it can receive data from other cycles that are simultaneously played within the headquarters. Bottom line is that all those processes and cycles follow the same rule: to support commander's objectives. As you already saw in figure number 1, the reiteration of targeting process is triggered by the assessment results of the previous cycle. The information from the process' evaluation turns out to be input data for the next cycle. All the targets data are stored in a system, very easy to be accessed or to be updated by any structure in real time. Joint Targeting System has a complex, multi-level and reachable database. This NATO system will be presented in the next chapter of this article.

## 2. Joint Targeting System (JTS)

Joint Targeting System was developed in 2002 by NC3A (the current NATO Communication and Information Agency – NCIA) and since then it has been the standard system for targeting used all over NATO. The system analysis started with understanding the studies which identify the targeting system requirements, such as ACE (Analysis Control Element) Integrated Imagery, Targeting and Battle Damage Assessment (BDA) Architecture Study, the existing national targeting systems in the field and many ICC user requests which demand improvements on the current ICC targeting modules. Starting with those premises, NCIA developed in 2001 the first version of JTS (called ICC 2.6.1) and in 2002 the program started to be used in NATO. This software suffered a lot of changes in time because it needs to support new requests from the organization. The most upgraded version of the system at this time being is JTS 4.0.

Joint Targeting system is a program created in accordance with C2 (Command and Control) structure and NATO joint targeting doctrine. Because it is the program that stores all the information about the targets, the battle damage assessment reports, and creates the campaign objectives as well as the target lists, JTS becomes the only standardization tool capable of supporting NATO Joint Targeting Process.

JTS supports every step and phase of targeting cycle, being also able to integrate in other C2 processes. JTS modules are applications which support mission planning and decision making processes by providing information about targets.

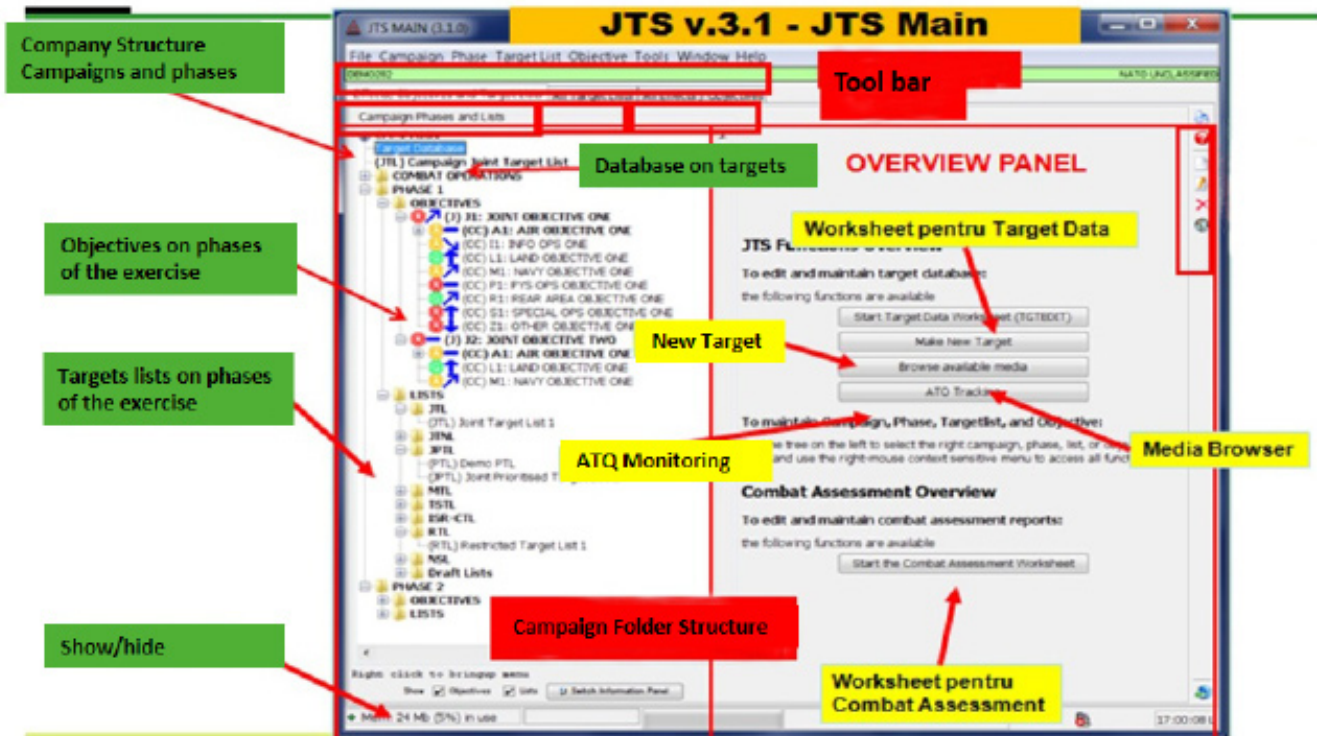


Figure no. 2. JTSMain interface JTS v.3.1

There are five JTS modules, each one with an important role in the targeting cycle and the system integration in C2 process:

**JTSMain** (see figure number 2) is the hub module of JTS. It maintains the campaign and phase structure, allows tracking the existing objectives

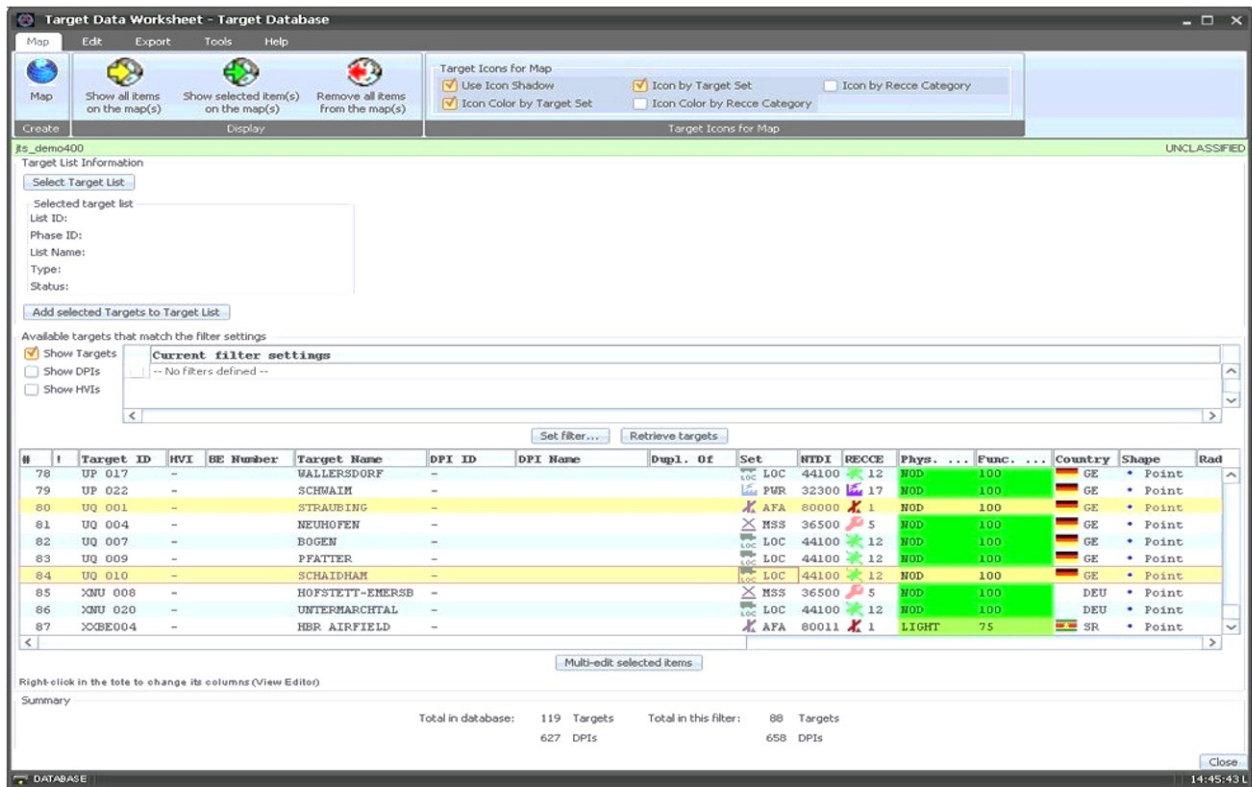


Figure no. 3. Target Data Worksheet Interface for JTS v.4.0



and the prioritized target lists by accessing other modules like JOE (Joint Objective Editor) and TGTLIST (Target List management module). Using this module, the Joint Target List of the campaign can be seen, as well as combat assessment reports for every single target.

**TGTLIST**, as its name states, is the target list management module where the target data is managed (entered, deleted, updated) into target database. The module offers the possibility of filtering the database in order to enlist a new target, two or more target lists can be merged, and it also gives the possibility for the targets to be accessed on map view. Being linked with other modules like TGTEDIT, it allows the user to edit a list or to add or delete from the database DMP (Designated Mean Point of Impact).

All the information about the targets (lethal or non-lethal) can be reached by accessing **Target Data Management Modules** (see figure no 3). This module is actually designed to use a large number of different applications (TGTEDIT, DMPIEDIT, WSEDIT, TGTWS, TGTFILTER), all of them allowing the user to modify the target database. All that information stored in this module form the target folder, a folder that can be imported or exported to other units. In this way the cross-functional data exchange for information is realized.

**JOE (Objective Management Module)** is the application where objectives on different levels are entered, updated, maintained and linked with targets for each phase of the targeting cycle. Being given the possibility to link a target with an objective, a prioritized target list can be developed based on the level of importance of each objective/ stage/ campaign.

**Combat Assessment** module comprises two applications: CAEDIT (Combat Assessment Editor) and CAREP (Combat Assessment Reporting). Those help develop phase I, II and III assessment reports of a mission. Reports as battle damage assessment are stored and can be filtered by different criteria.

**Targeting cycle** starts with commander's intent, objectives and guidance, replicated in JTS program by JOE module. For the second phase of targeting process, the target development stage, TGTEDIT and DMPIEDIT modules are used in JTS in order to fulfill the information about the given targets. The Intel targeting personnel uses TGTEDIT module in order to update the most recent information about

the targets. Then, in the third stage of targeting cycle, after the capabilities' analysis, the targeting nomination list (TNL) and PTL are created by using JTS TGTLIST module. In the next two phases of force planning, mission planning and execution, the JTS modules that are mostly used are TGTEDIT and TGTLIST in order to establish and update the system with the weaponizing solutions to engage the targets. TGTLIST module also allows the lower echelons units to pull out from the system their PTL for the area of operation. Combat Assessment module is the main application used during the last phase of joint targeting cycle. This module linked with TGTEDIT module allows the user to update the system database after the target was engaged, assessing the damaged produced and supporting the re-engagement of a target decision, when it is needed. As you can see, Joint Targeting System was designed to support NATO targeting cycle at every stage, storing and tracking essential information regarding targets.

### 3. Joint Targeting System in computer assisted exercises

Being developed as a support tool for joint targeting and C2 processes, JTS has the capability to interconnect with other NATO systems and FASs (Functional area Service) as: INTEL-FS, NCOP or JChat. During exercises based on constructive simulation, JTS runs on a separate network than the other NATO systems. Even if the overall classification of the exercise and the exercise databases is NATO UNCLASSIFIED, JTS runs only in NATO SECRET network. Nevertheless, it can be linked with other FASs by using different bridges or interfaces. The end state of interoperability that can be reached by JTS is shown in figure no.4.

Those bridges between the systems have not been fully developed yet. In order to be used, they need first to be upgraded and tested during computer assisted exercises. As you can see, computer assisted exercises are not only just a good opportunity for personnel training, but they were also successfully used in testing new systems or their upgraded version. Take as an example the 4.0 version of JTS. It was tested for the first time in November 2017, during NATO exercise TRIDENT JAVELIN 2017 and few months later, in March 2018 during CREVAL exercise of Multinational Division South-east Headquarters, DACIAN LANCER 2018. The training audience had access



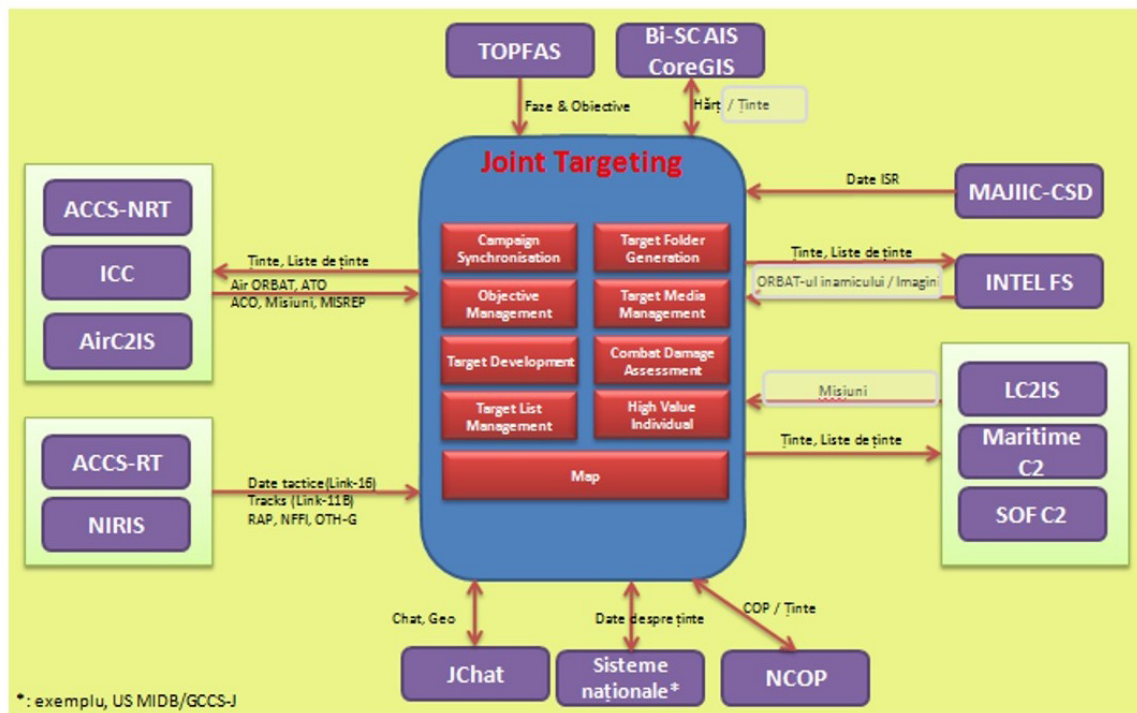


Figure no. 4. System interoperability for JTS v.4.0<sup>2</sup>

to the 4.0 version of the system during the exercise planning process in order to develop their database for the exercise and during the execution stage all the attending personnel had the chance to work with it. The upgrades brought to the system were very well received by the users and during those exercises a slight attempt to use the system more efficiently could be seen at the tactical level. JTS supports very well the joint targeting process at strategic and operational level, but in order to be 100% efficient at tactical level also, it needs some more improvements to be added.

**In conclusion**, JTS offers real solutions for collecting and tracking data about the targets, being a friendly-user system for network environment. All the data stored in the system can be reached anytime by anyone allowed to work with the tool. JTS architecture was especially designed in order to allow the program to link with other C2 systems, supporting the decision-making process. This system, as I stated before, is used also by the Multinational Division South-East Headquarters and the version 4.0 was one of the FASs used during DACIAN LANCER 2018 exercise. As feedback regarding the system, JTS was efficient, but splitting the database might be a good solution

in order for the system to be more efficiently used at the tactical level.

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<sup>2</sup> Source: OF-4, Xogiannis Dimitrios, "Advanced FAST FAS & Dynamic Targeting Training Course JTS-FAST Evolution", chief of J. TARGETING section, from NATO Rapid Deployable Corps-Greece, 2017, p.7.



## THE POPULATION MIGRATION FROM NORTH AFRICA AND SOUTH-WEST ASIA

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**Abstract:** Migration is a contemporary phenomenon which is deeply rooted in history. The European Union, in spite of its inconveniences, represents a good example of success nowadays, based on social, economic and financial cooperation among the 27 European states. To emigrate in the EU, so as to take advantage of the welfare of this region, is a goal for many inhabitants from Middle East and North Africa. Not matter how the situation in the MENA will evolve, the migration from this area to Europe will continue and will have a significant importance in Europeans life, having both positive and negative aspects.

**Keywords:** migration; population; European Union; MENA.

"Migration is a phenomenon which consists of moving some set of people from one area to another, followed by the territorial change of residence and/or employment in some form of activity in the arrival area. Any act of migration is, at the same time, immigration (inputs) and emigration (exit)".<sup>1</sup>

According to the definition of the Romanian term *MIGRAȚIUNE*, *migrațiuni* means, mass displacement, some tribes or peoples from one territory to another, determined by economic factors, social, political or natural; migration. 2. mass displacement of some animals from one region to another, for the purpose of reproduction, or the search for food, etc.; migration. 3. (In MediaWiki) *Migrațiunea petrolului* (or crude oil) = the process of displacement of oil and associated gas from the deposit that originated in rocks in underground areas. [Pr.: your-u--var. *migrație*: s. f.] -Fr. Migration, LAT. *migratio-onis*."<sup>2</sup>

<sup>1</sup> Traian Rotaru, „Migrație”, *Sociology Dictionary*, coordinators C. Zamfir și L. Vlăsceanu, Babel Publishing House, Bucharest, 1998, pp. 351-353.

