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Strategos publishes original scientific papers, scientific reviews, professional papers and preliminary reports, which are subject to at least two double-blind peer reviews and professional proofreading service. Each issue may also include book reviews, perspectives, opinion articles, commentaries and replies, symposium pieces, interviews, and annotated bibliographies. Strategos is dedicated to a wide interdisciplinary area of military-, defence-, security- and intelligence-related sciences and arts. It is published in printed and electronic format.

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Riječ urednika

Poštovani čitatelji, pred vama je drugo izdanje časopisa *Strategos* u 2023. godini, u koje su članovi uredništva i autori radova uložili velik trud. U ovom smo se izdanju suočili s izazovom širokog spektra radova. Ponovno nam je bio izazov dobiti i kompetentne znanstvenike za recenzente, ali smo i ovaj put uspjeli.

U ovom izdanju pred vama je osam novih i zanimljivih radova, od kojih su dva rada recenzenti ocijenili kao izvorne znanstvene radove, tri kao pregledne znanstvene radove, a tri su stručna rada.

Prvi rad u ovom broju, „Sličnosti i razlike u načelima ratovanja – od klasika do Domovinskog rata“, autora Sitarić-Knezić, rezultat je razmatranja teorijske podloge i odrednica načela ratovanja u klasicima vojne teorije te primjena teorije i načela, koja je autor primijenio na tri razdoblja Domovinskog rata. Autor razmatra razdoblja prve faze – od svibnja 1990. do siječnja 1992., druge faze – nakon Sarajevskog primirja u siječnju 1992. godine i do operacije Bljesak 1. svibnja 1995. godine i treće faze, koja je započela operacijom Bljesak 1. svibnja 1995. i završila mirnom reintegracijom Republike Hrvatske.

Drugi je rad autora Stubičar i Šipoš „Primjena neuronskih mreža za detekciju i klasifikaciju topničkih ciljeva“, a usredotočen je u područje primjene neuronske mreže u vojsci, što je činjenica koju priznaje nekoliko zemalja. Ovaj se rad bavi primjenom na topništvo za zauzimanje ciljeva. Dobro uvježbana neuronska mreža može detektirati različite vojne objekte, omogućujući identifikaciju i određivanje njihovih specifičnih tehničkih karakteristika.

Treći je rad „Organiziranje za inovacije: temeljni pregled“, koji su časopisu ponudili autori Pedro B. Água, André Nogueira, Anacleto Correia iz Mornaričkog istraživačkog središta (CINAV) pri Mornaričkoj školi i Vojnom sveučilišnom institutu Portugala. Rad govori o upravljanju promjenama kojima je cilj uvođenje novih i boljih proizvoda, usluga ili procesa, što zahtijeva kulturu inovacija, odgovarajuće inovacijske procese i učinkovito upravljanje organizacijskim promjenama.

U četortome radu, koji je pravne tematike, u području međunarodnog prava, autor Kinder razmatra kršenja međunarodnoga humanitarnog prava protiv osoba nasilno odvedenih iz Vukovarske bolnice i ubijenih na Ovčari. Autor analizira pregovore koji su trebali rezultirati evakuacijom ranjenika i bolesnika iz Vukovarske bolnice. Analiza obuhvaća i djelovanja JNA koja su dovela do zločina na Ovčari.

U petom radu „Vojna znanost pod pritiskom institucionalizacije – slovenska perspektiva“ autor Pavel Vuk raspravlja o značaju civilnog i vojnog obrazovanja i razvoju vojne znanosti kao sustavne znanosti koja je izvor strateškog promišljanja o pitanjima egzistencijalne sigurnosti, kao i razumijevanja dobrobiti oružanih snaga, kao krajnjeg sredstva države za odvratanje i nacionalnu obranu.

Nadalje, autori Čulina i Nakić u svojem se radu bave klimatskim promjenama te ulogom gospodarske diplomacije i njezinim utjecajem na globalnu sigurnost. Rad istražuje izazove koje klimatske promjene postavljaju pred nacionalnu i globalnu sigurnost te ističe važnost djelovanja gospodarske diplomacije kao ključnog aspekta nacionalne i globalne sigurnosti.

Autori Jerkić i Beljan u sedmom radu „Program reformi Bosne i Hercegovine – suradnja ili članstvo?“ problematiziraju sadržaj i značenje dokumenta „Program reformi BiH“, inicijalno objavljenog za razdoblje studeni 2019. – studeni 2020. i ponovljenog za 2021. i 2022. godinu. Autori traže odgovor na pitanje jesu li ovi dokumenti godišnji nacionalni programi (ANP), koji znače aktiviranje Akcijskog plana za članstvo u NATO savezu.

Na samom kraju, s osobitim ponosom preporučujem čitateljstvu radove koje objavljujemo u ovom broju. Koristim priliku i ovim putem pozvati i druge autore da ponude radove iz svojeg područja ekspertize kako bi dali svoj doprinos u podizanju kvalitete radova koji se objavljuju u Strategosu.

Glavni urednik



Editor's Word

Dear readers, before you is the second edition of the Strategos journal in 2023. Another success has been achieved, thanks to the dedicated efforts of our editorial team and contributing authors. In this edition, we faced a diverse range of challenges in curating content. Once again, securing competent scholars as reviewers posed a challenge, but we successfully navigated through it.

Within this edition, you will find eight new and intriguing articles. Two of these have been recognized by reviewers as original scientific contributions, three as comprehensive scientific reviews, and three as professional articles.

The first article in this issue, "Similarities and Differences in the Principles of Warfare – from Classics to the Homeland War," authored by Sitarić-Knezić, is the result of a consideration of the theoretical framework and determinants of the principles of warfare in classical military theory. The author applies this theory and its principles to three periods of the Homeland War. The author examines the periods of the first phase from May 1990 to January 1992, the second phase after the Sarajevo Agreement in January 1992, up to Operation "Bljesak" on May 1, 1995, and the third phase that began with Operation "Bljesak" on May 1, 1995, and concluded with the peaceful reintegration of the Republic of Croatia.

