MILITARY OPERATIONS IN AND FROM OUTER SPACE, A THREAT TO WORLD SECURITY AND STABILITY

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Abstract: *People evolve, mankind is growing more complex, and once Cosmos misteries revealed, the distance between the individual and the system, on the one hand, decreases due to networks and access to databases via high-tech communications satellites and, on the other hand, increases as a result of strong pressures on the individual generated by the information and media war, the fight for resources, or the evolution of civilizations from the oil-based one to the atomic era that has just begun.*

Today's challenges, dangers and threats have raised some issues in studying, addressing and countering them because of the difficulty in identifying, defining and establishing the objectives that they pursue. These threats to global security and stability appear and manifest in areas with radical changes and transformations, in areas with political and ideological, social-economic, informational, military or other types of cleavages. Thus, we cannot say that challenges, dangers and threats mostly appear at times of radical changes or major ruptures. They exist throughout our existence as humanity, they occur in times of stability also, are dynamic and complex and they also different and unpredictable forms of expression and represent real threats to global security and stability.

This paper highlights the potential threats that may arise from the spatial dimension, the use of power and space technologies operating in this area, as well as the programs and projects through which they are controlled.

Keywords: *threats, dangers, space, satellites, missiles, security, technology, programs, sockets.*

INTRODUCTION

All security structures, no matter their nature is, are targeted by many challenges, dangers and threats. Vulnerabilities of these structures face to the 3rd millenium challenges, dangers and threats are minimal, however their security and securing issue is quite delicate.

Space challenges, dangers and threats occur most often together or as a cumul, as they are specific to this region and they operate their functions and pressures not only at a certain moment in time and place, but also permanent and everywhere. In present and near future, mankind is not able to react to such events, our capabilities being limited to observation and actions to reduce victims and damages.

Thus we can not control meteorites that can approach Earth, the solar and cosmic radiation, or of possibile actions in space generated by extraterrestrial beings and technologies, but we can oversee Earth around space, we can study and monitor phenomena in this area and can accommodate spatial platforms to achieve first contact with extraterrestrial entities.

Race to win supremacy in this new field of military actions pushed economic and military powers of the world to allocate huge amounts for investment in equipment and technologies needed to dominate space.

The interest for this area outlines two directions, namely:

- first direction: the research and study of Earth around space, atmospheric and cosmic phenomena occurring in this area and execution of experiments to control factors that may influence the conduct of actions in and from cosmos;
- second direction: it is developing in parallel with the first and concerns the deployment of military satellites with spying, communications, terrestrial research functions, while developing space vehicles transporting these techniques and technologies necessary to possible military action.

It should be noted that orbit transport vehicles are almost identical to the composition of ballistic missiles that can carry nuclear warheads.

Human presence in space is becoming more and more active, and this is not confined only to knowledge and exploitation of cosmic area, but is also takes into consideration expanding the security zone, Earth protection and defence, together with identification of courses of action to mitigate global challenges, dangers and threats of cosmic nature.

Directly relatied to the intensity of Erah around space actions are operations on the ground, coming as a result of possible challenges and threats from cosmos and being intended to provide support and to ensure necessary protection and defense measures.

Regardless of the coverage and content, challenges, dangers and threats have three different but complementary sources, three specific categories:

- cosmic nature
- geophysical and geoclimatic
- human nature.

The challenges, dangers, threats and vulnerabilities of cosmic nature are based on a variety of factors and actions that can activate them, as follows:

- Changes, transformations, metamorphoses into planetary cosmophysics;
- Changes, metamorphosis in cosmic magnetism;
- Increasing or decreasing the cosmic and solar radiation;
- Objects or cosmic bodies dangerously approaching the Earth.

Regardless of the factors that activate them, all these challenges, dangers, threats and vulnerabilities affect structures at economic, social, military levels, and take shape of a war of survival in a hostile environment, a war of people againstof an environment with limits, no rules, still in exploration, an environment that must be known in order to be understood and controlled.

Space war, the war of cosmos against humanity does already excist in forms affecting the entire planet in its structure, at a shells and ecosystems level, and can get dimension of a total disaster.

1. SPACE POWER – VECTOR OF SECURITY

The term security raised and continues to raise some questions in terms of its defining for each area in which it is used.

Analyzed by philosophers and linguists that term can express serenity, confidence, or can be characterized by the presence of a sense of safety in the absence of danger.

However analyzed on segments of society or at a world level, it can be said that, for example, for the political class, the term security can have several meanings.

For politicians who hold the power, security can be a state that is wanted to be imposed or preserved, while at the same time, for opposition politicians, the same state can be regarded as an unstable situation in terms of security, generating conflicts and tensions.