<sup>2</sup> *Explanatory Dictionary of Romanian language*, ediția a II-a, Academia Română, Institutul de Lingvistică „Iorgu Iordan” Univers Encyclopedic Publishing House, Bucharest, 1998.

Whatever the definition, migration represents a contemporary phenomenon which is part of daily life and involves the movement of a significant number of people. It always operates with migration terms such as *starting area*, *route* and *arrival area*, regardless of whether this motion is made inside or outside of a State. Migration also involves the terms of *emigrant* and *immigrant*, where emigrant is a person who leaves the State of residence, and the immigrant is a person who is in a country, for various reasons, other than the State where he/she was born. Another classification of migration is made by legal and illegal migrations which are determined by different causes.

Thus, legal migration is mostly determined by economic causes, in which the people usually are qualified or highly qualified in a particular field, and leave the area of residence with the declared goal of achieving superior income and benefits, which will enable them to have a standard of living higher than that experienced in the country of origin. Illegal migration is usually determined by the lack of security or political causes, in which the State of residence may no longer provide the minimum acceptable level of those people, making them leave for other States which can provide the minimum acceptable level.

The area located in Northern Africa and the Middle East is known as MENA zone -Middle East and North Africa<sup>3</sup>. This area includes the following

<sup>3</sup> <http://istizada.com/mena-region/>, accessed on 26.03.2018.



countries: Bahrain, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestine (West Bank and Gaza Strip), Qatar, Saudi Arabia, Syria, Tunisia, United Arab Emirates (UAE) and Yemen. According to some specialists Turkey and Sudan are in this area, too<sup>4</sup>. MENA area was for centuries, with some exceptions, starting with the 16<sup>th</sup> century until the end of World War I, part of the Ottoman Empire. Following the Sykes-Picot Agreement<sup>5</sup>, the zones of influence changed, new boundaries were established, and new States were born. The situation evolved, and after the end of World War I, mankind witnessed how the majority of the States in the area became independent States. These States had been affected by political instability, military conflicts, had had economic difficulties, and financial and economic issues which had influenced the evolution of the new nations and created social problems. Thus, some of the inhabitants of these areas, due to financial hardship and lack of perspective in the countries of origin, believed that the right solution for solving it was to migrate, thus leading to the creation of a migratory phenomenon.

The main reasons leading to the migratory phenomenon are: political, economic, social, military, and in the MENA area all these reasons existing simultaneously. Also, because of climate change recorded in recent years, we can add the problems posed by the lack of water resources, and food to the list of reasons which trigger the phenomenon of migration in the MENA area.

Thus, many countries in the MENA area have difficulties in ensuring the demand for fresh water. Most of the MENA area is covered by desert, and agriculture and food sector are of vital importance for the economies of the States in the region. An important area for agriculture is the area called the *Fertile Crescent*, "the most productive territory in the form of an arc of a circle around the desert from Syria, Jordan and Iraq. Other important areas for agriculture are found in the floodplain of the Nile from Egypt and the coastal regions of Tunisia, Algeria and Morocco. Ismail Serageldin, a

former World Bank Vice President for Sustainable Development and Environment<sup>6</sup> (1992-1998) and Special Programs<sup>7</sup> (1998-2000), seemed to reiterate the concerns of Boutros Ghali in its Declaration from 1995: „many of the wars from this century were and still are linked to oil ... instead, the wars of the next century will be about water”<sup>8</sup>.

Along history there have been disputes which were triggered by resource-related issues, namely oil, natural gas, water, and food<sup>9</sup>. Thus, in the history of this area we can identify a number of resource conflicts: the Suez crisis from 1956, Israeli-Arab wars from 1967, and 1973, Iraqi-Iranian War (1980-1988), which also generated migratory phenomena, particularly among Palestinian population. Migratory phenomena must be assessed in the light of the time factor and past events and present events must be analyzed in order to predict future developments of migratory events. In the past, two aspects of the migratory phenomenon were identified, namely migration from MENA countries to the Persian Gulf area, in particular to the countries of the Gulf Cooperation Council-GCC<sup>10</sup> and MENA countries migration towards the European Union.

In the contemporary period a series of events occurred that influenced migration. So, the oil crisis from 1973, when OPEC countries increased the price of oil led to a growth in the living standards of the countries of the GCC and Libya but affected the economic growth of the European countries. At the same time, the increase of the price negatively affected the welfare of the population of the MENA area, especially from Turkey, Morocco and Egypt, leading to an increase in the migratory wave from these countries to the countries of Northern and Western Europe. In addition, a series of events such as the first Gulf war from 1991, the wars in

<sup>6</sup> World Bank, *Environmentally and Socially Sustainable Development*.

<sup>7</sup> World Bank, *Special Programs*.

<sup>8</sup> Ecaterina Mațoi, *Deficitul de apă în MENA: sursă de conflict sau cauză a migrației?*, <http://www.punctulcritic.ro/ecaterina-matoi-deficitul-de-apa-in-mena-sursa-de-conflict-sau-cauza-a-migratiei.html>, accessed on 21.03.2018.

<sup>9</sup> <http://www.contributors.ro/global-europa/primavara-arabasi-razboaiele-petrolului/>, accessed on 21.03.2018.

<http://www.worldbank.org/en/country/gcc/overview>, accessed on 26.03.2018.

<sup>10</sup> <http://www.worldbank.org/en/country/gcc/overview>, accessed on 26.03.2018.

<sup>4</sup> Michael Bommes, Heinz Fassmann & Wiebke Sievers, *MIGRATION FROM THE MIDDLE EAST AND NORTH AFRICA TO EUROPE*, Amsterdam University Press, Amsterdam 2014, p. 17.

<sup>5</sup> <https://www.rfi.ro/special-paris-87016-o-suta-de-ani-mai-tarziu-acordurile-sykes-picot-tot-mai-sunt-criticate>, accessed on 21.03.2018.



Afghanistan and Iraq, the Arab Spring<sup>11</sup> (in 2010) affected the social system in the MENA area, producing serious economic imbalances, leading to the migratory phenomenon. Increased negative demographic growths in most West European States in conjunction with these phenomena have resulted in an influx of illegal immigrants, mostly in the European States.

An important role in the emergence of this migratory wave was created by the Arab Spring, a phenomenon that began in Tunisia in December 2010, which revealed the desire of young people from MENA States for emancipation, and for a better living. After about seven years, it became clear that the economic and security situation in the area had undergone continuous degradation and had led to military conflicts, of various intensities. These conflicts created a migration crisis in which millions of residents from MENA area left to Europe. Although in the most of the cases, economic aspects were identified as the main cause of migration, in this case there are numerous question marks relating to the initiation and development of the migratory phenomenon. These general reasons were added as elements generating migration aspects of the political issues, security, education, health and infrastructure.

The migratory flow, most often accompanied by illicit trafficking of goods and drugs, is a phenomenon that took place for years, reaching the point where the routes used are known to the security institutions, the only fluctuations being in the number of people travelling and the legality of the action. The following routes were identified:

- the West African route – the States of West Africa (Mauritania, Ivory Coast, Morocco, etc.) to the Canary Islands, and later to Western Europe;
- the West-Mediterranean route (Italian route) – which starts from Libya/Tunisia, across the Mediterranean, then to reach Italy as final destination;
- the Central Mediterranean route (Spanish route) – which departs from Morocco through Spain, having as final destination countries in Western or Northern Europe;
- the main Balkan route – which typically has as its starting points the countries of the Middle

East and East Africa, passing through Turkey, and from there following the Balkan route, i.e. Greece-Serbia/Macedonia and Slovakia-Italy/Austria, having as the final destination Western Europe;

- the secondary Balkan route that begins in Turkey, passing through Bulgaria, Serbia/Romania, Hungary, Austria and the finally reaching the Western European States;

- the Eastern route – which begins in the Middle East via Russia and reaching the EU's eastern border with Belarus, Ukraine, Moldova and the Russian Federation, having as final destination Western Europe;

- the Nordic route – which starts from Middle East countries and then passing through Russia, to the Sweden/Finland as final destination.

In the years after the *Arab Spring* there was a migrant flow, with a maximum number of immigrants reached in the year 2015. Thus, the "influx of applicants for asylum experienced a strong upward trend, doubling it in 2015 in relation to 2014 and increasing almost thrice towards 2013. The total number, at the level of 2015 was 1,393,285 of applications for asylum request, more than half of them being registered in the period between August and November 2015, a quarter being requested by Syrian citizens. Of these, over 90 percent obtained one form of protection or another"<sup>12</sup>.

By analyzing this data, we can say that whatever route is chosen, each of these routes has as a point of origin a country in MENA area, and as the final destination, one of the EU countries. This migratory phenomenon from MENA area to Europe cannot be analyzed as a single, independent phenomenon, as it has taken place in conjunction with other migratory flows from Asia or Eastern Europe. In an attempt to limit the migratory phenomenon, the EU States have tightened security measures at borders, installed modern monitoring equipment at borders, and have equipped the border guard forces in charge with cutting-edge equipment. In addition, to complement these measures, identity and travel documents have changed, and their level of security has increased. All these issues have not deterred the networks trafficking human beings and goods;

<sup>11</sup> <http://romanioliberal.ro/special/documentare/cinci-ani-de-%E2%80%99Eprimavara-araba---ce-au-castigat-popoarele-musulmane-403135>, accessed on 26.03.2018.

<sup>12</sup> Mărgărit Dora Sonia Georgiana, *Border security in the context of major migration – Challenges and possible solutions*, în „Criminal investigation Journal”, Year IX, no 1, Bucharest, 2016, p. 635.



„smugglers market and documents forgers”<sup>13</sup> have been continuously developed and kept pace with the evolution of the measures imposed by the authorities, in order to enable their illicit activities, up to date. Financial income made as a result of these actions is very important, valued at billions of euros unofficially, but impossible to be determined precisely, which has become an important goal for major international criminal organizations.

Also, careful analysis of these migration flows shows us that the existence of the phenomenon of migration will continue in the near future, based on the many similarities identified between the migration flows that have occurred over time from MENA to the EU. From the point of view of security risks which can affect the EU, the same type of threats was identified by the EU and NATO. Both organizations identified that the main risk factors are illegal migration, in conjunction with terrorism, religious extremism and the proliferation of weapons of mass destruction (WMD)<sup>14</sup>.

All of these migratory phenomena from the MENA area to the EU influenced the activities in the surrounding area and in the immediate vicinity. According to official data published by the Global Conflict Tracker<sup>15</sup> of the Council on Foreign Relations (CFR), there were seven conflicts in the area, including four that are in progress in Iraq, Syria, Libya and Yemen and three latent conflicts in Lebanon (sectarian conflict), the Arab-Israeli conflict and Islamic militancy from Egypt. The conflict in Syria represents a distinct type of conflict, being the area where the interests of the regional or great powers of the world converge.

Russia's involvement in the conflict has allowed President Bashar al Assad's regime to remain in power and to develop the personality cult, but at the cost of loss of numerous territories, with “direct and indirect victims of war up to 470,000 people according to the Centre for the study of Syrian Policies (SCPR), a total far greater than the

figure advanced by the UN until it ceased to create statistics, 18 months ago. In total, 11.5% of the population has been killed or wounded since the crisis erupted in March 2011, estimated the report's authors. The number of wounded people is 1.9 million.”<sup>16</sup> At the same time, the conflict created a high number of domestic or international migrants, unofficial sources advancing a figure of just over 6 million.

In January 2018 a military operation started, carried out by Turkish army against Kurdish fighters from the „Popular Protection Units” (YPG), in the North-Western Afrin area<sup>17</sup> of Syrian territory, named the „Olive Branch”, in order to create a security corridor at the southern border of Turkey and to remove what the Turkish army deemed as “terrorist elements”. These Turkish army attacks resulted in a number of victims, among them children and civilians. The attacks were condemned by the international community, complicating the situation in the area through the emergence of a new wave of refugees from Syria.

MENA region continues to generate problems both within its borders and in the exterior because of the ongoing conflict. As a result of an analysis carried out, without minimizing the positive effects of legal migration from MENA to the EU, we could state that the following problems were identified as a result of illegal migration:

- the large influx of illegal immigrants has put great pressure on the EU to defend the outer borders of the Union and to provide their security during the journey within it;
- the lack of some clear provisions in the legal framework governing the rights of migrants, namely the right to asylum, work, health, education;
- the emergence of a large number of workers on the labor market in the EU, some of them highly qualified, qualified or ready to work on the black market without a contract, or for lower salaries than normally, determines overburdening the budgets of adoption States of important budgetary income;
- health security vulnerabilities – the large number of illegal immigrants have not benefited from medical assistance during their journey and

<sup>13</sup> Petre Duțu, Cristina Bogzeanu, *Current Challenges for European Security*, “Carol I” National Defense University Publishing House, Bucharest, 2010, p. 46.

<sup>14</sup> Gheorghe Minculete, Daniela Răpan, *Approaches on Current Risks and Threats to the International Security Environment*, in Science and Military, no. 2 (Volume 7)/2012, Armed Forces Academy General Milan Rastislav Štefánik, Slovak Republic, p. 4.

<sup>15</sup> <https://www.cfr.org/interactives/global-conflict-tracker#/global-conflict-tracker>, accessed on 28.03.2018.

<sup>16</sup> <https://www.hotnews.ro/stiri-esential-20787502-bilantul-ingrozitor-razboiului-din-siria-470-000-morti-1-9-milioane-raniti-pierderile-economice-depasesc-255-mld-dolari.htm>, accessed on 02.04.2018.

<sup>17</sup> <http://www.contributors.ro/global-europa/%E2%80%99Eramurade-maslin%E2%80%9D-sau-turcia-contra-stator-unite-in-nordul-siriei/>, accessed on 29.03.2018.



can be infested with various microbes or diseases;

- cultural and religious differences between immigrants and citizens of the EU, very often impossible to be overcome;

- the proliferation of terrorist organizations and their affiliated ones increase the risk of terrorist actions in the territory of the Union;

- the development of organized crime groups which are carrying out illicit activities, in particular drugs, goods and people trafficking, thus ensuring important financial funds to their organizations;

- the financial efforts made by the EU to ensure the required daily living expenses, the funds necessary for their integration into society and for their families reunification;

- the attacks carried out by immigrants over the civilian population, especially sexual assaults on women from Germany and Sweden.

As a result of this migratory wave, there were and still are many disputes within the EU, at the political level, regarding migration. Starting with Britain's exit from the EU (BREXIT) the role of France and Germany has grown within the Union, and these two countries have tried to assume the role of "hard core" of the Union, advancing the idea of a quota system of refugees among EU states and expenditure related to the EU. This initiative has encountered resistance in southeastern Europe from the Visegrad Group<sup>18</sup>.

Romania, which was historically only a secondary route for migration agreed in 2015 with the allocation of a number of 4,180 illegal refugees that had arrived in the EU, according to European Commission decisions, which established a so-called *compulsory rate*<sup>19</sup>. However, in the year 2017 this share had not been achieved, in Romania residing only 710 people "in need of international protection"<sup>20</sup>.

All these factors listed above have been affecting European citizens directly and indirectly and have provoked a reaction of opposition of EU citizens in relation to the phenomenon of migration and migrants. However, according to official data, the

<sup>18</sup><http://www.ziare.com/europa/romania-ue/reactie-virulent-a-grupului-visegrad-fata-de-planul-ue-de-a-da-bani-doar-tarilor-cu-justitie-independenta-1499311>, accessed on 02.04.2018.

<sup>19</sup> <http://www.gandul.info/stiri/surpriza-ue-pentru-romania-cati-refugiati-au-fost-trimisi-tara-noastra-in-baza-cotelor-obligatorii-16687662>, accessed on 02.04.2018.

<sup>20</sup> *Ibidem*.

migration phenomenon could not be stopped, but only diminished. Further on, high living standards and financial revenues realized in the EU will be a goal for the residents of the MENA area who will try anything to live in a State of the European Union.

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## THE INFLUENCE OF TECHNOLOGY ON CONFLICT ASYMMETRY

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**Abstract:** *Today, as technology advances and significantly changes society, we become increasingly aware that these innovations are affecting all aspects of daily life. Beyond revolutionizing daily activities, technology seizes attention of governmental organizations and the use of research results and technological developments in the defense industry and military operations are becoming more and more significant. The influence of technology on conflict asymmetry is not a new concept, only the dynamics are different and much faster in latest years. The paper aims to make a review of technologies that play a decisive role in establishing technological asymmetry.*

**Keywords:** *technology; conflict asymmetry; innovations.*

### ASYMMETRIC WAR

Any discussion of the high-tech war leads inevitably to asymmetry. The term "asymmetric war/conflict" initially suggested a situation where an opponent completely dominates his opponent. However, the current meaning is a little more complex than that. One way of defining strategic asymmetry is as any means used by an opponent to gain advantage over the enemy, not limited exclusively to technology.

For example, Genghis Han (1206 - 1227) and his hordes of Mongols made use of the benefits of increased mobility, operational speed, intelligence, synchronization, training, and morale to defeat their enemies in striking campaigns. Also, they benefited from the technological advantages of the time using Chinese engineers and inventions, especially in the case of sieges.