The second article by authors Stubičar and Šipoš, titled "Application of Neural Networks for Detection and Classification of Artillery Targets," focuses on the use of neural networks in the military, a fact acknowledged by several countries. This work is specifically directed towards artillery applications for target acquisition. A well-trained neural network can detect various military objects, enabling the identification and determination of their specific technical characteristics.

The third article presented to the journal by authors Pedro B. Água, André Nogueira, Anacleto Correia, titled "Organizing for Innovations: A Fundamental Overview," originates from the Naval Research Center (CINAV) at the Naval School and the Military University Institute of Portugal. The paper discusses change management aimed at introducing new and improved products, services, or processes, requiring a

culture of innovation, appropriate innovation processes, and effective organizational change management.

In the legal-themed fourth article, author Kinder examines violations of international humanitarian law against individuals forcibly taken from the Vukovar hospital and killed at Ovčara. The author analyzes negotiations intended to result in the evacuation of the wounded and sick from the hospital, encompassing actions by the JNA that led to the crimes at Ovčara.

In the fifth article, "Military Science under the Pressure of Institutionalization – Slovenian Perspective," author Pavel Vuk discusses the significance of civilian and military education and the development of military science as a systematic discipline. Military science serves as a source of strategic thinking on issues of existential security and understanding the benefits of the armed forces as the ultimate means for deterrence and national defense.

Following that, the sixth article by authors Čulina and Nakić addresses climate change and the role of economic diplomacy and its impact on global security. The paper explores the challenges posed by climate change to national and global security and emphasizes the importance of economic diplomacy as a crucial aspect of both national and global security.

Authors Jerkić and Beljan, in the seventh article titled "Reform Program of Bosnia and Herzegovina: Cooperation or Membership?" scrutinize the content and significance of the document "Reform Program of BiH," initially published for the period November 2019 – November 2020 and reiterated for 2021 and 2022. The authors seek answers to whether these documents are Annual National Programs (ANP), signifying the activation of the Action Plan for NATO membership.

At the end, I recommend the published articles, which will undoubtedly find an interested readership. Through this editorial, I invite other authors to submit articles from their areas of expertise to contribute to raising the quality of the papers published in Strategos.

Editor-in-Chief



Similarities and differences in the principles of warfare – from the classics to the Homeland War

Darko Sitarić-Knezić

Abstract

In the article, I tried to connect the principles of warfare as they were understood, explained and finally defined by the classics of military thought Jomini, Foch and Liddell Hart with contemporary specific principles of war that were applied in the Homeland War through the implementation of operations, primarily offensive ones. This article provides an expert review of the Diploma thesis “Similarities and differences in the principles of warfare – from the classics to the Homeland War” which I wrote and defended at the CDA Integral Command and Staff School.

Keywords

war, theories of war, principles of war, Homeland War, operation.

Introduction

War as a social phenomenon has appeared since the very beginnings of human civilization. People as social beings, after family forms of life, begin to unite in tribes as growing forms of human civilization, which nowadays grow into states and state alliances for various reasons, economic, political and finally military alliances of two or more states. War or a primitive form of armed combat also appears among the tribes themselves, where a tribe attacks a weaker tribe, usually for economic reasons, by seizing part of the arable land or by seizing part of the tribe using them as slaves. In the very nature of such conflicts is the economic reason, which we can only confirm today, since after all, the First Gulf War was undertaken because of the most important natural resource today – oil. Therefore, economic reasons are the real causes of war; all other reasons, such as political, ethical, and religious, are less important and are a side effect or cover for economic reasons.

I will support the above thesis with several facts that can be found in the history of wars. Namely, there is no army in the original community, wars are fought for survival (people were defeated or killed, set free or they became tribesmen). In class societies, wars are fought for economic reasons, to increase wealth, expand territory and secure a privileged position. This is why Socrates said to Alexander of Macedon: *“Let us transfer the war to Asia, and the happiness of Asia to ourselves.”* (Ambury, 2023)

Theories about the origin of war

The first theory is objective-idealistic. It discusses the causes of war and considers them to be in supernatural forces: theological understanding (*“God wills it”* – Pope Urban II. 1095.) (Marschhauser, 2015), fatalistic understanding (Galović, 1998), and the source is the militaristic national spirit¹.

The following theory about the origin of war talks about the cause of war which is in earthly factors: demographic theory (Malthus, 2023), biological theory (Hobbes, 2023; Škember, 2011), racial theory (Rosenberg: *“There are higher and lower races and all history is the history of the struggle of races.”*)

1 E.g.: The Germans

(Rosenberg, 2023), geopolitical theory (Ratzel: *"The cause of war is the lack of living space, whereby each nation needs to use its own space, and then has the right to conquer new living space - this is a war justified by God and nature."*) (Ratzel, 2023).

The third theory about the origin of war relies on subjective-idealistic concepts: the causes of war are in an important individual².

The concept of war

The most famous definition of war was given by Carl von Clausewitz in his work *On War*, where he says that "war is nothing but the extension of political relations with the use of other means" (page 502). However, there is an objection to his definition of war as it does not include wars in the original community, because there is no state policy there, the extension of state policy by other means does not always have to be war (e.g. termination of diplomatic relations, etc.). Based on the above, I believe that a more acceptable definition of war would be the extension of foreign state policy by means of organized armed violence in order to force the enemy, who responds to armed violence with violence, to make certain concessions - territorial or economic.

Types of wars

According to Clausewitz, there are the following types of wars: wars for complete subjugation and wars for conquering only parts of another state (page 502). According to Jomini, there are also several types of wars: offensive wars to claim rights, wars that are politically defensive and militarily offensive, wars of opportunity, wars with or without allies, wars of intervention, wars of conquest due to the spirit of conquest or for other reasons, wars from belief, national wars, civil or religious war, double wars (page 15-16).

² The wishes and aspirations of statesmen, military leaders or in the aspirations of certain circles and organizations

The modern definition of the types of wars is reflected in the following divisions of wars: offensive (attacking) wars, defensive (protective) wars, imperialist wars, national liberation wars, foreign (inter-state, inter-national) wars, internal (civil) wars, just wars (depending on the specific historical circumstances), unjust wars (depending on specific historical circumstances), naval, aerial, atomic, chemical, bacteriological, conventional (with regard to the means, space and organization of the armed forces), manoeuvre, positional, partisan (with regard to strategic-tactical aspect).

