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EDITOR'S NOTE

Dear collaborators and readers,

The current edition of the journal – the last one in 2013 – includes, under the heading *Geopolitics and geostrategies: tendencies and perspectives*, one of the papers presented in the seminar “Correlation between technological development and the physiognomy of present day’s conflicts: content and tendencies in the Current Revolution in Military Affairs”, organised by the Centre for Defence and Security Strategic Studies on September 27 at Romexpo, in the framework EXPOMIL 2013. This paper approaches the content and dynamics of the current revolution in military affairs, followed by an article on the main strategic influences on the security environment. Under the heading *NATO and EU: policies, strategies, actions*, there are brought into attention, on the one hand, NATO Transformation through the lens of concepts and initiatives, and on the other hand, the implications of the economic-financial crisis for the Euro-Atlantic security. At the rubric *Security and military strategy*, there are treated both subjects of theory and concept, as well as applied, such as risk management within the military organisation, operationalisation of defence diplomacy and the use of unmanned aerial vehicles (a topic also presented in the framework of EXPOMIL). At the same time, we propose our readers three articles under the heading *Analyses, syntheses, evaluations*, approaching different topics: the Waltzian neorealism, the go game model in international politics research and the issue of food crisis.

You will also find in the pages of the journal the rubric *Scientific event*, highlighting some conclusions from the international scientific conference STRATEGIES XXI, organised by the Centre for Defence and Security Strategic Studies in November 21-22, with the theme “The Complex and Dynamic Nature of the Security Environment”.

In the *CDSSS agenda*, we present the most recent scientific publications of the research team, at the same time announcing the scientific activities that we are going to organise in 2014.

The *Book review* brings to our readers’ attention the volume *Dynamics of Military Affairs in the new millennium*, published in English at the end of this year, under the aegis of Éditions du Tricorne, Geneva (Switzerland). The volume is signed by Teodor Frunzeti, PhD professor, who ended his military career with the highest military rank and, at the same time, stepped off the position of rector and commandant of our university. Nevertheless, he continues his academic activities.

For those who open *Strategic Impact* for the first time, we mention that the journal is a publication of the Centre for Defence and Security Strategic Studies from “Carol I” National Defence University and is a *prestigious scientific journal in the field of military science, information and public order*, according to the



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National Council for the Recognition of University Degrees, Diplomas and Certificates (CNATDCU).

The journal is published in Romanian for twelve years, in English for eight years and addresses a complex topic area – political-military topicality; security strategies, military strategy, NATO and EU policies, strategies and actions; the issue of peace and of the future's warfare, information society, elements and aspects related to information community. Readers will find in the journal analyses, synthesis and evaluations of strategic level, points of view in which is studied the impact of the actions taken at national, regional and global level.

Regarding international visibility – primary objective of the journal –, the recognition of the publication's scientific quality is confirmed by international indexing databases CEEOL (Central and Eastern European Online Library, Germany), EBSCO (USA), ProQuest (USA) and Index Copernicus International (Poland), but also by the presence in virtual catalogues of libraries in prestigious institutions abroad, such as NATO and universities with military profile in Bulgaria, Poland, Czech Republic, Hungary, Estonia and so on.

Strategic Impact journal is printed quarterly in March, June, September and December, at “Carol I” National Defence University Publishing house. The journal is distributed free of charge in the main institutions involved in security and defence, scientific and academic environment in the country and abroad – in Europe, Asia, America.

Making a short balance of the year 2013, I shall mention that changes occurred in the composition of the Editorial Board, of the Scientific Board, as well as in the Editorial Team, which is operating in a minimal format, the lay-out of the journal being performed at the “Carol I” National Defence University Publishinghouse. In addition, starting with November, *Colocviu strategic (Strategic Colloquium)* – the supplement of *Strategic Impact* quarterly, available on-line, – is managed by Mr. Mihai Zodian, PhD.

I express my confidence that our readers will find extremely useful and relevant articles included in this edition.

In the end, I would like to stress out, on the one hand, that the following issue, 1/2014 is going to be the 50th jubilee edition, and on the other hand, I would like to bring my gratitude to all those who contributed this year to maintaining both the scientific quality and the editorial aspect of the quarterly.

Colonel Stan ANTON, PhD.

Editor in Chief

Director of Centre for Defence and Security Strategic Studies

CONTENT AND DYNAMICS OF THE CURRENT REVOLUTION IN MILITARY AFFAIRS

*Teodor FRUNZETI, PhD**

*The analysis of the Revolution in Military Affairs (RMA) phenomenon should start from the premise that humanity finds itself in a period of fast economic and social changes that includes spectacular development in telecommunications, informatics, computers and biotechnology. In this context, in which the society transforms itself and a new civilization is challenging the old one, armed forces are determined to change at every level simultaneously, from technology and culture to organization, strategy, tactics, doctrine, training and logistics. This is actually the definition of Revolution in Military Affairs given by Alvin and Heidi Toffler in 1993 in their work *War and anti-war: survival at the dawn of the XXI century*.*

Keywords: *Revolution in Military Affairs (RMA), technology, C4ISR, NATO, EU.*

1. Fundamentals of the current RMA

Along with the RMA, we can bring into question the concept of *military revolution*. One can talk about a military revolution when the application of new technologies into a significant number of military systems is interdependent with innovative operational concepts and organizational adaptation, fundamentally changing the character and conduct of a conflict and causing a dramatic increase in the combat potential and effectiveness of the armed forces¹. This definition was given in 1994 by Andrew Krepinevich, president of the Center for Strategic and Budgetary Assessment, one of the most important American think-tanks. Krepinevich's definition leads to the idea that such a revolution can have profound consequences on the

global and regional military balance. Past military revolutions, as well as the invention of gunpowder, induced great changes both in the nature of military competition between states and in the method of warfare. Thus, the rules of the game have been modified, says the US expert, leading, in many cases, to the devaluation of former dominant elements of military power, and the military organizations which did not adapt to the changes in the this competitive environment, quickly went into decline. A year later, in 1995, Clifford Rogers proposed linking the theoretical framework of the military revolution with the theory of punctual balance taken from biology, thus concluding that the short episodes of rapid military innovation are followed by longer periods of relative stagnation².

The distinction between *military revolution* and *the revolution in military affairs* is explained by the American historians MacGregor Knox and Williamson Murray, in 2001, in their work *The Dynamics of Military Revolution, 1300-2050*: while the military revolution transforms the society and the state, as well as the military institutions, the RMA is a complex mix of tactical, organizational, doctrinal and technological innovations through which is implemented a new conceptual approach to war or to one of its specialized subdomains³. RMA is distinguished from regular innovations by the fact that it represents a giant leap in terms of military effectiveness. During the process of RMA development, military organizations face fundamental changes in the political, social and military landscape and they are forced to innovate, to adapt to or foresee the revolutionary changes. RMA

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requires correlating the complex elements of social, political, organizational and technological change with the new conceptual approach to war.

Even if it is generally considered that the first RMA can be identified in the fourteenth century, by the invention of the bow⁴, regarding RMA dynamics, we can identify five waves, having as starting point the 70's and 80's, when Soviet specialists initiated the development of this concept⁵.

The first wave of RMA, called the wave of *Soviet Military-Technical Revolution (MTR)* is based on the scientific works undertaken by the Chief of General Staff of the USSR, Marshal Nikolai V. Ogarkov. He starts from the premise that advanced technologies, such as Precision Guided Munitions correlated with improved sensors, open up more destructive forms of conflict and diminish the role of nuclear weapons in the future war. In this approach, on the future battlefield, new technologies of weapons and information systems could be used, in order to allow an almost simultaneous engagement of the full range of greater targets of distance, accuracy, lethality and speed than that moment. The Soviets predicted the dramatic redefinition of the linear war concepts by the increasing value given to the space systems, unmanned systems and automated detection and engagement integrated into a network of networks⁶.

In the Romanian academia, even since the '60, it was discussed the impact of the *scientific and technical revolution* upon the military field, several authors underlining the connection between the development of the military technique and the social and political development⁷. Likewise, these notions appear in doctrinary documents of the Romanian Army in the '70. In this context, the notion of *revolution in military technique* is defined, at the same time with *technical-military* revolution, as being represented by those radical, qualitative transformations in technical means of fight, in the organisational structure of the troops, in methods of conducting a war and fight actions that are characteristic to the Armed Forces of all countries⁸.

The second wave of the RMA begins in the '90s, lasts for about five years and has as central concepts *military revolution* and *the revolution in military affairs*. Analyzing the Soviet concept of military-technical revolution, American scholars have concluded that, although the technological change is necessary, it is not a sufficient factor to trigger a significant change in the military domain or to ensure the military success, so that they proposed the RMA concept, which implies the existence of four key factors:

technological change, the development of military systems, operational innovations and organizational innovations⁹. This wave is characterized by the need of defining the RMA and the role it plays in history.

The same issues are raised in theoretical debates also during **the third wave of the RMA**, which was characterized by a strong enthusiasm vis-à-vis the emergence of new technologies. During the five years (1995-2000), new concepts have been developed in the RMA theory, as the one proposed by Admiral William Owens – *system of systems*. In his view, the system of systems is at the core of RMA and it is built on the basis of joint information and elements and provides the integration of platforms and existing components, especially C4I systems (command, control, computers, communications and intelligence) with the ISR systems (intelligence, surveillance and reconnaissance), in a coherent joint interoperable frame, which, moreover, was realised in the years that followed. According to Owens, the armed forces, especially the US, should accelerate the RMA by setting new priorities in the allocation of resources and the adoption of great technological, organizational, structural and doctrinal changes¹⁰.

In the fourth wave, between 2000 and 2005, the discussions are focused on feasibility, accessibility and timeliness of revolutions in military affairs. Moreover, the Bush administration has applied the RMA ideas and concepts to the policy formulation regarding defence transformation – *Military Transformation: A Strategic Approach*¹¹. The US lead by far this wave of the RMA, as it happened in the previous two. It outlines a more complex and comprehensive RMA, supported also by the Secretary of Defence, Donald Rumsfeld, in 2002: "... a revolution in military affairs is about more than building new high tech weapons, though that is certainly part of it. It's also about new ways of thinking, and new ways of fighting"¹². RMA and transformation of the US army were focused on two interrelated operational concepts – *Network Centric Warfare* and *effects-based operations* – based on the idea of translation of the information superiority and of multi-mission capabilities both at strategic and operational level¹³.

Finally, **the fifth wave of the RMA** is underway and, since 2005, it has been called into question the effectiveness and efficiency of such an approach. The main problem the US Armed Forces faced with was the realization of this vision in a credible and effective set of capabilities, strategies and organizations¹⁴. In fact, the defence transformation process was undermined by the changes and operational needs

arising in conflicts in Afghanistan and Iraq that have turned into long campaigns of counter-insurgency, in which the US army faced a wide range of hybrid political socio-economic challenges of a non-linear conflict for which it was not ready¹⁵.

In modern society, science and technology are the dominant factor, but with possible antagonistic effects: both science and technology can lead to the evolution of humanity or to its destruction. Furthermore, the distinction between military and non-military activities is becoming increasingly blurred: for example, in the USA and the UK, the military domain is considered to be a large and disproportionate influence on science and technology¹⁶. A 2005 study of the *Scientists for Global Responsibility* think-tank, approaching the theme of military involvement in science and technology field, highlighted the important role that the military domain plays in the UK in the commercial partnerships of this area that are supported by the government. Furthermore, it concluded that in developed countries, the military supports the development of new technologies, such as nanotechnology, particularly in the US.¹⁷ The same study states that the current military thinking is based mostly on the idea of achieving security through military superiority and gives little importance to comprehensive and multidimensional security.

2. Characteristics of the current RMA

Considering the context described above, the premise that the current RMA analysis must leave is that the pace, quality and its impact on military organizations and defence management processes may vary across different geographic regions and strategic cultures. In this context, there are at least three factors that accelerate the RMA dissemination. Firstly, it is about regional rivalries and persistent state of insecurity induced by the development of complex type of conflicts and threats of the XXI century, which expanded national defence requirements, particularly operational ones. Second, the economic growth in Asia and the Middle East is another factor that increases the ability to purchase the latest weapons systems, and also the force modernization programs in these countries. The third main factor that accelerates the RMA distribution is globalization, consolidation and market of the competition weapons and defence industries at global level that needs to diversify their business interests through export and innovation strategies¹⁸.

RMA analysis, generally centred on the US, is

paying less attention to its impact on different strategic situations and the implications it has on military modernization in the small states and emerging powers. Currently, especially in the Asia-Pacific and the Middle East, there can be observed a process of modernization of forces through the acquisition of advanced military systems and adaptation to new concepts specific to the current RMA.

The present RMA is characterised by several factors which are specific to the developed countries from the first two echelons of this revolution, USA, UK and France: structural changes in the international system, the high level of investments in searching and developing in the military domain, the major progress of the information and communication technological sector and, last but not least, the integration of the tactics and force structure with the technological progress, training and simulation.

Structural changes taking place in the international system refers to the power distribution among the main international actors. Despite the debates about the rise of some “competitive partner”, as the European Union, the Russian Federation, Japan, China, India etc., the US still remain the largest world power both economically, technologically and militarily, and as cultural penetration and effectiveness of democratic governance.

The technological supremacy belongs indisputably to the US, EU – especially UK and France – Canada and Japan and depends also on the ability to change radically and very fast the technologies, the power to determine the standards, the ability to integrate the latter, markets, consumers, regulators and less developed countries from this point of view. This technological supremacy is correlated with a high capacity of updating the military doctrine to the new technology, primarily for the US and then the UK and France. Thus, the three states are considered the main actors in the current RMA.

The US rule the charts worldwide in terms of military budgets and high-tech usage, their defence spending being around \$ 700 billion American dollars¹⁹. By using them, an expanded military-industrial complex is funded, the Americans dominate the world in terms of military high-technology, aero-naval forces, firepower and smart tactical weapons, logistics support operations, etc²⁰. The US status in the world in the technical-military sphere is noticeable especially within NATO, which is by far the largest contributor, with more than 20%, both in the civilian and military budget and at the NATO Security Investment Program (NSIP), while UK, France and

Germany together contribute with about 35% to each of these three categories of budgets²¹. In this context, the United States considered necessary a rebalancing of NATO defence spending between the US partner and the European ones together with Canada. Thus, the concept *Smart Defence* was proposed, by whose implementation is desired the equitable sharing of costs for defence within NATO, especially in terms of defence capabilities involving considerable funding: anti-ballistic defence, surveillance and recognition, intelligence, maintenance and training, force instruction and training, effective engagement and force protection.

Regarding the EU, the European Defence Agency (EDA) is intended to be the main driver of the development of military capabilities and the promotion of defence research and technology. Thus, EDA has adopted a capabilities-based approach and the concept of *Pooling and Sharing*, which refers basically to the decision of several states to contribute materially and financially to the establishment or acquisition of some specific military equipment which, subsequently, can be used by several states.²²

It may be considered that both *Smart Defence* and *Pooling and Sharing* are components of the current RMA, however, although there are projects in both cases, moving beyond the conceptual phase and implementation of policies, strategies and national doctrines of some concrete elements is needed. For instance, in the case of NATO, the new approach covers the following capabilities that underlie a new RMA: the systems of land, sea and air surveillance (the necessary equipment for NATO Air-Land Surveillance System have already been purchased by a multinational agreement that includes Bulgaria, Czech Republic, Estonia, Germany, Italy, Latvia, Lithuania, Luxembourg, Norway, Romania, Slovakia and the USA); the Airborne Warning and Control System (AWACS); combat the improvised explosive devices (in 2011, thirteen NATO member states decided to jointly acquire some technologies to combat this type of devices); the anti-missile shield (initiated by the US, with the contribution of Netherlands and Germany, and with the consent of Turkey, Spain, Poland and Romania to host its elements on their national territory); defence against cyber attacks; command and control systems, etc. The EU also proposes, under the *Pooling and Sharing*, a number of projects, such as air refuelling, maritime surveillance capabilities, intelligence, surveillance and reconnaissance, future military satellite communications, smart munitions and naval logistics.

The focus of the current RMA is exploiting of innovations specific to the information age, such as increasingly miniaturized personal computers, video and data communications in real time, social networks without borders, encryption and data fusion technologies, improved radar systems, etc. The main challenge for political and military makers is to implement these military and technological elements in military and political concepts. This holds true even for the so-called leader of the current RMA, namely the US – the current status of the RMA in the US army seems to be unclear, although there are certain identifiable elements, such as: C4ISR, guided munitions, new principles of weapons operation (laser, microwave, non-lethal weapons), new types of sensors, stealth technologies, anti-missile defence, space war, etc.²³

In this context, there are opinions that the *revolution* is actually an *evolution*, the contents of the current RMA allows forecasting the emergence of a new (r)evolution in military affairs in four key sectors: counter-intervention systems, remote weapons systems, energy weapons and, last but not least, cyber warfare²⁴.

Conclusions

In the last decade, the development of military technology and equipment underlying RMA accelerated, this revolution being closely linked to the changes which take place in human society, especially the informational and technological ones. Military capabilities change because of the main development trends in different activity areas: awareness and connectivity, coverage and durability, precision and miniaturization, speed and undetectability, automatisisation and simulation. In this context, most experts agree that the only technological innovation is insufficient to trigger an authentic revolution in military affairs, the reevaluation of doctrines and operational concepts being also necessary.

Thus, we consider that the main problematic point of the current RMA seems to be the correlation of new technologies with the doctrinal sphere in a functional long-term system, in which the boundaries between these two components have a high degree of flexibility and allow the existence of a reciprocal link between them. In the case of the states of the first two RMA echelons, there can be noted already the existence of some considerable efforts to update the military doctrine depending on new technologies,

but this process is a major consumer of financial and research resources, and not any state actor can afford its development, especially in this period in which economic difficulties persist. It can be stated that no country within/or outside NATO and EU is able to develop and produce isolated technologies and weapons systems necessary for a potential future war fought with smaller, more lethal forces, with more precise striking distance and major cyber and space components. We also believe that it is extremely difficult, even impossible, for each country, even most developed ones, to keep pace with current RMA development and for this reason, the only solution is for them to cooperate in the technical, technological, industrial and military fields – this being a developing trend in NATO and EU.

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STRATEGIC INFLUENCES ON THE SECURITY ENVIRONMENT

David L. PEELER, Jr. *

As the saying goes, 'this ain't your father's war.' Tomorrow's battles will be won or lost against a tech-savvy enemy fighting in the mean streets of poverty-ridden cities and lawless states, where the rules of conventional warfare no longer apply.

While many challenges loom on the horizon, several key aspects of the security environment will be critical to United States and allied military successes in the next decade and beyond. What follows is a short exposition describing some of these aspects. The intent is to enlighten and better position people to inform and advise senior leadership concerning projected security increments. The parts inform the whole, and ultimately culminate into military campaign outcomes.

Keywords: *security environment, operational environment, humanitarian efforts, urban warfare, battle-space, network-centric warfare, centralized control/decentralized execution.*

Introduction: the Environs

Six pertinent aspects of the security environment that will influence defense transformation in the next ten years are weak and failing states, humanitarian challenges, urban warfare, population and demographics, technology and cyber warfare. Each aspect is composed of many factors and influencers – at least one example is provided within each aspect. These areas provide leverage to the adversary to disrupt the security environment, while simultaneously tempting us away from the core competencies of traditional military action. Thus, these influencers

provide a considerable asymmetric threat, albeit sometimes in a manner not typically considered.

Current and likely even more future adversaries will engage us from failed or failing states, creating battlefields of urban/complex areas, utilizing off-the-shelf technology with capabilities and lethality that will – unfortunately – continue to surprise us. Most striking will be the move (or return) of terrorists to the urban streets, (re)creating the close proximity fight of foes residing amongst one another. Further, the enemy will leverage technology to create strategic victories from tactical losses. In order for Western militaries to prepare for this future security environment, continued transformation efforts – organization and doctrine, as well as equipment – must elucidate how commanders will operate vis-à-vis these evolving characteristics of the operational environment.

1. Weak and Failing or Failed States

Weak and failing states are strategic geopolitical problems for the entire world. Often less discussed are the extreme operational difficulties these weak and failing states create for combatant commanders, charged with planning or conducting operations therein or within their regions of responsibility. These states are potential breeding grounds for terrorism and provide safe-havens in which to train, relatively unmolested, and plan global actions. These ungoverned areas are the operational bases of activity that can produce globally strategic impacts. We've seen this play-out before and we'll see it again.

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Indicative of the trend toward weak and failing states is the United States' effort to address the growing number of such states in Africa. The activation of U.S. Africa Command (AFRICOM) has been accompanied by its identification of vast ungoverned areas as a security challenge for the combatant commander¹. More recently, the uprisings in the Arab world raise similar questions of a broad lack of governance in areas not initially of focus to U.S. AFRICOM. Ungoverned areas are the result of ineffective governance, as a state fails to provide basic security and other traditional responsibilities of authority with respect to its citizens. This failure grants freedom to the lawless.

State failure in an area of operations removes the combatant commander's ability to rely on the host state for certain functions. Once ungoverned areas are cleared of enemy activity, the combatant commander must deal with re-infiltration of the adversary due to the state's inability to police the cleared area. This reality stymies effective operations, and allows the enemy to evade and return after military forces have moved on. In effect, the insurgent has a large degree of internal sanctuary, and greater ability to practice Mao's teachings.

As the experience of the past decade in Iraq and Afghanistan indicate, the latter particularly, the nature of battlefields versus battle-spaces is largely affected by the strength of the state. In today's combat locales, commanders cannot delineate the environment with fields of control belonging to either allied forces or insurgents. The reality is more one of battle-space bubbles inside the operational region with large ungoverned/unsecured spaces between the secured areas (bubbles), making the security environment look more like a conglomeration of Venn diagrams. Thus, operations in weak and failing states are convoluted amalgamations of governed and un-governed zones, with a continuum of activity occurring intermittently throughout. In that setting, a combatant commander must deal with hostile activity, provide for security, and care of the population writ large.

2. Humanitarian Challenges

Complicating the security environment is the potentiality for existing or adversary-created humanitarian crises meant to impede intervention by outside forces into the region. Such crises are more likely to preexist and/or easier to create in failing states. Thus, an enemy can significantly shift effort

or dilute the effectiveness of U.S. and allied military forces. For that matter, any intervening peace-making or peace-keeping forces aimed at stabilizing the security environment. Peace-making/-keeping demands and the typically concurrent humanitarian mission will take away from counterinsurgency and counterterrorism activities, and may derail the mission altogether. Imagine trying to maneuver on adversary positions with throngs of a hungry and/or frightened populace converging on our forces for protection/sustenance.

In addition to direct interaction with the host population, allied militaries have previously encountered difficulties in working alongside non-governmental humanitarian efforts – especially in an urban setting. Whether coupled with allied non-state, non-military participants, free of these organizations, or in confrontation with them, they add a supplementary layer of complexity to mission accomplishment. Even when no formal ties exist between military forces and these non-governmental groups, they often request security provision. An appeal difficult to refuse, given the messaging and political consequences this would likely produce. Conversely, some non-governmental groups and their members are openly hostile to military forces. This creates quite another set of problems. In any case, interventions with a humanitarian component may prove substantially more difficult to execute; and they may prove easier to exploit by the antagonist for strategic effect with respect to world public opinion and local tactical or regional operational advantage.

3. Urban Warfare

Given that many of the struggling regions are increasingly more densely populated and urbanized than in past experiences, we need to give considerable pre-thought to the tactics, techniques, and procedures required to operate in cities, as opposed to open deserts. The nature and causes of conflict have a lot to do with people living in proximity. In fact, world-wide population increases and urbanization projections are linked, and comprise a significant trend driving the future direction of U.S. military transformation. Within twenty years, five billion of the world's eight billion people will live in cities and two billion of them will inhabit the urban slums of the Middle East, Africa, and Asia.² Such growth increases opportunities for instability, radicalism and extremism.³ Furthermore, the proximity of urbanization not only breeds the



potential or conflict, it also severely strains a state's ability to provide services and ensure security.

For the combatant commander, urbanization means migration of conflict from rural areas to densely populated places.⁴ This is especially true as our adversaries (re)learn the art of using urban populations as an obfuscating shield for their activities. Operating in the midst of and often with the complicity and aid of the population, terrorist and insurgents can further broaden asymmetric advantages by living and operating amongst allied forces. If allied forces continue to cut themselves off from the population, living secluded on their compounds, the enemy is afforded an even greater advantage, as the insurgents remain closest to the people. It is very difficult, if not impossible, to win the hearts and minds of people you only patrol.

This new operational environment means less maneuverability, less effective use of large weapon systems, more civilians in the battle-space, and greater freedom of movement for insurgent forces. Some readers might be reminded of the French experience in Algiers. Even worse are the images of allied forces moving through Italy, France, and Germany during World War II. Military operations, especially conventionally oriented ones, are rough on cities. Combatant Commanders must think and act differently; otherwise, they will inflict significant harm on those they are meant to safeguard.

Urbanization necessitates that military forces have the systems, organization, doctrine, and training to operate effectively in urban terrain. The enemy will seek to hide, survive, and continue to fight within this urban population. Thus, requiring us to forego systems designed for large-scale conventional operations in the open; and instead places a premium on systems and philosophies employable in the confusion and chaos prevalent in urban operational environments.

4. Population and Demographics

Within these urban environments, the next decade will see population dynamics in which the developed world loses population and the developing world gains population. This demographic shift will impact the security environment as some developed countries struggle to meet their security demands with dwindling populations. The demands of their aging populations may possibly require scaling back military spending; and the declining youth population will affect the ability of militaries to fill

their ranks. These changes are already a creeping reality for Western European nations. The current, on-going global economic slowdown only masks the reality that social welfare budget requirements for an aging population will continue to displace military spending. The progressive evolution of the U.S. to look more Western European in this sense complicates the global security environment. Reliance on the U.S. for security may become a more precarious position or tenuous proposition, as fewer people choose to serve and the U.S. military budget is displaced by social welfare spending. Further, the willingness of people in developed nations to encourage their 'one and only child' to risk military service will continue to wane. Will developed nations be willing/able to sustain military enlistments with increasing numbers of immigrants?

The reverse is true in the developing world. The average age of the population is decreasing, not increasing. Shifting demographics and increasing populations significantly influence the behavior of states, often in varying ways in the same region. Urbanization and its concomitant issues will plague the developing world for decades to come.

China presents a unique case – only singled-out here because it is different due to both its enormous population and its one child policy. The shifting demographics of age, gender, and urbanizations within China are having/will have profound effects internally and likely spill-over to impact its neighbors. Only time will tell if the governmental authorities in China can manage the country's demographic shift over the next couple of decades.

The approach to population growth and the ability to provide meaningful roles for the young will define the variant countries of the developing world. The ability to provide structure and positive nationalism will determine the extent of terrorist activity within and projecting from their borders. Understanding of these demographic challenges is essential for the U.S. and allied military services to maintain and stabilize, where called upon, the various security environments in regions around the world.

The nature of the population and their access to information and technology will affect our approaches to conflicts in all the likely spots. Far from being isolated populations, urban battle-spaces will be replete with foes and by-standers with phones, cameras, and access to social media. These changes and responses to them will shape the security environment in ways modern militaries have yet neither fully comprehend or previously confronted.



5. Technology

U.S. Forces operate with a distinct technological advantage, such as in the use of cyberspace networking or Network Centric Warfare⁵, which is a major technological factor generally available to combatant commanders within their operating environment. U.S. and allied military personnel have become so dependent upon networked systems, i.e. Army Battle Command System, that, if degraded, a potential adversary could cripple operational abilities. With continued proliferation of computing access and user capability, the vulnerability of networked approaches is amplified.

Unfortunately for coalition operations, U.S. capabilities are even far more advanced than those of her allies. This situation produces friction with respect to high-tech interoperability. Our systems often don't interface with each other or even play nice together, making coalition operations all the more difficult. We must be mindful that in future conflicts this operational deficiency might be exploited by our adversaries. Gaps and weaknesses our communication and interface abilities become hindrances vis-à-vis an enemy capable and willing to capitalize on such security blind-spots.

Our adversaries likely will have the same cyber technology available and will use it to degrade, disrupt and even attack communications. In the future, the combatant commander's information dominance may well be neutralized and, by way of its vulnerabilities, may potentially offer an advantage to the adversary. On the flip side of information dominance is the requirement to communicate with the population we're operating in and around. Does our technology enhance or degrade the use of the same by the population? We must balance jamming for protections sake against the need for wireless and other requirements of an urban populace.

Beyond improving the ability to communicate quickly with a given populace, the combatant commander must recognize the difficulty of detecting adversarial use of technology within urban terrain. Sensors and surveillance that work so well in open desert terrain may not produce the same results in cities of significant size and population. Further, the availability and capability of educated enemy users and increased access to networks could affect the outcome of "battles" in cyberspace unless an array of countermeasures is available to thwart these adversaries. Again, how do combatant commanders

square the technology needs and requirements of the population in the face of military and security necessities?

Furthermore, technologically advanced military forces must rethink where they imbed command and control of operations. Continued propagation of technology threatens the long-standing assertion of centralized control and de-centralized execution of operations. As technology allows senior leaders, miles or continents away, to monitor operations in real time and usurp decisions traditionally made by tactical commanders "on the ground", any interruption of the data feed blinds the far-off decision-maker and potentially jeopardizes the mission. In future close quarters, quick action engagements, the combatant commander has to relinquish tactical control, wrest this control away from higher levels, and return it to the field.

6. Cyber Warfare

The growing number of non-kinetic cyber-attacks on digital systems threatens combatant commander capabilities and security. The rapid increase and diffusion of cyber capacity and capability puts this new weapon in the hands of the most dangerous terrorist groups. The digitization of weapons systems, communications, and intelligence gathering simultaneously increases military operational integration and opens the equipment and information to expanded susceptibilities.

In an attempt to increase the strategic awareness in the cyber arena, the United States and allied militaries are gravitating toward a heavily network-centric model. Network-centric warfare can increase the speed of battle and expand battle-space situational awareness at all levels. However, this new velocity and breadth may mislead leaders and result in false understandings of the environment.⁶ Of considerable concern are the vulnerabilities of this sophisticated technology. Unlike in physical domains, in the cyber domain it is difficult to know who is watching and what do they know.

Another underappreciated yet significant vulnerability is that computing technology requires power and power requires fuel. Many locations we are likely to find ourselves in do not have easy access to power. Additionally, land-locked areas have their own distinctive hindrances with respect to fuel sources, logistics, power generation, and transmission. Limiting factors are subject to the local security environment and further commercial



availability of counter-technological methods increase the asymmetric advantages of current and potential adversaries. Moreover, much of the network-centric technologies are new and yet devoid of a strategic implementation theory, likely conceding significant risks.⁷ Therefore, the growing reliance on computing technology shouldn't be allowed to provide a sense of comfort or undermine authority and action at the lowest tactical level.

Conclusion

Ranging from tactical performance in the battlespace to the highest strategic impacts of failed states, each of these influencers suggests profound implications for the security environment. While each aspect was addressed separately, connections can easily be made and considerable interplay is obvious among these six key features of the operational environment. Adversary groups will exploit the security environment to create an advantage in addition to leveraging available technological strengths and abusing U.S. and allied vulnerabilities. The asymmetric gap is likely to further widen rather than shrink. Consequently, trends in failed states, urban warfare, and technology diffusion must fundamentally inform our decisions about military doctrine, organization, and systems, as well as tactics, techniques, and procedures to prevail over twenty-first century enemies.

Disclaimer

The core of this piece was previously published in a narrowly circulated, comptrroller themed magazine of limited readership. For wider exposure, this paper is an updated and expanded version of that article. In the original, only three strategic influencers received attention. Further developed here, those three aspects are reconsidered and three additional ones are featured – doubling the previous work's assessments.

The views expressed herein are those of the author alone and do not reflect the official policy or position of the United States Government, the Department of Defense, or United States Air Force.

NOTES:

1 United States Africa Command, *Command Brief 2009*, slide 3. More recent U.S. Africa Command "Overview Brief" (25 October 2013) slides 2 and 5 allude to ungoverned space, but don't directly use the words as

did the 2009 version, on-line at: <http://www.africom.mil/NEWSROOM/Documents>, accessed 29 October 2013. Also, General Carter HAM, Commander, United States Africa Command, Statement Before the United States Senate Armed Services Committee, 7 March 2013, page 12, on-line at: <http://www.africom.mil/Doc/10432>, accessed 29 October 2013.

2 *The Joint Operating Environment 2008: Challenges and Implications for the future joint force*, November 2008, p. 40.

3 FM 3.0 Operations, 27 February 2008, pp. 1-2.

4 *Introduction to the Hydrosphere*, Table 80-1. Land mass factor, Physical Geography.net, available on-line at: <http://www.physicalgeography.net/fundamentals/8o.html>, accessed 29 October 2013.

5 David L. PEELER, "Network Centric Warfare: Advantages and Disadvantages, *Strategic Impact*, Issue 3/2013 (48), edited by the Centre of Defence and Security Strategic Studies, "Carol I" National Defence University Publishinghouse, September 2013, pp. 94-100.

6 Global Strategy Institute, *Revolution 5 Economic Integration*, p. 2.

7 Mukunda GAUTAM and William J. TROY, *Caught in the Net: Lessons from the Financial Crisis for a Networked Future*, Parameters XXXIX, No. 2 (2009), p. 64.

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NATO TRANSFORMATION – CONCEPTS AND INITIATIVES ON THE TEMPORAL AXIS

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The North-Atlantic Treaty Organization (NATO) was created as bulwark against a potential Soviet aggression but on its way there was needed a continuous strategic adaptation with accelerated dynamic to the conditions and features of the international security environment.