Other conquerors, such as the Romans, the Aztecs or the Zulus, used superior technology, discipline, training, and leadership to win their

battles<sup>1</sup>. Although current technology can interfere with all the above, in particular those related to operational speed and intelligence gathering, there are other aspects of military operations which may be decisive in winning a battle.

This becomes very clear when we look at the "weaker" side of these conflicts. For example, rebel actions in anticolonial wars were based on a form of asymmetry. They made use of guerrilla operations, war of attrition, political warfare and the desire for sacrifice - strengths that their superior numerical and technological opponents did not have. Such strategies are found in military actions such as Maoist popular warfare, Intifada, or in North Ireland<sup>2</sup>.

In an analysis of the overall strategy, material asymmetry is often beneficial to the stronger side. There are two main aspects of asymmetry – material and psychological. Although material asymmetry is not enough, the two concepts are in direct relationship, often with material asymmetry generating a psychological advantage. Technological progress can also be decisive in a conflict where the "weaker" side cannot adapt and maximize its strengths. For example, technological advances created a major difference in the war against Matabele in 1893-1894, when 50 British

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<sup>1</sup> Steven Metz, „Strategic Asymmetry”, [www.au.af.mil/au/awc/awcgate/milreview/metz.pdf](http://www.au.af.mil/au/awc/awcgate/milreview/metz.pdf), p. 23.

<sup>2</sup> *Idem.*



soldiers managed to defeat 5,000 Matabele warriors with only 4 machine guns<sup>3</sup>. The Matabele tribes failed to exploit numerical superiority to defeat the British. However, in long-term conflicts, enemies often find ways to counter technological asymmetry.

### TECHNOLOGIES WITH MAJOR INFLUENCE ON THE ASYMMETRY OF CONFLICTS

As mentioned above, technology is only part of what defines an effective army. As investments in new technologies grow, it is necessary to know their place in the military operations scheme. It should also be borne in mind that the very concept

### Unmanned Aerial Systems

Unmanned aerial systems originally appeared in the form of unmanned aerial vehicles used in gathering information about the battlefield. The concept of unmanned aerial vehicle originates in the First World War. Reconnaissance drones came into use in the '50s during the Vietnam War, and the Cold War stimulated an increase of the number of such technological development programs. The '80s gave birth to Pioneer system, which was retired in 2007.

The next generation of unmanned aerial systems began with Predator system (figure no. 1), which incorporated advanced technologies such as satellite communications and has an autonomy up to twenty



**Figure no. 1.** Unmanned Aerial System Predator  
([http://defense-update.com/20070420\\_predatorb.html](http://defense-update.com/20070420_predatorb.html))

of war is constantly changing. The technology field also includes information technology, which is related to the command and control of military operations, which in turn leads to interaction with high-accuracy precision weapons, with autonomous aerial systems, automated battlefields and space-based weapons.

We presented below some of the technologies that had and still have a massive influence in ensuring technological asymmetry.

<sup>3</sup> Steven Metz, „Strategic Asymmetry”, [www.au.af.mil/au/awc/awcgate/milreview/metz.pdf](http://www.au.af.mil/au/awc/awcgate/milreview/metz.pdf), p. 27.

hours. Other systems in use in the US Army are also Global Hawk, Darkstar, and Outrider.

There are also autonomous micro air vehicles, which have different shapes and modes of propulsion, the most popular being an imitation of birds. These micro systems are used in intelligence and surveillance.

Over time the role of autonomous air systems was extended. Currently they are used for finding, identifying and even attacking targets, as well as providing support for guided munitions, using laser illumination, for intelligence and persistent



**Figure no 2.** Autonomous logistic vehicle Titan

(<https://www.qinetiq-na.com/products/unmanned-systems/titan/>)

surveillance, as well as communications relay or active elements in the electronic warfare.

Due to the huge potential of these systems, there are numerous research programs in this area, particularly in the development of new sensors, extending autonomy of systems, implementation of artificial intelligence and use clusters of such systems, the concept of swarm opening new paths in obtaining technological asymmetry.

Unfortunately, these technologies have become widely available to countries with lower technological development, which can lead to a limitation or a change in the asymmetry of a conflict. Already the concept of "suicide drone" is in use and the attention of research & development is focused on developing anti-drone and anti-swarm technologies, field at stage of pioneering, existing solutions being extremely limited.

### Autonomous robots

As a complement to the Unmanned Aerial Systems, there is a whole family of terrestrial robots or terrestrial autonomous systems that are used in military operations. An example of such system PackBot®, an unmanned ground vehicle used by the US military, developed mainly for reconnaissance, tactical law enforcement and Explosive Ordnance Disposal. This system was used in the war in Iraq.

Another concept considered in this category is that of autonomous vehicles that are designed to

become an extension of the soldiers, used to carry their equipment, supply ammunition, extract the wounded, equipped with advanced sensors and advanced navigation possibilities even in rough terrain (figure no. 2).

Moreover, this category includes small robots that can be worn by soldiers and thrown over obstacles or inside buildings, being used for intelligence and reconnaissance.

Similar to unmanned aerial systems, the use of weapons was experienced. There are robots equipped with 40 mm grenade launchers or 7.62 mm machine guns. An example in this respect is "Modular Advanced Armed Robotic System - MAARS" (figure no. 3).



**Figure no. 3.** Unmanned Ground Vehicle MAARS

(<https://www.qinetiq-na.com/products/unmanned-systems/maars/>)

The possibilities offered by these systems are as wide as those offered by unmanned air systems, including the concept of swarms. Unfortunately, in this case asymmetry can work on both sides, with the possibility of using such systems, not very sophisticated and cheap, as a weapon, by low-funded belligerents and with modest technological knowledge.

### Directed Energy Weapons

This is the latest concept implemented in the field of armaments. Even if the ideas are not new, the existing technological level has made it possible to develop them only in recent years. This category includes weapons based on high-power lasers and those based on high power microwaves



**Figure no. 4.** Laser Weapon System LaWS

(<https://www.navytimes.com/news/your-navy/2017/07/19/navy-successfully-tests-anti-drone-laser-weapon/>)

(directed electromagnetic impulse). This kind of weapon, although at an early stage of development, is leading to an asymmetry in favor of unrivaled holders because the extremely high cost and advanced technologies are currently prohibitive.

Directed energy weapons currently offer much hope in dealing quickly and efficiently with suicide bombers, ballistic missiles, unmanned aerial systems, including clusters and even against aircrafts.

If on directing electromagnetic pulse results are modest, with some systems operating successfully in stopping vehicles (Norway led a NATO project successful in this respect) regarding high power laser weapons that are using this technology it seems that they are much more advanced. In this regard, the US Navy has successfully tested such a system mounted on the USS Ponce against the drones (figure no. 4).

#### **Other technologies**

Although they have a major impact on the asymmetry of current conflicts, the technologies outlined above are not the only ones. There are

many others that can influence more or less the conflict asymmetry. In this regard we can mention the cyber domain, especially cyber-attacks that occur at a time when almost everything is related to Internet and Cloud technologies, 3D printing (rapid prototyping, additive manufacturing), hypersonic vehicles, social networks and media, nanotechnologies and advanced materials, technologies that ensure electromagnetic spectrum dominance, artificial intelligence, energy producing, including renewables and energy storage.

#### **CONCLUSIONS**

Analyzing major military conflicts in history will show that technologies always played an important role in obtaining favorable asymmetry and enemy dominance. Unfortunately, periods of great conflicts offered the greatest technological progress. Today's warfare is greatly anchored in science and technology and probably, in near future will encounter on battlefield unmanned autonomous systems.

Still, technological dominance is extremely



volatile today, technologies evolving very fast and the maintenance of this asymmetry needing permanent attention and investments.

If during the Cold War technological asymmetry was obviously in favor of the US and the USSR, in the period that followed immediately after the fall of the Berlin Wall and the Soviet Union, there was a shift in favor of US and NATO.

Unfortunately, in recent years it has become increasingly clear that NATO's technological advantage in defense began to decrease. This phenomenon has three major causes<sup>4</sup>:

- The first one is the rise of defense spending, including in research & development of countries like Russia, China, along with their downward trend in Alliance member states;

- The second one is the progress of military technologies with dual-use and increased accessibility in a growing number of states, some of them considered as poorly developed until now;

- The third one is that technological progress takes place at an accelerated pace, often exceeding the possibility for Alliance member states to implement them in a timely manner until they become obsolete.

In this respect, the members of the Alliance concluded that it is necessary to increase the investments in research & development for defense as well as to rethink the way of approaching and organizing it.

There are many cases in which the technological asymmetry suffers rapid and radical overturning between the opposing parties, the technological advantage being short-lived, and then considerable investment is needed in the development of technologies that will counteract those that only shortly before constituted an asset and an advantage.

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# RELATIONAL RISK ASSESSMENT IN THE DESIGN OF CURRENT MILITARY OPERATIONS

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**Abstract:** The aim of this article is to analyze the risk assessment process of designing the current military operations from the perspective of the scientific argumentation of the Military Risk Assessment Matrix (MRAM) methodology. The use of this matrix is an efficient and expedient practice that is heavily used by the political and military decision makers, senior or junior leaders, throughout the all levels. In this respect, the matrix structure, the quantitative and qualitative classification of the data and, finally, the graphical representation of the results are not solely based on merely empirical arguments. On the contrary, their relevance is supported by a refined mathematical apparatus that explores and processes consistent data sets using the distributions of mathematical statistics.

This article represents a partial dissemination of the results obtained in the Report no. 3 of the doctoral program at the Doctoral School of "Carol I" National Defense University to support the thesis entitled "The relational determinations specific to the modern war based on the complexity theory".

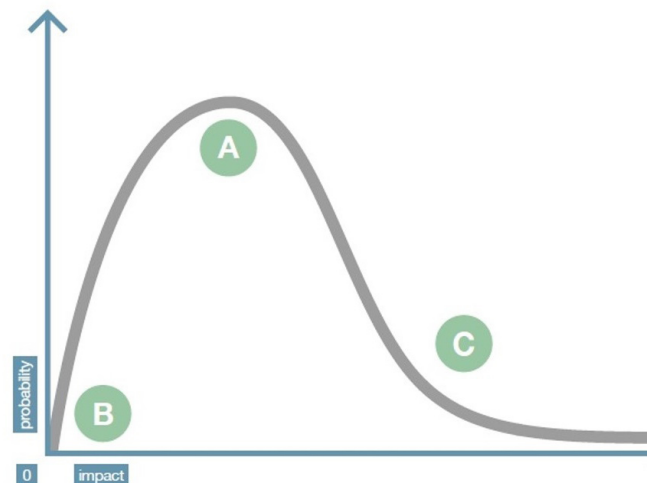
**Keywords:** management; risk; matrix; military; operations; complexity.

## The relational modeling of risks under the conditions of the systemic complexity

In accordance with the theory of complexity, the international system of relations and the war can be assimilated to complex systems characterized by uncertainty and behavior at the edge of equilibrium determined by the increased sensitivity to the variation of the initial conditions. The sudden change in the state of the system and the rapid transition to a new state are capable of triggering an apparent chaotic transition (in the sense of the non-linearity of evolution laws) towards a new apparently stable but unpredictable long-term state. The multitude of constituent parts and the quantitative and qualitative complexity of their interactions are likely to disrupt the researchers' effort to identify, as objectively as possible, the main risks that have a real potential to affect the evolution of relations between states and, implicitly, to trigger a military conflict in bilateral plan, state vs. state, but also internationally.

A viable methodology of deciding the magnitude of a risk and classifying it in a global hierarchy is to define the risk as a product between its likelihood of occurrence (its probability) and its impact on the system. Of course, for its success,

it is important to use a common risk assessment scale. In this sense, we consider the risk as being the possibility of losing something valuable evaluated against the possibility of winning something valuable. Managing this uncertainty about the outcome of an action /state is the stake for the decision model based precisely on this risk assessment. For this reason, the risk calculation is based on multiplying the probability of producing an event with the impact of its occurrence. In most



**Figure no. 1.** The probability density function of a risk based on its impact<sup>1</sup>

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<sup>1</sup> Source: Pamlin Dennis and Dr Armstrong Stuart, *Global Challenges 12 Risks that threaten human civilisation*, (Stockholm: Global Challenges Foundation, 2015), p. 31, accessed 07.12.2017, <https://api.globalchallenges.org/static/wp-content/uploads/12-Risks-with-infinite-impact.pdf>

cases, the impact is measured in economic terms, with the possibility of statistical representation, but more subjective representation such as the human suffering is possible.

Thus, the use of probability allows us the graphical representation of the impact function distribution, identifying three important areas, as it is represented in Figure no. 1.

In principle, the field of possible outcomes is superiorly bounded by the distribution curve but also in this case we can also distinguish three areas of interest: *area A* represents the most likely impact area, *area B* describes the correlation between the minimum impact and its probability that tends to zero and *area C* shows that despite the likelihood of occurrence is extremely low, however, the effects are extremely severe (infinite impact).

For the complex systems, this *area C* is of interest because in this the evolution of risk exceeds the range of manageable uncertainty and penetrates into the seemingly chaotic behavioral area. It is therefore important to manage the risks in areas *A* and *B* as well as to identify (recognize) the transition conditions to the *area C* in order to act effectively in order to avoid this transition.

This is a simplified approach for an intuitive

operate, makes it possible to structure and analyze them using statistic distribution functions and models from the probability theory. In practice, through regulatory measures, at the international and national level, are imposed Operational Risk (OR) models which are designed to regulate the exposure of the capital to risk. That is in order to reduce to acceptable limits the financial losses and, ultimately, to avoid the major financial crises.

One of the most sophisticated and used models is the AMA (Advanced Assessment Approaches) that allows banks to implement their own internal rules and procedures for managing financial capital OR using imposed indicators.

Thus, an important indicator is Capital Charge (CC), which sum Elapsed Loss (EL) and Unexpected Loss (UL):

$$CC_{AMA} = EL + UL \quad (1.1)$$

But the application of formula (1.1) is not simple just because of the difficulty of a reasonable estimate of the unexpected losses. For their modeling consistent data sets are needed for periods of at least 3 years, but also an appropriate mathematical model that shapes the distribution of two independent random variables: *frequency* of occurrence and *severity* of losses (see Figure no 2)

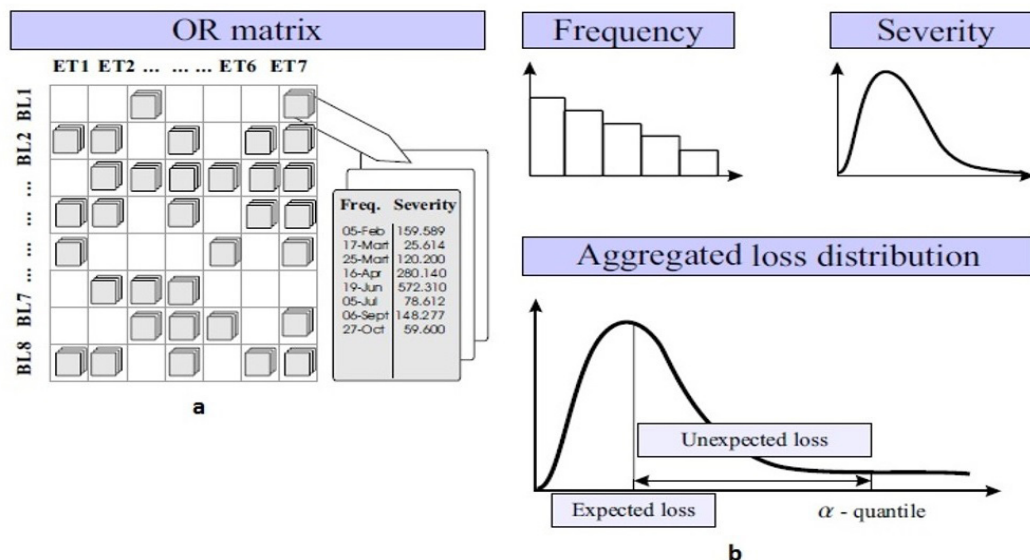


Figure no. 2. Loss Distribution Approach (LDA)<sup>2</sup>

understanding of a much more complex field that is scientifically argued by complicated mathematical computations of probabilities and statistics. Rigorous risk modeling can be found in the financial, banking, insurance, and procurement markets. The sufficient amount of data with which these domains

<sup>2</sup> Source: Manic Ivana, *Mathematical Models for Estimation of Operational Risk and Risk Management*, master thesis, University of Mathematics Prirodno, Novi Sad, Serbia, 2007, p.30, accessed on 17.02 2018, <http://people.dmi.uns.ac.rs/~natasa/ivana.pdf>



In Figure 2a we can observe that the definition of a risk assessment matrix is based on the mathematical modeling of the statistical distributions of the two stochastic variables. In Figure no. 2b it can be noticed that the loss distribution function does not follow a normal Gaussian distribution due to the curve asymmetry in relation to the mean value ( $m$ ). Of course, a particular importance in the study of the operational risk management is played by the determination of the inflection point's  $m-\sigma$  and  $m+\sigma$ , where  $\sigma$  is the standard deviation. The tail of the curve, which tends to  $+\infty$ , approaching the X axis without touching it, captures the potential of the unanticipated risk of evolving into the uncontrollable area of *infinite impact*.