Theories about the justification of wars

Throughout the history of warfare, those who started wars have always found some theories about the justification of war. Social Darwinists, racists, justify war because, according to their theory, wars regenerate, i.e. rejuvenate and ennoble humanity in a biological, psychological and moral sense. Ethical theorists justify war because war maintains and purifies the morals of the people. The justification of war by the needs of production. And finally the justification of war in the name of socialism – China, Albania, Cuba and others.

In the end, we come to the realization that wars are inevitable because the entire history is full of wars. In the last 5000 years, mankind lived in peace for only 292 years (Swiss scientists).

Modern Determinations of the Principles of War

When determining the modern principles of wars, we must first explain how in today's modern world, that is, the modern understanding of the concept of war, is approached from various points of view. In today's, modern times, the actions of the army can be divided into the classic implementation of wars and warfare, actions other than war (Not-War) and actions other than military. Of course, the understanding of the principles of warfare was influenced in many ways by past wars and the principles that pervaded them. Inherited military analysis, as old as the wars themselves, and many more recent scientific endeavours are included in the creation of this understanding. On the basis of these analyses, the principles created in

the distant past and/or in recent times are adopted. With minor changes, they become fixed and change-resistant components of theories, teachings and rules of warfare. Thus, for example, the United States Army adopted Fuller's principles developed for World War I and its warfare. Later, they were "somewhat modified", but it is claimed that even today they can withstand analytical verification, verification by experiment and verification in practice"³.

The French appreciate Foch and have long recognized his principles of war described in his work *The Principles of War*⁴. Great Britain in the 1970s needed ten⁵, and the Soviet Union nine⁶ principles of warfare. In the span of several decades, the USA, Great Britain, France and the USSR used a total of less than thirty names for less than ten mostly the same contents. In eight cases, they are shared by two or more⁷, and five times it is a question of the principle of only one of these states⁸.

The principles of war are the efforts of military theorists to recognize all aspects of warfare as universal and relevant. They have a very wide application and directly refer to the unique features of warfare, while avoiding literary and dogmatic constructions.

In essence, these are the long-term basis and general guidelines for the implementation of activities at all levels of war and are the permanent basis of the army's doctrine.

3 There are nine of these principles: objective, unity of command, offensive, security, concentration of forces, surprise, economy of force, simplicity, execution of maneuvers (Operations, FM 3-0).

4 Concentration of forces, freedom of action, surprise; more precisely: the struggle for freedom of action and the economy of force are the only guiding principles, since the economy already requires and includes a certain concentration of forces.

5 Aim, offensive operations, cooperation, concentration of forces, economy of effort, mobility - flexibility, surprise, security, maintenance of morale, management - command.

6 Advance and Consolidation, Offensive/Attack, Assembling Forces, Concentration, Economy of Force, Maneuver and Initiative, Surprise and Deception, Necessary Reserves, Destruction.

7 Aim, offensive/offensiveness, command, concentration (strength, effort), economy, maneuver (mobility, freedom of action, initiative), surprise (deception), security (insurance, reliability).

8 Reserves, simplicity, maintenance of morality, management, destruction.

Principles of war

According to the latest FM 3-0 Operations (FM 3-0 Operations, 2022), nine principles of war are stated: objective, offensive, concentration, economy of force, manoeuvre, unity of command, security, surprise, simplicity. Those nine principles of war provide general instructions for conducting war and non-war operations at the strategic, operational and tactical levels. According to FM, these principles are the permanent foundations of US military doctrine. The US Army published its original principles of war after World War I. In subsequent years, the US Army adapted the original principles, but overall, they have withstood the tests of analysis, experimentation, and practice.

Furthermore, according to FM 3-0 Operations, principles of war are not a checklist. They do not apply in the same way in every situation. Rather, they summarize the features of successful operations carried out during the wars. Their greatest value lies in the education of military professionals. Along with the study of past campaigns, major operations, battles and engagements, the principles of war are a powerful tool for analysis.

Conceptually and formally, the principles of war are determined within the framework of ideas, doctrinal settings and global views on war, within the framework of scientifically based and general historical experiences and knowledge in practice, appropriate to specific historical and political circumstances and technological achievements of the time, within the framework of scientifically based predictions about possible features of the future war.

The basic principles of war are:

- Objective. Direct every military operation towards a clearly defined, decisive and attainable objective.
- Offensive. Gain, retain and use the initiative.
- Concentration. Concentrate the effects of combat power at a decisive place and time.
- Economy of force. Allocate minimum essential combat power to secondary efforts.
- Manoeuvre. Place the enemy in a position of disadvantage through the flexible application of combat power.

- Unity of command. For each objective, ensure unity of command under one responsible commander.
- Security. Never allow the enemy to gain an unexpected advantage.
- Surprise. Strike the enemy at a time or place or in a manner for which he is not prepared.
- Simplicity. Prepare clear, simple plans and clear, concise orders to ensure complete understanding.

In contrast to the trust in experience, the scientific foundation and the importance of the principles of war, which corresponds to standardized operational procedures at certain levels of warfare, some other knowledge and critical judgment about the questionable credibility of war experiences are gaining momentum. Surprising questions and answers come to this thought from many sides. For example, are concentration of forces, surprise and economy of force principles really inherent in war, or are they relational concepts that do not belong to these principles? This doubt is of course a challenge to the established military strategic thinking. It disrupts the order and sequence of the inherited and, as it is understood in practice, of confirmed truths. By emphasizing a change as innovation, contemporary theorists of manoeuvre warfare challenge even more radically the order and arrangement of contents uncritically held by consciousness. The theory of manoeuvre warfare requires such changes in all forms of doctrine, training, education, and ultimately in the entire culture of the army. It looks for large-scale innovations according to the following criterion: while some strategy with its principles remains unchanged and after all the changes in the warfare space coexists with them, these changes are not innovations. The request is summed up on a symbolic level in the saying: "Don't work hard - work fast, speed is important in everything called tempo." The principles of war as principles resistant to change, but not to the demands of all-round innovation. Along the lines of the impetus of the theory of manoeuvre warfare and beyond its intentions and limits, what opens here is the perspective of thinking about the penetration of time into the constructions of principles and its influence on the intensity and manner of their obsolescence.