Nowadays, the organization confront to increasingly diverse, complex and nonconventional series of risks and threats regarding the whole field of human action and determines the continuous positive conjunctive NATO transformation on conceptual, structural and operational levels. Concomitantly, to the political-military organization level is in course of implementation a capabilities-based planning process which is undergone in conformity with the new range of missions fulfilled by the organization from the peace support, to high intensity combat actions. Also, NATO military transformation determines the direct transformation of the member-states' armed forces, implicitly of Romania, for the defence and security of own territories and citizens and in order to enhance the capacity to participate with capabilities to the missions assumed in the collective security framework in different parts of the world.

In our paper, there are chronologically presented some of the initiatives and concepts conveyed during the NATO transformation process and we consider the Connected Forces Initiative started in 2014 represents a real step toward the operationalization of NATO capabilities for the successful development of present and future missions and an opportunity to fill in the development gaps.

Keywords: *NATO, capabilities, forces, defence, military, cooperation, concept, transformation.*

1. NATO transformation, from conceptualization to operationalization

NATO military transformation and implicitly of each military body of the allied states is, in parts, a process of positive and proactive adaptation or feedback to the challenges and exigencies of the geopolitical and geostrategic environment, reaction to the happened or predictable transformations, to the requirements, opportunities and restrictions appearing in security and defence field. Its content regards the production of some changes in the whole range of defence fields: basis of creation, organization and functioning of the military system; its human resources policy; endowment with means needed to fulfil the specific missions; architecture of training programs and afferent support means; leadership philosophy, structures and processes; organizational culture; image of the institution promoted in the public space, etc. The military transformation was defined by the American Department of Defence as “a process shaping the changing nature of the military competition and cooperation by new combinations of concepts, capabilities, peoples and organizations, exploiting our nation’s advantages and provisioning protection against our asymmetric vulnerabilities in order to sustain our strategic position”¹ because it generates changes in all the fields.

Also, transformation is conjunctive², because its phases comes logically one from the other progressively evolving on the prefigured trajectory³ until the goal of transformation is reached – the creation of structures with enhanced capacity to act in multinational joint operations which needs

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the implementation of some new concepts and the fulfilment of interoperability goals.

Thus, NATO transformation is *conceptual, structural and operational* and has as main goal the achievement of “capabilities with high ratio of sustainability and interoperability, flexible, mobile and easy to deploy in the theatres”⁴.

The conceptual military transformation of the North-Atlantic Treaty Organization needs the permanent rethinking of concepts thus their forces and capabilities to be capitalized on an optimum level by the improvement and efficiency of training, planning, generation and deployment of forces in the operations theatres, undergoing the operations and their support along the missions fulfilment. On strategic level, among the core elements of transformation there are strategic concepts grounding on medium and long term solutions meant to lead to the fulfilment of settled goals on military plan regarding the manner of development and use of capabilities, provision of national specific missions fulfilment and the military engagement assumed focusing on collective defence, crises management and cooperative security⁵. These are, in their essence, solutions to accomplish specific missions on national level, as well as on international level, regarding the national and Alliance’s interests, features of the security environment and provisions and requirements of the present NATO Strategic Concept.

Under the circumstances created by the international security environment and Romania’s quality as NATO and EU member-state, the overall transformation of the Romanian Armed Forces is a necessity coming from the new strategic and transformation guidelines of the inclusive organizations. The fundamental goal of the transformation process is to provide needed capacities to promote and protect the national interests against actual, emerging and future risks and threats but also for the fulfilment of engagements in matter of security and defence assumed by our country in NATO, European Union or other international bodies’ frameworks wherein the Romanian state is involved. Also, Romania membership to the international security bodies enforces crossing in the military body’s transformation framework by a coherent national process for developing military capabilities strongly correlated with the ones undergone in the both organizations framework in order to allow the prevention, deterrence and counteraction of an armed aggression against Romania by developing early warning capacities, the achievement of a single image of the situation and opportune action,

the increase of leadership, command and control system efficiency, enhancement of air surveillance and air defence of the national and Alliance’s common space, surveillance, search and defence of national and Alliance’s maritime and fluvial space, readiness and support of forces in the operations, training and participation to the NATO Response Force and Tactical Battle Groups of the European Union (EU-BGs).

On the Romanian Armed Forces level, the conceptual transformation involves the elaboration of fundamental national doctrines harmonized with NATO ones, as follows: Romanian Armed Forces Doctrine in 2012 implements AJP-01– *Allied Joint Doctrine*; National military doctrine for information, counter-information and security in conformity with its destination and level of operationalization implements AJP-02 - *Joint Intelligence, Counter-Intelligence and Security Doctrine*, SMG-P.F.-3, Doctrine for the operational planning implements AJP-5 - *Allied Joint Doctrine for Operational Planning*.

NATO process of structural transformation is focused on four main directions: capabilities development, defence management transformation, continuous modernization of endowment and forces’ training process transformation.

a) Capabilities development involves transformations in the field of training for combat, endowment and forces’ planning process, as follows⁶:

- transformation in the combat training field regards the structures of all categories of forces of the NATO member states to reach to a level of training to allow them to act jointly in the national as well as multinational context, great role in this field coming to the use along the training process of some performing modelling and simulation systems;

- transformation in the endowment field has important role in diminishing the existent gaps between the NATO member state armed forces in this field which greatly damages the forces and performance of forces. In this concern, in the Alliance framework is aimed the diminution of the requirement – command – acquisition - endowment cycle’s time, the adaptation of programming and budgetary processes, the assessment of endowment programs’ efficiency, the growth of research and development importance, as well as the growth of efficiency of using technologies and commercial means in the telecommunications and information fields in the endowment policies;

- transformation in the field of force’s planning regards as the planning process from each member

state level to support the overall Alliance's interests. Also, transformation in this field must allow a fair distribution of responsibilities and benefits among the partners, objective monitoring and assessment of the member states feedback to the overall requirements of the Alliance, an improvement of member states capabilities to answer to requirements concordantly to the evolutions from the security environment, imposition of interoperability as main conditionality to reach the common goals.

b) Transformation in the defence management field as is thought and put into practice on all Alliance's member states level must priori regard to identify the requirements, to plan resources based on programs by optimizing the planning, programming, budgeting and assessment system, optimization of acquisition systems following the need to significantly shorten the cycles of research – development – implementation of combat capabilities in continuous improvement, enhancement of financial-accountable management specific for defence field, the permanent adaptation of human resources management related to the objective requirements manifesting in all the other fields.

c) Modernization of NATO member states forces' endowment supposes a complex process which outside the armament and equipment systems is also found in the provisioning, modernization and development of logistical support of forces and military technique and infrastructure maintenance. This presumes the modernization of technique to the NATO standard level in order to diminish the existent gaps and to increase the interoperability, the procurement of technique and integration of modern fabrication technologies, acquisition of some military technique categories. In order to diminish the gaps between the levels of endowment with performing armament, technique and equipments, the NATO member states focus on provisioning of a correspondingly finance of scientific and technologic research which is the grounds for the growth of military techniques and systems performances, the integral and optimal use of all human, financial, material, technological and informational resources.

d) Modernization of forces' training in the North-Atlantic Alliance framework is a goal of transformation regarding the fulfilment of personnel capacity to achieve specific attributions and missions by using the endowment equipments. The interoperability need imposes as the whole process to be a symbiosis of knowledge and experience accumulated in the training field by the member states armed forces, grounding and organizing the personnel and forces

training process to be done grounded on principles, concepts and technologies specific for the Alliance, the manner of work must be modern, integrated and efficient to determine the growth of interoperability among the categories of each armed forces as well as among these and the armed forces of the other NATO member states.

As regards the structural transformation, the national armed forces will be reorganized in deployable forces and generation and regeneration forces⁷. The final result of this process must be a modern, numerically diminished, professionalized, properly equipped, deployable, interoperable structure of forces with self-sustenance capacity, multidimensional protection and flexible leadership able to take decisions in short time.

The field of operational transformation involves an updated conceptualization of typology of the military operations and those activities which also do not involve an armed confrontation lately perpetrated in the arsenal of competencies and tasks attributed to the military structures. By this perspective, a synthetic picture of military operations currently includes both combat-type operations (to neutralize the major threats), job security (to facilitate stabilization) and peace support operations (peacekeeping and peace enforcement operations), to which were added activities such as security sector reform, capacities' building, interim government, restoring the essential services, and military interaction⁸.

In-between 2008-2015 period, in the context of military transformation, the Romanian Armed Forces goes through the operational integration in NATO and EU "completion of force structure review and operationalization process"⁹. We believe 2014 will be productive for achieving national goals proposed at this stage because it sees a diminution of NATO operational involvement in theaters with the withdrawal of forces from Afghanistan, when all armed forces can focus attention on preparing for deployment in future operations.

2. Initiatives in the framework of North-Atlantic Treaty Organization transformation process for the development of adequate military capabilities

Capabilities are abilities of forces to execute actions in order to produce preset effects and results from the combination of some functional elements of doctrine, organization, training, personnel, material, leadership, facilities and interoperability and able to be expressed in qualitative, quantitative and



interoperability terms.

In the Alliance's transformation process, an important role had the *Defence Capabilities Initiative*, which regards as the military forces of the organization to become more mobile, interoperable, sustainable and efficient, by improving the capacities. In this perspective, to the Prague Summit in November 2002 were adopted three separated but interrelated initiatives¹⁰:

a) Broader set of engagements in the capability field to provide the member states investments' framework in a range of new capabilities including C4I2SR (*Command, Control, Communications, Computers, Intelligence, Interoperability, Surveillance, Reconnaissance*), antimissile defence to the level of an operation field, informational supremacy, mobility, sustenance and logistics. The new capabilities are completed with others from eight fields considered to be poor as follows: CBRN defence, information, surveillance and target discovery; air surveillance; command, control and communications; enemy's air defence neutralization; air and maritime strategic transportation; air refuelling; deployable units for combat support.

b) The engagement to create a NATO Response Force (NRF) composed by 20,000 peoples, containing land, air and navy elements to function on 6 months rotation principle, deployable in five days from the notification and able of self-sustenance for 30 days of high intensity combat. This Force is high technology, flexible, high deployment capacity, interoperable and self-sustainable operational structure gathering land, air and navy forces prepared to deploy anywhere is necessary and which is also a catalyst of continue modernization and transformation in the Alliance's framework.

c) Restructuring NATO military command was done with the help of Allied Command Transformation (ACT) which mediated the promotion of revealing, coherent, integrated and operational military reforms. Following the restructuration, the political level of command is represented by the North-Atlantic Council (NAC). It has the responsibility to settle subsidiary structures, the most important being the Nuclear Planning Group (NPG), lead by the General Secretary, the Military Committee (MC), the Senior Political Committee (SPC) and the Defence Policy and Planning Committee (DPPC). These commissions and committees support is achieved by the mean of International Staff (IS), International Military Staff (IMS) and NATO Situation Centre (SITCEN). The command structure incorporates two strategic com-

mands – Allied Command Operations (ACO) and ACT.

Another important initiative which actually represents an innovative approach over the military expenses in times of economic crisis was started by NATO General Secretary Anders Fogh Rasmussen in the framework of Munich Security Conference in 2011 which declared "Smart Defence refers to providing enhanced security with lesser money by the flexible co-working of all the allies"¹¹.

"Smart Defence" concept adopted afterwards to the Chicago NATO Summit represented an answer to the challenge to use with maximum efficiency the limited budgetary resources without damaging the development, obtaining and maintenance of the capabilities needed for NATO Forces 2020 goals. The concept imposed as necessity under the conditions when the NATO member states are forced to adopt an austerity policy which not affect the level of collective security but also to ground on four principles: to provide greater flexibility of the Alliance; to provide better interoperability of the member states; to allow the clear settlement of priorities grounded on objective assessment of dangers; to contain a set of common projects, divided on short, medium and long term.

Also, the "Smart Defence" initiative represents new approach of the process of generating the capabilities needed to the North-Atlantic Treaty Organization in 2020 and furthermore; mainly, this approach supposes rethinking how are used the defence industries of the Alliance's member states in order to adapt their production to the actual needs of NATO, in order to be able to confront the diverse challenges of the security environment and diverse changes on the international arena. Therefore, each NATO member state must spend their resources for the essential needs of the Alliance and not for what consider necessary for own defence and this presumes the settlement of clear collective priorities, avoiding overlapping and doubling, promotion of realist policy of settling responsibilities, thus, at the end of 2020, NATO to have a complete and diversified range of capabilities needed to fulfil the set strategic goals.

Thus, the concept answers to the constraints because of the world economic crisis, its goal is to obtain a reasonable balance among economic, financial and human possibilities and the defence capacity of the Alliance in order to effectively comply with the three core tasks of the organization: collective defence, crises management and cooperative security by expenses prioritization; allies' specialization;

allied cooperation.

“Smart Defence” concept is pragmatic¹² and subsidiary has the merit to impulse the „Pooling & Sharing” European program which presumes the defence cooperation, diminution of defence expenses of the states concomitantly involved in provisioning needed capabilities, supporting the technological progress by research-development programs and creating a competitive framework on the market of equipments designed for defence. Also, it creates financial, commercial, industrial, juridical and operational instruments necessary for the defence market’s regulation on transatlantic level and leads to the apparition of common defence market on transatlantic relation which will be a counterweight to the already Russian-Japanese relation in the defence field. Briefly, “Smart Defence” concept intends to strengthen the security by diminishing budgetary expenses grounded on the multinational and inter-sector cooperation among the military field and the defence industry. Thus, one of the basic principles of “Smart Defence” is the prioritization of defence expenses, guideline opening the opportunity for the member states to approach the issue transparently and cooperatively taking into account the costs – efficiency relation in the capabilities field.

For 2014, an important dimension of Alliance’s defence planning is represented by the implementation of “NATO Force 2020” project. The project aims to diminish the deficits of specific capabilities particularly by developing capabilities in the “Smart Defence” initiative framework, fulfilling common exercises and training activities and along the gradual disengagement in Afghanistan, concomitantly with the process of recovery of combat capacity of forces, is intended to be created a proper framework for the active participation of the allies to the Connected Forces Initiative.

3. Connected Forces Initiative – is a step ahead toward the NATO capabilities operationalization

Following the withdrawal of forces from Afghanistan, in 2014, NATO will surpass the phase of operational engagement passing to the operational training phase. For the Alliance this means the necessity to remain able to undergo its main tasks described in the Strategic Concept promoted by the organization, concomitantly with the maintenance of own forces to a high level of operational readiness. Therefore, we consider the political-military organization must keep a wide range of capabilities grounded at least on three

pillars: *collective defence, cooperative security and crisis response operations (CROs)*. Partners within NATO became integrative part of how its manner of operation and interoperability maintenance by Connected Forces Initiative is the fundament the future military cooperation must be built on.

The Alliance’s policy on interoperability refers to “the allies’ ability to act coherently, effectively and efficiently together in order to reach the tactical, operational and strategic goals”¹³. Also, by interoperability is eased the conjugated actions of forces, units and/or systems allowing them to share common doctrine and procedures, to use commonly the infrastructure and military facilities as well as to communicate in real-time. Interoperability has also the quality to diminish the duplicity, allows the pooling of resources and produces synergy between the allies and partners when are involved in NATO operations.

Connected Forces Initiative includes education, training and focus on exercises, particularly in the NATO Response Force framework which, we think, has the potential to regain its role as strong instrument of the whole Alliance transformation. Concomitantly, CFI also consists in “maintaining the shaped direction along the ISAF mission in order to capitalize the learnt lessons particularly by close cooperation, institutionalization of information exchange and the facilitation of access to practical information and their sharing on interstate level, as well as the use of technology as capability multiplier in the present times of budgetary austerity”¹⁴.

Among the NATO actions initiated in the “Smart Defence” framework are also a series of packages of multinational projects projecting key-capabilities which are aimed to be operationalized by Connected Forces Initiative in which will be created the component of training, education and operation exercise of these capabilities in a connected technological framework. Thus, the difference among the both initiatives “Smart Defence” and “Connected Forces” resides in their role. By all means, “Smart Defence” aims “the accumulation of optimum needed capabilities”¹⁵, and “Connected Forces Initiative” aims “the corroboration of these capabilities in the most effective work framework”¹⁶.

In the context of the Alliance transformation, structures as the NATO Industrial Advisory Group (NIAG)¹⁷ plays key-role in all the actual trends of the organization (smart defence, connected forces and multinational approaches) involving hundreds of companies in the Alliance’s defence industry represents

moving force of the process' efficiency itself. You can neglect NIAG participates to the NATO process of defence planning and develops a proactive approach on the military capabilities development. Also, by its activity, it also contributes to the strengthening of trust in NATO – defence industry partnership. Such structures must be encouraged, directed and corroborated to reach the future transformation goals.

Conclusions

NATO military transformation is still undergoing. Because of the limited resources mainly generated by the world financial-economic crisis occurred in the late years, NATO military forces fulfilled slower the goals proposed by programs and therefore there are major gaps between future missions and available capabilities.

Essentially, Alliance's transformation consists in the development and integration of some concepts, strategies, doctrines and capabilities in order to enhance the efficiency and forces' interoperability ratio, which presumes changes on the level of doctrines, organization and forces' structure, capabilities, information activities, training, education and procurement, personnel management and programs-based planning. In this novelty process framework, the main regarded fields of transformation are the ones concerning: defence resources, defence information, operations, leadership, systemic and structural assessment, communication and informatics, endowment, doctrine and training field, logistics, scientific research, property and infrastructure, the communication activities' field.

The primary factor limiting the military transformation consisted in the lack of financial resources allotted for the defence and investments budgets. Nowadays, only three (USA, the United Kingdom and Greece) from the 28 member states allots more than 2% of own GDP for NATO budget¹⁸. Even the United Kingdom and France – two of the strongest European member states of NATO and diminished the allotted defence budget, France reaching to 1.3% of GDP in 2014 related to 1.9% in 2013.

An important gap is present between the NATO and the rest of the member-states capabilities and this can damage medium and long-termed Alliance's cohesion. This gap particularly is because in the late 20 years, the defence expenses of European member-states were disproportionally consumed covering

personnel and operational costs. As result, the national forces of Europe do not have enough transformed forces.

These trends show without USA support, the European armed forces will encounter problems in executing their basic operations moreover when the political and financial engagement of the European member-states is decreasing and this draws insecurity growth on the continent. Actually, we consider NATO should focus the attention on the present threats it can confront and to convince the public opinion to see defence as an investment on short, medium and long term and not as assurance policy without coverage. Also, given the nature and dynamism of the actual security environment and the present financial constraints, NATO should follow to transform itself in an organization to contain flexible military forces, able to deploy in space, interconnected and sustainable, and to fulfil the whole range of missions and responsibilities of the Alliance to more low costs.

We consider the “Smart Defence” Initiative cannot have success without the support of connected implementation offered by “Connected Forces Initiative” because this supports the fulfilment of the technological framework of forces training for working with the newly built-in capabilities. Trainings and exercises commonly achieved in the Initiative's framework will be the development grounds for the forces specializations in an interoperable and interconnected manner, starting from the use of a common language by the adoption of some common doctrines and concepts, and reaching to the operation of new technologies, lessons learnt and experience sharing in wider common multinational and joint framework.

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5 *Strategia Militară a României* (proiect) (Romanian Military Strategy), București, 2011, pt. 2.3.

6 *Strategia de transformare a Armatei României* (Romanian Armed Forces Transformation Strategy), București, 2007, p. 10.

7 *Strategia de transformare a Armatei României* (Romanian Armed Forces Transformation Strategy), București, 2007, p. 26.

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9 *Strategia Națională de Apărare a Țării* (Country's National Defence Strategy), published in Official Monitor no. 799, Part I, 28.11.2008, pt. 3.3.

10 *Doctrina Armatei României* (Romanian Armed Forces Doctrine), București, 2012, Annex no. 2 (pt. B).

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15 Atlantic Treaty Association, "Connected Forces Initiative. NATO's Commitment to Smart Defence", in *Atlantic Voices*, vol. 2, Issue 11, November 2012, p. 6.

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17 NIAG - *NATO Industrial Advisory Group* is a group created voluntarily from NATO states industry businessmen who reports to CNAD mainly working for it, but also for other structures as: ACT, ESCD, NC3A, more details: [http://www.ndia.org/Divisions/Divisions/International/Documents/Fujito_Smart%20Defence%20-%20\(NDIA%20Quad\)%20-%2025%20Oct%202012.pdf](http://www.ndia.org/Divisions/Divisions/International/Documents/Fujito_Smart%20Defence%20-%20(NDIA%20Quad)%20-%2025%20Oct%202012.pdf), pp. 13-15, accessed on 11.11.2013.

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THE IMPACT OF ECONOMIC AND FINANCIAL CRISIS ON EUROATLANTIC SECURITY

*Cristian BĂHNĂREANU, PhD**

The depth and spread of economic and financial crisis and then the worsening of debt problems in the Eurozone have highlighted the main weaknesses of the national economic policy and EU economic governance. European states do not have sufficient tools to maintain internal economic and social stability and to meet NATO commitments. As military budgets of the Member States are resized, access to resources and markets is more limited, the demand for military equipment decreases and the defence industry capacity to produce and develop capabilities to respond in case of crisis and conflict is reducing.

Professional armed forces, well equipped and able to cope with the large range of risks and threats in the security environment cannot be achieved without adequate resources. Therefore, the necessity for NATO structural and operational transformation required the identification of new ways to optimize the relation between resources and needs, such as Smart Defence.

Keywords: *economic and financial crisis, public debt crisis, defence expenditures, capabilities, Smart Defence.*

1. The cause: economic and financial crisis

The economic and financial crisis that has swept the world economic system was initially driven by the loss of investor confidence in American mortgage backed-securities, which led to the crack of US sub-prime mortgage market in early 2008. The contagion effect appeared immediately, the crisis rapidly

expanding from the real estate and mortgage sector to the financial and banking one and subsequently in all sectors, practically paralyzing all economic activities and circuits on regional and international level.

Although the collapse of the US housing market is often considered the main cause of the crisis, it should be noted that the financial system was already vulnerable due to contracts and financial operations which reached a high degree of sophistication, complexity, and ease of use.

In late 2008, the economic turmoil has spread and intensified. Financial markets have stumbled all over the globe once interbank lending was blocked and liquidity decreased considerably. The contraction of capital, on the one hand, and demand, prices and exports, on the other hand, was all the more pressing. The global economy gradually began to enter in recession, a phase less known to the developed world. In April 2009, the International Monetary Fund (IMF)¹ estimated global losses from loans and securities originated in the USA, Europe and Japan, especially the mortgage ones, at 4,100 billion USD.

UN Report *World Economic Situation and Prospects 2009*² stated that developed countries would face strong economic contraction in the next period and the recovery may not materialize soon, even if the rescue measures and financial packages to recover and stimulate the economy will succeed. The scenario proved to be almost entirely true. The US financial crisis has spread rapidly across the Ocean and hit the European economy, situation that was facilitated by the dynamics of transatlantic economic relations

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and the certain financial and trade interdependence. Moreover, in 2008, European states have faced the most serious financial crisis since the Second World War, which quickly turned into recession over the next year. Main financial institutions collapsed, stock markets fell and commodity and various goods prices have become highly volatile affecting both rich and less rich European countries. Aggressive monetary policy measures and liquidity injections taken by USA³, European developed countries or the European Union⁴, were not enough to prevent the crisis deepening.

The impact of financial crisis on the real European economy was quite strong with the GDP growth rate at only 0.55% in late 2008, about one sixth compared to the previous year⁵. The main economies of Europe and important NATO Member States – Germany (growth rate 0.80%), UK (-0.97%), France (-0.08%) and Italy (-1.16%) – were among the first countries affected by the financial crisis and, later, by the recession.

The weaknesses shown by European economic powers have gradually spread through financial and trade circuits to developing countries and transition economies in the European Union. The European countries that have joined NATO since 1999 – Albania, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia – were generally resilient to global financial crisis. The contagion effect of the crisis on their economies was initially quite limited due to lower financial integration with the developed economies. Moreover, economic growth in most countries in this category was based primarily on strengthening currencies, increasing domestic consumption and foreign investment.

After a period of strong economic growth of new NATO Member States in the second half of 2008, the situation changed radically. Economic indicators showed major impairments: production, exports and revenues decreased significantly; currency volatility increased as a result of capital outflows; investment and remittances diminished; unemployment reached high levels; domestic consumption decreased, etc. Under these conditions, the average growth rate of GDP for the all these countries fell from about 6.89% in 2007 to 2.63% in 2008⁶.

The risk that some of the new NATO and EU Member States to be more affected by the crisis was real. Dependence on capital of the European developed economies had a major impact on the financial stability of those states, some requesting

IMF or World Bank assistance. In the short term, the main critical objectives to stop contraction and recovery economic growth were related to reducing government spending, setting new fiscal stimulus and improving the functioning of the financial system.

At the beginning of 2009, the world economy was in the most disastrous situation comparable to the Great Depression in the '30s. Many countries had to deal with a period of maximum depth of the economic crisis as contagion and its effects have spread and increased and imbalances continued to deepen. The chronicisation of the crisis gradually led to increased protectionist measures. Central banks continued to inject and guarantee billions of US dollars to support the financial systems and economic activity and even to reduce interest rates to historic lows. According to UN⁷, rescuing the financial sector has cost worldwide governments about 20,000 billion USD (30% of world GDP), while the measures from the economic recovery plans reached 2,600 billion USD in 2008-2010.

In 2010-2011, the world economy was in the process of transition from one economic cycle dominated by increased globalization and macroeconomic policies to sustain demand to a new economic cycle. Cyclical adjustment was made amid the measures adopted by the monetary and fiscal authorities, which almost completely diminished the policy space of world's governments⁸. After a strong recession, extended and synchronized at global level, a growing number of countries have recorded GDP increases. Towards the end of 2011, the world economy was still in uncertain situation, although there were increasing signs of normalization.

The global economic recovery has weakened considerably in 2012, as unemployment, debt crisis and fiscal problems in Europe have led to a new recession in some developed economies, as well as decreased growth in most developing and transition countries⁹. However, we can say that after five years of crisis, the global economy has succeeded to recover to some extent. All data show that the Euro seems to have survived, USA managed to get out of the crisis on excessive fiscal consolidation and markets and companies revenues are increasing. But the difficulties and risks have not disappeared and the danger of a new global economic collapse continues to exist in case of strong shock. It will take a long time until national economies fully recover after the crisis that disrupted the entire global financial and economic system.

2. The effect: decrease of Alliance financial resources

Like almost in every field, funds are the “engine” without which an army cannot exist and operate. Training, equipment and paying of militaries, ensuring forces with modern capabilities, providing materials and logistics needed, participation in international missions require important financial resources.

According to a 2009 report by the NATO Parliamentary Assembly¹⁰, many of the allied states in Central and Eastern Europe found it necessary to reduce both defence budgets and military personnel

and to intensify efforts to develop niche capabilities in order to put their defence spending on a more financially sustainable level. The following analysis shows that the declining trend of defence budgets in most European NATO countries occurred before the onset of the global economic and financial crisis.

If we look at the GDP amounted by NATO Member States in the past 10 years, we see that its trend followed almost exactly the trend of world GDP with steady increases until strong crisis/recession in 2009 and later return to a lower increase. In 2012, the problems in the Eurozone and sovereign debt crisis in Europe¹¹ have led to a stagnation of aggregate GDP of NATO.

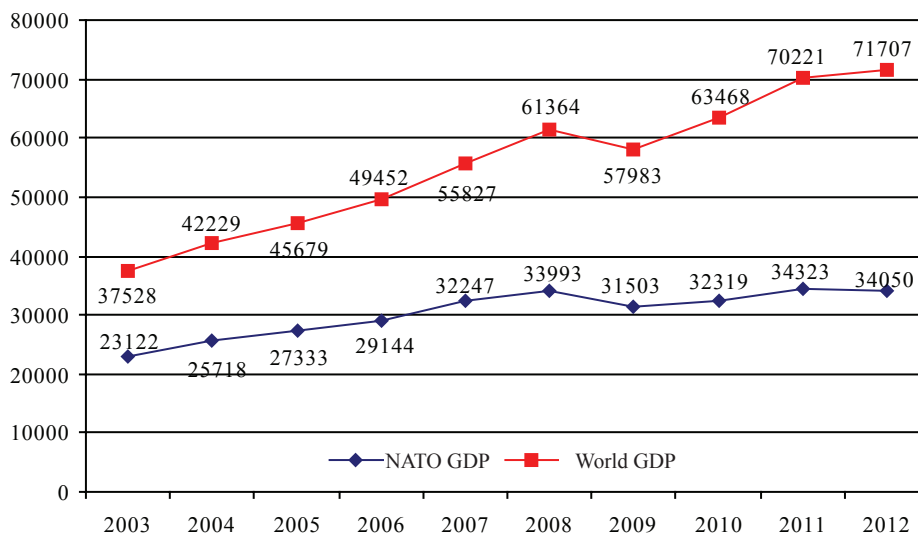


Figure no. 1: The evolution of aggregate GDP of NATO and world GDP in the last 10 years (billion USD)¹²

In the last decade, most of the NATO Member States decreased their defence spending, which has significantly disrupted the development of NATO critical military capabilities especially those of the European Allies. Cancellations, postponements and delays of major projects in the modernization of military equipment have already affected maritime defence, anti-submarine warfare and mine-hunting capabilities¹³.

As a result, it is expected that the gap between the USA and other NATO Member States will continue to widen. For example, the US contribution to the NATO budget has continued to grow in recent years, reaching approximately 72% in 2012, while the European contribution has declined steadily.

Regarding capabilities upgrade in 2012, only five of the NATO Member States spent more than 20%

of the defence budget on major equipment and only nine over 10%, which mean increasing military confidence in the US and deepening disparities capability between European NATO members. Therefore, the possibility for Europe to lead a major operation without American support is increasingly reduced. The Allies will have to avoid the temptation to further reduce investment in capabilities, given that NATO will end its mission in Afghanistan after 2014 and will not have any major operation in progress.

The amount of funds allocated to defence in NATO Allies depended in most cases on the achieved GDP, more accurately on the size of the state budget, which was hardly hit by the economic and financial crisis. While NATO countries were often committed to allocate at least 2% of GDP to defence spending, only four – USA, UK, Greece and Estonia – from

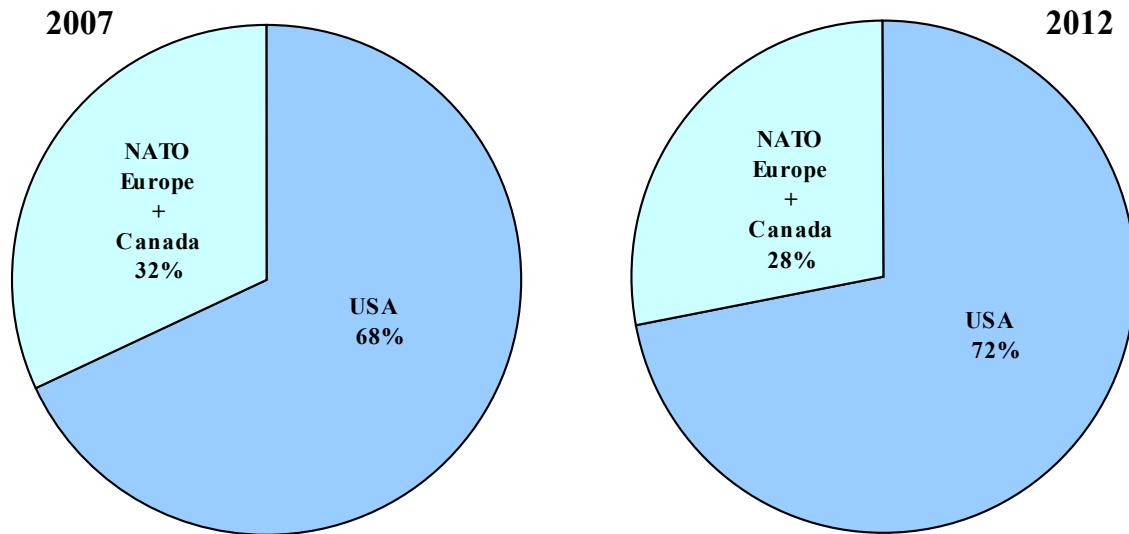


Figure no. 2: Contribution share to NATO's defence expenditures¹⁴

the 27 Member States have met this requirement in 2012¹⁵. As a result, defence budgets of NATO European countries declined to 1.6% of GDP, much below the 4% of the USA¹⁶. Some analysts argue for lowering the threshold to 1.5% of GDP¹⁷, a goal achievable for most countries of the Alliance, which would stop the downward trend in military budgets. In our opinion, the ideal would be that the amount of defence spending to be decoupled from GDP growth.

Table no. 1 shows the results of an analysis¹⁸ made on NATO Member States according to five important indicators evolution in 2007-2011: *Military budget (billion USD)*, *Military budget (% of GDP)*, *Expenditure on equipment and R&D (% of military budget)*, *Military personnel (thousand people)* and *Personnel in operations/missions abroad (from which NATO)*. For the first four indicators, we used data provided by the NATO Public Diplomacy Division¹⁹, and for the last indicator, data of the International Institute for Strategic Studies²⁰. In our analysis, we have made abstraction of Iceland, as it has no armed forces.

In the context of the economic and financial crisis in recent years, we considered a NATO Member State as being:

- *Highly affected* – if it fit in the following categories: 5 indicators ↓; 4 indicators ↓ and 1 indicator ↔ or ↑; 3 indicators ↓ and 2 indicators ↔; 3 indicators ↓, 1 indicator ↔ and 1 indicator ↑; 2 indicators ↓ and 3 indicators ↔; 2 indicators ↓, 2 indicators ↔ and 1 indicator ↑;

- *Moderately affected* – if it fit in the following categories: 3 indicators ↓ and 2 indicators ↑; 3 indicators ↑ and 2 indicators ↓; 2 indicators ↓, 1 indicator ↔ and 2 indicators ↑; 1 indicator ↓, 3

indicators ↔ and 1 indicator ↑; 1 indicator ↓ or ↑ and 4 indicators ↔; 5 indicators ↔;

- *Less affected* – if it fit in the following categories: 5 indicators ↑; 4 indicators ↑ and 1 indicator ↔ or ↓; 3 indicators ↑ and 2 indicators ↔; 3 indicators ↑, 1 indicator ↔ and 1 indicator ↓; 2 indicators ↑ and 3 indicators ↔; 2 indicators ↑, 2 indicators ↔ and 1 indicator ↓²¹.