Therefore, the risk distribution, which we note  $G_{ij}$ , represents an aggregation of the distributions of the two independent variables, the *frequency* and *severity* of the risk, being a function of the distribution of the independent random variable  $L_{ij}$ , which is the total cumulative loss, also known as the Loss Distribution Approach (LDA).

$$G_{ij} = P(L_{ij} \leq x) = \begin{cases} \sum_{n=1}^{\infty} p_{ij}(n) F_{ij}^n(x), & x > 0 \\ p_{ij}(0), & x = 0 \end{cases} \quad (1.2)$$

where:

$G_{ij}$  – the distribution of the variable  $L_{ij}$  which represents the cumulative distribution function of the distributions of the two variables  $X_{ij}$ , the severity of the losses, and  $N_{ij}$ , the frequency.

$$F_{ij}(x) = P(X_{ij} \leq x)$$

and is the distribution function of the variable  $X_{ij}$ , the severity of the losses

$p_{ij}(x)$  – is the probability function for the  $N_{ij}$  variable, where

$$p_{ij}(x) = P(N_{ij} = x) \quad 1.4$$

In this context, the total loss CC (capital charge) is a sum of expected losses (EL<sub>ij</sub>) and unexpected loss (UL<sub>ij</sub>):

$$CC_{ij} = EL_{ij} + UL_{ij} \quad 1.5$$

The calculation of the expected component  $EL_{ij}$  can be considered, by simplification, as the mean value of the independent random variable  $L_{ij}$ , which represents the total loss, and thus we have:

$$EL_{ij} = E(L_{ij}) = \int_0^{\infty} x \cdot dG_{ij}(x) \quad 1.6$$

Of course, in the case of an asymmetric distribution instead of the *mean*, the *median* value can be considered, this being recommended in cases of an *asymmetry (skewness) A ≠ 0* or a tilt index  $T > 3$  (*flattening or kurtosis*). The *skewness* index  $A$  represents the *third central moment* of the distribution and shows the asymmetry of the data compared to the *mean*, while the *kurtosis* index  $T$  represents the *fourth central moment* and measures the distance from the *mean*, namely the *tail* of the curve. Thus, for a random variable  $X$ , the two coefficients can be defined according to the mean  $m$  and the standard deviation  $\sigma$  as follows:

$$A = \frac{E((X - m)^3)}{\sigma^3} \quad (1.7)$$

$$T = \frac{E((X - m)^4)}{\sigma^4} \quad (1.8)$$

In the case of a normal distribution, the asymmetry index is  $A = 0$  and a positive value indicates a right-hand concentration of the probability distribution. Since for the normal distribution the flattening index is  $T = 3$ , a higher value indicates a consistent distance from the mean, in our case from the manageable area of the risk, therefore the unanticipated component will disrupt uncontrollably to the infinite impact area (*figure no. 3*).

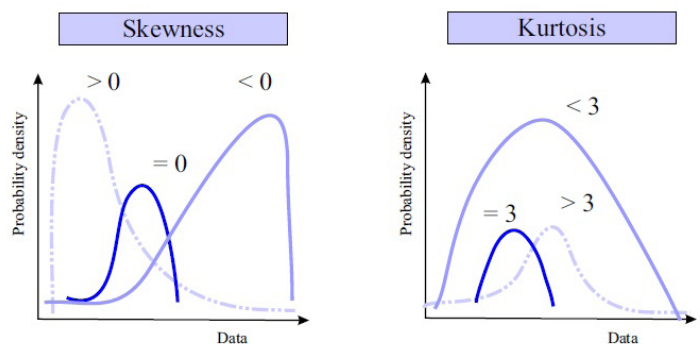


Figure no. 3. Skewness A and kurtosis T coefficients<sup>3</sup>

For frequency, the most used distributions are *Poisson* and *Binomial*, both being discrete

<sup>3</sup> Source: Manic Ivana, *Mathematical Models for Estimation of Operational Risk and Risk Management*, master thesis, University of Mathematics Prirodno, Novi Sad, Serbia, 2007, p.36, accessed on 17.02 2018, <http://people.dmi.uns.ac.rs/~natasa/ivana.pdf>



parameter distributions that describe properly the number of occurrences of a random event within a predetermined time interval. Parameters of these distributions represent intensity rates and are calculated by mean (m) and variance (σ – standard deviation) of the distributions. If the frequency of loss is considered in a continuous (non-discreet) approach, then the frequency distribution modeling can be done through a Poisson process.

Regarding the statistical modeling of loss severity data, most cases involve positive asymmetry and high flattening coefficients. Thus, in this situation it is necessary to use distributions that have the most pronounced tails, as the losses can be sampled into three large categories: small, medium and very large. Typically, losses or impacts falling within the first two, small and medium are characterized by high frequency and reduced severity. Instead, the third category, very large, is generated by low frequency events but with a large impact, with potential of the infinite impact. This hypostasis is described by the distribution queue. In view of these considerations, the LogNormal distribution is used for the modeling of the severity, although models based on other distributions such as LogLogistic, Weibull, Pareto or LogGamma can be found in the literature. The choice of a particular distribution is determined by the specificity of the data used, taking into account quantitative considerations such as their number but above all qualitative ones, such as their homogeneity, degree of dispersion or their convergence.

Summarizing the statistical modeling of the two variables of risk, frequency and severity, we

### Constraints and particularities of the risk assessment in military operations

The characteristics of military operations, which involve time constraints, limited or unrelated (as well as current) statistical data, uncertainty and rapid transition phases that are difficult to predict, all make it impossible to apply mathematical calculations to operational risk assessment.

However, we consider it extremely useful to present the mathematical modeling of the risks whereas we have the justification and the understanding of the structure of the risk assessment matrix according to frequency and severity. We can interpret correctly the graphical representations that shape the global risks in the works from the literature concerning the global strategy and security.

Therefore, unlike the mathematical modeling based on the frequency and severity of risks, the expedient modeling of risks in military terminology involves coding and representing the likelihood of occurrence (probability) and the severity of the risk impact in the form of a risk matrix that provides a homogeneous scale for a risk hierarchy: Extremely High, High, Moderate and Low (Figure no. 4).

In this methodology, the probability quantifies on 5 levels (frequent, likely occasional, seldom and unlikely) the possibility of occurrence of an event which constitutes a risk for the military operations. The assessment of the level is based mainly on the information held at the time of the analysis (mission, COA) but also on the experience of the commanders and their staff.

Risk Assessment Matrix						
Severity		Probability				
		Frequent A	Likely B	Occasional C	Seldom D	Unlikely E
Catastrophic	I	E	E	H	H	M
Critical	II	E	H	H	M	L
Marginal	II	H	M	M	L	L
Negligible	IV	M	L	L	L	L

E- Extremely High), H- High. M-Moderate and L- Low

Figure no. 4. Risk Assessment Matrix<sup>4</sup>

consider that the two are described by different distribution functions that are aggregated in a loss distribution (LDA – Loss Distribution Approach) that gives us an estimate of total losses.

<sup>4</sup> Source: US Headquarters Department of the Army, FM 5-19 Composite Risk Management, august 2006, p. 1-8, accessed on 22.02.2018, <http://cdm16635.contentdm.oclc.org/cdm/ref/collection/p16635coll8/id/55440>





In terms of severity, this is represented on four levels (*catastrophic*, *critical*, *marginal* and *negligible*) that expresses the impact that the production of a risk may have on the power of fighting, on the forces and finally on the success of achieving the objectives of the military operation

After the assignment of a quantified value for the probability and severity of each identified risk, using the risk matrix from the Figure no. 4 we can code each combination of *probability & severity* into a defined level of risk, standardized at the organization or community level:

- *Extremely High (E)* – represents the loss of ability to achieve the objectives of the operation in case of occurrence of the risk. This encodes the combinations of a *frequent* probability with a *catastrophic* impact (*AI* class risk) or *critical* (*AII* class risk), or a *likely* probability with a *catastrophic* impact (*BI* class risk). The decision to continue the action in this case must be evaluated against the value of the potential gain in case of success;

- *High (H)* – encodes a wider set of combinations of risk *frequency & severity*, indicating mainly severe degradation of capabilities and capacities to achieve the desired goals in case of the risk occurrence. As in the previous case, the decision to continue an action must be evaluated against the value of the potential gain in case of success;

- *Moderate (M)* – expresses the reduction of the capabilities of achieving the objectives according to the design of operation or the performance standards. It balances the entire spectrum of combinations of risk *frequency & severity*, starting from *frequent & negligible* (*AIV* class risk) to *unlikely & catastrophic* (*EI* class risk);

- *Low (L)* – Early losses in the event of these risks have a minor or negligible impact on the success of the operations, the probability of *critical* loss being *unlikely* (*EII* risk class), while *marginal* losses are *seldom* (*DIII* risk class) or *unlikely* (*EIII*). So the anticipated and associated losses to these risks have a minimal impact on the success of the operations.

This efficient methodology responds to the operational requirements and time constraints specific to the military operations. For the politico-strategic level a model is used that distinguishes among four levels of risk probability, having associated predetermined percentage ranges: *highly unlikely* (0-20%), *unlikely* (21-50%), *likely* (51-

80%) and *very likely* (81-100%)<sup>5</sup>.

The *Risk Judgment* phase, subsequent to *Problem Framing* and *Risk Assessment* ones, places the risks into a *Risk Evaluation* category. It has a particular importance as the decision-maker has to decide whether the risk is *acceptable* or *unacceptable*. An *acceptable* level indicates that the risks are rather low and do not require further reduction measures, while an *unacceptable* level means that the risk is too high for the operation to be continued without the risk reduction measures.

The last step of the risk management model is centered on the design, implementation and monitoring of risk decisions, in which sense the decision maker has the choice between:

- *accepting* the risk – it involves making the decision, being informed of its existence, continuing the activity without taking further measures to reduce it;

- *prevention* of the risk – it supposes the cancellation of the activity which will cause an unacceptable risk;

- *risk reduction* – it means the implementation of measures designed to reduce the likelihood or severity of the risk;

- *transferring* risk – it consists of initiating actions to change the place and time where/when the risk will occur, and as much as possible whom and how it will be affected.

## CONCLUSIONS

Military operations are characterized by uncertainty, which determines the impossibility of a long-term predictability, but also the lack of consistent and timely data sets of information that could be statistically modeled. In this context, the use of the risk assessment matrix is the only viable risk management solution. It involves identifying them, assessing them according to the likelihood of their occurrence and severity, quantification of levels and the risk classification in pre-established categories, and ultimately analyzing whether they are acceptable or not. Based on this distinction the decision maker determines the appropriateness and scope of the measures to be taken in order to manage the risks.

<sup>5</sup> US Chairman of the Joint Chiefs of Staff Manual, „*Joint Risk Analysis – CJCSM 3105.01*”, October 2016, p. C-4, accessed on 22.02.2018, <http://www.jcs.mil/Portals/36/Documents/Library/Manuals/CJCSM%203105.01%C2%A0.pdf?ver=2017-02-15-105309-907>



But matrix structuring, grading and graphical representation of data, as well as analysis of results has a rigorous mathematical justification based on the distributions of the probability functions from the mathematical statistics.

In the military environment for the *strategic* risk analysis (risks to national interests) and to those *strategic military* ones at the politico-military level, US experts use, according to JRAM Risk Analysis Methodology (Joint Risk Analysis Methodology), a process that has three main components (*Risk Appraisal, Risk Communication and Risk Management*) and is carried out in four distinct steps (*problem framing, risk assessment, risk judgment and risk management*)<sup>6</sup>.

This methodology implies that it deliberately omitted the zero-risk risk categories, because even if a risk-free situation is desirable in developing a strategy or designing a structure of forces, costs would increase exponentially and unsustainably imbalance the trinomial *objective-means-resources* formula. Resources are finite, so commanders have to spend time and energy for an improved risk management.

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<sup>6</sup> US Chairman of the Joint Chiefs of Staff Manual, „*Joint Risk Analysis – CJCSM 3105.01*”, October 2016, p. B-1, accessed on 22.02.2018, <http://www.jcs.mil/Portals/36/Documents/Library/Manuals/CJCSM%203105.01%C2%A0.pdf?ver=2017-02-15-105309-907>



# THE EFFECT OF THE MILITARY SPENDING INCREASE ON DEFENSE R&D

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**Abstract:** Military research and development represents a new perspective for equipping the army with modern capabilities at both national but also European level. All defense strategies and political speeches in recent years encouraged this new approach. With the increase of the budget for military spending in 2017, the defense research and the development of new technologies should be a major objective, accompanied by clear action plans and programs structured according to the current needs of the army.

**Keywords:** research and development; innovation; new capabilities; military spending.

Starting 2017, the defense budget increased to 2% of GDP. The Romanian Ministry of National Defense then received 16.23 billion RON, 5 billion more than one year before, thus being among the ministries with the biggest allocated budget. In August, the same year, the Army Endowment Plan for 2017-2026 was presented and approved by the Supreme Defense Council. It was focused on eight fund raising programs, one of these targeting the Patriot missiles. The other programs have not been made public yet, but we have been able to find within the open sources the following priorities: the 8x8 and 4x4 armored carrier for troops, C4I, multifunctional corvette and the continuation of the program F16 multirole fighter.

The acquisition programs are necessary and they are able to cover the needs of the army, especially on the short term. On the long run, however, in order to align with the standards of the future armies, the investment in Research and Development is mandatory. This goal could be found in almost all the post-2009 recovery plans for the army, but only few actions have been taken. The intention of this article is to present and analyze the perspective of the development of military capabilities by exploiting this field of research and development.

The main actors in the progress of the research

and development field in the military sector in Romania are the Ministry of National Defense, the Ministry of Economy and the Ministry of Research and Innovation, as well as the civil society organizations operating in this area. There are two representative documents regarding the development of this field in our country: *National Strategy for Research, Development and Innovation 2014-2020* and *National R&D and Innovation Plan for the period 2015-2020*. Both documents are drafted without clear lines of action. For example, the vision for research and innovation in Romania for 2020 is generic and we could not find in the content of this strategy some clear objectives on areas of strategic interest: "In 2020, Romania will become competitive at regional and global level through innovation fueled by R&D, generating wealth for its citizens"<sup>1</sup>. Another document, the law 232 on the national defense industry was adopted in 2016. Regarding the research and development, this law is targeting the cooperation between the national defense industry specialists and the research institutes for the design, testing and fabrication of products and services, the creation of centers of excellence that are able to share human and material research resources, the development of national R&D and innovation programs for assimilation of new military equipment, but also the knowledge of the operational and technical requirements of new products that are proposed to be included in

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<sup>1</sup> National Strategy for research, development and innovation 2014-2020, Romanian Government, Bucharest 2014.



the procurement plans. The same law establishes that *"The financing of the research-development-innovation activity is made from funds from the state budget, through the budgets of the structures of the National Defense System Forces, from the budgets of the economic operators, as well as from other sources, according to the law as a result of the approval of the programs by a normative act at the level of the Government's decision"*<sup>2</sup>.

The research in the field of military technology is coordinated by the Department for Armaments (DPA) within the Ministry of National Defense. DPA is also responsible for the acquisitions policies of the Ministry, it manages the relationships with the defense industry, plans and conducts the international cooperation regarding the armaments, evaluates and certifies the suppliers of the defense system and equipment. The management of research and development programs and activities is also under the umbrella of this department. But the national agency which has the expertise in this field is the Research Agency for Military Technics and Technology (ACTTM). It was set up in 1998 under the authority of the Armaments Department and ensures its scientific and technological competence. The research units within the Ministry of Defense carry out research and development activities based on the Ministry's Sectorial Plan for Research and Development, funded by the MoD budget. On the other hand, these research units can also participate in the defense and security programs funded by the National Plan for Research, Development and Innovation", from the budget of the Ministry of National Education.

According to the Department for Armaments, the main programs of the MoD which are in a research & development phase are: the 8x8 Armored Carrier, the 5.56 mm Assault Weapon and the "BOREAL 5" Mini-UAV Unmanned Aircraft System. With regards to the first project, the 8x8 carrier will be developed within the national industry through C.N. ROMARM S.A – U.A. MORENI. The 5.56 mm assault weapon has been tested and evaluated in 2012-2013 and it is now in the stage of research for a more advanced version, being also developed within the national industry, through C.N. ROMARM S.A. For the third project, the supplier is the Research

Agency for Military Technics and Technology<sup>3</sup> and this system can be used in military missions to collect and disseminate real-time data, but also for activities of reconnaissance, search, coastal or border guarding or road traffic monitoring both in the military and civilian environments. In addition to the state agencies, the Ministry of Defense also collaborates with other private companies. For example, the program called Integrated Security System for Military Objectives – SISOM – which was accomplished between 2015-2018, in collaboration with private providers (UTI Systems, Civitas Systems, Romtest Electronic).

Certainly, we can argue that there is room for better public visibility and higher efficiency of the research programs regarding the development and modernization of the army. A possible solution would be to cooperate with strategic partners. According to the European Defense Agency's analysis, EU Member States alone do not have the capabilities to carry out large-scale R&D projects. Thus, consolidated research activity should be based on harmonization of requirements and better synergies in order to reduce inefficiencies. The EU's objective is to help member states to establish a European procurement regime that is essential for the development and transfer of defense technologies as well as for strengthening solidarity and confidence in the EU. Member States and stakeholders should make full use of the possibilities already provided under the Research Program for Security - Horizon 2020 and continue to support the research mission by supporting the Union's external policies. The European Commission, through the European Defense Agency (EDA), proposed in 2016 to allocate more financial resources for research and technology.