The universality of the principle of war

Based on the above, it is evident that the implementation characteristics, significance and role and content of each principle are changing, which may ultimately result in the disappearance of some of them and the appearance of new ones. This raises the question of their universality, that is, their lasting value, as well as the question of their significance, content, methods and means of implementation. During the historical period in which military theorists reflected on the principles of war, the problem of the development of military thought, and especially the principles of war, was approached from two different angles.

The first approach is based on the assumption that in military theory there are certain unchanging principles of war, and the main advocate was Jomini. Another approach was developed by Clausewitz, emphasizing that the principles of war in military theory are an expression of the concrete, but also changing conditions of war, which causes the principles of war to be changeable as well.

In the further elaboration of the article, I will try to justify the need to adapt and upgrade the principles of war in accordance with changes in the operational environment, historical and military-political circumstances, and technological achievements. Questioning the universality of the principles of war as their permanent characteristic highlights the lack of a scientific approach to the influence of modern weapons, techniques and other factors on waging war.

Today's doctrines, especially during and after World War II, prefer offensive actions not for the purpose of an aggressive policy, but for the implementation of armed combat.

The most recent example of such use of the principle of offensiveness is the war in Iraq, where the armies of the USA and Great Britain applied the principles of offensiveness and unity of purpose, as well as unity of command. Of course, with the use of all the other principles of war that I mentioned in the previous section.

Such periods are only a matter of timing created by the rivalry between the means of attack and defence because each new means of attack conditions a more modern means of defence and vice versa.

All in all, it is necessary to accept universality as a feature of the principles of war, but with constant additions and reshaping of the content and, above all, of the way they are implemented, in accordance with current and future circumstances and the achieved level of technological development, i.e. the requirements of contemporary doctrine in particular general circumstances.

The basis of the theory as well as the subject of research on war is the accepted principles of war, which are accepted using empirical scientific syntheses based on experience, but also scientific research on war and military operations themselves. The content of the stated principles and the manner of their application change from time to time, but their value and importance of the principles as a theoretical orientation remain in force over a longer period of time. Their basic value is in the method of application, in a different combination of individual parts for each situation. Knowing and recognizing these principles of war is a scientific theory, and their application in practice is the art of warfare.

Furthermore, the principles of war are of a universal character and apply to strategy, operational skill (the skill of planning and conducting operations) and tactics.

Determinations Of The Principles Of War In The Classics Of Military Theory (Jomini, Foch, Liddell Hart)

At the base of all war operations is the principle that should be followed in all war combinations, and it contains several maxims: defeat the main body of the army with a strategic movement, at decisive points of the battlefield and communications; using a manoeuvre to tie up parts of the enemy's forces. The great principle and maxims of warfare are complemented by Jomini and in doing so he distinguishes three levels: principles of war, principles of strategy and grand tactics. Clausewitz sets three principles: concentration of forces, action of the strong against the strong, resolution by battle on the

main battlefield. Liddell Hart inaugurates six rules: stretching the enemy by indirect approach, surprise by unpredictable action, strong to weak, solution on the auxiliary battlefield. Ferdinand Foch is the first to introduce two abstract rules: economy of force and freedom of action, and General Beaufre emphasizes the importance of hitting a decisive point thanks to the freedom of action achieved by a good economy of force. Mao Zedong lays down six principles: before the enemy's advance, withdrawal by central retreat, advance when the enemy retreats, one-on-five strategy, five-on-one tactics, supply by kidnapping, and a solid connection between the army and the people.

Before World War II, the Soviets believed that the future war would be highly manoeuvrable and would not be reduced to a single strike, but to a series of large-scale operations. They emphasize the importance of the offensive operation, the offensive, and the coordinated action of the branches, they ignore the defensive operation, which should be carried out only in exceptional cases.

At the same time, in the French war doctrine, the importance of establishing and using fire is overemphasized, as well as the subordinate method of conducting the operation, which significantly conditions the possibility of manoeuvre and self-initiative of subordinates.

For the Germans, especially after the Nazis came to power, the offensive operation became a dogma. They believe that deep penetrations in the form of wedges carried by armoured units, along with coordinated action with infantry and aviation should prevent the enemy from deploying forces for battle and marginalize his fortifications.

In this section, I will discuss in more detail the considerations of three military theorists who appeared in different historical periods. Starting with Jomini as a representative of the Napoleonic Wars, Foch as a representative of the period before and during World War I, and Liddell Hart as a contemporary military theorist who is still cited by many today.

I will try to put each one individually in the historical framework to which the way of thinking in the army belongs at that historical moment.

Determinations of the principles of war by Jomini

In his most comprehensive work, which considers military theory, *Summary of the Art of War* (The Project Gutenberg, 2004.), in the chapter entitled "On the basic principle of war", Jomini says that the aim of that work is to prove the existence of one basic principle for all military operations, a principle that stands above all good combinations.

This principle consists of the following: gradually bring the main forces of the army to decisive points on the battlefield and, if possible, to the enemy's communications, without exposing one's own communications through strategic combinations; by a suitable manoeuvre bring the main forces where only smaller parts of the enemy forces are located; when the battle begins, conduct a tactical manoeuvre in the same way, in order to bring the main forces to a decisive point in the area of the battle, that is, to a part of the enemy's positions that is important to weaken; the main forces should not be concentrated only on the decisive point, but should enter into action energetically and harmoniously and show the simultaneous effort of all forces.

It is evident from the above that Jomini himself in his explanation of the basic principle of war actually gave almost all the principles of war that we know today and have experienced during the long history of warfare of the human race. One of the fundamental principles of war that runs through all four points is manoeuvre. In addition to manoeuvres, in the explanation of the basic principle of war, we can also recognize the goal, that is, the unity of the goal, as the concentration of all one's strength - mass, concentration on a decisive point on the battlefield or theatre of war. Furthermore, Jomini also talks about how the main forces should not be concentrated only on the decisive point, but must enter into action energetically, so it is the principle of offensiveness/attack. Also through this hypothesis we can in some way read the principle of economy of force.