As the economic and financial crisis has affected more strongly the national economies, many NATO Member States reduced by billion USD their defence budgets and, therefore, investments in specific critical capabilities. Also, the allocations to equipment modernization and R&D decreased and armed forces manpower and personnel participating in operations/missions abroad reduced. This trend can be seen especially in the countries of Central and Western Europe and in the USA that have recently adopted measures to reduce its budget deficit. Therefore, the difficult economic situation at international level, particularly in the EU, has had negative effects on the financial, human and material resources of allied armies.

3. The solution: Smart Defence

The decrease of defence spending and investments in modernization of many NATO Member States capabilities, especially European ones, was a real and urgent challenge for the Alliance. Thus, it was necessary to rebalance defence spending between European countries and the USA and share the defence burden in an equitable way. Allies must demonstrate political determination and responsibility to achieve the objective of reducing the gap with the USA by

	Indicators	Military budget (billion USD)	Military budget (% GDP)	Expenditures on equipment and R&D (% military budget)	Military personnel (thousand persons)	Personnel in operations/missions abroad (from which NATO)
	NATO states					
<i>Highly affected</i>	Bulgaria	↓	↓	↓	↓	↑
	Czech Republic	↓	↓	↑	↓	↓
	France	↓	↓	↑	↓	↓
	Greece	↓	↓	↓	↓	↓
	Lithuania	↓	↓	↓	↔	↑
	Netherland	↓	↓	↓	↔	↓
	Poland	↑	↓	↓	↓	↓
	Romania	↓	↓	↓	↓	↑
	Spain	↓	↓	↓	↔	↓
	Hungary	↓	↓	↑	↓	↓
<i>Moderately affected</i>	Albania	↑	↔	↑	↓	↓
	Belgium	↑	↔	↑	↓	↓
	Croatia	↓	↓	↑	↓	↑
	Danemark	↑	↑	↓	↓	↓
	Estonia	↑	↔	↓	↑	↓
	Germany	↑	↑	↑	↓	↓
	Italy	↑	↑	↓	↓	↓
	Letvia	↓	↓	↑	↔	↑
	Luxembourg	↓	↓	↑	↓	↑
	UK	↓	↑	↑	↔	↓
	Norway	↑	↔	↓	↑	↓
	Slovakia	↓	↓	↓	↑	↑
	Slovenia	↓	↓	↓	↑	↑
	Turkey	↑	↑	↑	↓	↓
<i>Less affected</i>	Canada	↑	↑	↑	↑	↓
	Portugal	↑	↑	↑	↑	↓
	USA	↑	↑	↑	↑	↓

Table no. 1: The 2007-2011 evolution of budget and personnel indicators of NATO Member States

equipping themselves with critical, deployable and sustainable capabilities.

In response to these challenges, in February 2011 at the Munich Security Conference, the NATO Secretary General, Anders Fogh Rasmussen launched the *Smart Defence* (SD) initiative²² in order to examine how the Alliance can help nations to ensure a greater security with fewer resources. In autumn that year, Rasmussen defined the concept as follows: “The way forward lies not in spending more, but in spending better. We must prioritise the capabilities we need

the most. Specialise in what we do best. And seek multinational solutions to common problems. This is Smart Defence”²³.

According to NATO’s official page, Smart Defence is defined as “pooling and sharing capabilities, setting priorities and coordinating efforts better”²⁴. SD focuses on three key elements²⁵ that are supposed to enhance the mutual dependence on political and military level:

- *Prioritization* – aligning national development priorities in the field of military capabilities with



the Alliance requirements in terms of capabilities;

- *Cooperation* – sharing of military capabilities to reduce costs and improve interoperability;
- *Specialization* – reducing duplication in research area and capabilities between the Allies.

The concept of Smart Defence was adopted at the NATO Chicago Summit on 20-21 May 2012 and involves, on the one hand, the development or acquisition of military equipment that could not be achieved by states on an individual base and, on the other hand, their shared use. In general, SD is based on those defence capabilities that critical for NATO and requires considerable expenses – ballistic missile defence, intelligence, surveillance and reconnaissance, maintenance of readiness, training and force preparation, effective engagement and force protection.

SD implies that NATO Member States will no longer be based mainly on the U.S. contribution in terms of advanced and costly capabilities, the idea that was evident in the case of international community intervention in Libya²⁶. Allies are encouraged to give up unnecessary military equipment and focus on multinational cooperation to achieve modern defence capabilities with fewer financial resources.

At the NATO level, the concept of Smart Defence has gained a more clearly defined institutional dimension. NATO Procurement Organization²⁷, established on 6 July 2012, will become operational during 2014. This specialized body shall ensure an effective framework for the integration and management of multinational procurement programs in military equipment, including projects initiated under Smart Defence initiative.

Despite some criticism of the SD²⁸, NATO Member States seem to be more open to explore such innovative framework that promises to meet their security interests without putting additional pressure on national budgets. SD is a useful tool in efforts to overcome this period of economic and financial difficulty and complex security challenges that stimulate creative thinking on capabilities and provide a mechanism to identify opportunities and explore areas of cooperation.

However, the survey of *Foreign Policy* magazine on the role of NATO today²⁹ answered by about 60 experts (heads of state, ministers of defence and foreign affairs, current and former US congressmen, intelligence officers, etc.), highlighted some aspects not so encouraging. When asked what is the meaning of Smart Defence initiated by the NATO Secretary

General, who proposes multinational solutions to help allies to invest defence money more efficient, responses were:

- SD masks NATO's inability to make major necessary reforms – 18 responders;
- it shall become the new way NATO does business by building capabilities together – 15;
- it shall produce innovation, but not earlier than five years from now – 11;
- it provides an excuse for allies to make further defence cuts – 8;
- other – 8.

At the end of 2012, NATO Member States' participation in a total of 25 Smart Defence projects was as follows: 68% joint contribution of the European and North American Allies; 32% purely European Allies contribution; about two thirds of all SD projects are led by European Allies³⁰. Projects aimed to improve command and control systems; land, sea and air surveillance systems; airborne warning and control system; capability to counter improvised explosive devices.

Currently, SD aims to implement 28 multinational projects in order to develop those costly capabilities that are necessary for the further conduct of missions undertaken within NATO. These projects are: NATO Universal Armaments Interface; Remotely controlled robots for clearing roadside bombs; Pooling Maritime Patrol Aircraft; Multinational Cooperation on Munitions (Munitions Life-Cycle Management); Multinational Aviation Training Centre; Pooling & Sharing Multinational Medical Treatment Facilities; Multinational Logistics Partnership for Fuel Handling; Multinational Logistics Partnership - Mine Resistant Ambush Vehicle (MRAP) maintenance; Deployable Contract Specialist Group; Immersive Training Environments; Centres of Excellence as Hubs of Education and Training; Computer Information Services (CIS) E-Learning Training Centres Network; Individual Training and Education Programmes; Multinational Joint Headquarters Ulm; Female Leaders in Security and Defence; Joint Logistics Support Group (JLSG HQ); Pooling of Deployable Air Activation Modules (DAAM); Theatre Opening Capability; Dismantling, Demilitarization and Disposal of Military Equipment; Multinational Military Flight Crew Training; Counter IED – Biometrics; Establishment of a Multinational Geospatial Support Group (GSG); Multinational Cyber Defence Capability Development (MNCD2); Harbour Protection; Pooling CBRN Capabilities; Development of Personnel Reserve Capabilities; Alliance Defence

Analysis and Planning for Transformation (ADAPT); Defensive Aids Suite (DAS)³¹. In order to achieve expected results in these projects, all stakeholders, including the defense industry, should adopt the SD's principles and actively promote cooperation in the field.

In our opinion, Smart Defense is a viable solution to maintain the Alliance's ability to fulfil its missions undertaken by the Washington Treaty and the 2010 Strategic Concept. SD is the NATO reaction to the increasing complexity of the international security environment and is closely linked to the strategic objective "NATO Forces 2020", specifically to the process of generating the required capabilities of the Alliance in the next decade. The final goal is to develop a forces structure which is deployable, interoperable and sustainable in any environment, equipped, trained and commanded in order to be able to meet the objectives set by NATO.

Conclusions

The crisis has disrupted the entire financial and economic world system is still an important source of vulnerability and thus insecurity at national, regional and global levels. The difficult economic situation of the NATO Member States together with both Eurozone problems and European sovereign debt crisis had negative effects on financial, human and material resources of the Allied armies. As the global economic and financial crisis is worsening, most NATO Member States have reduced defence spending and investment in specific critical capabilities, which had an adverse impact on the process of development and modernization of critical military capabilities of the Alliance, particularly those of European armies. Also, many NATO Member States have diminished the military manpower and personnel participating in international operations/missions.

In this context, the main challenge is to adapt the Alliance to the new characteristics of twenty-first century security environment with maximum efficiency and minimum cost. The reform and transformation of NATO, especially its forces and capabilities, aim to increase efficiency and streamline costs without lowering the level of ambition and generating vulnerabilities.

States' persistent economic problems, as well as the decreasing and much harder to obtain financial resources imposed at NATO level finding new ways to get better results with fewer resources. In this sense, there was launched the concept of Smart

Defence, which promotes multinational cooperation and proposing solutions to get modern defence capabilities. Smart Defence is a useful tool to generate critical capabilities required to meet Alliance's missions undertaken by the 2010 Strategic Concept adopted in Lisbon.

In our opinion, only a strong, stable, balanced and well-structured economy will ensure all conditions for the development of military potential of NATO Member States and the Alliance as a whole, by supporting appropriate weapons industry, scientific research, defence infrastructures and funds required. To achieve this target, it is necessary to initially stabilize and recover the NATO Member States economy, especially European ones, and then take measures to increase investments in defence and security. However, most NATO Member States will probably choose to achieve the two objectives simultaneously without much affecting the economic and social internal stability and NATO commitments.

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1 International Monetary Fund, *Global Financial Stability Report – Responding to the Financial Crisis and Measuring Systemic Risk*, April 2009, p. 30.

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4 European Commission, *A European Economic Recovery Plan*, Brussels, 26 November 2008.

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6 European Commission, Directorate-General for Economic and Financial Affairs, *Economic Forecast Spring 2009*, European Economy 3, 2009, p. 142.

7 United Nations, *World Economic Situation and Prospects 2010*, New York, January 2010, pp. xii-xiii.

8 Teodor FRUNZETI, Vladimir ZODIAN, (editors), *Lumea 2011. Enciclopedie politică și militară (Studii strategice și de securitate)*, Editura Centrului Tehnic-Editorial al Armatei, București, 2011, p. 60.

9 United Nations, *World Economic Situation and Prospects 2012*, New York, January 2012, p. v.

10 Hugh BAYLEY, *The Global Financial Crisis and its Impact on Defence Budgets*, NATO PA - 178 ESC 09 E rev 1, November 2009, <http://www.nato-pa.int/Default.asp?SHORTCUT=1928>

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14 NATO Public Diplomacy Division, *The Secretary General's Annual Report 2012*, Brussels, 2013, p. 10.

15 *Ibidem*, p. 11.

16 Francesco PONTIROLI GOBBI, *NATO in the aftermath of the financial crisis*, Library Briefing, 3 April 2013, p. 2.

17 Quint HOEKSTRA, *Implications of Broken Promises on NATO's 2% Rule*, in „Atlantic Voices”, Volume 3, Issues 2, February 2013, p. 6.

18 For details, see Cristian BĂHNĂREANU, *Determinări ale crizei economico-financiare globale asupra securității statelor membre ale Alianței Nord-Atlantice*, Editura Universității Naționale de Apărare „Carol I”, București, 2013.

19 NATO Public Diplomacy Division, *Financial and Economic Data Relating to NATO Defence*, Press Release, 13 April 2012.

20 International Institute for Strategic Studies, *The Military Balance*, 2008-2012 editions, Abington: Routledge, UK.

21 ↓ – the indicator is decreasing, ↑ – the indicator is increasing, ↔ – the indicator stagnates.

22 Rasmussen, Anders Fogh, *Building security in an age of austerity*, Keynote Speech at the Munich Security Conference, 4 February 2011, http://www.nato.int/cps/en/natolive/opinions_70400.htm

23 Anders Fogh RASMUSSEN, *Principles and Power*, Speech at the NATO Review Conference, Berlin, 27 October 2011, http://www.nato.int/cps/en/natolive/opinions_79949.htm

24 NATO, *Smart Defence*, http://www.nato.int/cps/en/natolive/topics_84268.htm

25 Bastian GIEGERICH, “NATO’s Smart Defence: Who’s Buying?”, in *Survival: Global Politics and Strategy*, Vol. 54, No. 3, June-July 2012, pp. 69-70.

26 Cristina BOGZEANU, “NATO-EU Relation from the Perspective of the Implications of ‘Smart Defence’ and ‘Pooling and Sharing’” Concepts, in *Strategic Impact*, no. 3/2012, p. 36.

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RELATIONAL APPROACHES ON RISK MANAGEMENT WITHIN THE MILITARY ORGANISATION

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Nowadays, in the wake of the financial crisis, organizations face a variety of risks, which require taking the necessary actions in order to manage and place them in an acceptable and controllable area.

Knowing the threats that may affect the goals will allow ranking the military organizations based on the likelihood of risk occurrence. Therefore, risk management entails focusing the efforts to protect all interest areas of the military structures.

The purpose of this article is to highlight some ways to diminish risks in the military organization, by adopting internal control strategies, namely tolerating, treating, transferring risks or terminating activities. To this end, we envisage implementing within the organization, the appropriate risk management procedures, which must be regularly reviewed in order to adapt them to possible specific changes.

Keywords: *risk, risk management, internal public audit, risk strategy, risk management plan, risk register, risk (responsible) officers.*

1. Conceptual delimitations

Under the current social and economic conditions, each public or private entity may face the inherent occurrence of some adverse events; therefore, risk arises in the attempt to achieve the organizational

objectives and in the development of projected activities and they cannot be eliminated. Therefore, it is important that all the staff of an organization (including the military) should be involved in procedures, techniques and adequate processes in order to eliminate or minimize the consequences of such events.

Risk management within an organization addresses risk as any event or circumstance that may adversely affect the organization in question and involves the typical risk assessment and management model. This type of management (risk management) is the most common, being used by all companies aiming to optimize their business.

Therefore, risk management should be performed within each public organization and it will comprise all the processes regarding the identification, assessment, mitigation or anticipation measures, regular review and progress monitoring and establishing responsibilities¹.

Currently, the integrated approach to risk management has led to the concept of integrated risk management, which, according to Western experts, is a complex and continuous process that takes place at the level of (large) organizations and identifies, assesses and establishes responses to risk as well as identifies the opportunities and threats that may affect the achievement of organizational goals.

Risk represents the probability that an event

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or action could affect an organization's ability to achieve its objectives. Therefore, the risk represents, essentially, the threat associated with any result. It can occur if: an action is carried out with certainty, but its effect is uncertain; the result of action is known, but its occurrence is uncertain; both the action and its result are uncertain.

According to the nature of the activities or operations carried out within public and private organizations, we can encounter the following types of risks: legislative risk, financial risk, operational risk, business risk, legal risk, social risk, image risks, environmental risk, information security risk, etc.².

According to the general rules on the exercising of internal audit, risk is classified as follows:

- organizational risk, such as: lack of formality for procedures, lack of precise responsibilities, insufficient organization of human resources, insufficient and outdated documentation;
 - operational risk, such as: lack of registration in the accounting records, improper filing of documents, lack of control over high-risk operations;
 - financial risk, such as: unsecured payment, disregard of financial risk operations;
 - other kinds of risk, such as those arising from: changes in the environment, internal transformation, development of inappropriate strategies, errors and omissions in design and execution, etc.³.
- Also, other types of risks that occur within organizations can be classified into:
- inherent risk that exists naturally in an organization and against which no measures have been taken in order to be reduced or managed;
 - residual risk that may affect certain activities of the organization and which have little effect due to the management measures taken⁴.

Based on the information presented above, for each organization (including the military), the risk represents the probability that the occurrence of an event or phenomenon might affect adversely the entity's ability to achieve its objectives, to accomplish tasks and to fulfil the expectations of staff and domestic providers from the area. We can conclude by saying that the risks mentioned above may occur in the military structures, too.

From a conceptual and actional point of view, each organization faces various risks related to the specific functioning or pertaining to each activity. Under these circumstances, risk management is designed and conducted primarily to monitor the risk that causes uncertainty whether the objectives will be reached or not, with respect to: *performance* – failing

to reach the quality standards; *schedule* – failing to comply with deadlines for the planned activities; *cost* – exceeding the budgetary limits⁵.

The analysis “The future of internal audit is now” performed at international level by Ernst & Young, shows that 75% of the 695 internal audit executives and top management executives, who were interviewed, consider that risk management has a beneficial role on achieving long-term performance, and an equal percentage believes that the internal audit position existing inside organizations has a positive effect on the resources involved in risk management⁶.

According to the domain to which it is applied, risk management can be divided into several categories. Thus, we can talk about risk management in an organization, risk management in a project or mega project, risk management for natural disasters and risk management for information technology⁷.

As theory and practice in an organization, risk management is an essential component of organizational management used to achieve specific objectives. To that effect, risk management facilitates at management staff level projections of objectives and actions: to develop a sustainable strategy for achieving the entity's objectives; to plan and to take decisions; to avoid crises and waste of resources by inappropriate reactions to them; to allocate and use efficiently the internal resources; to apply a proactive management rather than a passive or reactive management; to minimize risk effects and the likelihood of negative events occurrence within the organization; to protect against the negative effects of these events; to provide real-time control of the activities of the organization; to allocate clearly established responsibilities within the organization; to create an active culture of risk prevention at all levels of the organization; to relieve the management of the organization from some of the responsibilities⁸.

An evolutionary framework of risk management within organizations (including the military) is shown in Figure no. 1.

Risk management within a *project* comprises certain specific activities that are not always to be found in the case of risk management within military structures. These consist of planning how risk will be managed throughout the project, designating a risk officer, preparing and continuously updating a database with the encountered risks, establishing a pathway for an anonymous risk reporting and developing plans to manage risk foreseen to occur¹⁰.

Risk management in the case of *natural disasters* consists mainly in assessing the necessary costs

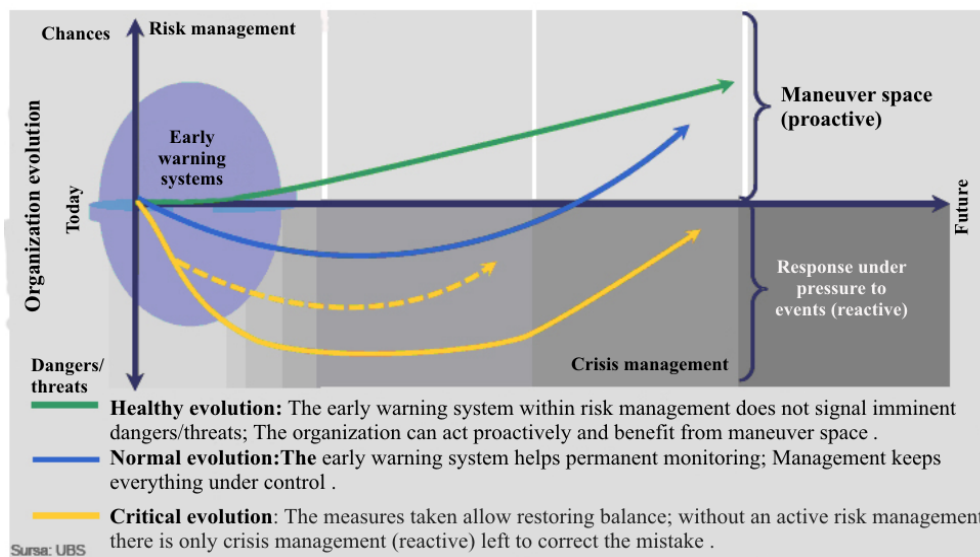


Figure no. 1: The risk management within an organization⁹

for repairs, losses arising from interruptions in the economic operators' activity, the effects on the environment, insurance costs and the costs of measures that could be taken to reduce risk, with the involvement of the authorized military structures.

The need for risk management in *information technology* has emerged along with the computerization of companies and institutions. It consists of risk assessment regarding information security for an organization (including the military) and their mitigation through action plans and tools which will increase the level of information protection¹¹.

Risk management was brought into focus especially due to legal regulations on control and transparency. Both in business and in the public sector, as corporate governance regulations have evolved, the entire structure of risk management systems and their integration into management systems has been improved.

In this respect, it is very important for the management team of any organization (including the military) to identify the risks, to assess them and to determine the acceptable risk tolerance, in the order of the probability of occurrence and of the imminence of the impact that can be produced, by applying the appropriate control tools.

2. Elements of Risk Strategy

Within the military organization risk can arise under peace, crisis or war conditions. Since for each situation there are well defined objectives and responsibilities, risk will be identified according

to them and it will be managed according to an appropriate strategy. Thus, risk management applied to any military structure allows the increase in the likelihood of effectively and efficiently achieving the specific objectives.

Generally, organizations (including the military) adopt specific strategies for risk prevention/reduction. According to our assessment, a risk strategy specific to a military organization resides in establishing the extent and types of risks it is willing to prevent, reduce or accept in connection to its objectives. This strategy varies from one area of activity to another and from one organization to another, depending on the nature of the work and the objectives that have been established¹².

The purpose of a specific risk strategy for the military organization is the integration of the specific management within the administration of that particular structure. Under these circumstances, the military organizational concept of risk management underlies the appropriate strategy to attain the objectives of this type of management. Therefore, some of the principles that underpin this (risk) strategy are:

- risk management is essential for the protection of military organization;
- risk management must meet the objectives and priorities of the military organization;
- the analysis and risk assessment should be performed according to methods comprehended and approved by the military management;
- the military organization management must provide the material resources necessary to effectively

identify and prevent risks;

- the military organization should focus on risk prevention and not on handling the consequences of the occurrence of some adverse events;
- the decisions should be based on risk analysis;
- all the employees of the military organization should contribute to the effective risk management.

The risk strategy must be based on the regulations in force and must be approved by the management of the military organization. It must be communicated to all employees and relevant stakeholders of the organization. Communication must be made in an accessible form to ensure that the strategy is relevant and understandable to all those who acquire it¹³.

Experts believe that the risk strategy paper should contain the management's commitment and should establish ways in which organizations manage risk¹⁴. Therefore, we consider that this document, of relevance for the military domain as well, should include: a risk definition, the objectives and scope of risk management; the importance of risk management to protect the organization; a statement of intent of the military leadership to support the purpose and principles of risk management aligned with the objectives and the strategy of the organization; a description of the framework for setting the objectives and control measures based on risk analysis and assessment; a brief description of risk policies, principles, adopted standards and compliance requirements with legal, contractual, educational and continuity regulations for the operation of the military organization.

Also, the consequences of non-compliance with legal and regulatory requirements (sanctions and disciplinary procedures) must be described taking into consideration the following: a definition of the working group and risk management responsibilities, including the reporting of risk materialization (incidents); references to the documentation supporting the risk strategy (detailed policies, procedures, working instructions, etc.)¹⁵.

Generally, the content of the risk strategy paper presented above is only informative. In practice, there are other approaches. Many organizations only state in their strategy paper the management's statement of intent on risk management and the appropriate management principles.

3. Risk management

In the context of the implementation of a new risk management system it is necessary to improve the

existing one. Due to the requirements of the law from recent years regarding risk management system, there were established some important points to achieve an even higher level of transparency and control. Experts believe that the deficiencies existing in this area have the following causes: *risk management can be found only in standards; the risk management system is not sustainable and it is partially static; risk management exists independently of the management systems*¹⁶. These weaknesses lead to a critical analysis of the existing risk management systems in order to identify the optimization potential.

According to our assessment, risk management is a cyclical process that takes place throughout the course of a project or activity within any organization and it involves five stages, namely: risk planning, risk identification, risk analysis (quantitative and qualitative), establishing strategies to address risk, risk monitoring and control (see Figure no. 2).

The first stage in risk management is planning, namely designating the persons responsible for each type of risk, on all hierarchical levels and for all risk categories. As with any other planning activity, errors are not allowed in risk planning because they can lead to most unfavorable consequences¹⁷.

The second stage of the risk management process involves targeting efforts towards *identifying all the possible risk sources* that could affect in any way the analyzed project or activity. The identification can be achieved, for example, through the use of a brainstorming involving several categories of specialists; they, with the help of tools and methods specific to the domain for which the risk analysis is made, must discover all vulnerabilities of the complex action, the project, etc.¹⁸.

Risk analysis (stage three) is the process of examining both qualitatively and quantitatively the impact each risk may have if it appears in the project or activity. In this respect, we observe aspects like: if X event occurs, then ... human lives are in danger, financial losses occur or the image of the organization is affected and so on²⁰.

Stage four of the risk management process consists of *developing strategies to address the risk* which was previously identified and analyzed. In this respect, there are a number of methods and procedures by means of which we can establish tactics to address the risk. The main purpose of this stage is to shelter the manager and the organization from the occurrence of risk events²¹.

The last stage of risk management is *monitoring and controlling*. This activity represents the closing

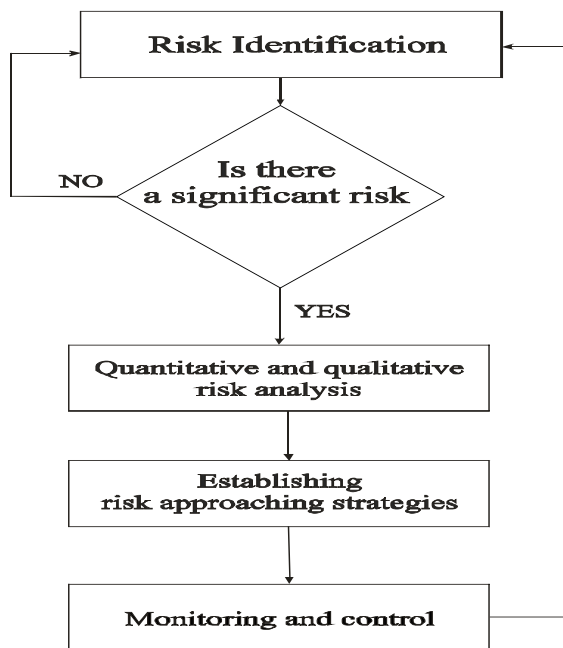


Figure no. 2: The stages of the risk management process¹⁹

phase of the risk management process cycle; there are cases when the operations performed can resume the whole process, i.e. we can return to the first stage²².

In the military organization, the risk management process requires a range of activities that refer to: defining the specific strategy (risk management); identifying risks that may affect the organization's objectives; assessing risks (the probability of occurrence and impact); prioritizing risks; establishing responses to risk; monitoring, reviewing and continuous reporting on the risk situation; benefiting from the accumulated experience (learning process), to obtain reasonable assurance regarding the achievement of the organizational goals.

According to the specialists, any organization's response to risk is characterized by the conduct to reply to the specific threats it faces by trying to reduce, eliminate or distribute risks. To this end, a *risk management plan must be drawn up*; this plan usually includes: procedures that will be used to manage and monitor risks; the people who are responsible for certain actions in various risk areas; the resources allocated for this purpose; the assessment method of the results obtained from risk management²³.

In the military organization, risk management is considered a continuous cycle in which all the risks (existing and new) are identified, analyzed, evaluated and managed. Therefore, each stage of the risk management process is documented and

recorded in an appropriate *register*. In this regard, the management and mitigation of identified and assessed risks take place at all organizational levels by using a risk strategy (mentioned above), as well as by clearly defining responsibilities²⁴.

Generally, *the risk register* comprises risks that have been identified and it is designed as a summarizing table that contains the following elements: the objective; the risk; the responsible person; the impact, the likelihood and exposure related to an inherent risk; the improvement action and the progress of the action (internal control); the impact, the likelihood and exposure related to residual risk; the date of the last risk assessment; the links to or dependent on the main activities; the history of each risk²⁵.

For a proper and timely completion of the *risk register*, the leadership of the military organization must establish a hierarchy of objectives at every level of the organization, up to individual goals, if necessary.

Therewith, to facilitate the adoption of appropriate risk management processes in the military, the experts consider that there could be designated *risk (responsible) officers*, whose tasks are to promote and apply the techniques, processes and procedures for risk management within the microstructure they belong to and where they work, as well as to assist in the assessment and reporting of risks²⁶.

Risk management in the military organization aims at achieving an optimal risk balance of the internal results, the management efforts are analyzed in terms of economy, economic effectiveness and efficiency.

At the same time, risk management consists of implementing proactive countermeasures to reduce the risk probability, but also reactive countermeasures that reduce the risk impact.

To determine the responses to risk we take into consideration the "5 T", i.e.: tolerance (we do not take into consideration the risk); transfer (making someone else responsible), termination (eliminating risks, for example by transferring them to another organization or to an insurer); taking advantages from the opportunities; treatment (acting so that the risk becomes residual). Through this approach, we notice the need of complex actions in risk management and proper implementation of internal controls²⁷.

Currently, the military organizations apply the provisions of the Internal/Managerial Control Code, including control standards (internal/managerial) for public entities²⁸ – representing the minimal management rules to be complied with by these

structures.

According to Standard 11 – *Risk Management* – from the above mentioned regulation results that the military organization, also, as a public entity, must carry out at least once a year a systematic analysis of risks related activities, a further development of management plans for the identified risks (to limit the possible consequences of those risks) and the designation of the employees responsible for carrying out those plans²⁹. This standard makes clear that a system of efficient internal/managerial control involves implementing risk management in the organization.

Therefore, the military leader/manager is compelled to create and maintain an effective system of internal control through, at least, the following activities:

- identifying the major risks that may influence the following: the effectiveness and efficiency of operations; the compliance with the rules and regulations; the confidence in financial and internal/external management information; property protection; fraud prevention and detection;
- defining the acceptable level of exposure of the audited military structure to these risks;
- assessing the risk probability and the size of its impact upon the organization's activities;
- monitoring and assessing risk and the degree of adequacy to risk management of internal controls within the military organization.

In military organizations, risk is acceptable if the measures used for avoiding it are not financially justified. Usually, significant risks emerge and develop due to the poor management of the relationship between military organizations as public entities and the environment in which they function, as well as due to their activity within excessively centralized systems management.

The most important tools and techniques used in the risk management process specific to the military organizations are:

- *Self-evaluation*, which is done by the staff of each organization in order to identify possible changes in the organization that could lead to an increase in its vulnerability and thus, an increase in the risk of failing to achieve the set objectives;
- *Implementation* of a system of regularly reporting the accomplishment of the planned activities, in order to estimate the extent to which the objectives will be achieved as planned; if we notice the emergence of new risks or changes in the identified and measured risks in the initial phase of

the evaluation. To this end, measures will be taken in the military organization in order to adjust the internal control which is being used or to introduce new types of internal control in those fields in which there have been found changes in the risk architecture. Of course, new identified risks will be managed within the risk management process already under way.

4. Organizational risk assessment

Risk assessment in the military is part of operational process and must identify and analyze the internal and external factors that could affect the organization's objectives. The internal factors could be, for example, the nature of the entity's activities, staff qualifications, major changes in the organization and productivity of employees, and the external factors may be the change in the economic conditions, legislative or technology changes.

Risk assessment is a permanent problem because the conditions are always changing, new regulations are developed, new people are involved in the activities, new and updated objectives are established and these changes modify constantly the "geography" of risks, which can never be completed.

Experts believe that the risk analysis is not an exact science. By establishing control activities we aim that high risks become medium or low risks until an eventual elimination.

In the military organizations, the internal risk factors are linked to actions and operations performed within these entities. They express themselves through the weakness displayed in the organizational subsystems, thus resulting in poor performance in the military as a whole.

At the same time, external risk factors can act upon the military organizations; they are caused by the environment (global warming, humidity, rain, snow, frost, solar radiation, earthquakes, fires, storms, etc.) or by the human nature (they sum up all human errors manifested in the actions of design and usage of the entities' resources)³⁰.

Taking into consideration the conscious action manner, human error can occur during the process, for example, by choosing a wrong purpose or an inappropriate (even dangerous) manner to accomplish a mission. Unconsciously there are carried out actions or inactions which lead to a failure in achieving the objective.

Current studies highlight three categories of factors that allow the occurrence of human errors, which are: intrinsic (motivation, physical ability, mental

ability, temperament, concentration, professional knowledge, etc.); environmental factors (physical – temperature, humidity, noise, lighting, etc.; organizational – relationships with colleagues and superiors, job satisfaction, remuneration, promotion prospects, etc.; personal – hunger, thirst, fatigue, illness, family life, etc.); stress factors (an improper organization and leadership, physiological, psychological, social and economic factors)³¹.

Experts assess the risk (R) produced by the human factor using the following relation³²:

$$R = HEP \times (1-RP) \times AoL,$$

where:

HEP - human error probability;

RP - recovery probability;

AoL - the amount of losses.

The specialized literature highlights from an organizational point of view (in the logistics, financial, personnel fields), aspects and ways of expressing potential losses. These losses can be mostly avoided if the specific management manages adequately the following types of risks:

- Operational risks: jams, losses (natural, mechanical, staff errors, etc.), dependence on suppliers, storage uncertainty, technical systems operation insecurity, etc.;
- Personnel risks: sickness, disability, unemployment, death, etc.;
- Business risk: inflation, monopoly, economic losses, competition, strikes, disadvantageous contracts, etc.³³.