Since the foundation of the Agency in 2004, more than EUR 500 million has been allocated by the member states to more than 150 R&T projects (Research and Technology)<sup>4</sup>. EDA's goal is not only to develop future defense capabilities but also to meet the current needs. EDA supports the cooperation between the member states of the Union in this area through the technology

<sup>2</sup> Law 232/2016, 22<sup>nd</sup> of November 2016, Romanian Parliament, published in the Official Monitor nr. 972, 5<sup>th</sup> of December 2016.

<sup>3</sup> Ministry of Defense, Department for Armaments, <http://www.dpa.ro>

<sup>4</sup> European Defence Agency, Research and Technology, <http://www.eda.europa.eu/what-we-do/eda-priorities/research-technology>



capability groups called CapTechs, which are made up of experts from the EU states. One of the main instruments needed for the good functioning of these groups is to prioritize the research and technology within the Union. There are two directorates within the CapTechs: *Capabilities, Armament and Technologies*, and *European Synergies and Innovation*<sup>5</sup>. The workgroups are focused on areas such as: Communication Information Systems & Networks, Systems of systems Battlelab and Modelling & Simulation, Cyber Research and Technology, Aerial, Ground and Naval Systems, Ammunition Technology - in the First Directorate - and Innovation Research, Materials & Structures, Technologies for Components and Modules, Radio Frequency Sensors Technologies, Electro-Optical Sensors Technologies, CBRN Protection and Human Factors, Guidance, Navigation & Control, Energy and Environment - in the Second Directorate. Each technology sector and working group is presented in the Strategic Research Agenda, the purpose of this document being to provide guidance regarding the research and technological development priorities. The research projects can be divided in two categories, depending on the number of the participating member states. The category B projects are initiated by at least two member states which may offer other countries the opportunity to participate, but not more than three or four, within the same program. The funding is carried out by the member states on a voluntary basis and the costs can be between 3 and 4 million Euro. The programs in the category A cost more than 10 million Euro, and more states can take part, the funding being also provided by member states on a voluntary basis. EDA is responsible for financing the feasibility studies or the verification of a technology area which requires research and development programs. In 2008, EDA published the Strategy for Research and Technology, which aimed at improving the European Defense capabilities and delivering the right technologies in time. Although the concept of this strategy is a valid one, in fact, the states' involvement is decisive for its functionality, as the incoherence of national goals regarding the research and technology and the Defense policies gap may make this process more difficult.

The decisions of the Ministries of Defense

<sup>5</sup> EDA – Capability Technology Groups.

must be harmonized. EDA does not have the means to create a common industrial policy in Europe. It has, however, the possibility to create a network of experts to encourage the research and the identification of the needs of the armed forces. Thus, research and innovation activities could lead to harmonization between member states, and through a policy of supporting the research and innovation the states can seek to integrate a European Defense industry. The Agency's success in this approach would be visible and measurable if the research efforts and activities could contribute to the improvement of the technological means at the European level.

In 2016, the European Commission initiated the Preparatory Action for Research under the Common Security and Defense Policy, its aim being to link European Union funded research programs and national procurement programs in the field of Defense. The Preparatory Action implies, besides the existing legal basis, the programming of the necessary financial resources. The European Union is already carrying out an extensive research and innovation funding program, Horizon 2020, for the period 2013-2020. The goal was launching the Preparatory Action in 2017 as a pilot program specifically focused on Defense research without overlapping with Horizon 2020. The lessons learned from this action will help member states to strengthen the future European Program for Defense Research. This new initiative, for which the EU allocates 25 million Euro, needs to be coordinated with the national research programs, complementing the member states' efforts but not replacing them. In 2017 EU also launched the European Defense Fund. One of its goals is to allocate funds for collaborative research in the field of innovative technologies and products for Defense. The European Defense Fund will also encourage the member states to cooperate in the development and procurement of Defense equipment and techniques, so states could jointly invest in the development of certain technologies. The programs developed under the umbrella of this Fund will benefit from an annual European public investment of 5.5 billion Euro.

Since 2016, at least at the level of the European Union, we have been able to observe a more intense activity in the Defense sector in terms of research and development of the new technologies. After a



period of crisis, significant spending cuts and new types of threats, EU member states finally realized that they had to invest in Defense equipment and work together in order to adapt to the new security environment and to develop current technologies, not only for the military equipment but also in the field of information, digital or satellite communications.

Taking into account the above presented data, we can argue that although Romania is in great need of co-operation in the field of research and innovation, the opportunities offered by the EU have not been very encouraging so far. However, as in the case of endowment with equipment, cooperation remains an important and decisive factor in Romania's ability to carry out military research and innovation programs. We also believe that the organization at national level is a necessary element in this development process. Starting from the European model for structuring the research and development programs, Romania has to plan multi-annual programs, financed by the state budget, as well as European grants. These programs should be very clear and well-structured, there should be a feasibility study and identification of the development needs, but it would also be necessary to set priorities and set up expert groups on specific areas. This effort must be complemented by the participation in the research programs at European and NATO level, but also by strengthening the partnerships. In order to take part to the European Defense Fund, our country needs to set up national research programs and to link them to European ones. Besides a coherent process of research and technological development, cooperation between state institutions and the private sector is also needed.

In Romania, the insufficiency of funds did not allow the development of the military technology research. With the allocation of 2% of GDP for Defense, an increase in funding for research is also needed. This is set out in the 2015 White Paper on Defense, together with Romania's goal of engaging itself in research programs conducted within the European Defense Agency. Regarding the positive aspects, analyzing the open sources and the information found in the press releases of the Ministry of Defense, we can argue that starting with the period 2016-2017, the field of research and development for defense started to be more visible

in the political discourse, trying its integration also into the civil space. For example, in May 2017, the Ministry of National Defense organized the workshop "Prototypes in the Ministry of National Defense", which brought together representatives of the ministries of Defense, Economy, and Research and Innovation. According to the MoD press release, the purpose of this workshop was "to identify solutions for the implementation of the governance program in the coming period that has as objective the revitalization of research structures so that they become the engine for the development of the national defense industry in the horizon 2020"<sup>6</sup>. The same year 2017, the first Competition for Innovation in National Security, PatriotFest was launched. This was organized by the Ministries of Defense, Ministry of Internal Affairs, Romanian Intelligence Service in partnership with the New Strategy Center, its goal being: "better preparation of national security for future challenges by attracting Romanian innovation resources and increasing the degree of transfer of innovation from private and academic fields to national security"<sup>7</sup>.

Analyzing the way how the subject of military research is covered in our country, we noted the following: the same as in case of equipment acquisitions, there is no multi-annual plan; according to the Department for armaments, the priorities of the MoD are unmanned platforms, armored carriers for troops, assault weapons and encryption techniques. We could not find in these open sources a timing and a budget planning of these priorities. We also believe that greater openness to public opinion, transparency of budgets and debates on these priorities and methods of achieving the goals could increase the visibility of military competences in research and draw the attention of the civilian experts on this current and usual field of research and development. At the same time, besides the increase of the Ministry of Defense budget for research and development projects, another solution could be to carry out research or innovation programs in the civil sector with funds from other ministries, as the Ministry of Research and Innovation and with results that could be applicable also in the military field.

<sup>6</sup> Press release 25/23.05.2017, Ministry of Defense, Department for Armaments, <http://www.dpa.ro/ce-facem/relatii-publice/comunicate>.

<sup>7</sup> [www.patriotfest.ro](http://www.patriotfest.ro)



Research, development and innovation should not be overlooked at political decision-making level as it may be the engine of our country's evolution. Achieving technology development programs is needed in both sectors, civil and military. Thus, the funds needed for the research and development projects can be accessed from several parts, not only within the Ministry of Defense. Certainly, this requires coordination among ministries and a clear direction of action.

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# TRAINING SYSTEMS IN NON-NATO EUROPEAN ARMED FORCES – SWITZERLAND

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**Abstract:** In this paper we will present general aspects of current history, social, political and economic situation of the European states that are not part of the North Atlantic Alliance. Also, we will briefly present the organized training system of human resources from the active military service, for mobilization and active reserve. The paper describes the elements of the structure of the military educational system developed in the Swiss Confederation, which are ex-countries of the former Federalist Socialist Republic of Yugoslavia, Ukraine and the Republic of Moldova. Through the content of our paper we will highlight the elements of analysis necessary for the design of an optimized system of training and evaluation of human resources in the Romanian Armed Forces.

**Keywords:** military organization; military education; training system; training; volunteer reservists; reserve military force; active reserve; Swiss Confederation.

## PRELIMINARY CONSIDERATIONS

The Swiss Confederation (i.e. German "Schweizerische Eidgenossenschaft"<sup>1</sup>, French Confédération Suisse, Italian Confederazione Svizzera, Romanian Confederaziun svizra, English Swiss Confederation) or Switzerland is a federal state composed of 26 autonomous cantons, located in the west of Central Europe, which borders Austria and Liechtenstein to the east, Italy to the south, France to the west and Germany to the north.

From a historical point of view, the present territory of Switzerland was part of the Roman Empire, French Empire, Kingdom of Alemannia, Kingdom of Burgundy, Holy Roman Empire, The First French Republic and French Empire (i.e. Napoleonic Empire), the last two states led by "Napoleon Bonaparte"<sup>2</sup>. On 18<sup>th</sup> of June 1815, Napoleon Bonaparte lost the Battle of Waterloo, was exiled to *Saint Helena Island* and the French Empire broke up. Thus, the Swiss Confederation became an independent state and chose to be a

neutral state in terms of participation in armed conflicts.

The national identity does not focus on the spoken language, as in Switzerland German, French, Italian, Rhetoric, English and Portuguese are spoken, but on the active foreign policy by which the state engages in major peace processes around the world. Switzerland is part of the Schengen Area, but it is not part of the "European Union - EU"<sup>3</sup>.

Due to its neutrality in terms of membership of international defense and security organizations, Switzerland has a distinct foreign policy, which defines the concept of defense by maintaining a country profile not involved in military operations but participating and collaborating in conflict management with international organizations.

Switzerland is not a member of the "North Atlantic Treaty Organization - NATO"<sup>4</sup>, but in 1996 it joined the "Partnership for Peace"<sup>5</sup>. In 2002,

<sup>1</sup> \*\*\* Swiss Confederation, available at <https://www.admin.ch/gov/de/start.html>, accessed on Jan., 8<sup>th</sup>, 2018.

<sup>2</sup> \*\*\* Andrew Roberts, *Napoleon: A Life*, Penguin Group, 2014, Introduction.

<sup>3</sup> \*\*\* European Union, available at <http://ec.europa.eu/>, accessed on Jan., 20<sup>th</sup>, 2018.

<sup>4</sup> \*\*\* The North Atlantic Treaty Organization (i.e. NATO/OTAN acronym for North Atlantic Treaty Organization, respectively for Organisation du Traité de l'Atlantique Nord), available at [www.nato.int](http://www.nato.int), accessed on Dec., 28<sup>th</sup>, 2017.

<sup>5</sup> \*\*\* North Atlantic Treaty Organization, article *Partnership for Peace Programme*, 7 Jun. 2017, available at [https://www.nato.int/cps/en/natolive/topics\\_50349.htm](https://www.nato.int/cps/en/natolive/topics_50349.htm), accessed on Jan., 15<sup>th</sup>, 2018.

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the Swiss Confederation became a member of the "United Nations"<sup>6</sup>.

Nowadays, Switzerland has sent military units to UN humanitarian missions in peacekeeping operations carried out by the "Organization for Security and Co-operation in Europe – OSCE"<sup>7</sup>, and the military structure "SWISSCOY"<sup>8</sup> participates in NATO mission in Kosovo (*i.e.* KFOR) where at the beginning of 2018 there were 235 men and women.

In spite of its neutrality, in Switzerland the military service is compulsory for men and volunteer for women, but it follows the same rules, according to the Constitution of the Swiss Confederation.

### 1. SWITZERLAND ARMY'S TRAINING SYSTEM

The "Swiss Confederation Army"<sup>9</sup> defends its country and its population, has the motto "**necessary, fair, modern and flexible**"<sup>10</sup> and is subordinated to the Federal Department of Defense, Civil Protection and Sport.

The army is **necessary** because the general situation in the country shows the need to defend the infrastructure, services and resources. The actions are **fair**, because defense means the global protection of the land and the people, and the Swiss Army is prepared to use its entire means in order to protect population, computer systems, critical infrastructures and airspace. The army is **modern** because its actions focus on current and predictable risks and threats (*e.g.* cyber attacks, sabotage actions of critical infrastructure etc.). The Army's structure is **flexible** as forces and equipment are distributed at regional level and the organization can be quickly adapted.

Switzerland uses the traditional military system to form the "*militia*"<sup>11</sup> (*i.e.* the military forces in the reserve) and uses both professional military personnel to train reservists as well as civilian employees, military sociologists, politicians and historians employed by the state. Basic principles and purposes, which are shared in military training in general, are identical for all members of the armed forces, regardless of whether they belong to the profession or reserve forces.

Switzerland's military recruitment and constitution system is different from other systems, being equally interesting and very effective, since in a population of "6,318,404 Swiss citizens"<sup>12</sup> the Army records a number of "134,886 soldiers in active service"<sup>13</sup> (*i.e.* 17,506 officers and 22,650 non-commissioned officers), 20,000 recruits, 77,000 military personnel in reserve and 4,230 military and civilian specialists.

Even though the funding of this system has sometimes been disputed, the Government of Switzerland has not changed its defense and recruitment policies, tried to maintain the country's military traditions and provide very good conditions for the preparation of the Swiss Army. For example, political power has shown its desire to modernize air defense until 2020, by acquiring „*anti-aircraft defense systems and modern combat aircrafts*"<sup>14</sup>.

The current human resource generation system combines the experience of civilian recruits into the military system, which provides strong interaction between the military and civil society. However, the efficiency of military structures is reduced due to job's duties, about one third of soldiers fail to participate in compulsory annual training programs.

<sup>6</sup> \*\*\* *United Nations*, available at <http://www.un.org/en/index.html>, accessed on Jan., 18<sup>th</sup>, 2018.

<sup>7</sup> \*\*\* *Organization for Security and Co-operation in Europe*, available at [www.osce.org](http://www.osce.org), accessed on Jan., 15<sup>th</sup>, 2018.

<sup>8</sup> \*\*\* *KFOR SWISSCOY*, available at <https://www.vtg.admin.ch/en/aktuell/einsatze-und-operationen/militaerische-friedensfoerderung/missionen/swisscoy.html>, accessed on Jan., 8<sup>th</sup>, 2018.

<sup>9</sup> \*\*\* *Swiss Confederation Army*, available at <https://www.vbs.admin.ch/by/home.html>, accessed on Jan., 9<sup>th</sup>, 2018.

<sup>10</sup> \*\*\* *Swiss Confederation Army's motto*, available at <https://www.vtg.admin.ch/de/aktuell/themen/wea.html>, accessed on Jan. 9<sup>th</sup>, 2018.

<sup>11</sup> *i.e. militia* = a military force whose members are trained soldiers, but who often have other jobs, the Cambridge Dictionary, available at <https://dictionary.cambridge.org/dictionary/english/militia>, accessed on Jan., 8<sup>th</sup>, 2018.

<sup>12</sup> \*\*\* *Switzerland's population 2016*, Federal Statistical Office, Neuchatel, 2017, p. 6, available at <https://www.bfs.admin.ch/bfs/en/home/statistics/population.assetdetail.3902101.html>, accessed on Jan., 8<sup>th</sup>, 2018.

<sup>13</sup> \*\*\* Sabine Mannitz, Rabea Haß, *The Swiss Concept of Soldiering in Practice-The Swiss Case*, Peace Research Institute Frankfurt, 2009, p. 2, available at [https://www.hsfg.de/fileadmin/HSFK/hsfk\\_downloads/Switzerland\\_III\\_01.pdf](https://www.hsfg.de/fileadmin/HSFK/hsfk_downloads/Switzerland_III_01.pdf), accessed on Jan., 9<sup>th</sup>, 2018.

<sup>14</sup> \*\*\* *Swiss Confederation Army*, available at <https://www.vbs.admin.ch/by/home.html>, accessed on Jan., 9<sup>th</sup>, 2018.



The Swiss training system begins with the recruitment of all 18-year-old men for active military service and 20-year-olds for military backup service. Women can be enlisted upon voluntary request. The training program starts after the completion of high school studies, without the possibility of postponing if the recruit follows bachelor degree programs. Potential recruits who are physically or mentally unfit for military service must pay an additional 3% of the income tax or perform compulsory military service in a civil protection institution (e.g. fire brigade or medical aid institution).

After recruitment, the soldiers execute 260 days of military service, as follows:

- three days for recruitment;
- a basic training course of 124-145 days in a training camp, depending on the military area where he/she is enrolled;
- six or seven training courses in nineteen days per year in recruitment training schools to revise themes and sessions learned during the initial training.

Soldiers may perform military service through a single 300-day consecutive period.

The infantry men specialized in grenade launchers must run a 25-week training program and the special force soldiers are trained in 10<sup>th</sup> Reconnaissance Detachment (e.g. a Swiss Army's elite military structure) during an 18-month training program.

At the end of the training period, soldiers are considered to have fulfilled their military service duties and are registered in the Swiss Army Reserve Forces for the next ten years.