Emphasizing the principles is extremely important for Jomini, which can be read through all his works, and is most evident in his capital work *The Art of War*. He himself believes that the practice of war can be reduced to a series of general, and therefore universal, principles that can be learned and

applied in all situations. In his work *Traite des grandes operations militaires* (Jomini B. H., 1851) (Treatise on Grand Military Operations) he formulated a number of such principles. These formulations emphasize the importance of "strategic initiative", the advantage of concentrating forces at one point over that of several weak points in the opponent's formation, the importance of pursuing a beaten enemy, and the value of surprise.

Jomini felt the importance of surprise as a principle of war and says that we can never emphasize it enough. "You must, if possible, surprise the enemy," says Jomini. Furthermore, due to his direct participation in the Napoleonic Wars, Jomini gives great preference to the offensive as a principle of warfare. Jomini always pointed out the weaknesses of the defence even though the commander was forced to carry out defensive operations for political reasons. Jomini calls this term "defensive offensive" and believes that one should always undertake some form of attack such as an attack or a preventive attack in order to break the deadlock of the defence which destroys the defensive position and creates a sense of false security in the fortified positions among the soldiers, which is also called "the psychology of the Maginot line".

Jomini did not deal with the philosophical problems arising from the conception of war. He limited himself to what he believed to be the practical results of warfare. So the application and universality of the principles of war which can be learned and which should be applied in order to win the war and conquer territory and ultimately defeat the enemy, not necessarily destroy it.

Determinations of the principles of war by Foch

The following principles of war were stated by Foch already at the beginning of his book *The Principles of War* (Foch, 1911), namely: the principle of economy of force, the principle of freedom of action, the principle of free disposal of forces, the principle of security, etc.

It was rightly noted that the "etc." means that this is not all, and it is not clarified further in the book either.

If we analyse Foch's principles in detail, we do not find a clear difference between the principle of freedom of action and the principle of free disposal of forces. Foch seems to have used them interchangeably so that his students

would understand the enormous importance of initiative and freedom of action, independent of the will of the enemy. Other principles are more important – the principle of economy of force, which represents the crown of the freedom of action he preached, and the principle of security, which was a condition for its application.

According to Foch, the principle of economy of force allows the “art of war” to continue to exist, despite the danger of chaos and confusion arising from the conditions of modern war. Foch never clearly defined this principle.

It is clear that such a principle, although general, does not enable application in a multitude of diverse possible circumstances, for example, it could not be said that all forces should always be concentrated for a decisive strike. But it is equally clear what lesson this principle points to: the impossibility of being sure everywhere that the enemy will not be stronger, and thus the need to accept risks.

Is there then, as a consequence of this concentration, the danger that the enemy will surprise in the least expected place? The security principle was supposed to support this danger. Almost half of the work *The Principles of War* is devoted to the study of security principles. Its significance, in short, is best expressed in Foch’s words: “This concept of security, which we express in a single word, is divided into: material security, which enables the enemy to avoid blows when it is not desired or cannot be struck back. It is a means that makes a person feel safe in the midst of danger, when standing and moving under protection; tactical security, which enables the achievement of a goal or the execution of an order received, despite the unfavourable circumstances caused by the war, despite unknown facts and measures taken by the enemy of his own free will, and which also enables to act safely and with certainty, ensuring his own freedom of action, regardless of what the enemy might do.

Determinations of the principles of war by Liddell Hart

Based on his analysis of the history of warfare, Liddell Hart laid out several truths, which seem so fundamental and general that we could call them axioms (Liddell Hart, 2012). These truths are definitely practical instructions,

not abstract principles. Liddell Hart believes that military theorists tried to find the principles of warfare, which could be expressed in a single word, and later they needed several thousand words for its actual clarification. At the same time, all these principles are so abstract that they have different meanings for different scholars and, whatever their value, they depend on the way in which the respective scholar understands and comprehends the war. The longer a person searches for all possible abstractions, the more they look to him like a mirage that you can neither reach nor use, except as a mental exercise.

The principles of war, and not just one of them, can be summed up in one single word, which is, for example, "concentration". But, for the sake of its truth, this word should be supplemented so that it reads "concentration of strength against weakness" of real value, it must be clarified that the concentration of strength against weakness depends on the spreading of your enemy's forces, which again is achieved by the dispersion of your own strength, which is similar to, and partly is, dispersion. Your dispersion, your enemy's dispersion, and your concentration represent such an order in each of these actions follows on from the previous one. True concentration is the result of a deliberate dispersion of forces. Here is a fundamental principle, the understanding of which can prevent the fundamental (and most common) fallacy, and it is to allow your enemy freedom and time to concentrate in order to meet your concentration. However, the mere presentation of this principle is not very practical for its implementation.

The already mentioned axioms (hereinafter expressed in sayings) cannot be summed up in a single word, but we can still express them with the smallest number of necessary words, so that they would have practical value. For now, there are only eight of them, of which six are positive and two are negative. They apply to both strategy and tactics, unless otherwise indicated.

Positive axioms

Adjust your goal to available means. – A clear insight into the real situation and a cold calculation should prevail when setting the goal. Madness is "biting off more than you can chew", and the beginning of military wisdom is the sense of what is possible. Therefore, you learn to face the facts, while

still maintaining confidence in yourself, because you need a lot of confidence that allows you to achieve what at first glance seems incredible to you at the beginning of the action. This confidence is like the current in a battery. Avoid wasting it in futile efforts and always remember that all your personal continuous confidence will do you no good if the cells in your batteries, which are the soldiers at your disposal and on whom you depend, will be exhausted.

Adapt your plan to the occasion, never losing sight of your goal. – Know that there are always more ways to achieve one goal, but also take into account that each object should always be closely related to the basic goal. When considering possible objects, evaluate the possibility of their realization according to whether all of them, and to what extent, would serve that fundamental goal, in case they were achieved, because it is bad to go astray, and it is even worse to reach a dead end.

Use the path of least expectation. – Try to imagine yourself in the state in which your enemy is, and think about what would be the direction that he would predict as the least likely or would be rejected altogether.