Therefore, on the basis of the above, specialists show another risk expression (R), as follows³⁴:

$$R = \frac{L}{M},$$

where:

L - losses expressed either quantitatively (number of casualties, damage, property damage, etc.), either qualitatively (monetary units);

M - measure of exposure to insecurity.

The (M) denominator shows the proportion difficulty because its clear definition has major implications for developing security measures. Under these circumstances, it is mandatory that the managerial assessments consider the risks which are adequate to each projected actional situation and to

the risks associated to the involved subjects.

In order to analyze and prioritize risks in a military organization, we consider that we can use a method suggested by specialists, which involves taking the following steps³⁵:

a) Identifying /listing auditable operations or activities or auditable objects; in this phase we analyze and identify activities or operations as well as the interrelations existing among them, setting the analysis area;

b) Identifying threats, potential inherent risks that are associated with these operations/activities through the assessment of their financial impact;

c) Establishing risk analysis criteria; the usage of the following criteria is recommended: assessment of internal control, quantitative and qualitative assessment;

d) Determining the level of risk for each criterion by using a three-tier value scale, as follows³⁶:

- *to assess the internal control*: appropriate internal control – tier 1; insufficient internal control – tier 2; internal control with serious deficiencies – tier 3;

- *quantitative assessment*: weak financial impact – tier 1; medium financial impact – tier 2; important financial impact – tier 3 ;

- *qualitative assessment*: low vulnerability – tier 1; medium vulnerability – tier 2; high vulnerability – tier 3 .

e) Determining the total score of the criterion (T) used. A weight factor and a risk level are assigned to each criterion. The product of these two factors gives the score for the criterion and the sum of scores for a particular auditable operation/activity results in determining the total risk score of the operation/activity. The total risk score is obtained using the following formula:

$$T = \sum_{i=1}^n W_i \cdot L_i \tag{1}$$

where:

W_i = The risk weight for each criterion i ;

L_i = Risk level for each criterion i used;
or

$$T = L_1 \cdot L_2 \cdot \dots \cdot L_i \cdot \dots \cdot L_n \tag{2}$$

where:

L_i = Risk level for each i criterion used, $i = 1 \dots n$

f) Risk ranking according to the total scores obtained previously in: low risk, medium risk, high risk;

g) Prioritization of operations/activities to be audited, elaboration of the strengths and weaknesses table. The strengths and weaknesses table summarizes the evaluation result of each analyzed activity/operation/theme and allows the prioritization of risks in order to guide the internal audit activity, namely establishing the themes in detail.

The risk assessment activity is an essential component of the military management and should be performed regularly, at least once a year to identify all risks.

Risk analysis is a fundamental step of the internal audit activity. The regulations in force require the authorized military organizations³⁷ to take steps to ensure that internal audit teams can provide the credit holders an independent and objective assurance on the adequacy of risk management, internal control and corporate governance.

Specialists in internal audit can provide advice to the military leadership on adequate risk management processes, building upon the knowledge available and the experience in the domain. This can be done by complying to the auditing and good practice standards in this domain, according to which the internal audit cannot assume managerial responsibilities regarding proper risk management.

Conclusions

Risk management in a military organization is not an activity isolated from all the other management activities. Risk assessment and treatment should be carried out for all activities of the organization (economic, financial, project development, environmental protection, human resources, ensuring functional quality, etc.).

Managing one specific risk can have an impact on other risks or the measures identified as being effective to control one risk may prove beneficial in controlling other risks. Risk management should not perceive the military organization as being isolated, as it sometimes happens in reality, but it must be integrated in the organizational functioning environment. Under these circumstances, risk tolerance characterizes each military structure in part because it represents a variable of the management exercised in the organization.

By applying risk management objectives we facilitate the building of trust, demonstrate and

convince the third parties of the professionalism of the military management. In this respect, we create a generally accepted and useful systematic framework, a common denominator in the functional mechanism of the military organization which is necessary for the assessment of activities through a connection to the accepted standards and methodologies.

Therefore, the risk management applied in every military organization is essential to support the management in the decision making process and for the management of its proper functioning continuity. To this end, the management of each military structure is responsible for organizing a proper internal control system, which, at the moment it starts to work, will bring and maintain risk (through an appropriate management) to the level accepted by the leadership of the organization.

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OPERATIONALISATION OF DEFENCE DIPLOMACY

Sorin FETIC*

The purpose of this paper is to establish an operational definition of defence diplomacy, based on an “arbitrary convention” – after making an analysis of the methods of measuring an object, phenomenon or concept, of the existing types of variables, combined with the identification of conceptual definitions of defence diplomacy and of certain sciences with which it interacts and which play an important role in its development.

Keywords: *defence diplomacy, operationalisation, measurement, qualitative variables, quantitative variables.*

1. Preliminary considerations

The importance of this paper resides in the fact that it demonstrates, at theoretical level, that *defence diplomacy* is not merely an interesting linguistic construction, easy to forget after having been the subject of a fervent, but simplistic debate; it has a complex meaning and its dimension can be measured directly or indirectly, depending on a series of *quantitative and qualitative variables*. At the same time, the topic approached in this paper can be a subject of general interest, since the operationalisation of defence diplomacy can be considered a complex means to generate a state of national, regional or international security.

The purpose of this research is to extend the information scope of defence diplomacy and to make value judgments on it, which can represent starting points for the identification of the solutions necessary to avoid conflicts, improve and develop

relations among states. At the same time, I intended for this research to also have a practical use, so that it can be useful not only to the persons interested in the theoretical aspects of the topic, but also to practitioners, who might find a series of interesting landmarks on the manner in which defence diplomacy can be operationalised. The main focus of the research was not on its predictive use, but rather on explaining the manner in which a concept can be operationalised, as the title announces.

This paper is not based on a statistical analysis meant to identify an acceptable method to operationalise defence diplomacy, but rather on the principle of cause and effect, providing the explanation and description of phenomena and concepts which can be found at the level of international relations and can be considered to fall within the scope of defence diplomacy.

The hypothesis I started from in the elaboration of this paper was that, after understanding the manner in which defence diplomacy is operationalised, the members of the military and civilian diplomatic staff are able to use certain approaches in the critical situations they might encounter, so that the measures proposed by them to political and military decision-makers can reduce the possibility for a violent conflict to be initiated, at both regional and international level. In other words, the hypothesis of the paper is that the operationalisation of defence diplomacy can add value to the efforts made by the international community to preserve peace, solidarity, trust and cooperation among states.

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2. Operationalisation and the method to operationalise a concept

In order to identify the method to operationalise a concept, I have used the theoretical interpretation specific to social sciences (but it must be emphasised that social sciences borrowed the operationalisation process from physics).

Percy Williams Bridgman, who won the 1946 Nobel Prize in Physics, sought to explain the manner in which a concept can be operationalised in the book “The Logic of Modern Physics”, published in 1927. Bridgman stated that: „In general, we mean by any concept nothing more than a set of operations; the concept is synonymous with a corresponding set of operations”¹. Thus, the operationalisation of a concept involves, first of all, the identification of a large number of operations which, once they are achieved, simultaneously or in a certain order, they can generate the theoretical or practical activities aimed by the concept itself. At the same time, in order to operationalise a concept, it is necessary to identify the defining elements that can be explained, assessed and measured according to the following definition provided by the Oxford Dictionary of Sociology for the notion of operationalisation: “the transformation of an abstract, theoretical concept into something concrete, observable and measurable in an empirical research project. Operational definitions are pragmatic and realistic indicators of more diffuse notions. (...) Operational definitions are crucial to the process of measurement and are often the most controversial aspect of any research design.”²

A general concept has a series of features that can be identified through human sensors, but this is not enough to correctly understand all these features. Beyond the perception of certain features through sensors, the operationalisation of a concept also needs two very important elements, namely: a high cognitive capacity to interpret reality and a satisfying information horizon.

Nevertheless, there is the risk or disadvantage that an operational definition might be limited only to the aspects considered relevant by the person drawing up the definition or to aspects that one thinks can be measured by using units or instruments of measurement, sometimes falling into the trap of superficial causality, to the detriment of documented arguments ensured by scientific research. Thus, an operational definition can define a field of interest only partially, since, sometimes, it does not enable to identify a series of processes that can occur between

certain elements of the field of interest that is subject to research.

In other words, since each activity involves a degree of risk (in the sense that some deficiencies may occur), scientific research can also have a certain degree of reductionism which, at times, materialises in the failure to consider certain scientific aspects, apparently irrelevant, but which can influence the results of the research.

In order to operationalise a concept, it is necessary to identify its operational definition, which must include certain measurable aspects of the concept, whose interpretation can ensure a greater scientific rigour. In this context, the situation in which a concept cannot be measured directly cannot be excluded. Thus, there arises the need to find a new possibility for it to be measured directly.

The concept of “measurement” was also borrowed from physics, just like the notion of “operationalisation”. The British physicist Norman Robert Campbell states, in his paper “Physics: The Elements”, that: „All fundamental measurements belong to physics, which might almost be described as the science of measurement”³; further on, he provides the following definition: “Measurement is the assignment of numerals to represent properties”⁴.

Thus, in order to operationalise a concept, measurable properties must be identified. These properties are measured by using numbers and numerals for which a certain order was established under international conventions. This order of numerals helps to establish a hierarchy, in the sense that certain numerals are assigned to certain properties, in order to create a system of numerical values and a numerical scale, facilitating, for example, the comparison (by means of preset criteria) the level of usefulness of certain properties in a given context.

From the point of view of physics, measuring weight, height, density, for instance, is a concrete operation that also benefits from specific units of measurement, but there are concepts whose measurement is difficult to achieve and, even if it is achieved, is inaccurate. Beauty and colours, despite the fact that they are properties of objects, are difficult to measure, although they can be highly relevant. A relevant example can be the one offered by Norman Robert Campbell who, after identifying a few properties of crystals, tried to measure them⁵. The properties enumerated by him include the following: number, weight, density, hardness, colour, beauty. He was able to measure the first three properties, but did not manage to measure the following three. But

he noticed that precisely the colour and the beauty of those crystals generally increase their value. Therefore, the properties which are easy to measure are not always the most valuable. At the same time, it can be stated that the importance of properties depends on the context, since different properties become relevant in different situations.

Norman Robert Campbell supported the idea that colours can be measured provided that an empirical “arbitrary convention”⁶ is established. This way, numerals can be assigned arbitrarily to certain colours, subsequently establishing a hierarchy of properties represented by colours⁷. If, in respect of colours, “arbitrary conventions” are not established, then it can be stated that, for instance: certain features are “more yellow than” or “less yellow than”, “as yellow as”, “darker than” or “lighter than”, “different in colour from”.

Also referring to measurement, Stanley Smith Stevens stated that: “Measurement is... in its broadest sense... the assignment of numerals to objects or events, according to rules”⁸. This way, Stevens complements Norman Robert Campbell and is more accurate than him, claiming that assigning numerals is not sufficient for representing properties, but clear rules are also needed, such as, for instance, establishing the fact that a property can be measured exclusively by using a certain unit of measurement. Thus, when a concept is analysed according to a certain criterion, it is necessary to use a standard unit of measurement, known by everybody, firstly in order to be placed on a certain scale of value, depending on the numerical value assigned to it, and, secondly, so that it can be compared to other concepts in the same reference field or included (or not) in a desirable interval.

“Arbitrary conventions”, referred to by Norman Robert Campbell, can be considered “rules” from Stevens’s perspective, but their greatest value resides in the fact that they open the possibility to measure certain concepts (such as defence diplomacy) that, in theory, are hardly “measurable”, thus leading to their operationalisation. In theory, there is no need for these “arbitrary conventions” to be accepted unanimously, but, in practice, when certain properties (difficult or impossible to measure directly) are subject to research, it is also important to be aware of the fact that, nevertheless, their measurement was achieved (directly or indirectly) according to certain “arbitrary conventions”.

“Measurement” is important because it brings us closer to “accuracy”. Charles West Churchman, referring to measurement in general, stated: “The

contrast between quantitative and non-quantitative information seems to imply a contrast between «precise» and «vague» information. Precise information is information enabling one to distinguish objects and their properties to some arbitrarily assigned degree of refinement”⁹. The more correct and true the information on a certain concept is, the less vulnerable is the construction of a demonstration to subjective and even objective arguments. The undermining of an argumentation is also based on the identification of inaccurate elements of the reasoning underlying the respective argument. Thus, it can be stated that the power to dismantle an argumentative construction is directly proportionate to the accuracy of the information underlying the formulation of the theses.

In order to quantify a concept, it is very important to identify the variables of the analysed concept. *The variable* is a feature of a research topic (object, phenomenon, concept) that may take different values either in respect to the same feature of the same topic, or to the same type of feature, but of different topics. This feature is subject to measurement and need not be defining for the analysed topic; for example, it can be important only in a certain context, while being secondary in another context.

In order to be useful, variables must correspond to certain values, which are, in fact, a set of data manifesting in a concrete way. Edward L. Thorndike, Professor of education psychology at Columbia University, stated, in 1918, that: “Whatever exists at all exists in some amount. To know it thoroughly (the value – a.n.), involves knowing its quantity as well as its quality”¹⁰. He emphasises the idea that variables, depending on the value they may take, are of two kinds, namely *qualitative variables and quantitative variables*.

To conclude this subchapter, it can be stated that the operationalisation process consists of various elements and “measurement” is not simply one of them, but perhaps the most important of them. In order to operationalise a concept, I think it is useful to take into account the following aspects, which also play an important indicative role:

- identifying certain attributes and features of the concept, relevant for the research;
- establishing the measurable and non-measurable features of the analysed concept;
- identifying the features that can be used as variables;
- establishing the instruments and units of measurement for the measurable features and the

values that can be taken by the variables;

- establishing “the arbitrary conventions” for the non-measurable features or the methods of indirect measurement;

- establishing the interval of numerical values in which certain features should be placed;

- exercising the management function of controlling the operationalisation process and permanently monitoring the level of performance for each feature, according to the established interval of values;

- identifying certain rules and methods to correct the deficiencies identified during controls.

3. Sciences that play an important role in the development of defence diplomacy

The interpretations of defence diplomacy can differ from one author to another, to a certain extent, in the sense that there are different points of view concerning the sciences that play an important role in the development of this concept. In my opinion, several disciplines can be used in the study of defence diplomacy, namely law, military sciences, political sciences and international relations.

Law, especially diplomatic law¹¹ and consular law¹² play the role of regulating a series of aspects concerning: the diplomatic staff, protocol and etiquette, immunities, accreditation, order of precedence.

*Military knowledge*¹³ is considered “an operational science that generates action concepts”¹⁴. It is the science that constitutes the foundation for the preparation of the components holding the monopoly over the use of force and those holding the monopoly over the foreign military representation in a country that wages military actions in a manner destined to gain tactical, operational and strategic advantages, with minimum loss of (material, human, financial, time and information) resources. In order for this goal to be attained, a series of principles integrated in the military science must be observed, such as: *the principle of objective, the principle of security and the principle of deterrence*.

The principle of objective holds that “When undertaking any mission, commanders should clearly understand the expected outcome and its impact”¹⁵; according to this principle, defence diplomacy is considered to be a non-violent military operation whose main goal is to establish or re-establish trust between two or more states, recourse being made to clearly defined activities, meant to put an end to misunderstandings, to promote cooperation and lead

to the implementation of relations based on mutual respect.

The principle of security “protects and preserves combat power”¹⁶; in the framework of this principle, defence diplomacy brings its contribution by making sure to avoid situations of surprise; to this end, it uses defence, military, air and naval attachés, whose mission is, *inter alia*, to identify whether or not the receiving state adopts a friendly stance.

The principle of deterrence is highly applicable in the military field, although it can be stated that, in principle, it addresses the collective or individual psyche of a potential enemy and his resistance to the stress caused by a series of factors, especially designed in a seemingly disorganised form, but which are guided to adapt to his vulnerable parts. In other words, in order to cause deterrence, it is necessary to identify the action or circumstance desired the least by the enemy, which causes him the greatest strategic disadvantages and which he fears the most. After having identified this action or circumstance, the potential enemy can be persuaded to give up his hostile intentions and accept negotiation. Defence diplomacy supports deterrence to the detriment of the violent confrontation; moreover, it has the ability to create the appropriate context for starting exploration, preliminary negotiations and negotiations proper. In my opinion, compared to prevention, deterrence is closer to defence diplomacy, at least because deterrence excludes “preventive hits”.

In order to maintain a potential for deterrence, the following elements are necessary¹⁷: preparedness, non-provocation, prudence, publicity, credibility, maintaining a certain level of certainty, paradox (“peace, paradoxically, can occasionally best assured by war”)¹⁸, independence (“when shared incentives cease, so do coalitions”)¹⁹, change.

In the book “On thermonuclear war”, Herman Kahn identified a series of military deterrents, such as²⁰: some temporising military measures, like alerting and mobilising the population, direct military support for the threatened area, a small controlled reprisal.

The principle of prevention differs from *the principle of deterrence*, which is more concerned with persuasion, as prevention can reflect in the adoption of physical and concrete measures, destined to settle certain situations generating misunderstandings or to end the escalation of a possible conflict. If deterrence aims to show possible enemies the risks incurred if they wish to escalate the conflict, prevention seeks to avoid, through various means, the development of a conflict, thus enabling the adoption of complex

measures to this end. Even if prevention and deterrence can have the same results, the common goal being to avoid conflicts, they have different means of manifestation. For example, if two states have the same type and quantity of missiles, the situation of a mutual attack can be avoided if they are deterred by the fact that they are both aware of the effects of the respective missiles on the target; this way, without initiating large-scale military operations, the states in question can be *deterred* from starting a conflict by a simple notification accompanied by proofs showing the quantity of armament owned by each of them and the possible effects of their use. Regarding *prevention*, an appropriate example could be a state that deploys a great number of forces near its borders, following the threats made by a neighbouring country concerning a possible invasion. After identifying the dimension of the military apparatus mobilised on the borders, the number of forces and means mobilised and prepared to take action, the state that initially launched the threats may review its intentions. This way, the development of a conflict is prevented. It can be stated that, in certain situations, deterrence can be a cheaper alternative than prevention.

Professor Gheorghe Văduva identified the following forms of expression and materialisation of *the principle of prevention*²¹: recourse to political, diplomatic and other types of non-violent means to settle a dispute; using political, economic and military pressure; the embargo, the boycott and the blockade; (political, diplomatic, economic and military) restraints; the threat to use force; demonstrative military actions; preventive hits.

In my opinion, both deterrence and prevention start and end by involving defence diplomacy, but throughout their development, defence diplomacy might be left out of the question when the negotiation is replaced by explicit violence.

Political sciences influence defence diplomacy because, most times, military conflicts originate in differences of political opinions among states that are largely influenced by economic interests. Generally, it is desirable that the political strategy drawn up by the holder of legitimacy within a state relies on theoretical elements borrowed from political sciences and adapted from a scientific perspective to the features of the reference space-time environment. Defence policy and foreign policy, which are part of the governing program, represent the most concrete connection between political sciences and defence diplomacy.

Last but not least, *international relations* also

play an important role in defence diplomacy. Hans J. Morgenthau, one of the founding fathers of the classical realist school in the 20th century, holds that nation-states are the main actors in international relations and that their main concern in absolutely all actions undertaken is to acquire, use and preserve power. In the book wrote by him in 1948, "Politics among nations. The struggle for power and peace", the author stated that "the main signpost that helps political realism to find its way through the landscape of international politics is the concept of interest defined in terms of power."²² International relations are, in fact, the most favourable environment for the development of diplomatic relations, especially between international state actors, but also within intergovernmental organisations. In the contemporary security environment, international relations are strongly marked by "the realist theory" which advances the idea that states, instead of acting rationally, making decisions of foreign policy on the basis of scientific research, they act in pursuit of their own national interests. The behaviour of states at international level is influenced by their foreign policy and defence policy. These are both put into practice at the same time by defence diplomacy, which has started to gain a significant importance in connection with contemporary diplomatic relations. In the framework of international relations, diplomatic relations represent a very important component; in turn, for the greatest part, they are divided into defence diplomacy and economic diplomacy.

In the framework of international diplomatic relations, it is desirable that defence diplomacy should develop directly proportional with conventional or unconventional threats, identified in the contemporary security environment, in order to be able to counter, in real time, the threats posed by various aggressive states or non-state organisations to the national, regional and international state of security.

4. Operational definition of defence diplomacy

In order to analyse the manner of operationalisation of defence diplomacy, we need to formulate its operational definition. The operational definition refers to the identification of a different solution, original or ordinary, used in a scientific research environment or paper, in order to measure a variable or a set of variables of a concept, phenomenon or object.

The operational definition of a phenomenon or concept should be based on real variables and

clear measurements, but, since it refers to a specific problem and solution, although it can be very good from a technical perspective, it may include a relative dose of subjectivism, at least from the perspective of disregarding other variables which may have a vital importance in another context and for another scientific study. In other words, the operational definition has its own limits, more or less identifiable. Including the operational definition of defence diplomacy, far from being exhaustive, is improvable, leaving room for eventual completions, changes and updates.

In order to obtain the operational definition of defence diplomacy, the following elements were taken into account: conceptual definitions of defence diplomacy; understanding the process of the operationalisation of a concept; analysing the method and the possibility of measurement of a concept (including indirect measurement²³); understanding the meaning of the term “variable” and subsequently of the types of variables relevant for defence diplomacy.

Before laying down the operational definition of defence diplomacy, it is useful to remind its lexical definition, which is the following: “it is the academic or universal meaning of a word or group of words (...) and yet it is more abstract and more formal than the operational definition.”²⁴

The conceptual definition of defence diplomacy was laid down for the first time in Great Britain’s *Strategic Defence Review* issued in 1998, where it was mentioned the fact that its mission is: “to provide forces to meet the varied activities undertaken by the Ministry of Defence to dispel hostility, build and maintain trust and assist in the development of democratically accountable armed forces, thereby making a significant contribution to conflict prevention and resolution.”²⁵

In the national specialised literature, defence diplomacy was defined by Sergiu Medaras as representing “all actions undertaken by the Government and the staff appointed by it, designed to reduce the climate of tension or hostility, to implement new measures to increase trust among states, to contribute to the development of the relations of collaboration and cooperation between armies and to ensure the conditions for the creation or functioning of alliances and coalitions.”²⁶

On the basis of these definitions and a series of other interpretations of defence diplomacy, I identified the following operational definition of defence diplomacy.

Defence diplomacy is a branch of general diplomacy used by a state in its bilateral or multilateral

relations, under the foreign policy and defence policy issued by the legitimate authorities of the sovereign state in question, and is put into practice in the receiving state by legitimate representatives of the sending state, in order to build (initiate) or increase trust among states, with a view to efficiently use defence resources to prevent eventual conflicts or end certain conflicts, in the framework of which most of the following requirements are met (more than half of the following statements are answered affirmatively):

- existing defence, military, air and naval attachés;
- membership in a political and military alliance;
- participation in international military drills;
- participation in military drills together with at least one neighbouring country;
- existing cooperation agreements between the Ministry of National Defence of the respective state and the defence ministries of other states;
- organisation of official visits of military delegations from other states;
- organisation of official visits of military delegations to other states;
- receiving foreign military trainees in military education institutions;
- sending military trainees in military education institutions from other states;
- the Minister of Defence is a civilian or the army is controlled by civilian political decision-makers or by the sovereign power of the people;
- existing scientific research projects in the military field developed in collaboration with various countries;
- organisation of military exhibitions to which various countries are invited and in which they actually participate, via firms producing military equipment;
- organisation of scientific events within higher education institutions attended by guests from various countries;
- visits made by foreign vessels in military or civilian ports at least once a year;
- air shows or flight demonstrations organised on Aviation Day (or on other occasions) attended by air crews from other countries;
- official consultations at the level of the Parliament, Government or ministries with other states concerning issues regarding defence or the security sector reform;
- participation in international peacekeeping missions, organised following a Resolution approved

by the UN Security Council;

- organisation of postgraduate courses, master programs, training courses, workshops in education institutions or in other institutions, on the topic of "Defence diplomacy", with a view to acquaint the military and civilian staff working in the field of defence with the requirements of this field;

- be a signatory of the "Treaty on Conventional Armed Forces in Europe (CFE)";

- be a signatory of the "Nuclear Non-proliferation Treaty"²⁷, of the "Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction"²⁸ and of "The Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction"²⁹;

In the definition presented above, I identified a series of dichotomous qualitative variables, whose scale is made up of two opposite values ("yes" or "no"), without claiming an exhaustive identification. "The arbitrary convention", mentioned in the text of the definition, maintains that, if affirmative answers prevail, then the defence diplomacy adopted by a state is operational or functional.

In principle, the most important aspect promoted by defence diplomacy is the earning of trust among states. If the above-mentioned qualitative variables receive an affirmative answer, in the sense that they are fulfilled, they can contribute significantly to increasing trust among states.

Conclusions

The operational definition of defence diplomacy presented in this paper refers more to the perception of the possibility for a state to use defence diplomacy in its relations with other countries at a minimum level of functionality and it is not able to indicate the level of efficiency of a diplomatic corps from a sending state in a receiving state. In order to exceed the minimum level of functionality of defence diplomacy promoted by a state, it is necessary to analyse each variable and identify methods to improve them.

The definition of defence diplomacy has the role to emphasise the importance of a relatively new concept in the contemporary security environment, whose importance is most times appreciated. By a detailed explanation of the sciences which had a major impact on the development of defence diplomacy and by identifying the dichotomous qualitative variables underlying the process of operationalisation of defence diplomacy, I wish to argue the fact that, in

the future relations among states, it would be more economical and more convenient to use diplomacy to the detriment of force. Defence diplomacy is one of the instruments used by the „soft"³⁰ power, which is able to settle a conflict situation without using force and sometimes even without resorting to threats to use force.

At present, defence diplomacy can be the platform on which states can build relations of cooperation, dialogue and partnership, ensuring the achievement of their national interests. The fact that political and military decision-makers from certain states encourage the receiving or sending of trainees to study in military education institutions from the partner states is a phenomenon suggesting a certain dose of trust among the respective states.

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PROSPECTS AND CHALLENGES FOR THE USE OF UNMANNED AERIAL VEHICLES

*Laurențiu-Răducu POPESCU, PhD**

Concerns about designing and building UAVs aim to develop products that meet the great demands of the future, both in terms of the platform and usage. But the real problem is their implementation in national and international airspace. In the current paper, there are presented some of the challenges and achievements in this segment, especially in the field of national and international regulations.

Key-words: UAV, air space management, UAV regulations, UAV legislation.

1. Preliminary considerations

We live in a world driven by technology. Unmanned aerial vehicles (UAV¹) represent a good example, being at the intersection of technical, economic and military sciences. If we consider only the first aspect – technical sciences – the UAV is today a technological fusion between mechanics, electronics and computer science.

The success of UAVs in recent military operations has generated an increased interest in all types of armed forces around the world. In the military, unmanned aerial vehicles are used in surveillance missions, information gathering, setting targets, implementing attacks etc, helping to achieve information superiority. The conclusions of specialized studies converge towards a faster growth in the civilian domain, through the specific spectrum of activities: research/patrol along the lines of communication, boundaries, oil and gas pipelines, power lines, police specific missions.

Concerns about designing and building UAVs aim to develop products that meet the great demands of the future, both in terms of the platform and the terms of use. A particular interest in this field occurs in countries with a long tradition in the construction of aircraft, economically powerful (the U.S., Japan etc.) and also in countries with lower economic potential (Czech Republic, Sweden etc.). Based on a JAPCC study², in 2008, there were more than 25 operational models (over 3,700 UAV aircrafts) in NATO, but one can notice that this number is increasing year by year. If in 2001 the U.S. invested \$ 667 millions, in 2012 the figure reached \$ 3.9 billion, which resulted in a fairly consistent job market. This aspect reflects the attention given to these types of aircraft by politico-military decision-makers worldwide, and decision makers in the economic environment that leverages the most of this opportunity.

Although, currently, in Romania these devices are only used by the Ministry of National Defence, we cannot but note that at European and global level, the use of such devices has grown exponentially in the civilian environment, both in terms of exploitation and production.

In complex battlefield conditions, where the time factor is decisive in making the right decisions, the use of UAVs does nothing but to bring a scientific approach to leadership, giving it continuity, safety, firmness and flexibility. As the experience gained so far in the use of UAVs reveals their huge potential, we believe that they are not used at their full capacity.

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2. The need to adapt national legislation on UAVs

Noting the need to amend the Civil Aviation Code to allow the operation of unmanned air vehicle (UAV) in the national airspace, the Commission for Defence, Public Order and National Security of the Chamber of Deputies initiated in the 2013 parliamentary session a series of meetings with representatives of Ministry of National Defence, Ministry of Transport, Ministry of Internal Affairs and of the Romanian Intelligence Service.

Following these meetings, additions and changes to the Code of Civil Aviation are necessary in order to update the national legislation in line with the current development of military exercises and UAV flights.

For these reasons, I consider that the adoption of this legislative initiative is the duty of the Romanian Parliament, and it comes in a context where we can show that the Legislature not only keeps pace with technological development, but that, when appropriate, is one step forward, facilitating the economic development.

3. Involvement of “UVS Romania” Association

A strong support for this initiative came from the “UVS ROMANIA” Association, a non-profit, non-governmental legal person with apolitical character, established in February 7, 2012.

The purpose of establishing this association was to promote research, development, production and use of autonomous vehicles (UVS³) and the development of regulatory proposals on UVS in Romania, by attracting any interested group to the pre-mentioned domain such as national industry, with large and small companies, providing either production or services, national authorities with regulatory law, civilian and military authorities, local authorities interested in regional development; universities, academies, scientific and professional associations, NGOs, media etc.

The arguments that led to the establishment of this association were multiple. One of these is the fact that, in Romania, there was no professional representation in this segment. Internationally, there is a representation in this regard as follows: Association for Unmanned Vehicle Systems International (AUV-SI); AVBS, Check Republic; UVS Korea; Japan UAV Association; Remote Control Aerial Platform Association (RCAPA), USA; Russian Unmanned Vehicle Systems Association (RUVSA); UAS WG – Denmark TBA; UAS WG – Netherlands & Belgium TBA; UAS WG – Spain TBA; UAV-DACH, Austria, Germany,

Switzerland, Netherlands, Italy; UAVS, UK; UAS Norway; UAVS – Unmanned Aerial Vehicle Systems Association; Unmanned Systems Canada; UVS Brazil, TBA; UVS France; UVS International⁴.

Another argument was that the technology of unmanned aerial vehicles (UAVs) has grown beyond expectations lately, motivated by application in military operations around the world. In 2009, the first year in office of President Barack Obama, more drone attacks were ordered than in all eight years of the term of his predecessor, George W. Bush.

4. Applicability and development of UAVs

Recent research⁵ conducted on the time interval 2004-2008 revealed the applicability of UAVs in various operations, the number of unmanned aerial vehicles increasing from about 1,000 to 5,000 units. For example, in 2001, the U.S. military had 50 drones in its endowment. Today, the number has exceeded 7,500, the funding allocated to these drones projecting support at the expense of conventional programs. The funds allocated by the Pentagon will amount to over \$ 5 billion for drones⁶.

In order to operate these UAVs, ultra specialized personal was needed, at present, the number of pilots on these vehicles being already higher than the pilots specialized in classic fighters. This aspect motivated the military and civilian market. Although in the military field, the trade had an upward trend, in the civilian market, the marketing of machines of this type is still at the beginning, despite the fact that there are sufficient areas of application in this segment. In Figure no. 1, we can see the short and medium term perspective of the development of UAVs internationally in fields.

The challenge is that for civilian users are required common safety rules, measures and procedures to ensure flight safety and environmental protection.

5. European regulations on UAVs/RPA

In the opinion of some specialists, the implementation of common rules for all categories of unmanned aerial vehicles is not justified. And I mean the micro and mini UAVs built by amateurs, for leisure, extremely rare products and in limited number of copies. Regulating this category, according to European Union specialists, must remain the responsibility of Member States in accordance with Regulation 216/2008/EC on common rules in the field of civil aviation⁸. In this respect, Britain and Germany have

Units

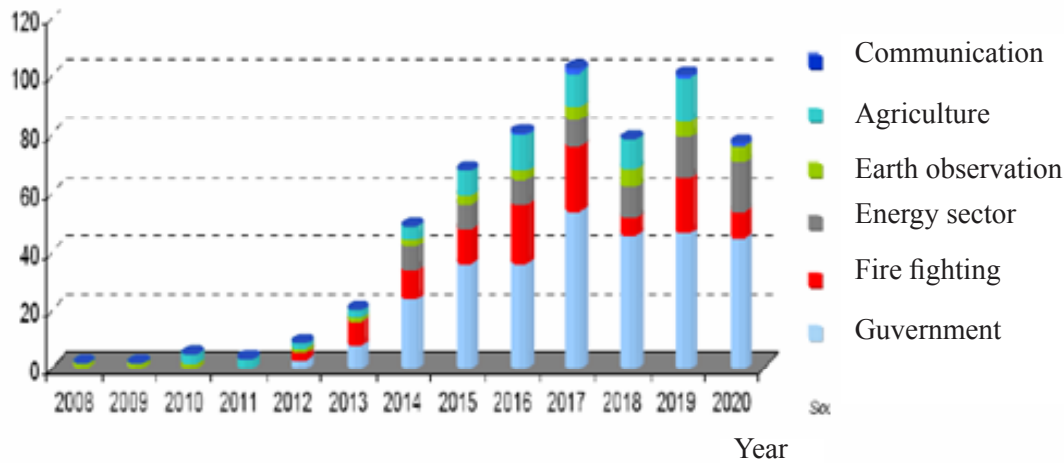


Figure no. 1: Short and medium term perspective on UAV international development⁷

already developed standards for aircraft with a mass less than 150 kg, supporting the experimental and commercial activities carried out by public or private entities.