Recruitment training schools organize training programs that continue to build up the social skills acquired during high school and form human resources skills necessary to carry out specific missions to war or other crisis situations. Recruitment training schools carry out three stage training programs.

*In the first stage*, the basic seven-week training program is conducted, when recruits learn how to use their own weapons, individual protection techniques, rules regarding the wearing of the military uniform, ranks, military salute, etc.

*In the second stage*, there is a six-week individual specialized training program, during which individual instruction continues and complex themes and sessions are introduced.

At this stage, recruits learn how to use weapon systems or equipment depending on the military branch for which they are trained. For example, the ammunition bearer learns to fire the mortar piece, and the medical aid man learns how to treat and evacuate the wounded soldiers.

After these two training steps, recruits who do not follow a training program for NCOs or officers are promoted to privates. The individual, basic and specialist training stages are run by graduates, non-commissioned officers, military and civilian specialists working for the Army.

*In the third stage*, there is a collective training program lasting five to eight weeks, during which the soldiers are trained in the military units of the Swiss Army. Soldiers are able to apply the knowledge previously acquired to perform the functions of the position they are assigned within a battalion level structure. At this stage, the soldiers will perform tactical marches, fighting exercises, tactical exercises, endurance tests, living in bivouac conditions etc.

Collective instruction is conducted by officers, and at the end of the training, the commander of the military unit performs an assessment of the soldiers' skills and knowledge.

In the last week of collective instruction, demobilization is carried out; during this period the soldiers clean up and return the combat equipment.

At the end of the three stages of training, the soldiers are released into civilian life, but remain on the record of the military unit where they last practiced during the military commitment until the age of 30, and even after this age if the compulsory military service is not completed.

Every year, soldiers run a three-week refresher training program and non-commissioned officers and officers carry out a four-week training program. Refresher courses are conducted by the headquarters staff of the military units.

In order to acquire the rank of reserve non-commissioned officer, the soldiers must fulfill 430 days of service, and in order to become a reserve officer, the candidates pursue intensive five-month courses. After completing six weeks of basic training at the Recruitment Training Schools, recruits who meet the requirements for promotion to officer rank will undergo training courses, at the Military Academy in Biemensdorf, for short-term military career officers.



In order to pursue specialization courses for short-term career officers, candidates must have a maximum age of 36 and hold a civil-law degree. Specialization courses last for one year.

In order to become a career officer, it is compulsory to attend the courses organized by the Military Academy in Biemensdorf. Promotion to senior officers’ rank is performed after they have completed additional courses. To obtain senior officer ranks, officers with junior ranks must make an official option in this regard and must have a maximum age of 50.

## 2. THE STRUCTURE OF SWISS ARMY’S TRAINING SYSTEM

The training system of the Swiss Confederation is composed of the Military Academy of the Federal Institute of Technology, the Military Professional

Kriens, is an elite institution that organizes training courses for officers from the central structures of the Swiss Army. The study groups are composed of 30 students and because of the exigency of the course, usually not all students become graduates. The institution forms senior headquarters officers for superior military functions, in G3 branch (e.g. head of operations department for brigade level structures) or J2 branch (e.g. head of military intelligence compartment).

*The Higher Military Training of the Army (i.e. “Höhere Kaderausbildung der Armee – HKH”<sup>16</sup>)* is deployed in Lucerne and is a center of excellence in military education in the field of leadership and military sciences. The institution organizes courses in partnership with other organizations in charge of education and national security.

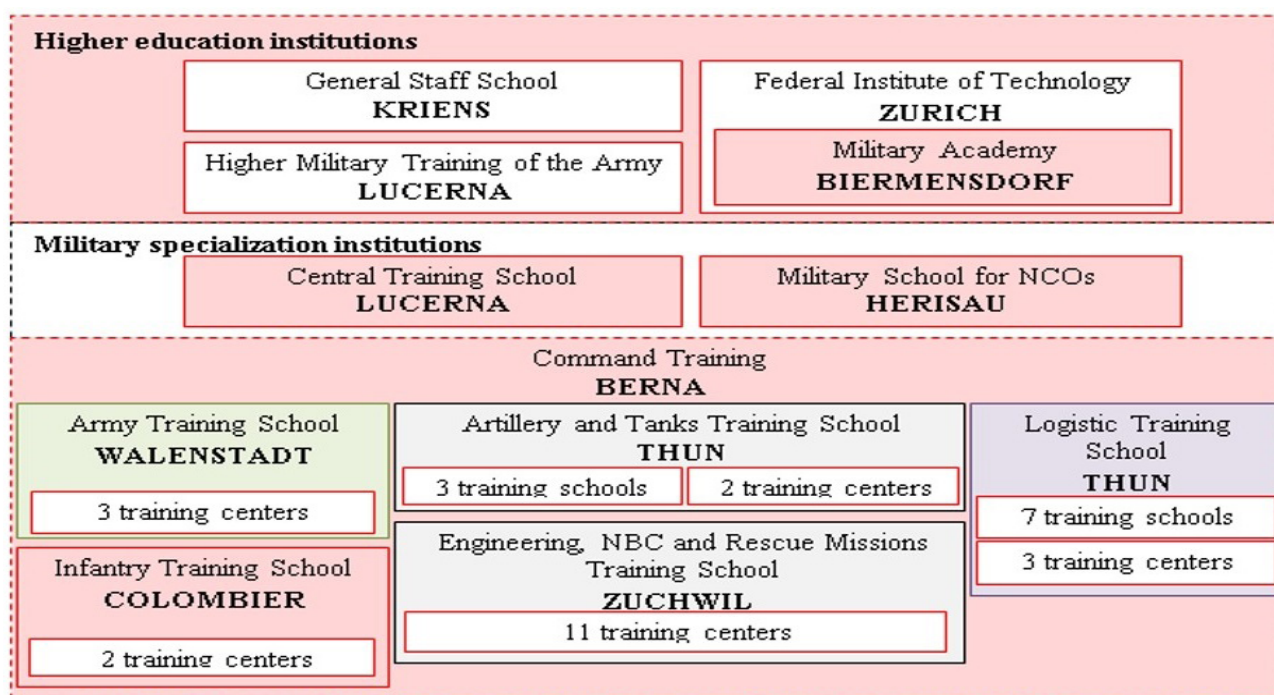


Figure no. 1. Swiss Army’s training system.

School for NCOs, the College of Armed Forces, and eight training units. Thus, in figure no. 1, we presented the structure of the training system of the Swiss Confederation Army, a system that is legally state-funded and whose legally centralized system is governed by national law.

*The General Staff School (i.e. “Generalstabsschule – Gst S”<sup>15</sup>)* deployed in

<sup>15</sup> \*\*\* *School of General Staff of Swiss Army*, available at <https://militaer.lu.ch/generalstabsschule>, accessed on Jan., 8<sup>th</sup>, 2018.

*The Central Training School (i.e. “Zentralschule”<sup>17</sup>)* is deployed in the town of Lucerna and subordinates *the Management*,

\*\*\* *Central Training School of Swiss Army*, available at <https://www.vtg.admin.ch/de/organisation/kdo-ausb/hka/zs.html>, accessed on Jan., 8<sup>th</sup>, 2018.

<sup>16</sup> \*\*\* *Swiss Higher Military Training of the Army*, available at <https://www.vtg.admin.ch/de/organisation/kdo-ausb/hka.html>, accessed on Jan., 8<sup>th</sup>, 2018.

<sup>17</sup> \*\*\* *Central Training School of Swiss Army*, available at <https://www.vtg.admin.ch/de/organisation/kdo-ausb/hka/zs.html>, accessed on Jan., 8<sup>th</sup>, 2018.



*Information and Communication Training Center* in Berne. The Central Training School is a vocational education institution that organizes officers' specialization and training courses to serve as battalion and company commanders.

*The Federal Institute of Technology (i.e. "Eidgenössische Technische Hochschule Zürich – EZZ"*<sup>18</sup>) is a higher education institution that organizes three-year or six semester graduate courses. The institution organizes university courses for the training of career officers in the specialization "*Army officers - public affairs*" and specialization courses for the training of reserve officers. The educational program for the first five semesters includes general academic disciplines and military science. General academic disciplines include law, management, economics, contemporary history, sociology, psychology, and statistics courses. Military science disciplines include strategic studies, military pedagogy and psychology, military history, military technology, military sociology and military economics.

In the sixth semester students undertake a military training course at the Military Academy in Biemensdorf. Training consists in participating in the special military training programs and attending the language courses, respectively the English language course and the course for one of the national languages.

In order to be admitted to training courses for career officers, candidates must:

- hold at least the rank of lieutenant;
- meet the assessment criteria for career officers;
- be declared admitted to the physical training test;
- be employed by the Swiss Army.

*The Military Academy (i.e. "Militärakademie an der ETH Zürich – MILAK"*<sup>19</sup>) is deployed in Biemensdorf. The institution is an internationally recognized center of excellence for its university programs in the fields of military sciences, military history, strategic studies, economy of defense, leadership and communication, military sociology, military psychology and pedagogy, linguistic skills training and sport. The institution is also an important scientific research center in the field

<sup>18</sup> \*\*\* *Federal Institute of Technology from Zurich*, available at <https://www.ethz.ch/en.html>, accessed on Jan., 8<sup>th</sup>, 2018.

<sup>19</sup> \*\*\* *Military Academy of Swiss Army*, available at <https://www.vtg.admin.ch/de/organisation/kdo-ausb/hka/milak.html>, accessed on Jan., 8<sup>th</sup>, 2018.

of psycho-pedagogical sciences. The institution organizes six-month courses for the career officers and one year training courses for short-term career officers. Starting with 2004, candidates for short-term training courses are selected during the basic individual training period (e.g. after the first six weeks of instruction) and follow the military training program for career officers (i.e. the sixth semester of training university).

*The Military School for NCOs (i.e. "Berufsunteroffiziersschule der Armee – BUSA"*<sup>20</sup>) is an educational institution deployed in Herisau which organizes two-year professional training courses for the training of NCOs. The institution organizes advanced professional training courses and specialization to promote non-commissioned officers of the Swiss Army.

*The Recruitment Training Schools* are coordinated by the *Command Training (i.e. "Kommando Ausbildung"*<sup>21</sup>) in Berne in conducting training programs.

Recruitment training is carried out in the following institutions: the *Army Training School*, the *Infantry Training School*, the *Tank and Artillery Training School*, the *Engineering Training School*, the *NBS and Rescue Missions Training School* and the *Logistics Training School*.

*The Army Training School (i.e. "Ausbildungszentrum der Armee"*<sup>22</sup>) is deployed in the city of Walenstadt and subordinates the *East Training Center* deployed in Walenstadt, the *West Training Center* from Bure and the *Testing and Simulation Center* from Walenstadt.

*The Infantry Training School (i.e. "Infanterielehrverband"*<sup>23</sup>) is deployed in Colombier and has under control the *Military Music Training Center* from Bermuda and the *Mountain Troops Training Center* from Andermatt.

<sup>20</sup> \*\*\* *Military School for NCOs of Swiss Army*, available at <https://www.vtg.admin.ch/de/organisation/kdo-ausb/hka/busa.html>, accessed on Jan., 8<sup>th</sup>, 2018.

<sup>21</sup> \*\*\* *Command Training of Swiss Army*, available at <https://www.vtg.admin.ch/de/organisation/kdo-ausb.html>, accessed on Jan., 8<sup>th</sup>, 2018.

<sup>22</sup> \*\*\* *Army Training School of Swiss Army*, available at <https://www.vtg.admin.ch/de/organisation/kdo-ausb/aza.html>, accessed on Jan., 9<sup>th</sup>, 2018.

<sup>23</sup> \*\*\* *Infantry Training School of Swiss Army*, available at <https://www.vtg.admin.ch/de/organisation/kdo-ausb/lvb-inf.html>, accessed on Jan., 8<sup>th</sup>, 2018.



*The Artillery and Tanks Training School (i.e. "Lehrverband Panzer Artillerie"<sup>24</sup>) is deployed in Thun, and subordinates the 21<sup>st</sup> Pantzer Training School in Berne, the 31<sup>st</sup> Artillery Training School in Biere, the 22<sup>nd</sup> Artillery and Panther's officer School in Thun, the Mechanized Units Training Center in Thun and the Artillery Training Center in Biere.*

*The Engineering, NBC and Rescue Missions Training School (i.e. "Lehrverband Genie/Rettung/ABC"<sup>25</sup>) is deployed in the city of Zuchwil and subordinates the Engineering Training School in Brugg, the Search and Rescue Operations Training Center from Bremgarten, the Rescue Operations School in Wangen, the Rescue Teams Training Center in Geneva, the Disaster Intervention Training Center in Bremgarten, the NBC and Weapons of Mass Destruction Training Center in Spiez, the Sports Competence Assessment Center deployed in Magglingen, the 10<sup>th</sup> Assault Boats Training Center in Zuchwil, the NBC Defense Company in Spiez, the 10<sup>th</sup> NBC Battalion in Spiez, and the NBC Defense Laboratory in Spiez.*

*The Logistics Training School (i.e. "Lehrverband Logistik"<sup>26</sup>) is deployed in Thun, and subordinates the 40<sup>th</sup> School of Logistics Officers of Berne, the 41<sup>st</sup> School for Hospitals Training in Moudon, the 42<sup>nd</sup> Medical Training School in Airolo, the 43<sup>rd</sup> Maintenance School in Thun, the 45<sup>th</sup> Resupply School in Friborg, the 47<sup>th</sup> Traffic and Movement School in Romont, the 49<sup>th</sup> Logistics NCOs School in Bern; the Catering Training Center in Thun, the Veterinary and Veterinary Services Training Center in Bern and the Driver Training Center in Thun.*

Each recruitment training school has a training camp and facilities for training and personal developing of the recruits.

## CONCLUSIONS

The shortcoming of this training system has a socio-economic nature, because multinational organizations do not take into account the employees' national duty. Thus, multinational companies restrict the sending of employees to annual training courses, since they believe that the military skills acquired by their employees in the Recruitment Training Schools are not useful in civilian life.

The advantage of the Swiss training system is that the civic duty of defending the country is perceived by the soldier as a democratic right, so the system benefits from the services of an ideal soldier, trustworthy of his homeland's policy and culture.

Last but not least, although this country respects the principle of neutrality, it should be noted that Swiss foreign policy supports the participation of armed forces in peacekeeping missions abroad. Consequently, the Swiss Confederation has expanded its cooperation with United States armies without abandoning the tradition of neutrality and the national military system.

In conclusion, the Swiss concept of *soldier-citizen* aims at the lowest degree of a military structures institutionalization and has democratic control over military structures as the state neutrality, conscription and democracy complement each other.

We believe that the recruitment and training system used in the Swiss Army is an efficient training and evaluation system and that using the concepts of this system can be designed as an optimized system of training and evaluation of human resources in the Romanian Army's reserve forces.

<sup>24</sup> \*\*\* *Artillery and Tanks Training School of Swiss Army*, available at <https://www.vtg.admin.ch/de/organisation/kdo-ausb/lvb-pz-art.html>, accessed on Jan., 8<sup>th</sup>, 2018.

<sup>25</sup> \*\*\* *Engineering, NBC and Rescue Missions Training School of Swiss Army*, available at <https://www.vtg.admin.ch/de/organisation/coun-ausb/lvb-g-rttg-abc.html>, accessed on Jan., 8<sup>th</sup>, 2018.

<sup>26</sup> \*\*\* *Logistics Training School of Swiss Army*, available at <https://www.vtg.admin.ch/de/organisation/kdo-ausb/lvb-log.html>, accessed on Jan., 8<sup>th</sup>, 2018.



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# ASYMMETRIC THREATS

Associate teacher Oana Mihaela VLADU\*

**Abstract:** "Asymmetry is as old as war. There have always been differences between opponents, which placed them into advantageous or disadvantageous positions, deciding the outcome of the battles/war/conflict. At a strategic level, these differences led to what we call today "strategic asymmetry today"<sup>1</sup>. Present and future conflicts seem to be asymmetric.

**Keywords:** Asymmetric threats; terrorism; military conflicts; terrorist organizations.



Figure no. 1

Asymmetric threats can be defined as "the broad and unpredictable outlook of military, paramilitary and information operations led by nations, bodies, individuals or indigenous forces placed under their command, specifically targeting weaknesses and vulnerabilities in an enemy administration or armed force"<sup>2</sup>

Another definition of asymmetry was formulated in the "Military Observatory" newspaper, by General Dr. Vasile Paul, as follows: "Asymmetry in the field of military issues and national security represents the action, organization

<sup>1</sup> Vasile Paul, *Strategic Asymmetry*, Military Observatory, nr.18 (8 - 14 mai 2001).

<sup>2</sup> Michael L. Kolodzie, *Commentary The Asymmetric Threat*, <http://www.almc.army.mil/alog/issues/JulAug01/MS628.htm>, p. 1.

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and thought (conception), different from that of the adversary, in order to maximizing your own advantages, exploiting the weaknesses of your opponents, getting the initiative or gaining freedom of action. It may be: political-strategic, military-strategic, and operational or a combination of all of them."<sup>3</sup>

In the present, new threats to national, regional and global security are emerging. New threats to security represent the means used by states, groups or individuals to carry out attacks without a direct contact and they are based on terrorism, corruption, criminality and economic oligarch, affecting citizens' rights and freedom.