In some countries due to political governing regims, these goals of power and opposition are present, but conversely, power seeking to create instability and conflicts, while opposition struggle for safety and security.

For the army and the military actions, the term security is particularly important. It represents the core mission of the armed forces and also each soldier's mission, on the battlefield when executing specific military operations in order to eliminate all hazards, to ensure his own protection and his comrades and/or to defend the entrusted for safety and security objective.

On the macro scale and analyzed in terms of nature, geographic location, resources, size and importance of the objective to be insured and directly related to the type and size of the forces involved and the threats and vulnerabilities that confronts the area, the security level can have national, international, transnational valences as well as regional or global ones.

New threats and vulnerabilities involve for Romania the development of strategic objectives, the establishment of national systems for preventing and fighting, strategically coordinated by the CSAT and technically / operationally coordinated by the structures of the Ministry of National Defense, Ministry of Interior, Ministry of Justice or other state structures.

The emergence of these services and organizations and especially its activities must be within legal norms of operation, thus giving birth to the security system legislation which is based on the national security strategy, the main document governing the national security system.

International cooperation between institutions responsible for the regional security is developing a new principle, the principle of collective security that underlies Security Strategy of Romania and attaches importance to the role of the Romanian state in all international institutions.

The current security strategy widens the risk and unconventional threats spectrum and diversifies the typology of crises and conflicts that are manifested internally or internationally.

This new context leads to a multiplicity of the national safety and security state dimensions,

including political, economic, financial, military, civic, social and environmental terms that request identifying new international and international resources that can be mobilized to defend the fundamental interests of Romania.

The document underpinning national defense planning is the National Security Strategy of Romania. This provides a larger approach to security issues and takes into account all the dimensions of the security state. The strategy presents vulnerabilities, challenges and risk factors with their solutions and dimensions, with the following implications:

- Politico-administrative;
- Economic;
- Social;
- Education, research and culture;
- National security and public order;
- National defense;
- Foreign policy.

So there can be identified two main areas of action for the security policy of Romania, internal policies, where it is dealed with political, military, economic, social and environmental dimension and external policies.

Option dilemmas of the foreign policy of Romania involving security paradigm continue to be manifested, at least in the short term. As there is not a personal, clear, vision on national security yet and guiding ourselves after the two elements of stability, the EU and NATO, it is quite difficult to adapt and it will become even more difficult if the visions of the two organizations will become competing or contradictory.

In the military plan, Romania will benefit from the advantages of locating missle shield components on its territory in the future. This partnership with the US leads to security guarantees obtaining and to relations consolidation with the most powerful ally within NATO, even if some disadvantages in relation with Russia should be taken.

The installation of the missile shield is part of a US security strategy in the eastern European Union, the implementation of this control system showing the level of involvement of the US in imposing circumterrestrial space supremacy.

It is known that, over time, countries have always fought for dominance and control, and most representative examples are the two great superpowers, USA and Russia.

They have developed strategies and techniques, they have invented technologies that have produced information and information is power. Therefore it is demonstrated once again that who owns the information owns the power, has total control.

At their turn, weapons and weapons systems means power. Being an indicator of the strength, their use intimidates, subdues, hurts and the development of weapons technology and weapons systems means power amplification.

One of the latest nowadays confrontations is taking place outside the Earth's surface, into space, where the "last battle for power" has begun.

Circumterrestrial space control is military owned by the US by having a well defined space doctrine.

American Space Doctrine, adopted in 2010, reflects principles that are inclined to dialogue and international cooperation and provide additional information related to the use of space for US national security, calling on world countries to act responsibly in space in order to prevent negative incidents.

The first time that the possibility of using outer space for strategic defense of US territory was defined, it was during the administration of US President Ronald Reagan, but the idea of effective control of outer space in case of conflict dates back to 1963, an idea promoted by the Air Force in 1983 and that causes the emergence of the doctrine, "Strategic Defense Initiative" [1], doctrine that clearly defines the manner and means by which the US wants to achieve military control of space.

At the core of the American Space Doctrine are seated four pillars:

- Deterring opponent or defense against any enemy attack;
- Unhindered access by the US in space;
- Disrupting any hostile cosmic systems;
- Improving the military operations of the US and its allies by space systems.

Thus, it is acted on several levels, both for the ensurance of the control of outer space by the United States and for protection against possible ballistic missile attacks, using terrestrial, naval, air and cosmic systems.

In 1996, the administration of President Clinton issues a document regarding the US space policy, saying that "free access to space is a vital national interest" [2], thus recognizing the importance of outer space.

After the events of September 11 the trend of reviewing American Space Doctrine is continued and in the 2006 version it is reaffirmed that the US critically depend on cosmic capacities, and they are vital to national interests.

The next step was the location and use of missile defense systems to protect against possible ballistic missile attacks.