Problems arise in the case of movement of goods throughout the European Union, built on an industrial level and having a low maximum take-off mass, but with increasingly higher performances. I believe that this problem should be solved at EU level, in order to achieve the minimum flight safety and environmental protection.

Concrete steps have been taken by the European Commission by establishing the RPA European Coordination Group⁹. Through the establishment of this group, by 2016, they wish to set rules for integrating UAVs in the common airspace tracing the roadmap of this project, especially for aircraft of more than 150 kg.

By the 216/2008/EC Regulation, the European Aviation Safety Agency (EASA) has the responsibility for certification and licensing for this category.

In order to achieve the security of unmanned aerial vehicles, current regulations of this agency provide five major aspects¹⁰, namely:

- certification of aircraft, including navigability certification of remotely piloted aircraft;
- certification of operators;
- licensing the aircraft pilots;
- special authorization, under art. 8 of Chicago Convention¹¹, for international operations with unmanned aircraft;
- improving air traffic control planning in air-

space.

The aircraft must meet the essential requirements for navigability laid down in the Regulation. In this regard, several provisions have been developed that unmanned aircraft (including their parts and equipment) must meet to operate in the airspace, including:

a) all products (UAVs parts and equipment) have a standard certificate (certificates on amendments to the original certificate, including the supplemental certificates). This certificate is issued when the applicant demonstrates that the product (parts and equipment):

- complies with a standard certification basis established to ensure compliance with the essential requirements set out in the regulation;
- has no feature or characteristic making it unsafe for operation;
- complies with the detailed navigability specifications.

b) any operation will be done only if it has a valid certificate of navigability. This certificate is issued when the applicant demonstrates that the UAV:

- complies with the project (according to standard certificates);
- completed tests and inspections to demonstrate safe operation;
- documentation is updated and complete;
- maintenance and operation are performed in accordance with the essential requirements related to continuing navigability.

This navigability certificate may be suspended,

revoked or canceled. Also, a restricted certificate of navigability may be issued.

Organizations dealing with both the design and construction and the maintenance of UAVs must have appropriate operating authorization. These permits are issued only when these organizations demonstrate the ability, necessary means and service staff training. The staff must be authorized to operate this type of UAV (systems, equipment and units of service, etc.). Also, organizations dealing with staff training must have license / permits.

6. National regulations on UAVs

Without going into details, I will very briefly introduce some national regulations issued by the Romanian Civil Aeronautical Authority on UAV, namely RCAR-AZAC, the flight admissibility of civil aircraft categories, edition 01/2007, where there are unmanned aerial vehicles with an operating mass of less than 150 kg.

The document gives a brief classification of UAVs and references concerning the applicability, eligibility, flight admissibility documents, requisition mode, issuing the domestic flight permit, validity and renewal of this permit, records relating to the issuance, suspension, revocation or renewal of each domestic flight permit.

The fact is that for the UAVs with a maximum take-off mass less than 15 kg at national level, no

flight admissibility document is necessary.

In the Law no. 399/2005 of 27/12/2005, published in the Monitorul Oficial no. 22 of 10/01/2006 amending and supplementing the Government Ordinance no. 29/1997 on Air Code, art. 17 states that a civil aircraft may operate in the national airspace unless it holds a certificate of registration in accordance with the provisions of the Chicago Convention. The certificate of registration/identification is the individual document certifying the registration of the aircraft, giving its nationality.

The new Air Code changes must stipulate the fact that the person that flies the unmanned aerial vehicle must always have this certificate on his/her possession.

Also, according to art. 73, every civil aircraft shall have an individual certificate of navigability issued after demonstrating that the civil aircraft conforms to standard type project approved in the standard certificate and that all documentation, inspections and tests demonstrate that the aircraft is in condition for safe operation¹³.

This article, too, complies with the provisions that unmanned aircraft (including their parts and equipment) must meet in accordance with Regulation 216/2008/EC.

7. Perspectives and challenges for UAVs

According to the NATO Joint Air Power Competence Centre (JAPCC), the certification of UAVs in

Class	Category	Reach	Examples
1st Class < 150 kg	SMALL >20 kg	50 km (LOS)	Luna, Hermes 90
	MINI 2-20 kg	25 km (LOS)	Scan Eagle, Skylark, Raven, DH3, Aladin, Strix
	MICRO < 2kg	5 km (LOS)	Black Widow
2nd Class 150-600 kg	TACTIC	200 km (LOS)	Sperwer, Iview 250, Hermes 450, Aerostar, Ranger
3rd Class >600 kg	COMBAT	No limit (BLOS)	
	HALE	No limit (BLOS)	Global Hawk
	MALE	No limit (BLOS)	Predator B, Predator A, Heron, Heron TP, Hermes 900

Table no. 1: Classification of UAV - Excerpt¹²

NATO will be mandatory for grades II, III, respectively (Table no. 1), namely those aircrafts which exceed 150 kg. NATO needs a clear and firm position about combat UAVs. The decision-makers within the Alliance must be aware of the fact that UAVs are part of NATO's integrated air defense.

A major problem to be solved very quickly both nationally and internationally is represented by frequency bands. There is not enough bandwidth for current UAV operations. There are no dedicated frequencies for UAV or internationally standardized frequencies for UAV operations as are for operating manned aircraft. The airspace management does not allow UAV flight in non-segregated airspace. NATO currently allocates restricted areas in accordance with the Air Coordination Order (ACO). The development of civil and commercial UAV markets depends heavily on solving these problems.

There are various requests of air services with these tools, but the difficult way to allot airspace and the lack of procedures and regulations make it difficult to develop a UAV mass phenomenon. Also, the risks and security issues with flying these drones must be taken into account very thoroughly.

The Civil and Military Aviation Authority will have difficulty in implementing regulations to respond to all types of UAVs, both civilian and military. Challenges are not only in the field of regulations. Challenges will also be in the field of certifications and authorizations. People with expertise in the field must be part of these committees, which is quite difficult at the moment at national level, as the number of these specialists is extremely low. Problems will also arise regarding the approval and testing equipments and infrastructure.

There will have to be allocated an air space that does not affect the existing air traffic. A flight and training UAV service personnel school will also have to operate in this location. Hence a number of financial and technical challenges to achieve specific ends, namely to form certified and authorized personnel. Without a serious political, financial and human involvement, this process cannot end very soon.

Conclusions and suggestions

In order to continue these efforts, I have made several proposals to the Committee for Defence, Public Order and National Security of the Chamber of Deputies within the Romanian Parliament, which I will briefly mention below.

1. Establishing a national Agency dedicated to

UAV/UVS.

2. Establishing a working group for regulating the UAV/UVS domain which is funded and responsible for the legislative issues related to certification, standards, harmonization, licenses, etc.

3. Engaging specific projects with practical applications in the field of UAV/UVS. They should provide consultancy studies in specific fields (e.g. hail combat applications, monitoring of agricultural crops, forests, other objectives specific to emergencies, etc.).

4. Initiate a national contest on categories of UAV / UVS. The tactical and technical specifications will be drawn up by a panel of experts from the: Ministry of National Defence (Armaments' Department, Military Aviation Authority, "Carol I" National Defence University), Ministry of Transport (Romanian Aeronautical Civil Authority), Ministry of Internal Affairs (General Directorate of Logistics, General Inspectorate of Aviation), Ministry for Information Society.

Following the designation of the winners of the competition on UAV (UVS) classes, in addition to the award, a contract with a state/private beneficiary should be offered.

5. Establishing a national/international UAV (UVS) testing center in Romania (e.g. the SAM firing range at Capu Midia) for drawing conclusions about how to use UAVs in non-segregated airspace and by developing navigation procedures in non-segregated space and by of setting the minimum number of safety and warning systems on board which a UAV (UVS) of a certain class must meet, to meet safety standards.

6. Establish a specialized education cycle in the field of UAV (UVS).

The expansion of the new work group created for the legislative initiative to amend the Air Code, by establishing a national working group. This should comprise specialists from: Ministry of National Defence – Air Force Staff (Air Operations Center – COA, Military Aviation Authority), Armaments' Department, Directorate of Military Intelligence; Ministry of Transport – Department of Civil Aviation, Romanian Civil Aeronautical Authority, Romanian Air Traffic Services Administration; Ministry of Interior – General Directorate for Operational Management, General Logistics Department, General Inspectorate of Aviation; Romanian Intelligence Service; Ministry for Information Society, National Authority for Management and Regulation in Communications, "UVS ROMANIA" Association, as well as other guests, like

Land Forces Academy, National Aviation Institute – INAV S.A., National Institute of Aerospace Research and Development “Elie Carafoli”, other domestic producers, polytechnic universities, etc.

For the development a legislative package to promote the use of UAVs in national airspace, I consider that it is necessary to organize a working group to analyze the following issues: international law, European legislative directions, limitations of national legislation, identifying areas where regulations must be revised/issued (design, manufacturing, operation, personnel licensing); establishing subgroups, roadmaps for each subgroup and required activity resources.

I also believe that some documentation activities preceding the start of the working group are required, such as:

- Setting up a library/database of international

laws for UAV;

- Identification of contact points with various international institutions that have concerns in the field of UAV, including: International Civil Aviation Organization (ICAO); North Atlantic Treaty Organisation (NATO); European Aviation Safety Agency (EASA); EUROCONTROL; European Defence Agency (EDA); European Space Agency (ESA); Federal Aviation Administration (FAA); Joint Air Power Competence Centre (JAPCC); European Unmanned Systems Centre (EuroUSC);

- Organize discussions with the actors on the national UAVs market: end-users, designers, manufacturers, regulating authorities, traders;

- Identification of experts in international air legislation.

The legislative package must make reference to at

Class	Mass (MTOW) [Kg]	Airworthiness certificate	Observations
I.a	MTOW < 2,5	NO	Air traffic over populated areas
I.b	2,5 ≤ MTOW < 7	NO	Air traffic over unpopulated areas
I.c	7 ≤ MTOW < 15	NO	
I.d	15 ≤ MTOW < 150	YES	
I.e	150 ≤ MTOW	YES	Same conditions as manned planes
II.	150 ≤ MTOW < 600	YES	Same conditions as manned planes
III.	MTOW > 600	YES	Same conditions as manned planes

Table no. 2: UAVs classification suggested by the “UVS Romania” Association

least the following areas: navigability (initial, continuity), operation; staff.

The directions to follow in a future bill are, in my opinion, dividing the UAVs in classes (Table no. 2), the use of class I UAVs in non-segregated airspace and the gradual expansion of access to class II as they prove their reliability and, finally, studying the possibility of quality assurance in the manufacturing of UAV (for some classes).

Of course, there are many more challenges that may arise, but the future is a technological one with profound implications for life and human activity. On the manner in which the Romanian society will refer to these challenges will depend our position, social evolution and continuity among the countries with a

contribution to the development of manned and unmanned aviation.

NOTES:

*Translation from Romanian by Diana Deaconescu.

1. UAV- Unmanned Aerial Vehicle
2. JAPCC- Joint Air Power Competence Centre
3. UVS- Unmanned Vehicles System
4. Online access: www.uvsr.org, https://www.uvsr.org/index.php?option=com_content&view=article&id=457&Itemid=112
5. European Commission Enterprise and Industry Directorate-General ENTR/2007/065 Study analysing the

current activities in the field of UAV, Frost & Sullivan, available at http://ec.europa.eu/enterprise/policies/security/files/uav_study_element_2_en.pdf, accessed on 12 August 2013.

6. *Ibidem*, p. 6.

7. Frost & Sullivan, op.cit.

8. Regulation (EC) no. 216/2008 of the European Parliament and of the Council of 20 February 2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, and repealing Council Directive 91/670/EEC, Regulation (EC) no. 1592/2002 and Directive 2004/36/EC.

9. RPA – Remotely Piloted Aircraft – the new name used by the International Civil Aviation Organization (ICAO) for the UAV.

10. Notice of Proposed Amendment (NPA) 2012-10, draft opinion of the European Aviation Safety Agency for a Commission Regulation amending Commission Regulation (EC) No .../... laying down the common rules of the air and operational provisions regarding services and procedures in air navigation and amending Regulations (EC) No 1035/2011, (EC) No 1265/2007, (EC) No 1794/2006, (EC) No 730/2006, (EC) No 1033/2006 and (EU) No 255/2010 ‘Transposition of Amendment 43 to Annex 2 to the Chicago Convention on <https://www.easa.europa.eu/rulemaking/docs/npa/2012/NPA%202012-10.pdf>, accessed on 12 August 2013.

11. According to art. 8 of the Chicago Convention on International Civil Aviation, no aircraft flying without a pilot shall fly over the territory of a contracting State without special authorization by that State in accordance with this authorization. Each contracting State undertakes the necessary measures to ensure that unmanned flight of such an aircraft in areas open to civil aircraft to be controlled so as to avoid any danger to civil aircraft.

12. Romanian Civil Aeronautical Authority RACR-

AZAC “Flight admissibility of civil aircraft categories”, edition 01/2007, published in the Official Gazette no. 637 of 18.09.2007.

13. Strategic Concept of Employment for Unmanned Aircraft Systems in NATO, Joint Air Power Competence Centre von-Seydlitz-Kaserne Römerstraße 140 47546 Kalkar (Germany), 2010, p. 6.

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3. Law no. 399/2005 of 27/12/2005, published in the Official Gazette, Part I no. 22 of 10/01/2006 amending and supplementing Government Ordinance no. 29/1997 on Air Code.

4. Regulation (EC) no. 216/2008 of the European Parliament and of the Council of 20 February 2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, and repealing Council Directive 91/670/EEC, Regulation (EC) no. 1592/2002 and Directive 2004/36/EC.

5. JAPCC- Strategic Concept of Employment for Unmanned Aircraft Systems in NATO, Joint Air Power Competence Centre von-Seydlitz-Kaserne Römerstraße 140 47546, Kalkar (Germany), 2010.

WALTZIAN NEOREALISM AND THE PRAGMATISM OF POLITICS

*Mihai ZODIAN, PhD**

The aim of this paper is to review Kenneth Waltz's main contributions to the development of International Relations (IR) as an academic domain. Taking into account his epistemic view regarding the limits of knowledge, the indeterminism of his theory, the normative grasping of a potential vulnerable progress, the interest for the philosophies of Jean-Jacques Rousseau and Immanuel Kant and the recurring tendency of involving him into almost any significant discussion relating to the domain of IR, I suggest that an interpretation which situates him closer to ethical interests and to classical realism is more appropriate than the dominating image of a structuralist-materialist theoretician. The article starts with an epistemological sketch, followed by a review of his main theoretical contributions, and of his principal writings.

Keywords: *International Relations theory, Kenneth Waltz, anarchy, balancing, war, skepticism, positivism.*

Introduction

Kenneth Waltz (1924-2013) was one of the authors without whom the IR discipline as we know it would have been difficult to imagine. Some examples can illustrate the impact of his writings. In a recent number of *European Journal of International Relations*, with the suggestive title of "The end of International Relations Theory?" Dunne, Hansen and Wright assessed the evolution of the main explanations and interpretations, comparing them

to the ideas expressed by neorealism's founder over 35 years ago, considering them as being heavily influenced by him¹. Moreover, neorealist theories are brought into attention each time when world politics becomes more conflictual or when we have fears regarding the future relationships between the great powers. Directly or by criticism, Waltz influenced the studies of Mihail Ionescu, Lucian Dîrdală, Andrei Miroiu, Simona Soare or Radu Ungureanu, among others².

The IR theory helps us to understand the reality and is especially important when we evaluate world politics and in crisis situations³. This study aims to explain Waltz's significance by using a moderate "Vician" approach, which makes a philosophical and epistemological distinction between the study of nature and the study of society. Besides the issue of causation, the comprehension of representations, the feelings and goals of the actors and the social environment are fundamental elements of knowledge, because their sphere includes fundamental questions regarding values, peace, war, freedom and progress. From this point of view, the ideas expressed by Kenneth Waltz had a formative role, not simply because of his positivist model, but by the constant appeal to the fundamental debates of modernity, which can be found in the works of Jean-Jacques Rousseau and Immanuel Kant: the relationship between the individual and the society, the limits of civility and the chances of successful conflict management⁴.

Waltz argued that the weaknesses of human nature, the plurality of states and the development

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of weapons of mass destruction (WMD) don't make impossible international environment's betterment, as long as decision-makers are prudent and internal regimes, moderate. In Martin Wight's terms, he was a realist close to the Grotian tradition, even if, when we make this type of distinctions, we can speak more of intellectual reconstructions than of coherent school of thought here⁵. By comparison, the discussions about testing, verification, balancing or bandwagoning are means, part of the search to identify how the much valued stability can be maintained. Not by accident, his theory was considered "defensive", since it allows not only "offensive" and materialistic perspectives by authors like John Mearsheimer, but also "cooperative" approaches, like the ones belonging to Robert Jervis and Charles Glaser⁶. Similar to Hans Morgenthau's ideas, his approach is vulnerable to the tension pinpointed by Pierre Manent in his discussion of Machiavelli, the one between the descriptive and the normative necessity, in connection with the themes of free will, which can offer one of the explanations for Waltz's theoretical indetermination⁷. A neutral, typical positivist does not have this type of dilemmas to solve. This argument assumes an issue-oriented model of IR and political science.

The study starts with a review of IRs philosophical debates, especially the ones concerning epistemology and ontology. Inspired by Ruth Grant's notions of moderate realist and pragmatic idealist, and the practice of ethical criticism⁸, I will try to show the proximity of Waltz's normative suppositions with the projects of Hans Morgenthau, Jean-Jacques Rousseau and Immanuel Kant, all whom combine a sense for modernity's weaknesses with ideas and sometimes recommendations for change. This allows grasp a normative stance which defines the limits of the epistemological and theory-building endeavors taken by Waltz. More precisely, this moderate realism and the search for long range answers are disproving the usual, materialistic image of his ideas. As such, he did not breach with the "tradition" of classical authors like Morgenthau, but he was searching for new ways of expressing them. Both the goals and the fundamental suggestions were inspired more by philosophy than brute, neutral research. The following two chapters will discuss in detail Kenneth Waltz's main IR works, *Man, the State and War* and *Theory of International Politics*. Some of the main critics will be discussed during the article, especially the critical theories and deconstructivist objections, because they are inspired and prove the reason why Waltz is so important: the significance of his themes and of the values involved,

alongside with an ambiguous relationship with the events and reception.

1. Between prudence and science

Under Waltz's influence, but also under the influence of hermeneutics and post structuralism, IR entered into a long period of ontological, gnoseological, epistemological and methodological arguments⁹. Even if some years ago, the topics included the legitimacy of research funding, according to Dunne, Hansen and Wright we are living now into an era of pluralist detente¹⁰. Things being as they are, any approach must include also this type of issues, which are making a contribution to a more nuanced judgment of theories, but are also overestimating the role played by the philosophy of science and can lead to underestimating the need to study "concrete" phenomena. The most interesting classification of IR theories belongs to Ole Wæver, which distinguished between rational choice, institutionalist, and constructivist and deconstructivist theories, a typology which still has value, in general¹¹. The essential themes which researchers must approach include the relationship between subject and subject, the relationship between individualism and holism, the epistemology (how we understand the process of knowledge, why we are able to know anything).

1.1. Epistemological perspectives

This approach combines the pluralism of interpretations with interdependence's between concepts and something called "reality" acknowledgement. In a fundamental sense, I am a moderate Vician, I support that view according to which there is a radical difference between natural and humanist sciences: to know the structures and the social changes we must study also the actor's representations, because by taking into account of ideas and purposes we can grasp in par, also the way individuals and groups are behaving¹². As in the case of natural sciences, there is a dependency of facts and theory, to which we must add the impossibility of systematic and precise observation and testing, a difficulty which is related to the separating between types of variables, free will and ethical issues.

Rationalist (as in Descartes, not IRs sense) and empiricism pinpoint a combination of deductive and inductive methods, observation and experimentation, by analogy with physics or economy sometimes, which allows, at least, for the rejection of the bad ideas, while their opponents use interpretive frameworks. But as Umberto Eco argued, hermeneutics imply the

existence of something which requires interpretations, while not all perspectives are equally adequate, simply because of the resistance opposed by the “object”. In a Weberian style, Raymond Aron argued that the two epistemological views are complementary¹³ as historians usually are doing¹⁴. The result would be a dynamic process of “negotiation” between that something and the representations, related to the Popperian principle of falsifiability, but who takes into account also the context, this being one of the reasons why, in IR, even if we have many “paradigms”, their number is limited¹⁵. There are two ways of evaluating an author: the textual study or the search for the validity of the ideas (either by testing them or by interpreting their reception), this study being dedicated to the first approach.

How can we understand the impact of an author, taking into consideration all the above? In a famous conference, Michel Foucault identified the founders of discursivity, authors which set rules for the new creations, not just bringing into attention new topics¹⁶. The three traditions identified by Martin Wight are mostly constructions, as Hedley Bull noticed, so we cannot exactly speak of schools and doctrines, it is better to use the previously mentioned family resemblances, which take into consideration the context and the interaction more than the dogma, even if ethical dilemmas still have influence¹⁷. From this perspective, Kenneth Waltz matters not only because he authored a coherent theory, with some explanatory power, which can be more or less contested by comparison with the alternatives, but also because he raised some normative issues which belongs to modernity, adapted to the context of his era, which justified the continuous comparison of IR scholars with his work¹⁸. More precisely, he adapted Rousseau’s and Morgenthau’s pessimism to the study of war and balance of power, directly engaged Kant’s ethics and epistemology, which combined Reason’s limitations with the belief in progress and pragmatism in action. More precisely, I doubt that there is a fundamental breach between Walt’s *Man, The State and War* and *Theory of International Politics*. His neorealist can be seen as a mixture between *The Critique of Pure Reason*¹⁹, *The Eternal Peace* and a certain practical spirit, an acknowledgement of power politics’ significance, with the goal of mitigating her effects, as one of his articles suggests²⁰, which puts into question the significance of the positivism too easily invoked by his critics.

1.2 An ongoing controversy

The reception of Kenneth Waltz’s work offers some contrasting images. He was considered, at the same time, an adept of power politics and bipolarity, and the painter of a world full with prudent actors, a positivist, a half hearted supporter of science, as being too holist, or as too much of an individualist²¹. The ambiguity of his theory, the controversies that he ignited, the sensation of order and clarity left after reading his works, assured him a role of founder of discursivity²².

It has been said that each time, we read a different book²³. Waltz’s works, especially *Man, the State, and War* and *Theory of International Politics* opened many avenues for discussion. His explanation was conceptually undetermined, as he admitted, while a contradiction between confirmation and falsifiability plagued his epistemology, and issues regarding testing and methods are not systematically addressed. Meanwhile, the approach in his first work is based on ethical theories, but his view of capabilities from *Theory* is not materialistic²⁴, power comprising not only resources, but also a probabilistic influencing between political actors, not that different from those belonging to Morgenthau and Kissinger. Alongside some aspects like his sympathy towards Immanuel Kant, and the democratic peace theory from *Man, State and the War*, his considerations regarding the tendency of power concentration and the risk of exhaustion encountered by the Soviet Union, these features put under question the usual view of his ideas as simply structuralist, statist and materialistic. Taking into account the exaggeration of sociological, economical and positivistic elements of his theories, a new interpretation is required, one aiming at bringing Waltz close to the sources of IR, philosophy and political history.

Stephano Guzzini has seen in realism a repetitive failure to transfer into the United State’s academic environment the European diplomatic experience, establishing a new research discipline in this way. In a likely contradiction, he sees Waltz only as a positivistic alternative to liberal theories of interdependency, overstating the scientists and material aspects of his work, and also the difference between this two major works²⁵. Inspired by Kuhn’s theory of scientific change and deconstructivist critics of neorealism, Guzzini’s explanation does not account for the indetermination of Waltz’s theory, neither for the continuity between *Theory* and *Man, state and war*, or for the recurring impact that his work exercised into IR. Like Michael Williams, I tend to see realism closer to Wittgenstein’s

“family resemblances”, than to paradigms, research programs or traditions, because this perspective allows more nuanced meanings, variation according to contexts, which still keep some sort of flexible unity²⁶.

John Ruggie pointed out that Waltz’s neorealism contains two aspects, a “deep structure”, comprising the discussion about anarchy, on one side, and capabilities and differentiation, on the other²⁷. This distinction goes farther than the differentiation of theories and laws, because the logical positivistic model invoked by his critics may enter into tension with Waltz’s belief that we can only explain only a few general features of international politics, as Guzzini suggested, but also with his theoretical evolution, more precisely with the fact that the main concepts of anarchy, balance of power and level of analysis were established before the neokantian “scientific” branded approach from *Theory*, by a pessimistic comparison of major Enlightenment political philosophy. An alternative moderate approach is to see him closer to classical realism, especially on core ideas like the same moderate skepticism towards change and a similar solution, of cooperation between reasonable decision makers, sensible to power, and to the risks endangered by conflictuality²⁸.

Waltz’s originality comes from his capacity of synthesizing the doubts towards progress, with Rousseau’s social theory of conflicts, and Kant’s evolutionism. Morgenthau’s moderate skepticism, Rousseau’s view about international relations and Immanuel Kant’s pacifist ethic share a concern to find a compromise between moral objectives, reasonable doubt and pragmatism. Ruth Grant pointed out that there are common moral grounds between limited “Machiavelism” and evolutionary radicalism: politics and power come out of interpersonal dependence which limits the chances of attaining absolute goals, but by prudence we can try to mediate between the two domains, if we avoid rigid moralism and corruption of character. In an argument close to the one put forward by Martin Wight, Grant bring close the realist with the flexible revolutionaries²⁹. It is exactly this tension, between a theoretical necessity (the influence of structure at Waltz, Fortuna and prudence at Machiavelli) and the way people act in reality, which opens, according to Pierre Manent, the modern era from an intellectual point of view³⁰.

Kenneth Waltz sketched this position, in *Man, the State, and War* and in a series of previous publications, developing the key elements of its design (levels of analysis, anarchy, balance) before his second major

work. Critical positivism plays a subordinate role, to make more his explanation more rigorous, but, as in Morgenthau’s case, as Guzzini noted, it contradicts its normative principles. The epistemological framework, the theoretical indeterminacy, difficulty of testing, the concern for the collective management of international relation from *Theory of International Politics* can not be explained by scientism only, or by difficulty of integration, they can be better grasped by the preference for earlier political principles, regarding the imperfection of human nature and political institution, the limits of progress and political responsibility.

Waltz’s message is that, over the long term, if decisions are rational or at least prudent, we may witness a gradual improvement of international relations. Under these conditions, the overall system limits the possibilities of wide scale politico-military expansion, as a result of alliances, arms races or deterrence, again, if players are careful³¹. It should select just those behaviors and units that follow the rules of effective policy, reducing aggressively and encouraging a certain degree of order, as Bennett pointed out, a position quite close with the ones expressed by Kant, the main difference being the skepticism inherited from Morgenthau³². The main difference between relative and absolute gains-centered theories revolves on the same issue.

Waltz is characterized by the red line of reformist pragmatism inspired by the tension between conservative skepticism and hope of progress, which led him to see similarities between seemingly opposing concepts. His positivism has been exaggerated, since, in his view, we can know just the general features of the system, the rest belonging to chance³³. The definition of principle, functional separation and capabilities, of structuralist-functionalist origin, follows the footsteps of Rousseau’s social theory. The moderating effects of anarchy which may have effects if a rational elite rules and the meliorism of structuralism, observed by Miroiu and Bennett, are bringing into memory Morgenthau’s and Kant’s reform projects. The following parts of this article are discussing Waltz’s major works.

1.3. The main influences on Waltzian neorealism

Hans Morgenthau started his framework from a Pascalian conception of human nature, not so bad, as powerless³⁴, the positivistic or scientific epistemology being seen by him as a utopian attempt to overcome or compensate for nature’s limitations. The successes of

modern science led to the idealistic hopes of reforming the world, through reason, education and moral and institutional progress in parallel with the rise of the bourgeoisie in the Western societies³⁵. From here follow traits like the underestimation of politics, of international relations especially and of the struggle for power and the preference for rationalism, monism and monocausal explanations³⁶.

The founder of postwar realism believed that socialization is restricting the ability of the research, in humanities, alongside their goals, and methods³⁷, but that “contingencies... follow each other with a certain regularity and are subject to a certain order” underpinning knowledge³⁸, the purpose of a decent study being to reveal the possibilities contained by the various social contexts which are partially limiting the choice; bottom line, a combination of chance and logic³⁹. There is a universal tension between the desire for power and morality, which, nevertheless, may be moderated by the preference for the lesser evil, political and moral rationality, besides the practical mentality highlighted by Guzzini following into Oakeshott’s footsteps⁴⁰. Consequently, Morgenthau provided the solution of a gradual reform through diplomacy and the intelligent use of capabilities balance, in order to achieve a system of security institutions able to manage mostly the conflicts between states⁴¹.

“Man is born a slave, but everywhere he wants to be a master”⁴², by this ironical idea, one can see a sort of rapprochement between Morgenthau and Rousseau alongside the apparent paradox of a common ground between the liberal conservatives from IR and the ancestor of leftism and constructivism. The Genevan philosopher’s ideas are hard to interpret⁴³, however, two fundamental moments in the history of postwar intellectual were related directly to him: John Rawls’ justice as fairness theory and Jacques Derrida’s *Grammatology*, which show the important influence of Rousseau’s ideas⁴⁴. He was regarded, alternatively, as a source of realism, of moral reform ideals, of democratic peace theory or as a neostoic⁴⁵.

For John Rawls, Stanley Hoffman or Michael Williams, he offered a federative or confederative model overcoming the tensions and conflicts, based on the general will of the citizens⁴⁶. For Judith Shklar, Rousseau was a utopian, critical of modern society, but uninterested in practical change⁴⁷. Céline Spector argued that his ideas are suggesting a deep skepticism towards overcoming the dilemmas of international relations⁴⁸. Ruth Grant offered a middle ground, an interpretation in which Rousseau is much closer to moderate realism, especially regarding his flexibility,

but maintaining the normative difference between the two positions⁴⁹.

For the Genevan philosopher, people are good and innocent by nature, but the interactions and society have changed them dramatically. Rousseau identified three stages: state of nature, “the huts era” and society⁵⁰. With the intensification of interaction and dissemination of private property from the second stage, radical changes in personality happened, when self-love and mercy were overshadowed by egotism and vanity. The birth of society generated competitive pressure on all human groups which had to follow this model of organization if they wanted to survive⁵¹. However, man is still perfectible and the “amour-propre” may pave the way for love and solidarity. Rousseau’s moral solution to international politics consists in a confederation, hoping to moderate the consequences of anarchy this way, but at the same time, considering it too good for this world⁵² or in education, which he later criticized⁵³.

The Eternal Peace by Immanuel Kant is the most important pacifist work, which tries to combine moral ideals, duty and pragmatic spirit. It is interesting to note that the German philosopher was deeply influenced by Rousseau, not only as far as the connection between the categorical imperative and the general will goes, but also regarding the idea of a league of republics, linked to a social contract signed between rational and free citizens which are accepting moral constraints⁵⁴. Our knowledge is reduced to phenomena subject to the human categories of space, time, causality, but we can overcome the limitations of the natural world, pursuing ethical goals which should guide our will, a will that we are obliged to consider it free⁵⁵. Peace must be an achievable goal, because from the conflictual Hobbesian state of nature, the rising costs of war and trade development, war may and will become less useful, while the republican organization changes the authority of decision from small groups to citizens uninterested in sustaining the losses of wars. At the international level, a league may ensure the control of anarchy’s negative consequences, this organisation being preferred to hierarchy⁵⁶.

Morgenthau came with the tragedy of the human condition and imperfect knowledge: in a hostile world, we can only know a few things, our reason being limited by chaos and chance. Rousseau defined the fundamental condition of international relations, anarchy, as a product of the formation and interaction of various societies, which may endanger the survival/self-love minimal goal and has emphasized the social nature of war. Kant offered the idea of a potential

progress and the virtual coordination between morality and interest.

All authors discussed here had a pragmatic side, their reform projects were using incentives and institutional construction to stimulate and constrain the international actors, over the long-term. Also, power played an important role in these political theories. The indeterminacy of Waltzian structure which puzzled Wendt can be better understood in terms of Morgenthau's conception regarding the limit of knowledge and the critique of positivism. Waltz's epistemology is derived from *The Critique of Pure Reason*, in that role of the theory is to explain the necessity of the correlation identified by observation, necessity which exists only conceptually, since the real world can not be known directly. There is no need to justify Waltz's debt to Rousseau with the ideas of anarchy as a condition and survival as goal, and to Kant for the critique of hierarchy, while the always uncertain balance of power recalls Morgenthau's conception.

We can see here also the limits of neorealism: if political action is partly determined, then we must move beyond the structure, since its effects can be negated by the characteristics of individuals and groups. As Pierre Manent considered, discussing Machiavelli and Rousseau, there is a tension between a theoretical derived necessity and the reality⁵⁷. Or in terms of international relations, accepting the security dilemma, we are forced to turn to actors and individuals explain anything, an issue of which Waltz was conscious, but which can be ignored if too much emphasis is placed on the third image. Realism's red line is the pessimistic philosophy of political necessity, and Waltz had not moved away from it, as some of his critics argue, but he defined Fortuna in different terms⁵⁸. Next parts of this study are dedicated to a discussion of Waltz's major works.

2. Consecration of analysis level

Published in 1959, *Man, the State, and War* was a fundamental moment for the development of IR studies⁵⁹. Here, Kenneth Waltz established the three "images" of the domain, subsequently called levels of analysis, as a method useful for classifying the causes of conflict. Through the idea of anarchy regarded as permissive cause of conflict, the author moved a little away from classical realism, especially regarding the middle ranged arguments, while he kept the pessimistic view of human nature. Waltz aimed to identify the causes of war, generally regarded as

a social phenomenon, instead of particular conflicts, with the goal to point towards a coherent program of control. Because of this, Waltz's approach was to discuss, level by level, the necessity and sufficiency of the various proposed explanations. The weak points thus identified justify the option for a systemic image with a higher degree of generality.