## Asymmetry is a contemporary problem

The tragic events of September 11, 2001 on the territory of the United States of America have made the prevention and fight against terrorism, one of the political priorities of democratic states, people realizing how much vulnerable they are in front of this danger. Terrorist acts become more sophisticated, free movement giving them the possibility to move from one place to another, a secure banking system and free access to information. The technology is accessible to all citizens, globalization representing, among other things, the phenomenon that facilitates access to technologies that can be used in terrorist acts or other criminal activities. The violence of terrorism and its dimensions affect political, cultural, economic relations between countries in accordance with the principles of international law.

"The war that we lead today against terrorism is one with many facets. We must use every instrument available in this war - diplomacy,

<sup>3</sup> *Idem.*

finance, information, law and, of course, military force - and develop new instruments as long as time passes "I, said Richard Armitage.

A growing threat is represented by the

attacks, distributed according to the map presented below.

The French state declared the state of emergency and reintroduced the border controls<sup>5</sup> and the



Figure no 2

development of Isis extremist Islamist organizations, the so-called conflict between Muslims and Christians. Also, an already permanent conflict that is often manifested through terrorist actions is that of the Middle East, in the Israeli-Palestinian space, being generated by the struggle of the Palestinian people for almost half a century to create their own state.

In the present, we are confronted with a series of armed attacks, bombings taking place all over the world. In this respect, we can remember about the capital of France which was affected by the attack on Charlie Hebdo magazine, which took place in Paris on January 7, 2015, and ended with 12 dead people and 11 injured people. When everybody thought things were quiet, another assault shook Paris on the evening of November 13, 2015, and in the early hours of the next day, an assault claimed by the Islamic State.<sup>4</sup>

There were three explosions and six armed

citizens were advised not to leave their homes.<sup>6</sup>

The official balance was at least of 140 deaths.

The National Day of France, celebrated in Nice also turned into a blood bath on the night of July 14 to July 15, when a truck at high speed, entered the crowd gathered to see the fireworks. The report of the tragedy amounted to more than 84 deaths and over 200 injured, according to the French authorities, who specified that this report could change, many of the victims being in a serious health condition. Experts warn that the number of terrorist organizations is rising, also the number of countries where they are working. Unfortunately for us, we can say that we live in an era of terrorism.

If we make a brief analysis of the terrorist attacks that took place all over the world between 2004 and 2018, we will find it stunning that the number of

<sup>5</sup> „Etat d'urgence, contrôle aux frontières, transports: les mesures en vigueur” (in French language), *Le Monde*, 14<sup>th</sup> November 2015.

<sup>6</sup> „Multiple terrorist attacks in Paris: At least 140 deaths. France decrees the state of emergency and closes the borders.”, *Gândul*, 13 november 2015, accessed at 14 november, 2015.





victims is steadily rising to more than 892 dead and thousands wounded today.

### The purpose and methods of asymmetric threats

The goal of terrorist attacks is to avoid direct confrontations between unequal forces, which would make the most important of these forces to win.

Liddell Hart stressed that "Because there is an essential difference between the goals pursued by aggressive and non-aggressive states, there must be a corresponding difference between the methods they use to promote their policies."<sup>7</sup>

The quote presented above is becoming more and more current, because the states that are subject to aggression feel the imbalances resulting from the highlighted quasi-permanent strategic asymmetry.

"The aggrieved states are preoccupied with their security, and when they are assaulted, they seek to frustrate all the methods of the aggressor's plans, causing him to give up attempts to conquer, in all ways and by all means, mainly the unconventional.

Those specified in the above assertion explicitly lead to the conclusion that states (nations) subjected to aggression, usually in a relationship of inferiority to the aggressor, will be the first to resort to the asymmetric battle/war, trying to exploit his virtues."<sup>8</sup>

The aggression is not only of military nature but also of political, ethnic, religious nature, etc. The motivations of those who use asymmetric threats are diverse. The most common in our days are the ethnic or religious ones.

The main areas of manifestation of asymmetric warfare Terrorism is the main concern of the present days, but also of the future world, increased by ethnic, religious, economic, nationalist and political reasons. Besides the terrorist acts manifested in various forms, mankind is confronted with local wars, insurgencies and counter-insurgencies, low intensity conflicts, guerrilla and street fighting, pro and vice versa, etc., requiring tactics, equipment and effective, different from conventional ones.

Future conflicts are aimed at combating groups

<sup>7</sup> B.H. Liddell Hart, *Strategy. Indirect actions*, Military Publishing House, Bucharest, 1973, p. 368.

<sup>8</sup> Asymmetric conflicts. Operational Requirements for the Structure of the Romanian Armed Forces.

of terrorists who, in order to achieve their goals, are capable of using weapons of mass destruction, state-of-the-art technologies, or prepared fighters willing to sacrifice their own lives.

One of the most worrying issues is that countries considered stable are facing instability, generated precisely by religious, ethnic or socio-economic conflicts.

It is worrying the fact that terrorist attacks are accompanied by computerized attacks that cause major damage to government, military, and security information systems.

In recent years, terrorism has adopted increasingly violent tactics, targeting both government representatives and civil society. Terrorist organizations do not assume the paternity of their actions, remaining anonymous, and the constant tension in various parts of the globe, amplified by the media, leaves the impression of a growing conflict situation that does not have a viable solution to be solved, even if it tries to find the appropriate ways to counteract these specific dangers and threats.

### CONCLUSIONS

As a result of the increasingly frequent asymmetric threats at the global or transnational level, the relationships among information agencies in different countries have increased. The benefits of information exchange are obvious: getting information in real time from other countries is an essential condition for taking a good decision. In addition, parallels are eliminated, which allows significant savings in resources.

"Bilateral co-operation usually means the exchange of information and analysis on issues of common interest. This type of cooperation works on a quid pro quo basis because any country is reluctant to share information that could reveal sources or methods without gaining a concrete benefit. Although countries with limited information resources can not always be compared to large countries, they can take revenge in another way, for example by providing access to regions and languages for which other services should develop separate capacities."<sup>9</sup>

Asymmetry is an expression of the real relationships existing in nature, in society, in

<sup>9</sup> Current challenges for intelligence services, [www.sri.ro](http://www.sri.ro)



human relationships. Modern science studies the asymmetric relationships by means of analysis, offering models and paradigms that are more and more closely related to the reality of things. Asymmetry has a place of existence and manifestation everywhere and every time. Asymmetric conflicts are nothing more than a real manifestation of asymmetry in the act of confrontation. All conflicts are, in fact, asymmetric. "Mankind is at the crossroads of its future: either we cooperate in the fight against terrorism, or the future will be gloomy, and this threat will continue throughout the 21<sup>st</sup> century and perhaps after."<sup>10</sup>

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# CRYPTOGRAPHY AND STEGANOGRAPHY, METHODS TO HIDE INTELLIGENCE PRODUCTS

*Major Adrian IVAN, PhD student\**

**Abstract:** Intelligence plays a very important role in supporting decision-making. Once intelligence has been collected, it must be sent as quickly as possible to the decision-maker; but prior to transmission, the intelligence product must be encrypted, hidden from view. Well-known and widespread techniques by which intelligence is manipulated for the purpose of encoding/encryption and hiding its existence are cryptography and steganography.

**Keywords:** intelligence; cryptography; steganography; key; code; encrypted message.

Intelligence plays a very important role in supporting decision-making, always aiming to ensure intelligence superiority. The quality of the decision is given by the quality of the available intelligence. The decision moves the force to fulfill the purpose, and can be characterized by a high or a low risk in terms of success or cost of operation. The decision based on timely information, both in terms of quality and time, ensures success under minimal risk conditions and to a minimal cost.

The informational activity, consisting of the succession of the organizing and execution activities, is carried out to „know” the operational environment, using its own resources, using the intelligence system and is concretized through an intelligence process. A classical intelligence process includes the following stages<sup>1</sup>: planning, collecting, processing, analyzing and disseminating intelligence products.

Once intelligence has been collected, it must be sent as quickly as possible to the decision-maker, but in order to keep the secret, it can not be delivered „clearly”. Prior to transmission,

<sup>1</sup> FM 2-0, *Intelligence*, Department of the Army, Washington, May 2004, USA, p. 4-1.

intelligence product must be encrypted, hidden from view. Well-known and widespread techniques by which information is manipulated for the purpose of encoding/encryption and hiding of its existence are cryptography and steganography.

The purpose of this article is to highlight that cryptography and steganography are methods by which intelligence collected from different sources can be concealed and transmitted.

In the following lines, to understand the role of cryptography and steganography, I will present a brief history of their appearance, how information can be conveyed „hidden” through them, and a radiography of the main differences between the two methods.

Cryptography has followed man over the stages of evolution, dating back to 1900 BC, for example in ancient Egypt, when scribes used a non-standard hieroglyphic inscription. Between 500 and 600 BC Hebrew scribes used Atbash<sup>2</sup>, a simple encryption solution based on the inverted alphabet.

During the long history of cryptography, steganography has developed and bloomed, the first steganographic technique being documented in ancient Greece, around 440 BC. The Greek leader Histaeus used a version of steganography that involved the use of human scalp as carrier object of the secret message: tattooing the message

<sup>2</sup> The Atbash cipher is a particular type of monoalphabetic cipher formed by taking the alphabet and mapping it to its reverse, so that the first letter becomes the last letter, the second letter becomes the second to last letter, and so on.

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on a slave's scalp after having previously removed his hair, waiting for a period of time for hair to grow and hiding the secret message, and sending the slave to the recipient of the message, who knew where to look, and doing the same to respond to the sender.

On the same epoch, another ancient form of steganography was often utilised. Demerstus, who wrote a message to the Spartans warning them about the imminent invasions of Xerxes, was an exponent of this method. The message was engraved in the wood of a wax tablet, and then covered with a fresh wax layer. This apparently empty, unwritten tablet was successfully sent.

Nowadays „*cryptography defines the art and science of transforming data into a seemingly random and unintelligible bit sequence for an observer or an attacker*<sup>3</sup>” while „*steganography is the practice, or better said the procedure of hiding or rendering a secret message, image or other file type in another message with different digital extensions, such as a self-image or video, files or applications with different endings – extensions*<sup>4</sup>”.

In my opinion cryptography consists in distorting the message in such a way that it cannot be understood, while steganography consists in concealing a message so that it cannot be seen. Even though both methods provide information security, there are attempts to combine the two methods into a single system for better privacy/ secrecy and security.

I consider that steganography and cryptography differ in the way how they are evaluated: cryptography fails when the „*opponent*” is able to access the contents of the encrypted message, while the steganography fails when the „*opponent*” detects the presence of a secret message in the steganographic environment.

The disciplines that study decryption techniques of encrypted messages and hidden messages detection are called cryptanalysis and steganalysis. The first is the set of methods for obtaining the meaning of encrypted information, while the second is the art of discovering hidden messages.

In the process of gathering and transmitting intelligence to the recipient, *cryptography* is

considered to be an important element of any strategy designed to ensure security requirements in message forwarding. Cryptography allows the information to be conveyed in a hidden form so that only the right recipient can discover and read the message. It is practically the art of transforming messages or data in a different form so that no one can read them without having access to the „*key*”.

The message can be converted using a „*code*” (in which case each character is replaced by another) or a „*cipher*” (in which case the entire message is converted). Cryptology is the science behind cryptography. Cryptanalysis is the science of discovering („*breaking*”) the encryption scheme, for example, the discovery of the decryption key. Cryptographic systems are generally classified in relation to three independent dimensions/concepts:

1. The methodology of transforming a clear text in an encrypted text. All encryption algorithms are based on two general principles: the substitution, in which each element in the clear text is replaced by another, and the transposition, in which elements in the clear text are rearranged. The fundamental requirement is that no information be lost.

2. The methodology of using a number of secret keys. There are some standard methods<sup>5</sup> used in cryptography, such as secret key, public key, digital signature, and more.

- The secret key (symmetric). Secret key cryptography involves the use of a single key for both encryption and decryption. The sender uses the key to clearly encrypt the text and sends the text to the recipient. The receiver applies the same key to decrypt the message and discover the text in clear. Since one key is used for both functions (encryption and decryption), this encryption method also carries the name of symmetric encryption.

- The public key: public key cryptography was said to be the most important improvement in cryptography over the last 300-400 years. Modern public key cryptography was first publicly described by Professor Martin Hellman and his associates, in 1976. Their study described a two-key encryption system, in which two parties could engage a secret communication act over an unsafe communications channel, without having

<sup>3</sup> Joseph Raphael, Dr. V. Sundaram, „*Cryptography and Steganography – A Survey*”, Int. J. Comp. Tech. Appl., Vol. 2 (3), p. 628.

<sup>4</sup> *Ibidem*, p. 629.

<sup>5</sup> Emil Simion, David Naccache, Adela Mihăiță, Ruxandra Florentina Olimid, Andrei George Oprina, „*Criptography and Information Security*”, Matrixrom Publishing House, Bucharest, 2012, p.27.

to provide a secret key<sup>6</sup>.

- Digital signature. Its use has come from the need to ensure authentication. The digital signature is more related to the stamp or signature of the issuer, which is encrypted with the private key along with the useful information, so that it can be transmitted to the correspondent. In addition, the digital signature ensures that the correspondent easily detects any changes made to the encrypted data.

### 3. Methodology of clear text processing.

steganography is to hide messages inside other harmless messages, in a way that does not allow detection of the fact that there is still a second message.

Once collected, the intelligence can be hidden and transmitted according to certain standard steps. The basic steganography model includes: the carrier, the message, the insertion/detection algorithm and the steganographic key. A model of the steganographic process for sending intelligence is presented in figure no. 1.

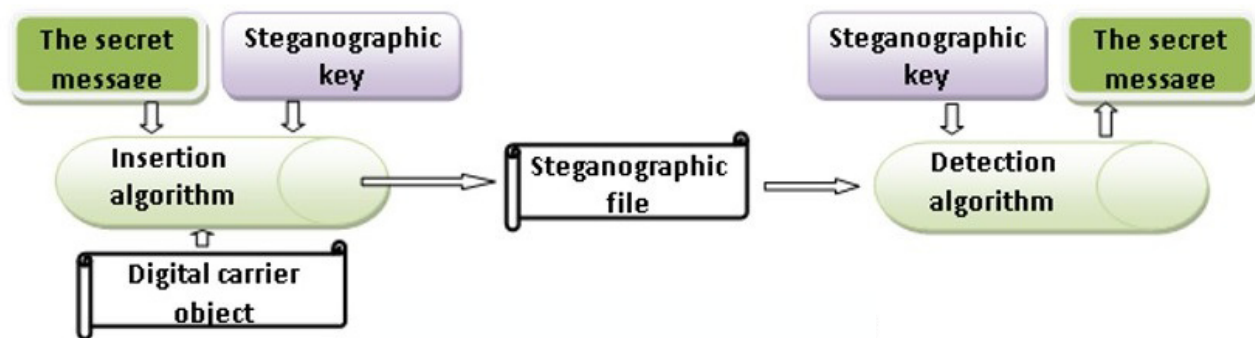


Figure no. 1. The steganographic process

A block encryption module processes one block of input elements at one time, making one corresponding block of elements at the output of the module. A flow encryption module processes the input elements continuously, producing individually processed items as they occur.

Regarding steganography, its main purpose is to communicate safely in a completely undetectable manner and to avoid creating suspicions about the transmission of hidden data. Specific to this method is that during the process there are changes in the structure and characteristics of the hidden data carrier, so that they cannot be identified with the naked eye.

In my opinion images/photos, video, audio, and other types of electronic files containing information that can be perceived as irrelevant or redundant can be used as „masks” or carriers of secret messages. After inserting a secret message into a cover-file, a so-called stego-file is obtained.

Thus, in my opinion, the purpose of

The usefulness of the process of transmitting information using steganography is influenced by the following three aspects: capacity, security and robustness.

Thereby the capacity refers to the amount of information that can be hidden in the carrier object/medium. Security is closely linked to the impossibility of unauthorized persons („curious”) to detect the existence of any message in the digital carrier (stego-file). Robustness lies in the level of changes the steganographic environment can endure before the opponent can destroy hidden information.

There are several types of steganography techniques, such as the steganographic system, the bit of substitution techniques, hide & seek: sequential approach, hide & seek: random approach and domain transformation technique. The field of informatics/IT is a complex one that changes from day to day and it can be said that new algorithm techniques are being introduced on a daily basis by changing at least a value in terms of steganography, but also other types of computer encryption.

As we can easily tell, current trends in the development of modern steganography techniques is

<sup>6</sup> Martin Edward Hellman, Whitfield Diffie and Ralph Merkle, „New Directions in Cryptography”, Transactions on Information Theory, Vol. IT-22, No. 6, November 1976, USA.



using the twentieth-century inventions – computers and computer networks. Four main trends in the development of so-called digital steganography can be distinguished: digital media files steganography, linguistic steganography, system file steganography, and network steganography<sup>7</sup>.