2. PROGRAMS, PROJECTS AND PROCCUPATIONS CONCENRING EARTH AROUND SPACE

Nowadays, on an international plan, in terms of programs, preoccupations and projects regarding circumterrestrial space, the most developed segment is missle defense.

Missle defense is a system, a technology for detecting, tracking, intercepting and destroying offensive enemy missles.

Initially this system was designed to protect against intercontinental ballistic missiles with nuclear combat cargo, and recently, it developed new defense capabilities including protection against short-range and medium-range missless armed with warheads or conventional fighting charges.

Missile interception technology has varied over time, in the 60s, ballistic missile defense system using nuclear warheads, after that warheads that use kinetic energy and then the laser.

Alongside the already established and active countries in space (United States, Russia, China), there are other actors on "spatial stage" (UK, France, India and Israel), with the same intentions of capacity, air defense systems and missile defense development.

Missile defense systems can divide into several categories, depending on the range of missiles that can be intercepted, the phase of thr trajectory in which the intercept is made and depending on the area in which the interception is made (inside or outside the Earth's atmosphere) as follows:

- Depending on the range of interceptor missiles:

- Strategic missile defense systems - with long-range (7km / s) - A-135 system owned by Russia and designed for Moscow defense and te US "Ground-Based Midcourse Defense" system for missile that could come from Asia;

- "Theater defense" type defense systems that can act with speed of 3 km / s. The term "theater" in this context includes military the entire region located for military operations, region which usually extends in a radius of several hundred kilometers;

- Tactic type missile defense systems - against tactical ballistic missiles with short range that may have a speed of up to 1.5km / s.

- Depending on the trajectory of intercepted ballistic missiles:

- Boost phase (launch phase) missile defense systems allowing the missiles interception while the engines are switched on, usually after their launch the aimed territory. The disadvantage is the very short missles interception time, about 180 seconds;

- Intermediate phase missle defense systems which allow the missles interception after the engines were ignited. The advantages are huge geographical coverage, even mainland and disadvantages, the need for more space for installation and the existence of powerful radars with special properties;

- Terminal phase missile defense systems - allows missiles interception after they have reentered the Earth's atmosphere. They are advantaged by requiring less sophisticated radars but disadvantaged by very short reaction time, sometimes less than 30 seconds and by the covering of a smaller geographical area.

- Depending on the location of the missile related to the atmosphere:

- Endoatmospheric missile defense systems (inside Earth's atmosphere)

- Exoatmospheric missile defense systems (outside the earth's atmosphere)

All these systems have been developed and implemented in programs and projects designed for the anti-aircraft defense and later for the missile defense.

For example, the US has developed a national missile defense military program called "Strategic Defense Initiative", which was providing the creation of a North American missile defense shield against possible intercontinental ballistic missile attacks by a state enemy, especially by the USSR, program that costed more than 100 billion dollars, and which was abandoned in 1991 after the collapse of the Soviet Union.

However, undertaken research under this program have been valued in other projects like the one in 1992 when Gokona military base in Alaska, debuted the "High-Frequency Active Auroral Research Program" (HAARP) project, the most important US military project for climate distortion and manipulation, particularly for military purposes.

Other future projects aim combating enemy missile by curtains made of laser beams emitted from ground or submarines launched missiles, neutron bombardment with particle accelerator produced neutrons, establishing a network of mirrors for directing the laser waves to missles or bombarding them with "projectiles rain" from launching installations that are stored on satellites. At the European level a controversial initiative is being born, the one to place Ground - Based Midcourse (GDM) antimissile system installations in Eastern Europe, but as a result of not so friendly reactions from Russia, the plan was abandoned in favor of the Aegis missile defense system, from the Black Sea area, with the possibility of expansion in Romania.

In February 2007, the US has officially started negotiations with Poland and Czech state regarding the location of a Ground - Based Midcourse missile defense system. Announced objective was to protect most of Europe from long-range missiles that might come from Iran.

The basis Ustka - Wicko, which belongs to the Polish army was chosen as a possible place to locate 10 US interceptor missiles. Russia has objected again and was suspended from the Treaty on Conventional Armed Forces in Europe (Treaty signed on 19 November 1990 in Paris by the Warsaw Pact countries - Albania, Bulgaria, Germany (GDR), Czechoslovakia, Poland, Romania, Hungary and the USSR on the one hand and NATO on the other hand, which was providing the significant reduction of armed forces and armament for both signatory parties and the respecting of a balance between East and West), and President Putin has threatened of a possible new Cold War.

Russia has threatened deployment of short-range nuclear missiles on its border with NATO action, unless the US abandons plans. However, in order to locate a high-power radar, Russia stood at the negotiating table with the Czech state.