The idea was in the air, somehow. Alongside the classic discussion about the individual and society or micro and macroeconomical explanations, the disjunction between the theory of relativity and quantum mechanics indicated that physical reality can differ depending on the level, which implies separate perspectives and laws⁶⁰. About a decade before, Fernand Braudel published his famous history of the Mediterranean where political and military events were interpreted through three floors, three different temporal structures, the length of human geography, the conjunctures, and political or economic stratification, in this case the battle of Lepanto in 1571 in the context of the broader rivalry between Spain and the Ottoman Empire⁶¹. At that time, as we have seen, IR was dominated by the pessimistic realism, mainly represented by Hans Morgenthau, who face criticism appeal to human nature, under the impact of behaviorism and of the works of authors such as John Herz who have questioned the limits of interpretation focused on the struggle for power⁶².

Man, the State, and War was a conceptual innovation or, at least, introduced some clarity with the three images by which author classified the various ideas regarding international politics. The first was centered on individuals, their universal features, reunited in the notion of human nature, or on psychological characteristics of decision makers. The causes of war would were found in the determinants of human nature and in individual behavior⁶³. Human nature is not necessarily an individualistic concept, though. In the Aristotelian vision, it involves sociability, an idea subsequently supported by Hugo Grotius and John Locke. Although Waltz distanced somehow from theories of international relations based on the belief in the goodness or wickedness of men, he did not rejected them entirely, even in his second conceptualization. The author believed that even if one cannot change human nature, the behavior, however, can be influenced by institutions.

Like Hobbes and Spinoza and especially Rousseau, the neorealist theorist emphasized the importance of institutions in shaping the quality of political life. It seems ironic, but the author who has pushed forward the idea of a radical difference between the

internal and external domains emphasized a thematic continuity of the two domains through political philosophy. In his view, however, theories of political regimes did not provide a satisfactory interpretation, because some assumed the existence of social perfection⁶⁴, which conflicted with his philosophical pessimism. Moreover, the domestic-centered interpretation ignored the fact that states interact, they form a system that influences their behavior in a similar, though not identical, way in which domestic institutions are influencing human actions, regardless of individuals and groups, so dictatorial regimes can cause wars in Waltz's view, but their existence cannot explain war as a general phenomenon⁶⁵. These considerations affected the results, because not all units were characterized by morality, regime change does not occur simultaneously in all, while war remains a possibility. Interestingly, Waltz did not reject what would later be called democratic peace theory, but he limited its usefulness. He accepted that liberal regimes have certain advantages, and added that idea to the pessimism about human nature, moderating its "realism".

In his search for a satisfactory answer, Kenneth Waltz was inspired by Thucydides, Machiavelli, game theory, and especially the deer game deer evoked by Rousseau. When the first political community appeared, argued the author, other people had a choice: either imitate the model, or risk their own survival⁶⁶. The permissive cause was the very structure of the international system, the anarchy, the absence of a common sovereign to ensure peace. The characteristics of the international system are stimulating the selfish behavior and short-term calculations, contrary to the potential common interest, Waltz had argued. Cooperation becomes unlikely because it was profitable to break agreements and ignore solidarity. In addition to the imperfections of human nature and the difficulties of regimes, insecurity and the conflict are fundamental features of the international environment. So, we can not understand war unless we combine anarchy with the characteristics of states, traits of leaders, those three levels of analysis. The balance of power and federalism were, according to Waltz, the main responses derived from the third picture to the problem of war. The American author rejected the second option, fearing a potential authoritarianism, and inspired by his pessimism as it was pointed out by Lucian Dîrdală⁶⁷.

This work highlighted the importance of the linkages between political philosophy and international relations, and can be read, if only

for this reason, as a history of ideas about war and peace, especially in the modern era. Alongside J. Davis Singer's review paper, *Man, the State, and War* established the idea of studying international relations in terms of the three levels of analysis, a change that brought some conceptual clarity in the field. Human nature Realism and Liberalism have been pushed to the background, though the influence still remained, and determined the options, each time there was a conceptual dilemma or argument into play⁶⁸. The book was marked by three distinguishing features: the preference for continuity in the definition of the three images, the philosophical modernism and the typical pessimism of the realism in IR. The three levels of analysis indicate a philosophical influence, but also a positivist attempt intended to achieve a greater clarity in defining the causes and controlling the effects. The tension between normative and explanatory theories will influence not only Waltz ideatic evolution, but also the ensuing debates in international relations.

The main ideas from *Theory of International Politics* could already be found in *Man, State and the War*: the distinction between hierarchy and anarchy, the structure as the permissive cause of conflict and the hypothesis of survival as a minimal condition. The Kantian approach to epistemology allows reconciliation, over the long term, between the potentially violent reality and the approximation of a moral ideal through subjectivity and autonomy, as Waltz considered in an important article dedicated to Immanuel Kant⁶⁹. Even if we can not make a better world here and now, while being free beings, we can use social-political conditions to improve our fate, although we are interested creatures dominated by passions⁷⁰. The discussion about the automatic tendency of balancing, the assumed link between polarity and stability and confidence in deterrence are alluding to Kant's emphasis on increased costs of war as an instrument of socialization, and of republicanism's promotion, alongside the emphasis on trade and Rousseau's accentuation of conflictuality's social nature. The next part is dedicated to the structuralist change.

3. The structuralist reformation

With *Man, State and the War*, Waltz enshrined the three levels of analysis, but maintained the indirect influence of human nature's pessimism. The tension between the reserved optimism expressed by the author towards the liberal regimes and the systemic explanation left unsolved the issue of relationships

between the internal organization and international factors, in general. The difficulty to explain change added to the typical problems encountered by this type of analysis. Concepts like polarity, balancing, alignment, anarchy, structure owe their persistence and polemical nature to his interpretation. Constructivism, deconstruction, democratic peace theory, neoclassical realism, defensive realism, offensive realism, the talks about BRICS, the theory of offshore balancing were either polemics against or adaptation of neorealism. The ontological and epistemological debates were all justified relative to ideas expressed in *Theory of International Politics*.

3.1. The epistemological dilemma

Inspired by conceptualism/Kantianism and a vague positivism, Waltz has divided his new work between gnoseologic discussion, theoretical elaboration and some applications⁷¹. His first objective was to reject the naive empiricism, which tended to argue that the explanations are directly derived from the phenomena, without rational interpretation. Moreover, famous research programs were based on a strictly observational approach, the classic example being *Correlates of War*. By doing this, Waltz believed that experience does not show us which facts are important, or the links between events⁷². Here the author followed in part the philosophical critics started by David Hume and Immanuel Kant's and developed in Karl Popper's famous theory of falsificationism⁷³. Consequently, Waltz distinguished between laws, seen as statements intended to establish relationships and theories⁷⁴. The latter are "transcendental", using mental tools to explain the links between different phenomena⁷⁵.

The author claimed that theories are not descriptions, but abstractions which allow us to know more about the world. They isolate areas; select some items, combine them, and idealizes them with the hope that, eventually, they will be submitted to verification, reformulation or restriction⁷⁶. From them, hypotheses are derived, which "if they are confirmed quite conclusively, they are called laws"⁷⁷. As a theoretical principle, the author opted for the idea that international relations are suitable to systemic study, not to an analytic one (centered on events, strictly empirical) or statistic, a choice which can be explained by the complexity and organization of field⁷⁸. The system was seen by the author as a totality, alongside units which interact, elements which needed to be distinguished for the development of a satisfactory explanation⁷⁹. He criticized most theories for being

reductionistic, in the sense that explanations were centered eventually on actors.

Waltz argued that, although experiments are impossible and accuracy is difficult to achieve, as in the natural sciences, the reality gives us some clues and a theory can explain a couple of features, in a parallel to the previous argument of Morgenthau. He believed that balances of power are formed repeatedly, regardless of the units, which can be countries, empires, etc. decision-makers personalities or society's identity, and this make them anomalies for interpretations focused on units. If the same result is produced regardless of variation units, then there must be something beyond, at the systemic level, providing a satisfactory explanation.

From *Man, the State, and War*, the author has retained the priority of systemic level analysis, but, if in the work in 1959 he interpreted a series of philosophical doctrines, in *Theory of International Politics*, he started from considerations about the "reality" of international relations which would imply the need for a systemic explanations. The balance of power was conceived as an empirical law to be explained, based on a concept and some abstract connections. Another difference between the two major works of Waltz consists of the human nature's sublimation, which may be seen as a contradiction with the moderate positivism ambitions from *Theory of International Politics*. He emphasized that we must study separately the systemic levels from the units to understand the factors present in each of them, even if in concrete events's explanations, they will be reunited. Ethical issues from *Man, the State, and War* have been put in brackets, for similar reasons, but continued to exert influence and are constraining his theoretical choices.

After separation of law (balance of power) and theories (systemism), the author addressed the issue of testing. As noted, the dualism between theory and events raises the question of the linkage between interpretation and fact, already influenced by representations. In addition to the less problematic criteria of internal consistency and simplicity, Waltz accepts in *Theory of International Politics*, with some reservations, the Popperian falsificationism, i.e. the principle that, although experience cannot ever confirm a theory, one can at least rule out the faulty ones. Buzan, Jones and Little thought that the founder of neorealism was inconsistent, oscillating between conceptualism and empiricism⁸⁰. Falsificationism raises a credibility test: how can we know that rejection is credible when we are checking a combination of an

assertion with theoretical and empirical observation, once generalization was rejected? This means that there is at least some kind of a separation between theory and methodology, the assumption of neutrality over the facts and the possibility of induction⁸¹.

So we have to make a distinction between theories and laws, the first inventions, the others empirical connections. Representations are meant to help us understanding why and how different events are related, and causality. The balance of power as a recurrent feature would falsify the theories that emphasizes the actor and would justify a systemic explanation.

3.2. The structure and the international system

Waltz intended, in the second step, to show that the balance of power is therefore a necessary and sufficient systemic conception, assuming that is a cyclical phenomenon and that levels of analysis are separate for theoretical reasons. He did not aim to explain, this time, the war directly. Waltz also insisted that his theory neither assumes nor is concerned to explain foreign policy, only taking the hypothesis of survival / follow external security as a general and minimum requirement.

The structure was defined as units and their interaction, so the explanation would be reduced to a positional approach. This is for him a useful abstraction that would ensure the resemblances between processes and phenomena⁸², meaning that, regardless of intentions and actor's features, in international relations we are dealing with recurrent phenomena. Inspired by Durkheim, the author believed that the structure consists of principle, structural differentiation of units and distribution of capabilities. But by bringing back interaction and processes, the criteria used by Waltz were questioned. International society theorists and constructivists felt it necessary to include such factors as rules, representations or technology, and the political economy issue-areas such as global market and finance. Even-so, the quasi-Weberian proposal for definition of politics, by the relationship with force, was indicating a specific issue that justifies its autonomy for him.

According to the first criterion, international relations are anarchic, meaning there is no Weberian monopoly of legitimate force⁸³, no international equivalent of governments. From here, it follows the absence of functional differentiation of units, in the sense that all actors should aim to achieve security by its own means, which limits the possibility of specialization. The only dynamic element of the theory

is the distribution of capabilities, defined as resources, linking structure to behavior. Here, we are dealing with traditional discussion about the state of nature, which induces insecurity and war, initiated by Thomas Hobbes⁸⁴, to which is added a Weberian nuance⁸⁵. In the Grotian, Lockean traditions, those arguments were taken up by neo-liberals, constructivists, and English school scholars, who argued that the absence of a sovereign authority does not lead to insecurity and conflict, while the structural differentiation was challenged by Ruggie, and by the followers of hegemonic stability theory. However, Waltz claimed simplicity and functionality, in the sense that, from a systemic point of view, the nature of the units is not the main source of explanation, but the structurally induced goals, while the theory should be evaluated according to her capacity to explain phenomena in her own terms.

In one of the most important critiques directed against neorealism, Alexander Wendt argued that, in *Theory of International Politics*, Waltz has abandoned the assumptions about human nature from *Man, State and the War*, and introduced the idea of self-help producing anarchy by the back door, so he contradicted himself⁸⁶. But, it seems that, on the contrary, the second work presupposes and develops the earlier interpretation, being based on a concept of a fragile modernity and of limits of knowledge, while survival is minimal requirement, analogous to Rousseau's self-love, which becomes important in certain conditions (polarity, accumulation of power), when the security dilemma worsens. The first work set the fundamentals of the problem, the other one defined the situations in which the probability of conflict can rise. Since the goal is to develop the third image, *Theory of International Politics* completes and does not exclude *Man, State and the War*. In the absence of a sovereign power, ensuring security falls to units, regardless of existing cultural form. What varies is the severity, the intensity of the security dilemma. Sometimes it is improbable, other times, it is acute.

Intersubjectivity can improve international conditions, but the principles and concepts can often change, power may corrupt, while the distribution of capabilities may provide some predictability⁸⁷. For Waltz, we could only know some general trends, since the units and individuals are too diverse to benefit from relatively safe predictions⁸⁸. Only over the long term it can be argued that actors that are too aggressive or very vulnerable will bear excessive costs, which would allow a process of improvement,

if decision makers are rational, even if they do not share the same ideas and schemes. But rationality is only a possibility, not a guarantee⁸⁹. The only situation where we should not find this situation could be the one in which moral norms and culture can manage conflicts without a central institutional ensemble. That would mean talking implicitly about units, identities, as the way self relates to the other, but already we would not be at the structural level. Wendt cannot argue simultaneously that the actors and the structure construct each other, and that the logic of anarchy is prevalent. Waltz avoids contradiction by leaving the theory indeterminate. If we reunite the levels, the imperfection of human nature and the potential progressive regimes can lead, alongside the anarchic structure, to relatively peaceful international environment, though imperfect, not so far away from the Kantian model.

For Rousseau, the social interaction changes the passions – the “amour-propre” becoming the main stimulus- which produces a similar explanation to the one in terms of private markets, but more general, while self-care, a drive similar to security, in condition of anarchy, explains wars⁹⁰. The distinction is similar to the one developed later between offensive and defensive realism and is implicit in the Waltzian conception regarding the international system and the security dilemma. Waltzian system of Rousseauist inspiration is formed by the interaction between actors, but once established, it exerts an independent influence. The assumption of survival was presented in the *Theory of International Politics* as similar to the utility maximization hypothesis in economics, a tool for conceptual construction. The indeterminacy of the outcome based on security and anarchy still persists, the mechanism identified by Waltz being insufficient.

3.3 Power and system in International Relations

To achieve a better separation of levels and, in particular, to better understand the structural effects, Waltz appeals to a change of the traditional concept of power. The usual sense used in political science was explained succinctly by Robert Dahl: “A has power over B to the extent that he can get B to do something that B would not otherwise do”⁹¹. The neorealist theoretician criticized it, considering that it produces a confusion between a situation and consequences⁹², which would make the failure of the policy of a great power a phenomenon difficult to explain.

Consequently, Waltz distinguished between

resources and control⁹³ and he proposed a modified version: “an agent is powerful to the extent that he affects others more than they affect him”⁹⁴. The term is inevitably relational (comparison); meanwhile, success is becoming a probability which may increase with the growth of capabilities (resources), but is not determined. The difference between the relational and the classical definition based resources is not radical, though. Robert Dahl’s conceptualization of power does not equate it with success, but refers to changes in behavior. However, both can be criticized for underestimating the “non-decisions”, of possessing the advantages brought by a position which does not necessarily translate into a change in behavior, the so-called “structural power”, the ability to define rules game, in the vision of Susan Strange.

The second aspect approached by Waltz was about polarity. The balance of power is a multifaceted term, as argued by Ernst Haas and others⁹⁵, one of which was already addressed a trend or a law in international politics. Another important meaning is that of the current distribution of capabilities, alongside the relationship between a specific equilibrium and either stability or war, the debate about the various configurations (multipolar, bipolar and unipolar continuing until today. The polarity should link anarchy and the survival hypothesis with some general results. In this respect, John Ruggie was right when he suggested that Waltz’s theory, contains several meanings of structure⁹⁶. Also, it is unclear how should we rank the polarity explanation, in comparison with other factors, when we try to grasp concrete phenomena such as the formation of alliances or war (systemic determinism, a mitigating influences of units trait’s and behavior etc.).

Kenneth Waltz continued this strict designation of levels, eliminating most of the units’ characteristics from the structure. Therefore, polarity isn’t about the phenomenon like rival blocs in international society, it excludes any reference to the formation of alliances, avoiding a logical circularity. The polarity was defined by him strictly as the number of major powers in the system, while depending on the architectural aspects being derived some consequences that will be discussed below.

3.4 The implications of neorealism

After developing the theory, some implications followed, in the spirit of epistemological conceptualist program adopted by the author. They probably caused more controversy and critical reactions than any other aspect of his on international relations. Moreover, a

big part of IR's development was influenced by the findings from *Theory of International Politics*.

The first hypothesis held that balancing is more common than bandwagoning, regardless of intentions and unit's traits. The anarchic principle explained why there is a search for security: in the absence of sovereign authority, units (states) have to manage on their own. The balance of power theory linked the international structure to events, arguing that, when states are faced with a concentration of power, they will tend to react by joining coalitions or by internal means, according to the type of polarity, which defines the number of available partners and strategies likely to follow. Here, Waltz raised a number of issues for its readers, especially regarding how the system is influencing the behavior of units, if balancing is not an explanation of foreign policy, but a result of a recurrent general tendency.⁹⁷ In his view, the international structure does not have a direct causal effect, but it stimulates and penalizes the behavior of states, as the market reacts to efficient producers and consumers. It socializes by competition and imitation.

The second hypothesis argued that bipolar systems are more stable, stability defined as the absence of war or as durability of a power configurations, one of Waltz's vulnerabilities is the oscillation between the two meanings of the concept. Finally, he opted for the second sense of the term⁹⁸. Here, one can see the influence of context on theorizing, the work being published in 1979, in the context of bipolar rivalry and a less credible policy of detente. According to Waltz, the simplicity induced by the existence of only two great powers and their independence regarding their allies, in terms of survival, both contributed decisively to reduce the chances of a major conflagration. The main source of instability was represented by the possibility of exaggerating the local crisis' importance⁹⁹. By comparison, Waltz's multipolarity was conceived as a less rigid but full of uncertainties. The possibility of multiple combinations of powers meant that any possible ally matters, so any rivalry could become the source of conflict. Otherwise, the major players could find themselves in a position of some decisive disadvantage, which is excluded in bipolarity because of the importance of greater dependency on one's own resources and not on coalitions¹⁰⁰.

Hence the problem of determinism shows up again. Multipolarity may mean war, coalitions, a cooperative congress system, buck-passing, chain-gang-ing, rigid alliances, the presence of a balancer etc. This flexibility, according to Waltz, should increase instability by adding minor partners, but also implies

the existence of ample opportunity for balancing¹⁰¹; only when there are rigid divisions between blocks, the vulnerability mentioned above should have strong effects; in both cases, the conflict is present, however. Existence of a single major power may represent a challenge to neorealism, an underestimated possibility in his 1979 which does not mean that Waltz does not present some ideas about this configuration of power. Contrary to hegemonic stability theories, Waltz thought that unipolarity was unstable, due to lack of counterbalance to the dominant power¹⁰². Regardless of the advantages held by its political regime, it may be affected by the miscalculations and costly foreign policy actions.

Unipolarity is sometimes difficult to measure: how strong should be the main power to be able to speak about a change in the system? Do we make a comparison with every major actor taken apart; or do we take into account the possible combinations of other members of the international system? According to which perspective one chooses, it would be legitimate to say that the nineteenth century was multipolar or that it was dominated by Great Britain, for example. Starting from anarchy and survival, Waltz identified two categories of fundamental effects, results of systemic conditions. First, the international structure induces a tendency to balance, which must override the alternative phenomena, such as bandwagoning or buck-passing. Secondly, the bipolar configuration should be the most durable of all.

Conceptualization of power was meant to reconcile two opposing ideas, necessity and choice. The structural characteristics and the balancing tendency can switch the intensity of the security dilemma, to higher or lower levels, but it depends on decision-makers if their policies correspond to the survival assumption. If they ignore it, though, they will have to pay the costs. The neorealist theory can not tell us more than this, which means that the fundamental problem is going down from the level three to the first two, an idea that appears in the *Theory of International Politics*, including the pessimism regarding the human nature, even if it is less pronounced¹⁰³.

3.5. System and units

Anarchy allows initiation of conflict and survival requires a balancing coalition or the development of internal resources. Therefore, the formation of alliances should be likely, otherwise the system risks to become a hierarchy. For Waltz, bipolarity is the safest international configuration, while unipolarity and multipolarity are potentially conflictual formulas. He

believed that the possibility of developing a general theory of international relations tends to be limited to the systemic recurrent balance of power. Otherwise, everything depends on the context, the nature of the units, and the features of regime leadership skills, technology, perceptions and culture. Although the link between the two images is not clear, the author has derived some practical consequences.

Polarity is the result of units' characteristics such as the tendency of concentration of capabilities, the increase of the gap between the great powers as a group, compared to the rest of the international actors¹⁰⁴. The classic example was the increased cost of war in the modern era, which began with the widespread use of firearms, a phenomenon responsible for the gradual consecration of the state as the main actor. It is interesting to note that if we combine the configuration with the concentration of power, it appears that the system would be unstable multipolarity, an idea later developed by John Mearsheimer, which is directly linked to some current fears about China's rise¹⁰⁵.

In addition to criticism directed against the theory of commercial peace and the increasing imbalance between international actors, Waltz privileged the role of nuclear weapons in reducing conflictuality. Although anarchy makes war possible, a world conflict becomes unlikely in the international system after their development, especially in cases of mutual deterrence. Deterrence becomes a guarantee of peace. Here, modern strategy meets the Kantian tradition of war as a stimulus for democratic peace.

A conceptualist epistemology perspective alongside the assumption regarding the complexity of international relations as a field of study was the starting points in *Theory of International Politics*. On this basis, the author has developed a model characterized by the distinction between structure and units; defined power as a resource; identified the anarchic principle, the structural similarity and distribution of capabilities as structural elements that help us understand the major trends, if we accept the minimum premise of survival.

Contrary to the author's ambitions, the theory is difficult to test and sometimes gives the impression of an oversimplification. He was criticized in almost every possible way and has inspired extensive research. Despite many flaws, *Theory of International Politics* remains an impressive achievement in terms of the capacity of abstraction and is more flexible than often assumed. A theory which suggests that intentions are not enough, that political regimes have little impact,

that one must sometimes ignore external policies to understand international relations was met with a volley of critiques. It is interesting to note how theory's simplicity and author's confidence pressed even the most radical opponents to be define themselves by reference to Waltz's ideas, a characteristic often cited to argue the primacy of his vision into the discipline, especially in the '80, primate which has been questioned after the collapse of the Soviet Union, in the new atmosphere of "end of history"¹⁰⁶. Critics have tried to show that anarchy and sovereignty do not mean a world politics defined by recurrent balances of power. The epistemology, structures definition, its implications, powers conceptualization, the role of institutions and technology were put under question.

Conclusions

Theories play a fundamental role in our attempts to understand international politics, especially prediction is concerned. Waltz's impact is felt in every debate about polarity, the rise of China, the alliance, nuclear proliferation or the relationship between ideas and practices. This article was focused more on the elements of political philosophy than on the positivist aspects. Inspired by a moderate skepticism, founder of neorealism, has developed an international system where, even if possible, and sometimes probable, the use of force is drastically limited, and progress sometimes materialize. If decisions are good, prudent behavior will be imitated by other political actors, enhancing the potential for improving the security dilemma. However, this evolution is not guaranteed and it is sufficient to have a hostile great power to drastically change the whole trend.

Kenneth Waltz's dilemma is similar to Machiavelli's, in Pierre Manent interpretation: if we want peace, we must control our irrationality and accept the "objective" political necessity. The definition of Fortuna as the anarchic structure and polarity tendency probably will not last, but the normative core will continue to fuel debates in IR. In Kantian terms, we are divided into the two worlds of ideas and phenomena, and this means that any reform in terms of Morgenthau, must take account of politics, not to challenge it directly, otherwise risking to endanger the whole purpose of the enterprise. It is a typical modern dilemma linked to ethical values of freedom and rationality. At this point, the moderate realist and the utopian reformer, identified by Ruth Grant, are meeting, the distinction is reducing to the one between the pessimist perspective regarding civilization's vulnerability to the po-

tential for conflict and Rousseau confidence's in the perfectibility of human nature.

NOTES:

1 Tim DUNNE, Lene HANSEN, Colin WRIGHT, "The end of International Relations theory", *European Journal of International Relations*, 2013, p. 413. Another example was pointed out by Andrei MIROIU is *Histoy and Neorealism*, coordinated by Ernest May. See Ernest R. MAY, Richard ROSECRANCE, Zara STEINER, *Histoy and Neorealism*, Cambridge University Press, New York, 2010.

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- 31 Andrei MIROIU, *op. cit.*, 2005, pp. 89-90.
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THE GO GAME MODEL IN INTERNATIONAL POLITICS RESEARCH

*Mateusz HUDZIKOWSKI, PhD**

The go game has been already taken into consideration by researchers. It has been analysed as a way of understanding East Asian political and business culture, as well as regional strategic thought. It is also a well-known tool used in learning and training in many different domains, such as psychology, management, cognitive science. By analogy, it may apply to political research in general. Global politics can become an object of research conducted with the aid of the go game. The game theory makes a strong theoretical and methodological base for applying go game into domain of political studies. The main application is to create a model that may be used in strategic analysis. Other ways of implementation, such as in the domains of negotiations, decision making, risk management, conflict resolving etc. are also valuable.

Keywords: *go game, game theory, strategic studies, global politics, international relations, conflicts.*

Introductory landmarks

If the *go* game¹ makes useful tool in the analysis of some problems related with China's politics and strategy², could we use a model based on this game in order to research international politics? Can the *go* game³ be developed to build such model? And is it possible that this construction can be effectively exploited in analysing political-related international issues?

Elements of traditional Chinese strategic thinking, e.g. the ones described in ancient strategy treaty

The Art of War (authored by Sun Tzu), could still be actual and worth to know. D. Lai argues that from Sun Tzu's text perspective, the war is not limited to a simple military clash, but it consists of multiple areas, including politics and diplomacy. For this reason, each Chinese military or strategic concept can be related to the world of politics: "In this broad framework, the art of war is, in essence, the process of diplomacy; war fighting is only diplomacy by other means"⁴.

This Chinese way of perceiving war (and any kind of military conflict or military relations between political actors) is, however, similar to the European thinking. Classical Prussian strategist, Carl von Clausewitz, said that "war is merely the continuation of policy by other means"⁵. This phrase could be reversed and even better matched to the Chinese point of view: politics, as well as diplomacy, trade and even psychological relations between opponents are complementing military conflict. These "civil" aspects, altogether with the military aspect, create the phenomenon which can be called "competition". It is widely understood as co-existence between centres of power, based upon continuous rivalry, but not necessarily related with open military clash. From this point of view, sport competition, writing books, building spacecrafts, medical achievements and – in general – developing civilisation, could be seen as a part of perpetual competition between political actors. The war, traditionally understood, does not have to be the most important element of this competition, although in some cases it could become such thing. In addition, even if this continuous rivalry has geopoliti-

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cal character, it does not have to be obligatory turned into military conflict with armed violence, into overt or total war. An example for this statement is the Cold War period when, for over 50 years, USSR and USA had maintained somehow peaceful, although hostile relations. We could say that the long-term struggle of centres of power seems to be their primary activity, when the war that sometimes occurs is merely an element of this struggle. Even so, from the Chinese perspective presented by Lai, the strategy, a term generally related with military issues, concerns all aspects of the competition between political actors and not only its military side.

Nevertheless, accordingly to Lai, there are some “striking differences”, and both sides, Chinese and Western people, are trying to gain some knowledge about the other side’s strategic thinking. Europeans and Americans are studying Chinese strategy, while Chinese people are researching upon the Western way of thinking. The differences between the two philosophical systems are obvious. War and politics, as well as business, are perceived in Asian version as long-term challenges, where patience and strategic thinking are necessary. On the other hand, in the Western world, short-term perspective is more popular, instant revenue from investment is more important, and a conflict is rather a matter of aggression and dynamics than patience and static. These hallmarks of cultural differences are often evoked in business publications on China and on East Asia in general. When it comes to the negotiations or project management (in these domains the importance of strategic issues is significant), we can read for example that in China “the patience is a virtue (...) many foreign companies had lost on China market because of lack of tenacity”⁶. We must be aware that general and popular opinions on such “striking differences” between the two cultures, even if pronounced by researchers, can be simplified and at least partially built on stereotypes. This can be risky. But if the patience in fast-changing environment, the long-term planning, the focusing on long-term goals and the tenacity in realising assumed project despite short-term obstacles are really particularly accented in some areas of East Asian culture, it would be an advantage to know that, even if we are not businessmen but political researchers.

These cultural differences may appear also in different styles of strategic thinking. We can try to compare the ancient Asian strategic game, called *go*, with Persian (or Indian, accordingly to various sources) chess. Preferences of players, styles of playing, effective strategies and their goals are significantly dif-

ferent in these two games. Obviously, the rules are also completely different. In some way, these different rules favour different styles of thinking and different attitudes. In this manner, D. Lai widely analyzes the *shi* concept, making links to practical side of the game and historical examples from the world of politics⁷. The game of *go* is related to ancient Chinese philosophy, mirroring Chinese mentality and some conceptual aspects, and because of this it influences international politics of China.

The question is: can we use the *go* game not only when referring to the military and purely political strategy of China (as I said, they both seem to be connected), but also regarding the international politics problems in other regions and as a whole, all over the world? Probably yes, at least for some areas of global politics. But one has to be careful: proving that the *go* game is a universal explanatory model for international relations is tempting, but difficult. It could be only a result of wider research. Meanwhile, we could assume that the *go* game is a useful tool for a researcher and academician. It could be applied when it comes to developing strategic thinking, negotiation skills or patience in international relations. In short, this game may have some educational virtues for a researcher and a student.

Let us use not only historically, culturally and philosophically-related arguments as Lai does. They are important, especially in understanding local context of strategic thinking. They help us catch a meaning of the *go* system in Chinese, Korean and Japanese way of thinking. It would be good to keep these arguments in mind. For sure, this kind of argumentation does not allow to accept the thesis of the *go* game model as a universal method in researching politics. However, if we developed this type of reasoning, we could indicate some areas where the *go* game might be applied, at least as some kind of learning or training tool.

We should also add some methodological argumentation. The lack of methodological background seems to be the shortcoming of Lai’s concept. This kind of rather intuitive understanding and “light argumentation” is very common when it comes to the application of *go* game in political science and economics. Here is another example: an essay presenting possible applications of the classical Chinese thought (i.e. *the 36 Stratagems of the Chinese, the Principles of Tao Zhu-gong, Annals of the Three Kingdoms*) to business and marketing which is “trying to apply the 10 ancient *go* proverbs to business strategy”⁸.

The proposal of “learning from the stones”⁹ in

various domains is not new. Similarly to the game of chess, which has been broadly implemented in the field of education¹⁰, *go* has also been considered as a useful tool in communication, education and psychology¹¹. Economics and management are additional topics¹². This game is being studied in universities by mathematicians, cognitivists, historians, economists. It is being used as a teaching method, also in business training. Political studies seem to be underrepresented here¹³. We might try to fulfil a vacuum by finding proper *go* game applications. First of all, however, one has to build methodological fundamentals. They can be created on game theory principles and concepts of space and territory, assets, interest, conflicts and negotiations. These concepts are core terms frequently used in political science, international relations and strategic studies.

1. Theoretical background

1.1. Game theory in political science and in international relations

By referring to “political science and international relations”, it was not my intention to ignore any other domain that deals with international politics issues. These two terms are commonly used in Poland in order to describe sciences that aim to conduct research on international politics. Nevertheless, there are many more disciplines which are invoked when talking about political research, such as: geopolitics, geoeconomics, sciences that intend to measure national power with the help of quantitative research¹⁴, strategic studies, wide horizon of security studies (including former military – or defence studies) and so on. Their common denominators are global, international and regional political problems. Without trying to decide what is the most correct term, for the sake of simplicity, whenever I write about two most popular domains or I am using a synonym, I mean “political research” as a whole.

Why can game theory be applied to political studies? What has this theory got in common with politics? The game theory is studying mathematical models of some kind of conflicts¹⁵. The simplest definition of game says that a game is a conflict of interest¹⁶. A game can be a model. Therefore, we are able to build a model of reality. To be more accurate: a model that represents a limited part of reality, e.g. model of conflict, but not only these. The goal of building a model in game theory is the same as in economics, physics or mathematics: to simplify the reality and make it suitable to studying. Such

simplification may cause some scientific problems (how to build an accurate model?) and it can be vulnerable to any argument about deforming results. Indeed, building a proper game-theoretical model is a difficult task.

Nevertheless, game theory is being widely used in social sciences, sometimes just by building models, sometimes by creating more abstract (conceptual) reasoning. When it comes to the models (it can be called “practical use” of game theory), scientists find the field of its application, create concepts, build models (examples of game) and then analyse and resolve scientific problems. And sometimes they fail (which is obvious in science). In the second area (conceptual reasoning), scientists work on theoretical fundamentals. They try to find proof of usability, fields of application, arguments for or against the game theory. The game theory still remains controversial domain, though. It has got many followers and many opponents in the world of science. We can assume that the game theory cannot be used “always and everywhere” in the social sciences, including political science. On the other hand, it may become a powerful tool¹⁷.

When asking whether the game of *go* can become a point of interest for political scientists from the game-theoretical perspective, the answer is positive. The *go* is a game and can be turned into game model accordingly to the game theory principles. The background of game theory says that the hypothesis about *go* game usability in researching political events probably could be confirmed.