Use the direction (or course) of least resistance as long as it can lead you to any object that would contribute to the achievement of the main goal. – In tactics, this saying applies to the use of reserves, and in strategy to the exploitation of every tactical success.

Choose the operational direction that offers you a choice of alternative facilities. – In this way, you will confuse your enemy, and this will significantly increase your chances of capturing at least one object, most likely one of those that he defends the weakest, and which can train you to capture the other objects one after the other. An alternative choice of objects allows you to take the opportunity to occupy one of them. Having only one single object, unless the enemy is much weaker, means as well as the certainty that you will not be able to capture it, since in that case the enemy is no longer in suspense, which is what you are aiming for. The most common mistake is to combine a single line of operation, which is usually wisely chosen, with a single object, which is usually futile. Although this saying applies mainly in strategy, it should be applied in tactics as well, if possible, because it really forms the basis of tactical infiltrations.

Make sure that both your plan and versions are flexible so that you can adapt them to the occasion. – Your plan should predict and take measures for the next step in case of success or failure or only partial success, which is the most common in war. Your schedule should be such that it allows you to exploit or adapt this in as little time as possible.

Negative axioms

Do not put all your strength into a single blow, as long as your enemy is on guard as long as he is in a good position to parry or avoid your blow. Historical experience shows us that, except against a much weaker enemy, no useful strike is possible unless the enemy's resistance or evasive power is paralyzed. Therefore, no commander should really attack the enemy in position, until he is sure that he has already developed paralysis, which is created by disorganization and its moral equivalent, which is the demoralization of the enemy.

Never repeat an attack in the same direction (or in the same form), in which you have already suffered failure. An increase in strength alone is not enough of a change, since it is likely that the enemy himself will be strengthened in the meantime. And it is even more likely that the success of rejecting you will strengthen him morally.

The essential truth, which represents the basis of these principles, is that in order to achieve success, two major problems must first be solved: disruption of the enemy and exploitation. One of them precedes and the other follows the actual shot, which in itself represents a relatively simple action. You cannot successfully attack your enemy if you have not previously created a favourable situation. You cannot make your action successful unless you take advantage of that second opportunity which arises before he can recover.

The study of history, the study of the great theoreticians of war leads him to the conclusion that the key to victory in war is to break the enemy's will to fight, at the same time all instruments of the power of a nation should be used, and the goal is not only the armed forces of the enemy but also the opposing nation. Manoeuvre warfare is used to crush the armed forces primarily by manoeuvring in a wide area (operational level), propaganda,

economic blockade, diplomacy, attack on the centre of power, attack on the population, strategic bombing – means to break the will (strategic level).

Application of the principles of war during the three periods of the Homeland War 1990-1995

Here I will state the application of the principles of war that were applied during Croatian military operations as well as their peculiarities in the Homeland War according to time periods as starting points from which to start when researching the application of the principles of war during military operations during the Homeland War and which should draw attention to the peculiarities of these operations in relation to the operations of other armies. Furthermore, this list, let's call it that, is not in the role of history, but precisely in the role of finding out the peculiarities of the application of the principles of war through the implementation of military operations during the Homeland War.

Application of the principles of war in the first phase of the war

The first phase of the Homeland War can be dated from May 1990 to January 3, 1992. (Barić, Barišić, & Mareković, 2003.; Rakić & Dubravica, 2009.) The above dates limit this phase to the time of democratic elections and the change of government in the Republic of Croatia until the signing of the armistice in Sarajevo between the Republic of Croatia and the Yugoslav People's Army (JNA).

In the first phase of the war, the aggressor had complete supremacy in all elements of combat power, and it is questionable to talk about the application of the principles of war by the Croatian Armed Forces as a special category within the art of war. The aggressor used the doctrine of indirect approach, about which Sir Basil Liddell Hart wrote the most. In all areas of conflict, the forces consisted of units of the Ministry of the Interior of the Republic of Croatia, CAF brigades in the making, volunteer units (Croatian Defence Forces, HOS) and the National Guard, which primarily carried out defensive operations. Forces and resources did not show concentration on any part of the conflict in terms of the principle of war as a form of combat action.

The battlefield as an area of operations is not defined militarily; there was no economy of force and security was at a low level due to the permanent garrison of the former JNA and enemy-oriented enclaves.

During this phase of the war, it is quite difficult to find a clear demarcation between military and civilian activities. The Croatian army carried out military operations, but not at a strategic level. This is primarily a civil-military operation rather than a classic military operation. Despite this, the goal was unique and reflected in stopping the aggressor and stabilizing the battlefield.

In this phase of the war, we can highlight one specific feature that was not implemented in modern warfare until the beginning of the war in Croatia, and we can reduce it to the name "War for Barracks". The barracks and facilities of the JNA in Croatia have been under blockade since July, which is carried out by motley groups, among which the most numerous units are the National Protection units, and they are joined by citizens living nearby. Barracks crews are under constant multiple pressure because the blockading forces also use deliberate psychological measures and call for surrender, staying in Croatia, etc. With all blocked units, the local crisis headquarters conduct continuous and mostly fruitless negotiations. Non-Serb soldiers and officers fled from the besieged barracks, and those who remain are in contact with the Croats. On September 14, 1991, the Croatian authorities, which until then had prohibited attacks on barracks, issued an order to tighten the blockade, and barracks were cut off from electricity, water, supplies, telephone connections, garbage collection, etc., and combat operations against the barracks were intensified. The decimated crews of the barracks, exhausted by the long blockade and demoralized, stopped the defence relatively quickly. The spoils of war were extremely rich: over 230 tanks, about 400 larger cannons, tens of thousands of rifles, several million pounds of ammunition and a lot of other equipment and vehicles fell into Croatian hands. The captured weapons were immediately used, so the war for the barracks was the first turning point of the war. The fall of the barracks was also contributed by the incompetence of the JNA command, which did not take the units out of the buildings in time, as they were often located in

cities, in a narrow space, and were surrounded by tall buildings. The poor communication system left many barracks without contact with superior commands and other units after the termination of civilian telephone lines. Superior commands did not provide assistance to the besieged units, so breakthroughs, if they occurred, were organized by their own forces. The air force of the JNA (Yugoslav Air Force, JRZ) completely failed and limited itself to machine gunning and bombing already conquered barracks, so attacks on its own forces were not rare either.