On August 20, 2008, after lengthy negotiations, US Secretary of State Condoleezza Rice and polish Foreign Minister Radoslaw Sikorski signed at Warsaw the "Agreement between the United States and the Government of the Republic of Poland on the deployment of ballistic missile defense interceptors in Polish Republic ".

Again Russia warned Poland that is exposed to an attack, even nuclear, by approving the United States to deploy interceptors on its territory, Russian General Anatoly Nogovitsyn saying that "Poland - through the implementation of the system is exposed to a target - 100% ".

In May 2008, according to some information that emerged, Russian President Dmitri A. Medvedev and Chinese President Hu Jintao met "... to conclude a nuclear cooperation agreement and together condemn American proposals for a missile shield in Europe. Both countries called the plan as a blow to international confidence that will disturb the balance of power "[3].

Romania is also part of the countries that need protection against nuclear and ballistic threats thus on 4 February 2010, agreed that since 2015, to host elements of the missile defense system on its territory.

In recent years, due to strained relations between the US and Iran, Iran did not hesitate to declare that in the case of an armed conflict, countries hosting US troops would become a "target" for their missiles.

Romania hosting US military bases on its territory has asked since the NATO Summit in Bucharest (2-4 April 2008) the extension of the missile defense system in Europe and in vulnerable areas.

Thereby a four steps strategy was designed for placing missile shields in both southern and northern Europe, in order to protect both allied states and military and civilian personnel deployed in those countries against potential Iranian attacks. Romania, Bulgaria and Turkey are considered the "vulnerable" wing of NATO concerning the missiles possibilities that might come from the Middle East.

According to Robert Gates, US Defence Secretary, Iran's ballistic missiles would not be a problem but short- and medium-range missles would. The fact that NATO will expand its project on the missile defense system in Romania has generated reactions from Russia, but not as strong and aggressive as for Czech Republic and Poland.

In November 2010, following the NATO Summit in Lisbon, NATO and Russia agreed on the European missile defense system, Oleg Ostapenko, Russian Ballistic Forces commander, saying "we are willing to work with NATO experts in the field of antiballistic for developing a missile defense architecture, from conception to radars and missle interceptors location variations and to the common exploitation of the control and data collection centers" because a European missile defense system is better designed after the territorial principle (sectorial) of the division of responsibilities for individual states or groups of states for detecting and destroying missiles in a particular sector of defense. The current strategic challenges posed by the US missile shield deployment in Europe, cause a new reorganization of the aerospace defense of Russia. This starts the procedures for the establishment of a new category of forces, Forces for the Aerospace Defense (FAD), a new structure that, since 1 December 2011, is acting on the first line of strategic defense in order to ensure the air defense (missile defense) and is served by defense systems that use missles, early warning radars and space control systems.

New category of forces copies European missile defense structure model, but is more complex, including Russian Space Forces missions that are responsible for launching satellites and space shuttles.

The new structure includes over 3,000 people, military and civilian personnel specialized and trained, organized as a military structure, with command and control center in Krasnoznamensk, near Moscow and under military command.

Russia continues to believe that placing missile radars in Europe and deployment of interceptor missiles from the missle shield composition is a potential threat to Russian nuclear arsenal, even if Washington tries to convince them that its mission is to protect Europe and NATO allies against attacks of unpredictable states like Iran.

CONCLUSIONS

Faced with the threats that could come from space, programs, projects and preoccupations concerning the circumterrestrial space security as well as great powers' reactions confirm again that in the future, Space Forces will be a part of the world countries' National Security Systems, and at a space level we will have to deal with space politics, space strategies, laws that will regulate the space activity and, why not, space justice and space police.

The approach of the challenges and the economics, political and especially military structures receptivity to the future technologies that, if ignored, would harm generally the art of war and implicitly the art of approaching the space conflicts, are outlined by the need to permanently relate to history lessons, to the lessons of the past.

The features of the circumterrestrial space, of this new battlefield, the new military structures configuration and the soldiers way of training determine a new approach of the war preparation, especially for missions execution. Their issues regarding the possible circumterrestrial space conflicts and they impose to be studied and analized during the different exercices training program.

Human resource serving this area is need to be highly trained and specialized in the following domains: conceptual domain, military leadership, technical and technological creation and in the action one. It must be capable of continuous investment in intellectual effort, to show intelligence, acting mainly creative and innovative.

Contemporary military art and modern history present many uncertainties regarding the concept and execution of future military operations, despite numerous hypotheses and theories issued years ago.

It is very likely for us to witness a militarization of the cosmos soon, with all the consequences thereof. We must be constantly prepared to respond to the space threats and must continually analyze the international geo-political situation that aims the circumterrestrial space, being able to value the knowledge gained by the military approach of security and stability.

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