1.2. Go as a strategic game and its connection with strategic studies

Another premise of possible scientific (or at least educational) application of the *go* game is its strategic character. Game theory mainly studies strategic games. Some of them may have an element of randomness, though. While random models are the object of interest of mathematics (probability theory, combinatorics), game theory is focused on situations when players have more influence of what is happening, i.e. strategic games. *Go* is a strategic game and therefore could be exploited as a basis for a model created on game theory principles. This model might be applicable where a strategic aspect is present. Of course, this hypothesis should be developed and proved after a wider research. As we can see, however, there is a large area that needs to be explored.

We can describe strategic studies as an academic

field which is interested both in peace and war, in politics and military issues at the same time. If political studies and international relations are being limited to the civilian layer of international events, and – on the other hand – military, defence or security studies are being related only to military aspects, then strategic studies seems to be above them, like a scientific domain which embraces both: political and military studies, scoping everything that is important for the state and its national interest (*raison d'État*). We can add that the “classical concept of strategy, based on widely spoken art of war and politics, says that strategy is an art of planned use of military force (which is politically controlled) in order to achieve political goal”¹⁸. From a more neutral point of view, “strategy is the art of assembling available assets, means, methods and rules in order to achieve some goal; (...) it is close to praxeological meaning”¹⁹.

Therefore, strategy is not only a part of game theory’s field of interest. It is also a main object of strategic studies. This is where game theory and political research meet each other. *Go*, as any other strategic game, is a great example of their common denominator.

The strategy seems to be an essential element of global politics, although it should be remembered that this is not the only dimension of international politics, no matter if we refer to the civilian layer or to the military aspects of political issues. Thus, any model built on the *go* game, and the *go* game itself, has serious

limitation when it is being used in political research. First of all, its capability concerns mainly strategic issues and, as we can see, these issues are not always the most important side of global politics. Secondly, same word “strategic” (used *per analogiam*) is not enough for justifying the hypothesis about possible *go* use for strategic issues. More proofs are needed, but until today they have not been provided, even if researchers widely describe the *go* game virtues.

2. Methodological background – possible applications

2.1. Space and territory

What is the connection between space and international politics? The spatial aspect – territory – is an element of international politics. How the space influences the politics – this is the central question of geopolitics (in its traditional, geographical meaning). The state is a main actor of international politics, but there is no state without territory. Politics does not take place into vacuum or “virtual space”. It is primarily related with territorial aspect. Political organization of a state (administration), population, resources, geographical factors – it is all grounded in given territory, in given space. One of the most important dimensions of international politics is the question of the political, military and economical control over territories. That is why the *go* game could be used in studying international politics. The

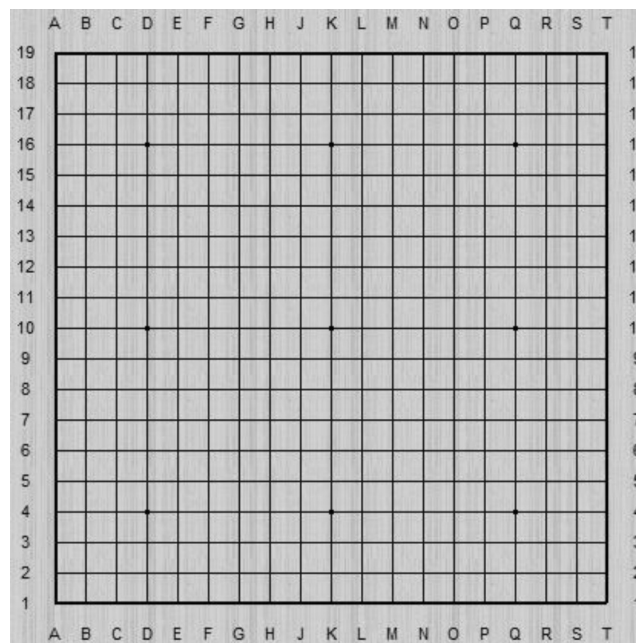


Figure no. 1: Go board (goban), 19 x 19²¹

stake of *go* game is territory. Its main sense is rivalry for space. According to the Chinese tradition, *goban* was invented as the representation of the globe. From the very beginning, the board is a symbol of the Earth (its surface) and the players are fighting states.

From another point of view, R. Bozulich, American *go* player, publicist and math professor, argues that connections between *go* game and politics are overestimated or even totally erroneous. The researcher states that “*go* has other strategic principles that can be used in making decisions, such as how to handle thick positions and settling one’s stones within an opponent’s sphere of influence. (...) In conclusion, *go* is a game rich in strategic ideas, but it is not necessary to use it as a paradigm to make sound decisions in economics, in international relations, in war, or even in everyday life. Common sense is usually sufficient.”²⁰. In short, according to Bozulich, the game can learn us something but not in the matter of global issues. Although Bozulich denies the applications of *go* into the international relations and similar domains, some aspects of the game could be analysed from the geopolitical perspective. At a glance, some spatial aspects of the game should be interesting from the geopolitical point of view.

Standard *goban* has 19x19 dimensions. In training game, the board of 13x13 or even 9x9 can be used. Human player can compete not only with another human but also with computer software. It has not yet been advanced as chess software, though. Smaller board is easier to be mastered for a beginner player,

who has not yet developed his strategic capabilities. On the other hand, the smaller board, the computer software plays better. It is because the game system, despite simple rules, is so complex, that creating a software which will be able to beat human master is currently impossible. The complexity of the game cannot be mirrored by a software; it requires artificial intelligence. A game conducted on a smaller board is shorter, faster and has more tactical than strategic dimensions. The number of possibilities in the game and variants of good moves is lower.

Increasing the dimensions significantly increases the number of intersections. The territory to gain becomes much bigger and the game much more complex and difficult. There were an experiment with 23x23 *goban* where “(the game) took on a freer and more deeply involved character, but ... at the same time the difficulty of keeping command of the game grew at an extraordinary rate (...) not even the best players could any longer maintain a comprehensive view of the countless possible combinations.”²² Some *go* players are experimenting with larger boards, even 38x38²³.

It is clear that the dimensions can be adjusted to any concept. The simulation with even 100x100 can be arranged, using the support of suitable computer software. If necessary, it may be possible to produce a *goban* showing a map of any region (or even a map of the world), showing e.g. zones of influence. There exist some ideas on building *goban* as a map. In the classical set of rules, each point has the same value

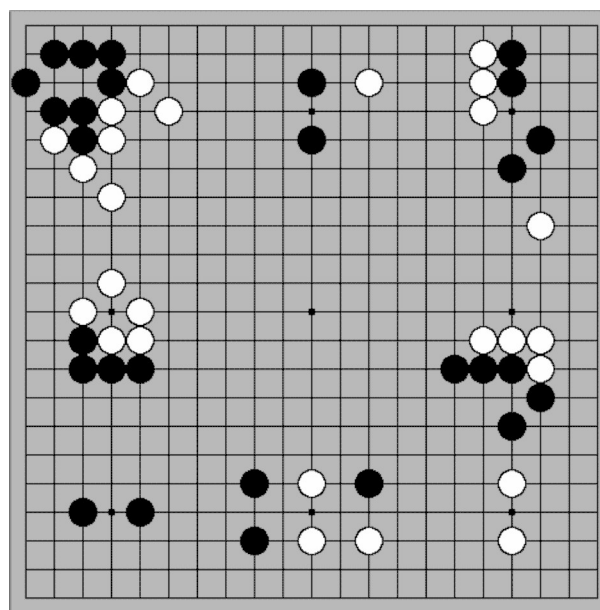


Figure no. 2: The position in a game on experimental 21x21 go board²⁵

(excluding some areas that have strategic meaning, like corners and walls, see further Figures no. 4 and no.5, and their description in the text). What if we remade these rules and one would increase the value of some points or areas? The model based on go game would become more complex and maybe it would represent the studied problem in a more accurate way. The same we can say about turning off some points or areas out of the game. The board would no longer be symmetrical nor linear.

There are many “different” *go* boards: some of them have the properties described above. Some other are a little bit more complicated: 3D or even 4D *goban*, a board with no borders, a board with more *liberties* (connections between lines), a board of different than square shape, a complex of boards when the game is conducted everywhere simultaneously and many more²⁴. An interesting idea would be to implement a model for three or more players, simulating multilateral relations in international politics.

The spatial aspect of the game could be adjusted in order to be possibly the most accurate model of international politics, but it is a difficult scientific endeavour. As an alternative, it would be easier to employ the multitude of possible improvements into *go* game principles for the purpose of reflect only some crucial elements of geopolitical analysis, such as rivalry of two geopolitical actors on limited space or strategies of domination on a territory by surrounding it.

The main obstacle in expanding *go* game into an abstract model with ability to explain geopolitical competition in general is the meaning of territory in global politics. This question should be answered first. Geopolitics, as a science or paradigm, should make “the first step” and offer a solution to this problem. Then, it would be possible to propose a model, probably exploiting the *go* game principles, capable to reflect the global political competition on some space. If we knew what is the significance or influence of the spatial aspect on politics, we would be able to justify the application of this board game just because of its “spatial aspect”.

The problem is that modern geopolitics probably would not be capable to explain the question of space. The “conservative”, geographical current has tried to explain it, but these ideas are rather related with old-school geopolitical thinkers and they are less attractive for contemporary researchers. At present, the most popular attitudes in geopolitics offer “all-in-one” understanding. For them, geopolitics seems to be everything what is global (politics, economy, society,

culture, ideology) and what is related with political power, sometimes with addition of “Realpolitik” paradigm.

The specialists of China who refer to the *go* game also do not tackle with the problem of space. At a first glance, in the last half of the 20th century and at the beginning of the 21st century, China has become a major economical power, trying to enter new markets, to expand its economical influence and to dominate global financial market, also by state-supported and state-controlled companies. This geoeconomical phenomenon, regarding its spatial viewpoint (gaining new markets, increasing investments etc.) could be compared to placing the *go* stones (assets, investments) on *goban* (economic area). For instance, H. Kissinger does not refer to territorial aspect when he describes the role of *go* strategy in modern China. Although he analyses long-term strategy of this country in global competition, his arguments have mainly a cultural and historical dimension²⁶, similarly to D. Lai.

2.2. Conflicts simulation, negotiations and conflicts resolving

A conflict, especially a conflict of interest is a frequent part of politics in general. Possible applications of *go* game are the same as of the other models shown by game theory literature, e.g. analysis of total or partial conflict of interest, analysis of potential cooperation, simulation of military conflicts (such as guerrilla war or missile crisis)²⁷. *Go* players intend to get as much territory as they can. The point that has been taken by one of them is the point that is harder or even impossible to be re-taken by his opponent. That is why at the fundamental level, *go* is a simulation of conflict. It has been invented (or discovered) as a war game. But it is war in Eastern meaning, as mentioned previously. Not only single battles, like capturing and recapturing the stones, are important. What is more significant, the tactical clash is always risky. More secure way of playing consists on patiently building safe positions and their development. That is why it can be easily compared to the competition of rising powers, but not to some kind of overt clash of civilizations. The peaceful co-existence is almost as valuable as the final victory.

Sometimes it happens that one has to retreat from an area, but meanwhile an opportunity to gain something elsewhere appears. The situation resembles international negotiations and making decisions in politics. Game theory is often applied when it comes to research on negotiations and decision making process²⁸. For the same reason, *go* game can serve as

a model of training or planning negotiations.

At the very beginning of this article, several cultural-related arguments have been shown. According to some authors, knowing the *go* principles and strategies is a valuable help in understanding Asian, especially Chinese, mentality. This can be crucial when conducting political or business negotiations. S. Bieleń analyses cultural conditionings of international negotiations by trying to answer the meaning of the cultural aspect in international relations and international negotiations and how culture influences negotiations²⁹. From this point of view, *go* game would be an excellent educational tool. In this case, however, we can suppose that the methodological argumentation (and game theory) justifies this statement in much better way.

R. Bozulich denies that *go* game strategy mirrors Chinese strategy and mentality: skilful player needs to have flexibility, but Chinese negotiators “make excessive demands and refuse to compromise”³⁰. In his own words, the thesis that the Chinese leaders employ *go* strategies “is an old and flawed thesis propagated by individuals who have only the most rudimentary knowledge of the subtle strategies of *go* (...). International relations, government policy, economic policy, diplomacy, military strategy—fields of expertise required of the leadership of a country do not need *go* as a strategic model. Common sense will usually suffice. If *go* did not exist, strategic thinking between opponents on the world stage would be much

the same as it is today”³¹. He argues that the *go* game is too complex to be mastered in a short time and that is why political, military and business leaders are not able to use its sophisticated strategies: because they simply have not got enough time for study. His second argument points out that international issues are totally independent from the existence of the *go* game. At the same time, Bozulich says that in the Asian strategy we can find traces of other games: Chinese *xiangqi* and Japanese *shogi*. So, he admits *between the lines* that studying these games might be useful, although Bozulich’s opinion is not clear enough and requires further analyse. According to this author, in any country, a leader is driven by his own interest, not by conscious or unconscious strategic thinking. Political leaders only use their common sense and here is the similarity between *go* game and politics: “There are many strategic concepts used in *go* and most of them have analogies in commonsense maxims.(...) But just because their (the leaders’) strategic decisions correspond to good *go* strategies, one should not conclude that they are strong (or even weak) *go* players or that they even know how to play the game. The decisions they make are based only on everyday common sense principles that everyone uses in their daily lives.”³². The conclusion is that the *go* strategy does not rule the politics but the politics, as well as the *go* game, needs sometimes identical solutions – just because they are good strategies, not because they are *go* strategies.

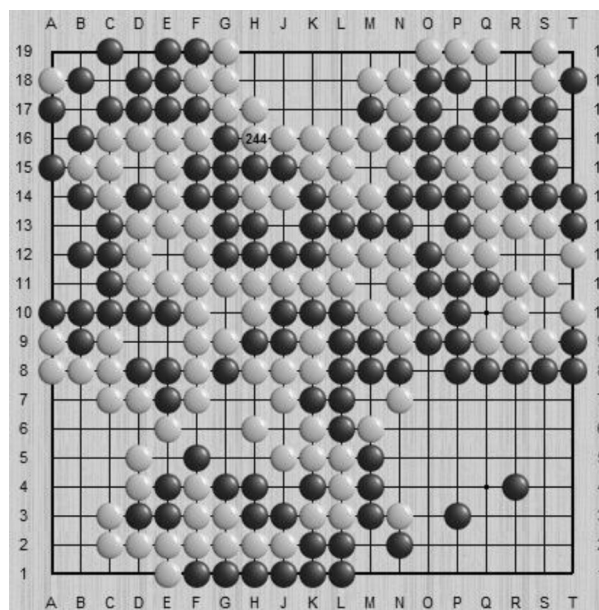


Figure no. 3: The conflict has been resolved. White wins by 0.5 points. It means almost a draw – the smallest possible victory. Game played on 17-18.02.1993 by Kobayashi Koichi (Kisei, Black) and Kato Masao (9th Dan, White)³⁴

Bozulich refers to Barack Obama's negotiating style that can be described as "win-win" strategy, although Obama is not a *go* player. He concludes: "This is the way a strong *go* player thinks. (...) You can't control all 361 points. You must be flexible and willing to cede territory to your opponent so that you can gain more territory elsewhere. Greed is the downfall of many *go* players."³³ So the *go* game could be an instrument in learning how to negotiate in "win-win" style. We can deliberate whether Bozulich's argumentation on Chinese negotiation style and on relations between *go* principles and political strategy is true or not, but certainly he clearly presents some intellectual virtues of the game.

2.3. Assets and interests

Politics is a matter of acting accordingly to one's interests. Various assets are being used in this activity. Game theory can also be applied in order to find an optimal strategy leading to achieving best possible goal. It teaches how to secure interests, using "safe strategy" e.g. against the random factors, when playing "a game versus nature". There exists a type of "safe strategy" in the game of *go*. "Safe strategy", regarding game theory principles, is the way of achieving the best possible score while securing position and decreasing the risk level (minimax and maximin strategy³⁵). The "golden rules" of *go* do not guarantee the success as the minimax and maximin strategies do, but their significance can be compared to the solutions known from zero-sum games.

The properties depicted above make the game useful for the purposes such as finding optimal strategy, i.e. a solution leading to achieving the goal, risk lowering, increasing security level, loss minimisation, optimal strategy of investing assets³⁶. The latter is very important. The clue of the game is to place assets (stones), whose quantity is limited for both players. They must be put where they would be the most secure, where they would have maximum possible influence and there, where they would be capable to cover maximum space on the board.

The mechanism of the game – simple rules and very complex strategy – makes the game hard to be mastered on professional level. But the principles, which can be learnt in few minutes by a beginner, consist on something that people do every day in almost every aspect of their life: making decisions on how to use available but limited assets in order to achieve desired goal. That is why the *go* game is a subject of interest for many economists and managers. But not only economy is connected with these two

general elements: decisions and assets. Politics, including international politics, has got the same core. No matter if the politics is about to gain and maintain power in its administrative (legal) meaning, or if it is defined as a competition of various groups of interest, or as the competition between states, world powers or other actors. A politician at any level has to achieve his goals even when his assets are seriously limited. The level of difficulty in these domains is even much higher than in *go* game. The reality is far more complex and full of uncertainty. There exist many random factors and many other "players".

It is obvious that we cannot simply assume that the *go* game perfectly reflects the world of politics. Moreover, the best case scenario would be creating a game theory model with the *go* game mechanism and even perfect models have always at least one weakness: they are much more simple than the real phenomenon that they reflect. As it has been said above, one of the most difficult problems in practical use of game theory is the construction procedure when a model is being created. So, even if we successfully deal with the conceptual matter (the question: why and what for the *go* game can be applied into the international relations?), all "technical" concerns will remain unsolved (how to build and how to use a proper model?). In addition, some basic controversies which should be fought at the very beginning are so serious that it would be impossible to prove thesis about the *go* game usability in describing and explaining global politics without long-term research. Nevertheless, it is worth to be mentioned that, after all, the game would be a quite good learning and teaching instrument that shows how to: make right decisions, effectively invest one's assets, be flexible and patient. This is what the game was invented for.

At the very beginning of every game, both players must remember to secure the corners. The first moves should be placing a few stones in the corners. Ignoring this rule increases the risk level and probability to lose the game. The assets placed in these important places gives relatively high income for a player. It is because the border of the board helps to encircle this territory.

After first opening moves players tend to occupy walls. It has similar importance to the corners, although the scale is different. The player has to use more stones in order to secure the desired territory. The borders of the board can be helpful with that, multiplying the number of taken points. This strategy has also got a huge impact on a security level.

At final stage of the game, while the corners and

walls have already been secured and both players own their safe base, the endgame begins. Attacking the centre without strong back positions is very risky. Unlike the chess, the centre of the board is less important here.

As we could see, the optimum strategy of “investing” resources is directly associated with the “interest” that the players have in some parts of the territory. The *go* concentrates on the spatial dimension of competition because the potential of players (assets) are equal. Although sometimes the

black player has 181 stones (as he makes first move), and the one with white stones has only 180, it is not very important. The white player, who goes as second, sometimes gets additional *komi* points for the purpose of equalizing forces. More interesting is the handicap system of rewarding less skilled players by so-called “handicap stones” – additional stones placed on the *goban* before the game begins. Their number may vary depending on of the difference between skill levels. And, once again, it should be said that all stones have equal value.

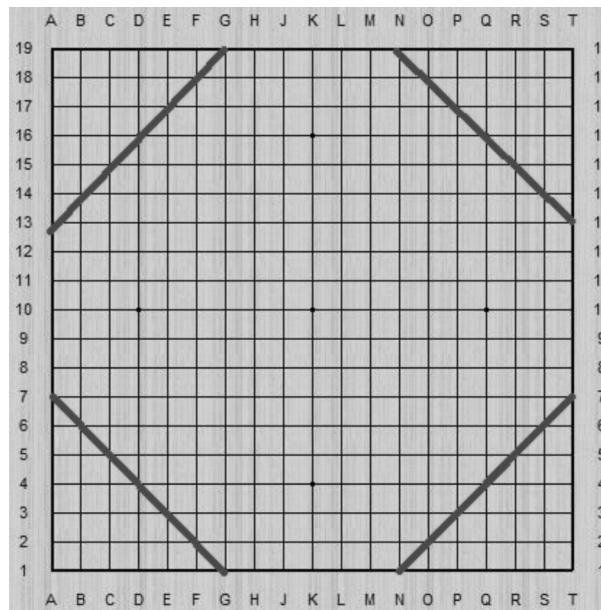


Figure no. 4: First step in the game: securing corners³⁷

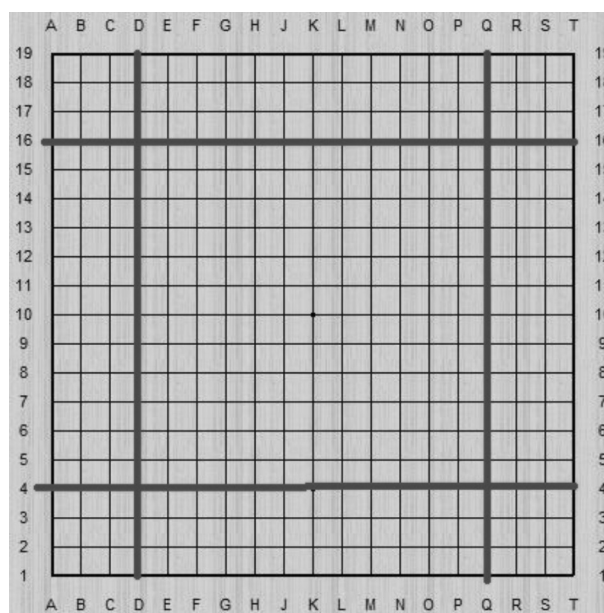


Figure no 5: Second important step: taking the walls³⁸

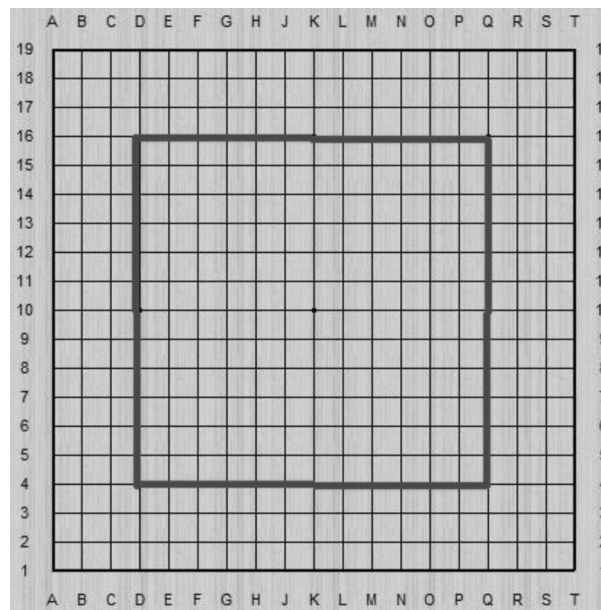


Figure no. 6: The final stake: centre of the board³⁹

But as we know, in the international system, players do not have equal potential. There are empires, superpowers, powers, regional powers, average players and weak states as well. If we want to make a proper modelling, we have to design a pattern that represents hierarchy of players. It is possible with the same method as rules of the *go* which *predicts for equalizing* the starting positions. One has to add more stones to make the weak one stronger. There is also possible to build some construction on the board that will belong to one of the players, e.g. let him start with one corner already taken.

2.4. Further model improvements and random factors

In case of developing the *go* game mechanism into an experimental model, it might retain his educational character even if its explanatory or descriptive functions for the world of politics would not be finally confirmed. The *go* game ignores random factors that can be met in reality. This element also can be introduced into the model consisting on this ancient Asian game. It can be made in the similar way as the games (or rather simulations) based on so-called Ehrenfest model⁴⁰. It uses a board similar to *goban* and a set of white and black stones. At the beginning, the board is empty. Game dices randomly indicate coordinates of a point (intersection) that is filled up with a stone. During simulation (which is being held with different and detailed rules⁴¹), the board is getting more and more filled with stones. Let us imagine that the same mechanism can be introduced

into the *go* playing. At some stage, between moves of the players, additional stone of some colour suddenly appears somewhere on the board, making the game easier or harder for a player. What about introducing third colour (neutral or having pre-defined impact on the game)? In this manner, we could enhance the complexity of the game. A strategic game without random factor that depended only on the players' imagination and skills would be transformed into a much more sophisticated model. Such construction, well-grounded in the game theory, with random factors and mentioned above improvements, gives us opportunity to analyse issues related to international relations in a new way and to learn how to deal with complexity, change, uncertainty, weakness, conflict, multiple goals achieving⁴².

Conclusions

Basically, the *go* game can serve as the aid in developing some kind of strategic thinking, negotiation skills, planning, decision-making, as well as shaping some qualities, such as patience, tenacity, flexibility. The game has been probably invented mainly for this purpose as a hobby for kings, political leaders and soldiers. Of course, it would be naive to think that a success in the game is necessary for the success on the battlefield or in politics and that if someone succeed in *go* game, then he would be successful in any other domain. There is rather no researcher who would claim that. The game is more likely a learning method of dealing with complexity,

change, uncertainty, weakness, conflict, multiple goals achieving. Moreover, in various domains of social sciences *go* game as a learning and training method is frequently invoked, so the same usage of *go* game in political science can be worth of our attention.

Game theory makes a strong theoretical background for *go* game application into political research. As various models and game patterns have already been exploited in some areas of political research, the same could be done with *go* game. Therefore, main *go* game application would consist on building a model based on game theory principles. This model might be used in analyzing problems of international politics. *Go* game can also be used for studying international politics issues as it is, without changing anything, thanks to its educational character. *Go* game could be improved by introducing random factors, multiple players, stones and board adjustments in order to made it more complex and maybe more accurate and more reliable model that would reflect some political issues. Main fields of application would be following: strategic studies, risk management, assets management, conflict simulation, negotiations, war games, spatial competition.

There are also some limitations related to this topic. Although educational aspects of the *go* game are easy to find, using it as a game-theoretical research model for the political issues would be much more difficult. First of all, the game theory is promising and attractive branch of science, but it is still controversial when applied to the social sciences and it requires deeper research. Secondly, the process of creating research model accordingly to the game theory principles, including possible game-theoretical model based on *go* game, is full of weak points and obstacles. More on this topic can be found in many sources on game theory cited in this paper. Last but not least, convincing argumentation concerning game-theoretical approach to politics has not been provided until today so it is impossible to argue that the game theory is universal research method in politics. So, even if game theory is a solid background of *go* game, it is not enough to treat the *go* game as a universal research model for global politics.

The *go* game might have limited application in research, though. Some areas of international relations seems to be related with *go* game principles and some evidences for this have been shown here. The terms “space”, “territory”, “strategy”, “interests”, “assets”, “conflict”, “negotiations” are important, however they are not everything in politics. More arguments on their importance and on their close connection

with *go* game should be provided in further research which could be based on the geopolitics, international relations and strategic studies. Interesting directions of developing these scientific ideas would be e.g. proving that the *go* game can simulate international politics “system of systems” accordingly to the systems theory, application of two-player and multiplayer game models to multilateral world of politics with its complexity and multitude of actors and their interests, as well as the assessment of a weight of the spatial / territorial aspect in contemporary global politics.

NOTES:

1 *Wéiqí* in Chinese, *baduk* in Korean. *Igo* is a Japanese term. *Go* comes from Japanese and it is also most common name for this game all over the world.

2 David LAI, *Learning from the stones a Go approach to mastering China's strategic concept*, Shi, Army War College, Strategic Studies Institute, Carlisle 2004, p. 4 *et seq.*

3 The author assumes that a reader has got a basic knowledge of the rules of *go*. If it is not the case, please see further readings, that will introduce you into the topic, eg.: *Go (game)*, [http://en.wikipedia.org/wiki/Go_\(game\)](http://en.wikipedia.org/wiki/Go_(game)), accessed 8.10.2013, *Sensei's Library*, <http://senseis.xmp.net/>, accessed 8.10.2013.

4 David LAI, *op.cit.*, p. 3.

5 Carl von CLAUSEWITZ, *On War*, New Jersey 1984, p. 87.

6 Donald N. SULL, Yong WANG, *Made in China: Czego zachodni menedżerowie mogą nauczyć się od pionierów chińskiej przedsiębiorczości*, Harvard Business School Press, Warszawa 2006, pp. 261–269.

7 David LAI, *op. cit.*, p. 4 *et seq.*

8 Mathieu FRANÇOIS-BARSEGHIAN, *The Ten Golden Rules of WéiQi Applied to Business Strategy*, Nanyang Technological University, Waseda University, <http://blog.matieux.net/2011/04/ten-golden-rules-of-weiqi-applied-to.html>, accessed 8.10.2013.

9 Players of *go* use the items of equal power, called „stones”. The stones are being placed one by one on the board called *goban*.

10 Joshua WAITZKIN, *The Art of Learning: An Inner Journey to Optimal Performance*, Free Press, 2008.

11 Yasutoshi YASUDA, *Go as conversation: the educational and therapeutic value of the game of Go*, Richmond, 2002.

12 See: E. Grant KERR, *Exploring Project Management by Exploiting Analogy with the Game of Go*, A thesis submitted for the degree of Doctor of Philosophy in Strategy, Programme & Project Management, SKEMA Business School, Lille, December 2011.

13 See: the Bob High Memorial Library at the American Go Association: <http://www.usgo.org/bob-high-memorial-library>, accessed 8.10.2013. There are plenty

publications on go game from various domains listed there, although there are only two articles related to politics.

14 „Potęgonomia” i „potęgometria”, what can be roughly translated to English as “powernomics” and “powermetrics”.

15 Nikolaј N. WOROBIEW, Edward KOFLER, Henryk GRENIIEWSKI, *Strategia gier*, Warszawa, 1969, p. 6.

16 *Ibidem*, p. 27.

17 See for example: Randall W. STONE, *The Use and Abuse of Game Theory in International Relations: The Theory of Moves*, *Journal of Conflict Resolution*, Vol. 45 No. 2, April 2001, pp. 216-244; Geraldo L. MUNCK, *Game Theory and Comparative Politics: New Perspectives and Old Concerns*, *World Politics* no. 53(2), January 2001, pp. 173-204

18 Roman KUŹNIAR, *Polityka i siła. Zarys studiów strategicznych*, Warszawa 2005, p. 11.

19 *Ibidem*.

20 Richard BOZULICH, *Richard Bozulich on Kissinger on China and Go*, <http://www.usgo.org/files/bh_library/BozulichonKissinger.pdf>, The Bob High Memorial Library 2011, p. 17.

21 *Source: Author's own resource based on Drago software.*

22 *Large Boards*, *Sensei's Library*, <http://senseis.xmp.net/?GoOn38x38>, accessed on 8.10.2013.

23 *Ibidem*.

24 See: *Unusual Gobans*, *Sensei's Library*, <http://senseis.xmp.net/?UnusualGobans>, accessed on 8.10.2013.

25 *Source:* <http://senseis.xmp.net/diagrams/5/f577987ee77807acfcfb4ed125f38eb.png>, accessed on 8.10.2013.

26 Henry KISSINGER, *On China*, New York, 2011, pp. 30-43.

27 Phillip D. STRAFFIN, *Teoria gier*, Warszawa 2004, pp. 34-35.

28 Marek SZOPA, *Teoria gier w negocjacjach i podejmowaniu decyzji*, <http://el.us.edu.pl/ekonofizyka/index.php/Teoria_gier>, accessed on 26.09.2013.

29 Stanisław BIELEŃ, *Negocjacje w stosunkach międzynarodowych*, Warszawa 2013, pp. 89-122.

30 Richard BOZULICH, *op.cit.*, p. 12.

31 *Ibidem*, p. 1.

32 *Ibidem*, pp. 2-3.

33 *Ibidem*, p. 12.

34 *Source: Author's own resource based on Drago software.*

35 In the game theory, minimax is a decision rule of minimizing the possible loss for a worst case (maximum loss) scenario, when maximin is a decision rule of maximizing the minimum gain. Both are being used in e.g. in decision-making process. The origin of both algorithms is zero-sum game with two players.

36 Stanisław JĘDRUSIK, Andrzej PALIŃSKI, “Gra przeciw naturze jako narzędzie podejmowania decyzji inwestycyjnych”, *Ekonomia Menedżerska*, 2008, no. 3, pp. 77-88.

37 *Source: Author's own resource based on Drago software.*

38 *Ibidem*.

39 *Ibidem*.

40 Manfred EIGEN, Ruth WINKLER, *Gra. Prawa natury sterują przypadkiem*, Warszawa 1983, pp. 33-37.

41 See indicated reading in this respect.

42 E. Grant KERR, *op. cit.*, pp. 318-321.

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22. *Sensei's Library*, <http://senseis.xmp.net/> (8.10.2013)

23. *Unusual Gobans*, *Sensei's Library*, <http://senseis.xmp.net/?UnusualGobans>

FOOD CRISIS BETWEEN MYTH AND REALITY

*Petre DUȚU, PhD**

The food crisis is for many countries a risk, for others a threat, and for the international community both a risk and a serious threat. States, as well as the international community must manage them properly, through concerted actions (economic, political, environmental, social, cultural). Both must pool efforts to increase the production of food supplies and ensure their equitable distribution at national, regional and global levels.

Keywords: *food crisis, grain, food products, causes of the crisis, food crisis solutions.*

1. Preliminary considerations

Today, humanity is simultaneously facing a series of crises in various fields and at various levels – national, regional and global. Thus, media announce daily the onset or exacerbation of local, regional or global crises. Frequently, we read about the global economic and financial crisis, the energy crisis and, more recently, the food crisis. The latter is analyzed from different perspectives – from the impact of world population rising to 9 billion in 2050¹, to lower agricultural production from many causes.