Croatian forces, on the contrary, achieved their goal with a skilful combination of armed and non-armed means of pressure. In addition to being exhausted in the blockade, the morale of the crews was broken by calls to surrender that were transmitted by radio broadcasts and loudspeakers, and the commands were exhausted by daily negotiations, by offering money for the surrender of barracks and equipment, and by intimidation, which proved to be very successful, and a significant number of barracks and other facilities surrendered without a fight. The static blockade of the barracks was carried out by weakly armed but numerically strong units, while the attacks themselves were undertaken by better trained and armed smaller strike groups of the Croatian National Guard (ZNG) and special police, so that a significant economy of force was achieved.

One of the peculiarities of the first phase of the Homeland War is the improvisation that reached its unimaginable proportions. The use of agricultural planes that targeted enemy positions with boilers that were repurposed for bombing the enemy, the use of anti-hail rockets that also targeted enemy positions, but they were dangerous on both sides. You never knew which way the rocket would fly. In the battle for Vukovar on Trpinjska cesta, improvisation also flourished and I think that this technique of anti-armour combat should be studied more thoroughly at all military schools. Namely, the Croatian fighters on Trpinjska cesta destroyed the Serbian tanks in such a way that they opened the entrance door (*kapija*) from the courtyard, hid in the courtyards, and when the tanks came, they fired *Ose* and *Zolje* at the tanks and quickly retreated across the fences (*plotovi*) into the second courtyard (*avlija*), and again shot and of course hit the Serbian tanks. Enemy

infantry moved from the tanks on the tracks of the tracks so that the Croatian defenders fired at the tanks unhindered. The aggressor infantry did not fulfil their task of protecting armour from tank destroyers at all.

Based on the above, it is clear that during the first phase of the Homeland War, the Croatian Armed Forces did not apply the principle of offensive war, only in some minor actions, such as the operation Swath 10 and the operation Hurricane 91. Defensive operations generally took place on other parts of the Croatian battlefield. From this period of the Homeland War, we can conclude that the principles of war were the goal principle, which was achieved, the unity of command, all offensive or defensive operations were approved by the commander-in-chief, and the organization on the battlefield itself shows that the entire battlefield was divided into operational groups that had operational supervision over units that were within the area of responsibility of the operational groups. Furthermore, concentration as a principle of war was also used during the first phase of the Homeland War in such a way that the guard brigades were concentrated in places that were of exceptional importance for the Republic of Croatia during the implementation of defence operations. The economy of force is reflected in the following example: the 117th ZNG brigade from Koprivnica was never fully engaged in its area of responsibility. The brigade was sent to the area of responsibility by battalions so that the battalions could be replaced during the implementation of combat operations. This ensured the rest of the forces and easier mobilization of the forces if there was a need. Manoeuvre as a principle of war was used first of all by the use of defensive actions, and most often by defending from combat positions, which put the enemy in a disadvantageous position in the event of his offensive actions. Just by using defence from combat positions, which has the characteristics of elastic defence, we never allowed the enemy to gain an unexpected advantage, and thus we used the principle of security war. The plans were simple, due to the inexperience of the command staff, which was presented in a very acceptable and comprehensible way for the soldier: "Conquer that peak."

Application of the principles of war in the second phase of the war

The second phase of the Homeland War began after the Sarajevo Armistice on January 3, 1992 and lasted until Operation Flash on May 1, 1995. (Barić, Barišić, & Mareković, 2003.; Rakić & Dubravica, 2009.)

In this phase of the war, the application of the principles of war and military operations are significantly different compared to the first phase of the war, and can be briefly summarized through these determinants: the presence of UN forces, a free part of the territory of the Republic of Croatia without the army of the former JNA in garrisons, the beginning of the armed conflict in the Republic of Bosnia and Herzegovina, the battlefield has been stabilized on a large part of the territory of the Republic of Croatia, a command system has been organized at all levels in the Croatian Armed Forces, the beginning of the restructuring of the Croatian Armed Forces, the Croatian Armed Forces have acquired the ability to conduct military operations at the highest levels in terms of quality and quantity.

In these circumstances, the aggressor decides to use his military force in the manner and doctrine of retaliation, that is, the use of fire strikes against vital objects on the entire free territory of the Republic of Croatia. Accordingly, the aggressor shapes his military force according to the system of classical corps organization. The characteristic of this organization is the static nature of the battle units and the small depth of defence.

The Croatian military goal in this phase of the war was to liberate the roads and create the assumptions of a single operational base that must enable the final operations to liberate the occupied territory, and to move the front line as far as possible from the big cities in order to make it impossible for the aggressor to operate artillery on them on a tactical level.

The general characteristics of these operations are: the manoeuvre of the forces that will be the bearer of the attack in the area of gravity of the operation, the bearers of these operations are the guard brigades, the dedicated formation of forces for the task, before the implementation of the operation, the commands are purposefully organized, the time of the implementation of the operation is shorter compared to the time required for preparation of the

operation, offensive operations are carried out by guard brigades, defensive operations are carried out by reserve brigades and home defence regiments, unified logistical support of all operations (ammunition and weapons) is the responsibility of the Croatian Armed Forces, other logistical support is the responsibility of civilian capabilities in the area of the operation.

A general feature of that period is the large operational breaks necessary for the implementation of training and education, as well as equipping and organizing the Croatian Armed Forces for the final liberation operations. These pauses were necessary due to the use of almost the same units for conducting offensive operations, not so much in terms of manpower as in terms of the lack of weapon systems and ammunition.

Operation Maslenica and Medak Pocket are the operations that best depict that period of the Homeland War and best describe the application of the principles of war and military operations of that period. Their determinants are: security which is manifested through timely and secret planning and preparations, application of the war principle of surprise, unity of command which is manifested through centralized command for each individual operation, concentration is expressed through the participation of only ready forces at the very beginning of the implementation of the operation with the participation of parts of the Croatian Navy and Croatian Air Force and Air Defence forces, the economy of force shows that only the minimum forces and resources necessary to deter the enemy from a possible attack on these routes are assigned to the auxiliary routes.