Recent developments in steganography, closely related to the pace of development of information and communication technologies, have resulted in its increased and diversified use as follows:

- Using „craft” files (small-size text files that can easily be distributed over the network) to hide some instruction messages;

- Print-steganography, „data hide in data”, a technique developed by manufacturers of laser printers that adds to each printed page yellow dots that are imperceptible to the naked eye, representing the encoded form of machine/printer identification data and the print job moment;

- The use of photo-sharing web sites, some photos carry parts of secret messages that can only be rediscovered after having a number of appropriate photos;

- Microbial prints. Researchers at William Howard Tuft University have shown that it is possible to conceal information using bacteria with fluorescent capabilities. For example, certain strains of the genetically modified E-coli bacteria can shine in one of the seven specific colors when placed in a supportive growth environment;

- Malware, computer worms, or other malware information software started to use steganography to get functional commands or to perform unauthorized data transfers. Computer control instructions can be placed in HTML or JPEG files;

- Computer games. There is a suspicion that network/multiplayer games can be a good cover for hidden communications. Private chat rooms are not the subject of network monitoring, so they can be easily used as a meeting place for people with hidden intentions. For example, using PlayStation and Xbox you can communicate without being supervised (starting 2012).

In my judgment the modern steganography techniques follow the use of communication

methods by circumventing common monitoring systems/activities, this being possible, as the variety of steganographic carriers is continually expanding.

Given the relatively small complexity of implementing this method, it is expected to remain a preferred mean of hidden communication.

In addition to what I have described above, I will present a comparative analysis of the two methods, with the common aspects and the differences between them.

Thus, in my opinion, the main difference between steganography and cryptography is that steganography protects the message by hiding it to other readers other than the container which it is addressed, instead of the cryptogram that displays all the information encrypted, which, however undisputable, attracts attention and curiosity.

At the same time steganography, unlike cryptography, requires the existence of surrogate data to be used in order to transmit and host the steganographic message. Regarding the choice of surrogate data, this can be done using the specific structure of some file formats or the architecture of data transmission protocols over the network.

A common example of surrogate formats for transmitting information gathered from various sources are media formats for storing images, sounds, or movies. Because of their considerable size, they can easily conceal messages without suspecting the changes.

In my opinion, the files chosen as a surrogate for hidden messages must meet the following conditions: to be as complex as possible, to present hatches or ways of inserting messages and to occupy considerable dimensions, in order for nobody to notice the insertion of some hidden texts.

Therefore, the common purpose of steganography and cryptography is to ensure secret communication. Steganography has until recently been a variant of performing a somewhat neglected secret communication, unlike cryptography whose evolution/development has been constant. At present, steganography is becoming more and more popular and develops directly in line with the pace of development of information technologies and the growing need to conduct communications with maximum confidentiality in the virtual environment.

<sup>7</sup> Elżbieta Zielińska, Wojciech Mazurczyk, Krzysztof Szczypiorski, „Development Trends in Steganography”, Warsaw University of Technology, Warsaw 2012, Poland, p.00-665.



On the other hand, although the purpose of the two methods is common, they must not be mistaken, with the above definitions clearly showing the differences between them. Also, the methods of „breaking” the two systems are different.

In cryptography, the system is considered to be „broken” when the attacker can read the secret message, while in steganography the attacker must detect that steganography has been used and read the inserted message. In addition, the security of the classic steganographic system is based on the secrecy of the data encoding system. Once this system is known, the steganographic system is considered defeated. The distinction between cryptography and steganography is very important and is synthesized in the following table:

good practice in the field.

A multi-level security solution represents the combined use of steganography and cryptography, termed crypto-steganography. By combining them, it is possible to encrypt data with software and then insert encrypted text into a carrier file (text, video, audio, images, etc.) using a keyhole.

Transmitting intelligence by combining the two methods will enhance the security of the inserted data. This combination will also meet requirements such as capacity, security and robustness in securing data transmitted through an open channel, and beyond.

A graphic representation of the combined concept of steganography and cryptography is presented in figure no. 2.

Steganography	Cryptography
Unobserved passage of the message	The passage of the message is visible
Prevents discovery of any form of communication	Prevents discovery of the content of a communication by an unauthorized person
Less known technology	Common / known technology
Technology still in development for some formats	Most algorithms are generally known
Once detected, the message can be read	The very strong current algorithms are resistant to attack, with higher computing power (and, implicitly, higher cost) needed to "break"
It does not affect the structure of the hidden message	It alters the structure of the secret message

Even if each of the known methods, used individually, offers good security, the application of several security levels to a protected object is always a superior security solution, as well as a

The Stego-file resulting from the combined crypto-steganography method can be transmitted without discovering that there is actually a secret information exchange. Moreover, even if an

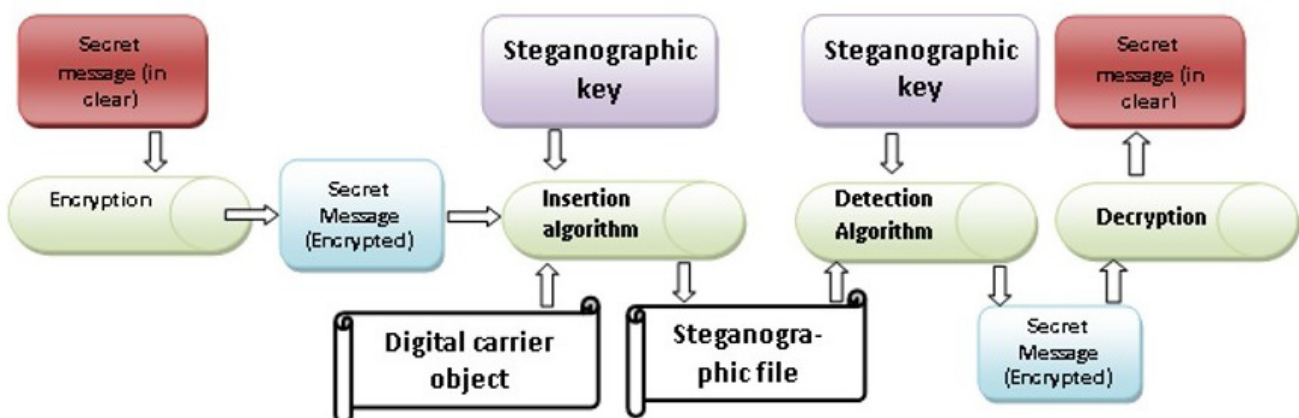


Figure no. 2. The crypto-steganographic process



attacker would pass the steganographic barrier to detect the message in the carrier file, he would also need the key to decrypt the encrypted message.

This solution of combining the two methods of hiding information has created new approaches to steganography, which can be divided into three types:

a. Simple steganography – technique that only uses a carrier object to conceal a clear message.

b. Secret key steganography – where the combination of cryptographic secret key technology and simple steganography is used. The idea of this type of approach is to encrypt the secret message with the secret key and conceal the resulting (encrypted) message into the carrier file.

c. Public key steganography – represented by the combination of the public key cryptography method with the simple steganography method. The idea behind this approach is to encrypt the secret message with the public key and to hide the resulting (encrypted) message in the carrier file.

I can conclude that through the cryptography and steganography the information collected from various sources: SIGINT (*Signal Intelligence*), IMINT (*Imagery Intelligence*), HUMINT (*Human Intelligence*) and OSINT (*Open Source Intelligence*)<sup>8</sup> can be quickly transmitted to a beneficiary without suspicion.

Also, in my opinion, the development trends of information hiding methods are in line with the increasing importance of preserving the confidentiality of information by most of the sectors of the current society, but are also imposed by its fast pace of development.

However the speed at which information can now be transmitted over the information and communications networks has put this communication medium first in the choices of society as a whole.

The information to be transmitted takes all possible forms, but those covered by this article are those that have a certain level of confidentiality required or imposed by the sending/receiving tandem in a legal, institutional, and organizational manner. This has led to the need to innovate/develop methods of concealing information in

line with the level of development of information technology, these methods being mainly applied to open communication channels, but their use can still be extended to computer networks and private communications, even if it may appear as a redundant solution.

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<sup>8</sup> AJP 2.0 *Allied Joint doctrine for Intelligence, Counterintelligence and Security*, p. 1-2-5.





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## THE CONNECTION BETWEEN CORRUPTION AND ORGANIZED CRIMINALITY

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**Abstract:** Corruption, according to studies, is the element which has a direct influence on the increase of the organized crime rate and which deepens the process of modernization of a society, generating long-term effects of economic, political, social, educational nature, etc. By not being able to eradicate it from the administrative sectors of the state, we are threatening the functioning of the rule of law, challenging the principles of good governance and of a functional market economy.

**Keywords:** organized crime; corruption; legislation; prevention.

### The defining elements of corruption and organized crime concepts

The United Nations Framework Convention on Action against Organized Crime described the organized crime as: *the activity carried out by a group of at least three persons having hierarchical or personal relationships among themselves, enabling their leaders to enrich or control inner territories or markets, or foreigners through violence, intimidation or corruption both to perform criminal activity and to infiltrate the legal economy.*

Another Convention against Transnational Organized Crime of the United Nations, which Romania signed on 14 December 2000, contains the definition of "organized crime group" and "structured group"; *the former designates a structured group consisting of three or more persons who have been in existence for a certain period of time and are acting in the cartel for the purpose of committing one or more serious offenses or offenses under this Convention in order to obtain a financial or other material advantage, the latter designates a group that was not accidental to commit an offense and does not necessarily have a certain role of continuity or structure developed for its members.*

The academic environment, judging from the experience of the last decades, defines the concept

of "organized crime" as criminal groups, networks and organizations. This term includes both traditional elements (drug trafficking, trafficking in human beings, theft, etc.) as well as specific aspects of white-collar crime (economic and financial crime, tax-related offenses, VAT, real estate fraud, embezzlement).

The Criminal Code, in Article 367, paragraph 6, defines the organized criminal group as „a structured group of three or more persons constituted for a certain period of time acting in a coordinated manner for the purpose of committing one or more crimes „.

Corruption is more than an activity undertaken by a group; it is a social phenomenon, representing the moral decay and the spiritual degradation of an individual, a group, and even society as a whole. It is a complex social challenge that generates long-lasting negative effects, digging in the principles, values and collective beliefs of a nation.

The phenomenon comprises all the actions an individual performs, taking advantage of the position he/she occupies in order to obtain personal advantages through illegal means, not taking into account moral aspects and respect for the law.

This type of behavior reflects the state of decline of a society, and, the more serious it is, the more visible it becomes through the effects it creates in the common environment. It is a toxic phenomenon that undermines the structures of power and authority. The most common definition is: *Abusive use of power for its own advantage.*

The Romanian criminal law system describes corruption as a normative, priority concept,

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which defines the illegal or immoral violation or transgression of rules concerning the duties of civil servants, economic agents or persons carrying out various activities in relation to citizens<sup>1</sup>.

The UN Convention does not find it appropriate to include the term in one definition, considering that it is in a permanent transformation and its nature generates multiple approaches. It provides a forward-looking framework for future forms where corruption involves taking and giving bribes, influence trafficking, abuse of function, illicit enrichment (including from the private sector), money laundering, concealment, obstruction of the proper functioning of the justice.

INTERPOL defines corruption as: *the solicitation or acceptance by a police officer or employee of the police forces, directly or indirectly, of money, goods or values, gifts, favors, promises, rewards or benefits to himself or another person, group or entity, in return for an act or omission already made or to be performed in the future with respect to or in connection with police duties.*

### Corruption and organized crime before and after 1989

Analyzing the criminality of the last years, we can see that there is a real increase of this in the present period, compared to 1989. In a simple mechanism of thinking, we can say that in the communist society there was a higher respect for the law and the social order, and the post-December period built an environment favorable to criminal behavior. In fact, it should be noted that in communism many crimes were not recorded in the operative documents, the state was present in all the structures of activity and, moreover, the borders of the country were closed and many of the crimes caused by population migration did not exist. These aspects induced the false perception that the black figure of crime was much smaller than the present one.

The way of organization of the communist state prevented the development of networks of organized crime, but there was a sector that failed to limit this action, namely the economic one. The rise of the economic crisis in the communist era of the 1980s led to the development of the phenomenon.

<sup>1</sup> Ministry of the Internal Affairs, *Seventh Interministerial Conference against Corruption*, documentary, Beijing, 6-10 October 1995, p. 39.

Speculation became a common practice in the context of the acute food shortage, initially isolated, but then expanded into hierarchies, in increasingly larger groups, from production, supply, sales, and even local public administration.

It is very important to note that no one, who played an important role in the state, could be investigated without the Central Committee's consent, and this clearly highlights the close, incipient relationship between the corruption and organized crime. Any restriction of justice, through political, structural issues, develops actions that encourage criminality, covering it under non-lawful decisions. The "miliția" was led internally by the party and responded to the demands formulated by it, through actions that questioned the legal act. These included: the reduction of crime by any means, the confiscation of a considerable amount of gold and currency without justifications and legal basis and the annihilation of crime at any cost.

Elisabeth Vasilescu, in 1997, filed a complaint with the European Court of Human Rights for the case of Vasilescu vs. Romania, where she pointed out the failure of the Romanian state to comply with Article 6, paragraph no. 1 of the Convention and of Art. 1 of Protocol 1, stating that in June 1966, members of the "miliția" carried out a search at the applicant's home without a mandate in a criminal investigation against her husband accused of committing an offense of unlawful possession of objects of gold, an act punished by the legislation in force at the time, with which they seized 327 old gold coins, and attempts to recover, after 1990, its assets were prevented by the Romanian state through its authorities.

The much-needed democracy, built in 1990, has led to the acquisition of rights specific to the democratic regime by Romanian and foreign citizens, as well as the opening of borders, which previously limited the development of organized crime. Romania, with a democratically sensitive society with developing legislation, unprepared to respond to the fast pace of criminal networks, with very long electoral steps, suffered the consequences of these limitations as well as challenges. For certain categories of people, the freedom gained was only a new territory of committing corruption. Nowadays, organized crime structures, previously initiated, have been strengthened and, more recently, they have included a cross-border cartel,



being interconnected with international groups. Today, the phenomenon is accepted and known both in political and legal environments, as well as in scientific and academic ones.

A study on the relationship between corruption and organized crime<sup>2</sup>, conducted by the General Anticorruption Directorate, the Anticorruption Projects and Studies Office, within the Ministry and Internal Affairs, highlights an easy-to-anticipate aspect such as the following: in countries where the laws of democracy are respected, legal offense is less present. Moreover, the low per capita income is another aspect directly influencing the corruption act, improperly levied or collected taxes, lack of transparency, and encouraging tax evasion. Thus, in countries where we encounter a high level of tax evasion, this is directly correlated with criminal crime associated with money laundering.

Research shows that the link between corruption and organized crime is perceived in a fairly high percentage, namely 97%. Corruption provides the right framework for opening opportunities that criminal groups are prepared to harness. According to the study, corruption and organized crime are in a symbiosis, feeding, and implicitly impacting one another.

A specialist in the field mentions: „The more widespread the belief that corruption is everywhere, the greater is the impulses to use it”<sup>3</sup>. And then he concludes: „In the absence of the fight against corruption, people will come to the conclusion that there is so much corruption that the one who does not enter the game is simply a sucker.” The study also states that, historically speaking, there is an increasing trend, with very few drops or downsides. Criminality uses state powers to shape new territories of action, and only solid control mechanisms of civil society or civil society, coupled with strong, applied and adapted legislation, can diminish organized crime. The two concepts under analysis are directly influenced by the quality of key state institutions: police, justice, customs, and public administration.

In addition to legislation and the control structure, a dominant factor in generating or preventing corruption is human quality, the resource that can influence, positively or negatively, the framework of functionality of those who do concepts. The better prepared a human resource, capable of limiting acts of corruption, but also of preventing them, the more we can realistically combat crime.

## CONCLUSIONS

The current democratic society is threatened by the two elements, toxic for the rule of law, for social and legislative equity, for strengthening the principles of good governance and a functioning market economy. Corruption in Romania, as well as organized crime, represented important factors limiting the process of modernizing society, generating serious political, economic and social dysfunctions. Thus, corruption has, over time, led to a significant leak of economic, human resources, etc., which represented an institutional weakness, caused largely by a lack of ethical standards. This effect of corruption has created a wave of dissatisfaction among the population, which has experienced the phenomenon through low living standards and the aggravation of the social situations they face. The fact that we have a diminished trust in the institutions that govern us can have consequences transferred in actions against the rule of law. One of the essential obligations of a state is the citizen's safety, when organized crime is growing; it cannot pass on to the aggression on the collective or even the individual environment. When corruption increases, and social, moral values change, organized crime finds good ground for multiple ways of circumventing the law. Thus, states are constantly challenged to research, legislate, and enforce legislation so as to reduce the possibility of developing a territory favorable to crime. The transfer from one regime to another, from one legislative system to another, the socio-cultural change required by these approaches, meant for some people a longer term of adaptability for democratic values, and a shorter term for criminality. For some nations, the speed of response has meant the differentiation factor for the high percentage of organized crime.

<sup>2</sup> General Anticorruption Directorate, *Research Study on the Relationship between Corruption and Organizational Crime*, Bucharest, 2011.

<sup>3</sup> Diego Gambetta, *Two type of corruption and the self fulfilling nature of the belief about corruption in the Corruption Monster Ethik, Politik and Korruption*, Czernin Verlag, Wien, 2006.



Civil society has a say in this approach and must be involved more and more often in the prevention of corruption.

At international level, it is important to develop unitary anti-corruption strategies, as this element has a cross-border dimension and far exceeds the borders of a single country. Corruption and organized crime are directly influenced by the country's state of development, so the economic, political, and moral recovery of a society should be key challenges to ensure a long-lasting preventive framework where the citizen respects the law and is fully aware of the consequences of non-compliance, in the long run.

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