In my opinion, these issues deserve a closer investigation to investigate the phenomenon. Assuming that there is a real food crisis, the measures to combat it at three levels – national, regional and global – must be rigorously coordinated and implemented, planned by a wide range of activities and actions, starting with economic aspects and reaching educational ones. First, measures should be taken to increase grain production, which is basic

for obtaining other food products. Then, there must be made a distribution of food products in order to satisfy world's population needs in a decent way. Finally, measures are needed to educate consumers, which is essential for the success of other activities and actions to overcome the food crisis.

But if it is found that, in fact, the food crisis is caused by both large cereals producers (eg by reducing agricultural areas) and food traders (which artificially increase prices and keep them high for a longer period of time), then action ought to be taken so as to eliminate the causes that generate it.

According to the UN Food and Agriculture Organization (FAO), 37 countries are threatened by food crisis². In this context, the general assumption from which I start my research is that currently, there is a real food crisis, caused by different national, regional and global actors, state and non-state actors, which pursue their specific interests.

In order to validate this hypothesis on food crisis, we will consider successively the following aspects: the amount of food needed for the current population of the world, possible causes of the food crisis and measures to get out of the crisis. These aspects will be supported by official data and opinions of experts in the field. We will also briefly present grain production in recent years and estimations for the agricultural year 2012-2013.

A comprehensive approach to the problem of food crisis is absolutely necessary because it has a significant impact on national, regional and international security and all its components – from food security to the economic one, from social security

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to the environmental one, from the military security to the political one. There are security manifestations, probable and possible at national, regional and global levels.

2. The population food needs

“Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food...”³ says Article 25 of the Universal Declaration of Human Rights. We shall try to demonstrate whether this requirement, actually an ideal to be achieved, is valid in reality.

“In fact, we do produce enough food to feed everyone. At the moment, the world generates more than 4,000 calories per person per day, although the average that reaches consumers is around 2,800 calories per day. The USA has the highest average at 3,770 calories per person per day, whereas in India it

is 2,300 per day. Only in three of the world’s countries do people have less than the internationally agreed minimum for a healthy and productive life of around 1,800 calories a day”⁴. On the other hand, the total per capita food production for human consumption amounts to about 900 kg a year in rich countries, that is double compared to 460 kg food in the poorest regions⁵.

Our daily requirement of calories and nutrients varies by sex, age, height, body weight and level of activity. This is why the Estimated Daily Intake (EDI) is not for one specific person, but an estimate of the average healthy adult, based on studies and international recommendations. EDI used in food labelling takes values recommended for an adult woman with an average level of activity – which provides a suitable medium for the needs of most people⁶. Table no. 1 stipulates the medium EDI for an adult:

Food Structure \ Quantities	Consumption per person per day
Calories	2.000 kcal
Proteins	50 g
Carbohydrates	270 g
Sugars	90 g
Fats	70 g
Saturated fats	20 g
Fibres	25 g
Salt (sodium)	6 g (2,4 g)

Table no. 1: Medium EDI for an adult⁷

However, we believe that the current food model is provided by rich countries, with an increasing trend in the meat consumption. The propagation of this model of consumption worldwide in the context of economic and informational globalization will have unintended consequences on the level of the necessary daily food of the world population.

Of course, there are different models of grain needs per person, according to a food model or another. According to early FAO estimates, the world wheat production will amount to 690 million tonnes this year, 4.3% higher than the production in 2012 and the second largest crop in history after the one in 2011⁸. It is also known that the planet now produces about

2.5 billion tons of grain. This means an average of 350 kg per head/year, of which 150 kg are consumed by humans and the remaining by animals⁹. In Table no. 2, one can see examples of annual consumption per capita¹⁰:

Thus, in India are consumed 160 kg of grain per year by a resident, 167 kg in China and 113 kg in North America. Obviously, the model adopted is based on a series of economic, social and cultural factors.

On the other hand, the agricultural area per capita, the food model and the country’s capacity to produce food are other factors with an impact on food consumption of the population. In fact, every region of the world has a specific equation in terms of feeding

Countries	Grains (kg)	Meat (kg)	Vegetables/Fruits (kg)
North America	113	127	100
Europe	117	70-115	114
China	167	49 (growing)	254 (48% of the world vegetables)
India	160	6	53
Africa	160	13	52
<i>World average</i>	<i>152</i>	<i>39</i>	<i>108</i>

Table no. 2: Values of annual consumption per capita in the world at the main commodities¹¹

the population, the area available for agriculture, technology, efficiency, surplus/deficit, the purchasing power of the population, food habits. Therefore, in this matter, the analysis is required to be made taking into account large parts of the world.

Another factor with significant impact on the adopted food model is the growth of the population worldwide. Thus, between 1961 and 2003, the world population doubled, going from 3.1 to 6.3 billion people. During this time, the apparent food availability increased on average by 20%, going from 2500-3000 kcal/person/day, maintaining strong disparities between the major regions of the world, from 2,400 kilocalories/person/day in Sub-Saharan Africa to 4,000 kilocalories/person/day in the developed countries of the Organisation for Economic Cooperation and Development¹².

Nevertheless, we live in a world of abundance. Currently, there is produced more food than in any other period of history. It can be appreciated that there is enough food for everyone, given that food production has multiplied three times from 1961, while at the same time the world population has doubled¹³. However, according to FAO, globally, 870 million people suffer from hunger and, every year, 1.3 billion tons of food are wasted, which is a third of the planetary production¹⁴. On the other hand, FAO estimated that 1.02 billion people were underfed in 2009¹⁵.

In my view, *these data show that there is a food crisis and its myth at the same time*. Therefore, the main causes of this paradoxical situation deserve careful investigation: there is enough food for

everyone on the planet, but not all people benefit daily and in sufficient quantities from it. This happens from a variety of reasons: high food prices, insufficient income for proper feeding according to age, traditions, activities and health.

3. Causes of global food crisis

The documentary analysis of various data sources – from FAO statistics on scientific studies – reveals the existence of a wide range of causes. From the point of view of their nature, the causes of the food crisis are of great diversity. Thus, they can be economic, demographic, social, cultural, political.

Among economic causes, one can consider the mode of production, ownership of land, crop type and destination of food, the relationship between producers and consumers of goods. The current global economic and financial crisis has a negative role favoring higher prices of basic foodstuffs. Also, different systems act in a negative way economically, from state to state, in granting agricultural subsidies. Typically, they are higher in developed countries and smaller in developing countries. There is the false idea that developed countries rely less on agricultural subsidies and the emerging ones rely more on them. The figures show that the options for supporting the agriculture through public money vary not between the two groups, but within them – there are developed and emerging countries strongly subsidizing the agriculture and developed and emerging countries that subsidize the agriculture less. The major BRIC economies have subsidy levels below the world

average (33%), while the levels of G7 economies are over the world average (this due to Japan which has a very high level compared even with other countries that are close to average)¹⁶.

Demographic causes include the rapid population growth in developing countries, urbanization, internal and international migration. For example, the rampant

growth of the world population would create more people to feed, especially in developing countries. There are currently 6.3 billion people to feed, but in 2050, there will be 9 billion¹⁷. Therefore, the need for food will be increasingly high.

A brief analysis of the data in Table 3 leads to the following findings: in 2012, four in ten countries were

Country	Population in 2012 (millions)	Country	Population in 2050 (millions)
China	1,350	India	1,691
India	1,260	China	1,311
USA	314	USA	423
Indonesia	241	Nigeria	402
Brazil	190	Pakistan	314
Pakistan	180	Indonesia	309
Nigeria	170	Bangladesh	225
Bangladesh	153	Brazil	213
Russia	143	Congo	194
Japan	123	Ethiopia	166

Table no. 3: The most populated countries in 2012 and in 2050¹⁸

developing countries, while in 2050 their number will increase to six, out of which three (Nigeria, Congo and Ethiopia) are very poor countries; in 2050, Russia and Japan will disappear from the list of states with large populations and Congo and Ethiopia, two states with very low economic growth rate, will take their place; in 2050, India will become the country with the largest population; China is the only country in the above list that, will record a decrease of population in 2050.

Among the **socio-cultural causes**, we mention the consumer model, the social protection system, food traditions and customs. The changing consumption pattern, by increasing the meat consumption in the world, especially in China, requires huge amounts of grain to feed the animals.

The environmental causes include soil erosion, deforestation, desertification. Currently, the desertification of soils and their impoverishment due to intensive agricultural practices and climate change is a reality faced by almost all countries. On

the other hand, a negative role in emphasizing food crisis has the current trend to use biofuel to power cars. Biofuels consume 100 million tons of basic food for cars and withdraw them from the global food market¹⁹. Furthermore, after they have been presented as an alternative to oil, biofuels currently used are problematic. Populations in countries without oil will be permanently preoccupied to pay for food and imported food will be more expensive and many will not afford it²⁰.

Political causes can be considered subsidies to farmers in rich countries, and the lack of funds for agriculture in developing countries. In this regard, agricultural subsidies to farmers in rich countries are detrimental to farmers in poor countries, subsidized products from rich countries being inaccessible and insurmountable for developing countries.

These causes can be identified in all countries, and their effects are felt everywhere as a result of globalization, economic and financial crisis, climate change and regional integration trends²¹.

4. Possible ways to overcome the food crisis

Theoretically, overcoming the food crisis is possible through the concerted, continuous and steady actions of all actors with relevant expertise on the causes that generated and still generates it.

First, *losses during harvest, transport and storage of cereals, in particular, and food in general must be eliminated*. This is possible through education (the skill of those who work in harvesting, transportation and storage of grain to act consistently so as to eliminate losses), massive investments in technology harvesting, transport and storage of grains and food and meaningful media campaigns in order to prevent losses of grain and food.

Secondly, it requires choosing the food consumption pattern of the population that blends traditions with national possibilities of ensuring the goods for a decent living. To this end, it is imperative that the chosen model be imposed on the population by the process of education through sustained media campaigns towards the adoption of the best model for each individual consumer in line with age, occupation, health and financial opportunities, following the example of public figures. It also requires maintaining traditional patterns of feeding the population, taking into account the national specificities and not automatically adopt the Western model as a result of the influence of globalization and the development of communications and information technology, through which people are informed in real time on everything that interests them, including the way of feeding in other countries and regions.

Thirdly, it is necessary to dispense with the production of biofuels, which in addition to a reduced efficiency in the replacement of petroleum products consumption, strongly affects the grain production. Currently, in some countries, a very large quantity of cane has replaced the cereals, in others, large amounts of corn are used to make biofuel. Therefore, I believe that imposing a moratorium on biofuels is mandatory. According to the IMF, the conversion of arable land for energy purposes has increased food prices by 20-30 %²².

Fourthly, it is necessary to apply with consistency, perseverance and concertedly the principle of food sovereignty. This concept crystallizes various challenges relating to agriculture. It carried out a generalization of both the symptoms and the responses brought to the agricultural system to make it overcome the mere logic of the market and build a system enabling the overall food needs

of the world population²³. On the other hand, this concept, in addition to the national dimensions, has an international dimension as well. Among the actors who act to implement food safety, NGOs play an important role, which, to this end, require agricultural financing by the state, access to arable land, purchase of seed and water²⁴.

Fifth, the massive reinvestment in agriculture is an effective and efficient way to tackle food crisis or at least limit its effects. In this respect, there is a big difference between developed countries practicing modern agriculture, and developing states which make desperate efforts to support a subsistence agriculture. Thus, the agricultural development in poor countries has been greatly neglected, and support for it dropped by half between 1980 and 2005²⁵.

At present, agriculture has reached a watershed. For nearly 30 years, that is from the early 80s, neither the private sector or the governments have invested enough in this sector, which could have serious repercussions. In the last decade, food companies have increased direct investments as a means to reduce costs and ensure long-term sustainability of supplies. The foreign direct investment in agriculture increased from an annual average of \$600 million in the 90 to 3 billion dollars in 2005 to 2007²⁶. The shock created by food price crisis of 2007-2008 has led to the launch or strengthening of concrete actions, such as for food security, initiative launched by Aquila, World Programme for Agriculture and Food Security and the detailed Program of African agriculture development. Governments pay more attention to agriculture now than in the past²⁷. However, to meet future needs, the food production growth is not enough. It does not allow achieving the fight objectives against hunger and malnutrition if not accompanied by increased incomes and improved livelihoods for the poorest people, especially for small farmers in developing countries.

Sixth, it would be necessary to recycle millions of tons of food lost or wasted for feeding animals²⁸. On one hand, this would allow for the orientation of these products for human consumption. On the other hand, recycling food waste and implementation of new technologies, such as sugar production based on straw waste or nuts debris would be environmental friendly, initiative that would increase the quantities of grain available for livestock²⁹.

Seventh, the international organizations should rethink and refocus their activities and programs in the field of population food. We are speaking here about FAO, WFP (World Food Programme), IFAD

(International Fund for Agricultural Development). They should advocate to ensure the right of every person in the world to food³⁰.

Practically, however, it is difficult to put into practice the measures listed above, for several reasons.

First, *the neoliberal conception, according to which the law of supply and demand dominates almost the entire world*. To this, the economic and financial globalization has a significant contribution. In this context, the first ones will be the economic and financial interests of multinationals and states exporting grain and food to the needs of ensuring the right to food of every person in the world.

Secondly, the strong tendency to protect the existing environment at national, regional and international levels will continue to decrease the grain production, allocation of more arable land to grain crops used for obtaining biofuels. In addition, a number of chemical fertilizers with negative effects on the environment and a number of pesticides will be banned in more and more countries in the coming years, which will be reflected directly and significantly in the decrease of agricultural production.

Thirdly, in emerging states, the middle class tends to change its traditional pattern of food consumption by adopting the Western model. This trend is difficult, if not impossible, to counteract given the fact that those countries manifest a great economic boom. In this regard, China, which in 2010 became the second largest producer of grain in the world, knows this phenomenon extensively. It is easy to imagine what it would mean to change the food consumption pattern of a few tens or hundreds of millions of people.

Fourth, *the current global financial and economic crisis has a great impact on grain production and not only on it*³¹.

In many developing countries, the funds allocated to agricultural development have decreased and the imports of food and grains have increased, in the context of national currency devaluation.

Finally, developed countries the international organizations empowered with expertise in feeding the people do not concert their efforts to resolve the causes that generate the food crisis. In fact, developed countries pursue their own national interests and not those of eliminating the causes of the food crisis. In turn, international organisations – the UN (FAO, WFP, IFAD) – are heavily dependent on economic and financial contribution of the member states and, therefore, their efforts are thus subject to income sources.

If we really want to solve the food crisis by eliminating its causes, it concerted efforts of all state and non-state actors in this direction are imperative, as well as surpassing the current state of international conferences where there are discussed issues related to the food crisis and are adopted programs of generous measures to stop it, but which are difficult or not feasible.

5. Romania in the context of food crisis

The analysis made previously to the possible appearance and manifestation of the food crisis in the world is true for Romania as well. Moreover, there can be added a series of other arguments.

At least *theoretically*, Romania should not have a food crisis for the reasons which we are going to present subsequently.

Romania has enough arable land – 14 million acres³² – to be used for growing vegetables and livestock. In this context, an increased attention should be paid to the culture of grain, because there is enough arable land. Of the 14 million hectares of farmland, the companies with foreign shareholders hold about 1 million, the equivalent area of three counties.

The crop production is superior to the animal one. In the production structure of agriculture, the crop production is predominant, accounting for 70.9% of total production in 2011, compared to 28.4% as the animal production sector represents and 0.7% agricultural services³³. The data in Table no. 4 reveals that we are witnessing a relative increase of the crop production in Romania.

Moreover, Romania focused in 2013 mainly on wheat crops after 60% of the maize crops were affected in 2012 because of adverse weather conditions³⁵. The year 2012 was not to say bad, but weak. This statement can be seen in the involvement of agriculture in GDP. There was drought and that is enough argument. However, the prerequisites for following year are excellent. We have had plenty of rain and snow. The crops currently look excellent. In 2013, the economy will certainly benefit from agriculture³⁶.

The food consumption of the Romanian population is still a traditional one and also, especially in rural areas, based on subsistence agriculture. In my view, we will not witness a fundamental change in this model anytime soon, due to the inertia of both tradition and modest income of most citizens.

Practically, though, a food crisis is possible in Romania, primarily caused by several respects.

Production (thousands of tons) \ Year	2008	2009	2010	2011
Cereals for grains of which:	16826	14873	16713	20842
Wheat	7181	5203	5812	7132
Rye	31	33	34	31
Barley	1209	1182	1311	1330
Maize	7849	7973	9042	11718
Vegetables for grains	63	53	61	77
Potatoes	3649	4004	3284	4077
Sugar beet	707	817	838	660
Sunflower	1170	1098	1263	1789

Table no. 4. Crop production in Romania³⁴

The negative effects of globalization impact on the Romanian economy: globally, there is an economic crisis with significant influences on agricultural production and especially on cereals selling prices. Our economy, through the exchange made with different countries and multinational companies, supports the international market fluctuations.

The trend of foreign companies and foreign citizens to buy land in Romania - in 2013, one million hectares of arable land is said to be owned by various foreign companies³⁷. In general, these lands are used for cereal crops utilised in the production of biofuels. It is possible that in the coming years, with purchase by the foreign citizens of more agricultural land in our country, this could be used primarily for the production of grain that can be employed to obtain biofuels. The agricultural production of food products will decrease, which may result in a food crisis.

Romanian agriculture is poorly technologised due to lack of funds necessary for the implementation of agricultural scientific research and the modest

implementation of new agricultural technologies.

Romanian agriculture still relies on small farms that do not have the power to achieve high and especially stable crops. Hence, imported agricultural products represent a competition, being apparently better, and obtained at a lower price than in Romania. Thus, in 2011, the country exported food products, beverages and tobacco worth 1.097 million euros and imported the same goods worth 1,990 million euros³⁸.

Incentives given by the state is quite modest in terms of supporting farmers through various facilities, the reduction of VAT to food, the purchase of agricultural equipment and seeds selected for high productivity.

Vast areas of uncultivated or rudimentary worked land contributed to food price explosion, along with an increasingly low purchasing power, which make the massive segments of the population to no longer afford the monthly income to ensure adequate food supplies. The seriousness of the situation lies in the

fact that the food crisis could become a succession of crises, if there are market imbalances and the competition for alternative energy resources will continue to affect production and food market.

The effect of the supply and demand rule and the attractive grain prices, particularly in the global market can affect the domestic consumption by a significant increase in grain exports from Romania. In addition, Romania's population spends more than 50% of income to purchase food, which means that the limit of affordability has already been either reached or exceeded. Therefore, average citizens can not absorb further price increases because they have no money to buy expensive products. It should also be noted the speculative factor referring to the very long chain of food distribution with an endless string of cartelized intermediaries, who will take the opportunity to get higher profits on the account of consumers³⁹.

Conclusions

Theoretically, a food crisis should not exist and manifest itself, now or in the future. Mankind has the material, financial and intellectual resources to ensure everything that is necessary and sufficient for a decent living, regardless of country, religion, sex, race or other reasons, whatever their nature. First, the production of goods exceeds, in growth rate, the demographic augmentation.

Then, new agricultural technologies will produce grain crops large enough to cover both the direct consumption needs of the population and satisfy other requirements for use of cereals and arable land. Finally, one can imagine and implement effective and efficient solutions on global level, to eliminate waste and loss of food, especially grain.

Practically, however, I consider that it is very possible that in the coming years, the food crisis manifests even more. In this respect, a number of issues will have an important role.

The continuation and expansion of neoliberal policies impact in the economic field globally – in the future, achieving profit will be more important than meeting the consumption needs of the entire population. “The Millennium Development Goals” on decent living for all people of the world will remain mere desires and debates in different international conferences.

The lack of national political will to achieve decent and sufficient living conditions for all citizens

– there will be much talking and fewer actions to ensure these requirements.

The negative impact of globalization, climate change, global economic crisis, demographic phenomena (rapid population growth especially in underdeveloped states, urbanization, international migration), *the deepening of regional and global competition for natural resources* (fresh water, arable land, raw materials, particularly strategic ones; hydrocarbons) on the concerns to ensure a decent living for all people through concerted efforts of competent factors (national, regional and international, state and non-state) to eliminate hunger and fear for not being able to support oneself.

Another factor relates to the trends of humanity towards meeting the individual interests of a small group of privileged people rather than the needs of a decent living for all the planet's inhabitants. The current economic, social, political and cultural life of the world and the ineffectiveness of regional and international intergovernmental and non-governmental bodies seem to indicate this direction of evolution for the humanity.

Regarding Romania, if there is political will necessary and sufficient to safeguard and promote the national interests, including in the analyzed domain, then Romania might not be affected by the food crisis.

NOTES:

*Translation from Romanian by Diana DEACONESCU.

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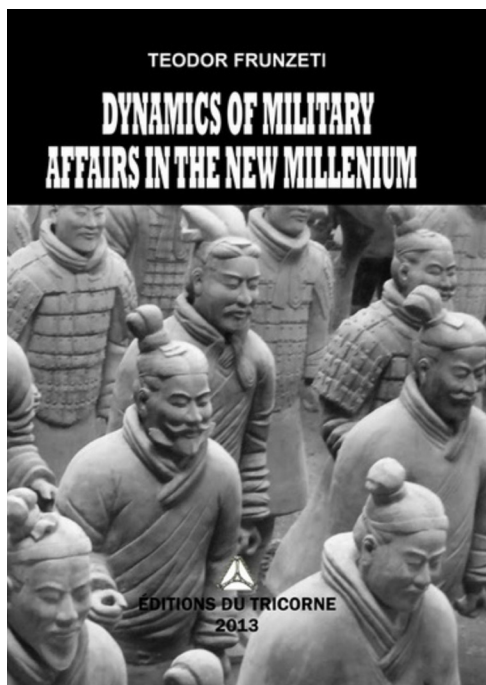
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DYNAMICS OF MILITARY AFFAIRS IN THE NEW MILLENNIUM

*Cristina BOGZEANU**



The volume “Dynamics of Military Affairs in the New Millennium” was published at the end of 2013, under the aegis of Éditions du Tricorne, Geneva, Switzerland, in English. The volume was elaborated within the project “Epistemic Competency for Military Decision-Makers. Theoretical and Experimental Advances Towards Self-Directed Learning and Lifelong Learning”¹.

The publication we want to bring in the attention of *Strategic Impact* journal readers is signed by Teodor Frunzeti. Within 300 pages, there is built the comprehensive vision on military affairs of a high rank military officer and an experienced professor

in the areas of Geopolitics, International Security, International Relations, and, last but not least, Military Sciences.

The approach of the Military Affairs’ dynamic at the beginning of the 21st century is structured on three main parts, preceded by an introductory chapter which presents the complex relations between the characteristics of the international security environment and the typology of contemporary conflicts. The entire demarche is based on a hypothesis extracted from Clausewitz’s masterwork – “On War” – according to which each age had its own type of warfare, being characterized by restrictions and perceptions different from those of other ages and that is why it is necessary to develop a theory specific to each confrontation². Thus, in the author’s vision, the predominantly asymmetric and unconventional character of contemporary conflicts is favored and enhanced by the general security evolutions at global level.

The first part of the volume – “Tectonic movements in today’s global security environment” – approaches issues of high topicality regarding the changes occurred at the level of international security environment, especially after the world economic and financial crisis (2007).

However, the argumentation departs from the idea that the amplitude and significations of the current transformation in this area can be compared only with the ones happened after the end of the Second World War. This part of analysis is built from the premise that, after the strategic shock of the world economic and financial crisis, issues related to securi-

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ty and international relations are thought in a preponderantly realist manner as compared with the previous period, characterized by a rather idealist rhetoric. In this respect, the argumentation is developed on two main research directions. Firstly, T. Frunzeti makes a phenomenological approach, within which examines the reification of the realist perspective in International Affairs (cooperation vs. balance of power, “Arab spring” significations, race for resources, and recrudescence of nationalisms). The second research direction involves a study on the evolution in terms of power of some major international actors such as China, Russia, US, as well as NATO and EU.

The second part of the volume, entitled “A theoretical approach on contemporary crises and conflicts” is dedicated to the analysis of the two mentioned concepts. Changes of the international security environment characteristics influence to a considerable extent the typology of contemporary crises and conflicts, regarding their nature and causality. Additionally, the existence of some modifications of contemporary crises and conflicts typology also supposes specific modalities of approaching them in an optimal manner. In this respect, “comprehensive approach” in crisis management, and the way in which it is implemented in US, NATO and EU visions have a central place in the economy of this part of the volume.

Thus, the theoretical analysis of contemporary crises and conflicts makes the transition from the study of international security environment’s dynamic to the research on Military Affairs’ dynamic. Within the final chapter of this part of the volume, the author examines the military power’s role in guaranteeing international security, concluding that, presently, this type of power is only a part of the solutions for the

crises the world passes through.

The final part of the volume is consecrated to the dynamic of military affairs, this subject being addressed on “from general to specific” principle. Thus, the author opens the analysis by an argumentation of the universal character of military sciences, continuing by revealing some features of the contemporary military art. In this line of thought, there are made references to the beginning of a new stage in the Revolution of Military Affairs, reflected at strategic, operational and tactical levels. It is also stressed out the connection between the globalized society and the changes occurred at the level of the space and time dimensions of military actions, as well as their deep unconventional nature.

Overall, within the pages of the volume “Dynamics of Military Affairs in the New Millennium”, the author succeeds in revealing the complex interdependencies between the dynamic of the international security environment and the one of military affairs. This is also where resides the added value brought by the volume we bring to your attention, as it represents a useful tool in understanding the mechanisms laying behind the complex and sometimes apparently paradoxical evolutions in the approached domains.

NOTES:

1 This work was supported by a grant of the Romanian National Authority for Scientific Research, CNCS-UEFIS-CDI, project number PN-II-ID-PCE-2011-3-0849.

2 Carl von CLAUSEWITZ, *On War*, Princeton University Press, Reprint edition, New Jersey, 1989, p. 593.

INTERNATIONAL SCIENTIFIC CONFERENCE *STRATEGIES XXI* The Complex and Dynamic Nature of the Security Environment November 21-22, 2013

The Centre for Defence and Security Strategic Studies, from “Carol I” National Defence University organized between 21st and 22nd of November 2013 the 12th edition of the International Scientific Conference STRATEGIES XXI. In order to reinforce the tradition of organizing such scientific events, the conference bore the same title as the last year – “The Complex and Dynamic Nature of Security Environment”. However, the recent evolutions in this domain made necessary a new organisation of the sections, as follows: Section I – State and non-state actors in 21st century power relations; Section II – Security transformation; Section III – Evolutions in strategic theory and practice; Section IV – Modernization of military organization; Section V – Cyber confrontation.



As a first conclusion regarding this event, it is noteworthy the qualitative increase of the papers, due to the more exigent evaluation as compared with the previous years. International Scientific Committee was composed by specialists from Romania, Hungary, Czech Republic, Poland, Greece and Bulgaria as well as from international institutions such as UN Security Council (1540 Committee) and the European Union. Following the scientific evaluation made according to double-blind peer review principle, 74 scientific papers were accepted and published in two volumes in Romanian and one volume in English (indexed in ProQuest international database), which were offered to the participants in electronic format.

Another conclusion regards the large opening of the conference proceedings to the national and international academic environment. Thus, this activity went off with the participation of experts from Romania and from abroad, respectively from Hungary and the Czech Republic. The delegation from Hungary was composed of Péter TÁLAS, PhD, the director of the Centre for Strategic and Defence Studies from the National University of Public Service (Budapest) and Mr. Tamás CSIKI, junior researcher within the



SCIENTIFIC EVENT

Institute for Strategic and Defence Studies from the same university. In the second day of the conference there, was signed a Letter of intent regarding the enlargement and consolidation of the scientific research cooperation with the Hungarian partner. The Czech delegation was composed of Brigadier general (ret.) engineer František MIČÁNEK, the director of the Centre for Security and Military Strategic Studies from the University of Defence (Brno) and Lukáš DYČKA, lecturer within the same institution. Moreover, there were also represented two international institutions: UN 1540 Committee (Dana PERKINS, PhD) and the Geneva Centre for the Democratic Control of Armed Forces (Teodora FUIOR).

Romanian participants represented not only institutions of the central administration (Presidency, Ministry of National Defence, Ministry of Internal Affairs, Romanian Service of Intelligence), but also the military academic environment (“Carol I” National Defence University, Military Technical Academy, “Mihai Viteazul” National Academy of Intelligence, National Defence College), as well the civilian academic environment (University of Bucharest, National School of Political and Administrative Studies, Bucharest University of Economic Studies, “Alexandru Ioan Cuza” University of Iași, „Babeş-Bolyai” University of Cluj-Napoca, “Lumina” University of South-Eastern Europe, “Dimitrie Cantemir” Christian University, “Titu Maiorescu” University, Romanian Diplomatic Institute, Centre for Conflict Prevention and Early Warning, Romanian Scientific Society for Interdisciplinary Research, Academy of Romanian Scientists).

As far as the scientific debates are concerned, our conclusion is that this year prevailed the high-grade quality discussions on topics proposed by the participants through their scientific presentations: geopolitical context; power relations; frozen conflicts; constancy and change in the international security environment; vulnerabilities, risks, dangers and threats; new aspects in peace maintenance and peace building; the role of security organizations in 21st century international relations; nuclear disarmament and the proliferation phenomenon under all its aspects; terrorism and illegitimate violent action; security’s dimensions; strategic culture and action; the policy regarding military capabilities’ development and sharing; the dynamic of military organization’s transformation; the role and implications of using private security companies in the context of inter-state conflicts; cyber risks, threats and vulnerabilities.

ACTIVITIES OF THE CENTRE FOR DEFENCE AND SECURITY STRATEGIC STUDIES, OCTOBER-DECEMBER 2013

OCTOBER - DECEMBER 2013

In this time frame, the research team of the Centre for Defence and Security Strategic Studies published a series of studies, as follows: “The Evolution of NATO-EU Partnership in Relation with the Determinations of the Poles of Power” authored by Cristina Bogzeanu; “National Defence between Vision and Reality at the Beginning of the Millennium” authored by Petre Duțu, PhD, Alexandra Sarcinschi, PhD, and Cristina Bogzeanu; “National Security and Defence in the Context of Terrorist Threats”, authored by Mirela Atanasiu, PhD, and Filofteia Repez, PhD; “Crisis Situations’ Management and Armed Conflicts’ Prevention”, authored by Petre Duțu, PhD.

Also, during this period, was organized CDSSS the most prominent scientific activity - International scientific conference STRATEGIES XXI, with the theme “The Complex and Dynamic Nature of the Security Environment”, which took place between 21st and 22nd of November 2013.

The conference held scientific presentations of members of “Carol I” National Defence University’s management team, Presidency, Ministry of National Defence, the Centre for Security and Military Strategic Studies from the University of Defence (Brno), the Centre for Strategic and Defence Studies from the National University of Public Service (Budapest). Additionally, the conference also included scientific presentations made by representatives of the Ministry of Internal Affairs, Romanian Service of Intelligence, research institutes and civilian universities from Romania.

The main aspects approached by the scientific papers concern the role of state and non-state actors in 21st century power relations, security transformation, the evolutions in strategic theory and practice, the modernization of military organisation, and cyber confrontation. Debates were focused on the new elements in the evolution of international security environment, the balance of power in the context of international relations’ evolutions, potential security risks and threats, perspectives of multinational cooperation in defence area. The presentations triggered ample debates among the participants, which contributed not only to the effort of being informed and understanding these aspects, but also to the dissemination of a range of constructive ideas and opinions.

CDSSS agenda for 2014 includes the organization of an international scientific seminar and two workshops. The seminar will take place on 27th of March and is titled “Romania – 10 years of NATO Membership. Adaptation and Contributions to the Alliance’s Modernization”. The two aforementioned workshops are “Romanian Geopolitics and Geostrategy. Tradition and Modernity” (May, 29th) and “Post-Crisis Geoeconomic Trends” (September, 25th).

The next edition of the international scientific conference STRATEGIES XXI with the theme “The Complex and Dynamic Nature of the Security Environment” will take place between 25th and 26th of November 2014. Those who are interested in participating can already register. More information will be available on the conference website, at www.strategii21.ro, respectively on CDSSS website, at http://cssas.unap.ro/index_en.htm.

Irina TĂTARU

GUIDELINES FOR FOREIGN AUTHORS

We welcome those interested in publishing articles in the bilingual academic journal *Strategic Impact*, while subjecting their attention towards aspects to consider upon drafting their articles.

ARTICLE LENGTH may vary between 4000-10 000 words (including bibliography and notes, tables and figures, if any). Page settings: margins - 2 cm, A 4 format. The article shall be written in Times New Roman font, size 11, one line spacing. The document shall be saved as Word 2003 (.doc). The name of the document shall contain the author's name.

ARTICLE STRUCTURE

- Title (centred, capital, bold characters).
- A short presentation of the author, comprising the following elements: given name, last name (the latter shall be written in capital letters, to avoid confusion), main institutional affiliation and position held, military rank, academic title, scientific title (PhD. title or PhD. candidate – domain and university), city and country of residence, e-mail address.
- A relevant abstract, which is not to exceed 150 words (italic characters).
- 5-8 relevant key-words (italic characters).
- Introduction / preliminary considerations.
- 2 - 4 chapters, subchapters if needed.
- Conclusions.
- Tables / graphics / figures shall be sent in .jpeg / .png / .tiff. format as well. Below will be mentioned "Table no. 1, title" / "Figure no. 1 title"; (italic characters) the source, if applicable, shall be mentioned in a footnote.
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Example of book: Joshua S. GOLDSTEIN; Jon C. PEVEHOUSE, *International Relations*, Longman Publishing House, 2010, pp. 356-382.

Example of article: Teodor FRUNZETI; Marius HANGANU, "New Paradigms of Armed Combat and their Influence on Military Forces' Training", in *Strategic Impact*, no. 4/2011, pp. 5-15.

Electronic sources shall be indicated in full, at the same time mentioning what the source represents (in the case of endnotes, the following mention shall be made: accessed on month, day, year).

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