Application of the principles of war during final military operations

The final operations for the liberation of the Republic of Croatia, or the third phase of the Homeland War, began with Operation Flash on May 1, 1995 and ended with the peaceful reintegration of the Republic of Croatia. (Barić, Barišić, & Mareković, 2003.; Rakić & Dubravica, 2009.)

Based on past experiences, the CAF used the principles of air-land battle doctrine during the preparation for the final operation to liberate the homeland. Its determinants are: short duration considering the relatively deep penetrations of the Croatian Armed Forces, avoiding the use of NBC

assets, avoiding major destruction, general mobilization was carried out, which excluded the possibility of strategic surprise, allowing self-initiative and creativity among subordinate commanders, organizing the command of the battlefield, we can say in some way, a joint command was set up that commanded the entire operation, in which all three branches of the Croatian Armed Forces were involved, as well as special units of the Ministry of the Interior of the Republic of Croatia, the centre of gravity, Knin, was determined, corridors were planned for the retreat of the aggressor forces in order for them to make it possible to leave the territory of the Republic of Croatia more easily due to reduced losses.

Operations Flash and Storm are the operations that best illustrate that period of the Homeland War and best describe the application of the principles of war of that period. Their determinants are: the goal of the operations in the last phase of the Homeland War was clearly defined and aimed towards a decisive and achievable goal – the liberation of part of the Croatian territory temporarily occupied by the aggressors, the offensiveness was very clearly expressed through the exceptional speed of the operations and the very short duration operation, as the name itself says, Flash and Storm, the manoeuvre is manifested through the use of guard brigades as the bearers of the attack with the support of other forces of the Croatian Armed Forces in support of attacks on the main lines of operations, security which is manifested through timely and secret planning and preparations which were carried out at the highest levels of command in the Croatian Armed Forces, the application of the war principle of surprise. (The enemy realized very late what had actually happened to him, and panic was caused among his forces, which retreated very quickly to the neighbouring Republic of Bosnia and Herzegovina.), unity of command, which is manifested through centralized command for each individual operation, concentration is shown through the participation of only ready forces at the very beginning of the implementation of the operation with the participation of parts of Croatian Navy and Croatian Air Force and Air Defence forces, the economy of force shows that only the minimum forces and resources necessary to deter the enemy from a possible attack on the team are allocated on the auxiliary routes directions, simple and clear plans and concise orders were prepared that ensured a complete understanding of the tasks that were set before the Croatian Armed Forces.

The complete liberation of the country came about through the peaceful reintegration of Eastern Slavonia. The enemy saw that it was no longer advisable to confront the Croatian Armed Forces with force and simply left the temporarily occupied part of the Republic of Croatia.

Based on the last statement, we have already come to one feature of the art of war, which is that it is not necessary to physically destroy the enemy, but to render him incapable of fighting and to impose peace on him on our terms, thus avoiding large human casualties.

Conclusion

Common sense and balanced judgment are necessary qualities for a successful military commander, but they alone will rarely guarantee success in the ruthless conditions of war. The principles of war are derived from hundreds of years of military history. They are, in fact, abstractions usually expressed as axioms. They are universally accepted as self-evident truths. The principles of war must undergo critical and constructive reflection and become the main part of the instructions before they are practically applied. They can be violated sometimes, but they should always be kept in mind. The principles of war are usually directly or implicitly part of the doctrine, but never the whole doctrine.

Time is often a critical factor; information may be sparse and unreliable or difficult to find; danger and fatigue usually have a negative impact on judgement, and unforeseen circumstances often disrupt even the best-laid plans. In order to meet these strict requirements, the commander's common sense and judgment must be grounded in a sound knowledge of certain fundamental principles of war which have marked the success of commanders in past wars.

The mere application of these principles of war does not guarantee victory. Circumstances dictate the relative importance of each principle, so in some cases a commander cannot fully adhere to one principle to the detriment of another. Rapid change in technology and capabilities also has the purpose of changing the emphasis and application of these principles. That is why it is a challenge for the commander to know what to emphasize at any given

moment. Therefore, these principles are not immutable laws, but rather guidelines for action.

The role and function of the principle today can be defended by a comprehensive analysis of historical experiences, but it is shown that a number of innovations in the ways and intensity of the implementation of the principle's content should be respected. That is why there is a need to adapt the way of implementing the content of the principles as a basic assumption of their effectiveness in practice, especially those principles that have been significantly confirmed in practice so far.

Some principles were imposed in relation to others, but all these principles are applied and recognized even today after so many years.

The analysis of modern cases of warfare imposes manoeuvre, surprise, security and objective as mutually conditioned and dependent principles of warfare. The effectiveness of warfare at all levels directly depended on the degree of their timeliness, quality and mutual coordination. It has also been shown that the main features of most principles are activity, speed and initiative.

Manoeuvre has become the main way of imposing a decisive battle, which is what the attacker strives for, but also the fundamental way of delaying the battle until the conditions for victory are created, which is what the defender strives for. Manoeuvre, a complex concept, has become an irreplaceable principle of warfare, and with new contents it becomes the essence of warfare as its permanent and important feature. Its effectiveness is conditioned by the optimal choice of methods and ways of implementing its contents appropriate to specific circumstances.

The objective, defined as a principle of warfare, states that all military action should be directed towards a clearly defined and determined goal that will achieve the ultimate purpose of war: defence.

There is a unique process at work that significantly limits the freedom of military action, so an optimally chosen and achieved military goal today does not necessarily mean a war victory, that is, the achievement of political goals. Let's mention how the newly established relationship between war and politics was one of the important factors in determining the goal of Operation Storm, especially in relation to the occupied Croatian Danube

Region. Therefore, the relationship between warfare and politics in the context of the goal as a principle must be respected in the time to come because it is not a one-time phenomenon, but a historical tendency.

The appearance of new means, especially means for early detection, imposes a logical conclusion that the possibilities of applying surprise as a principle of war have been significantly reduced. Modern means have undeniably made surprise more difficult, but they have not made it impossible. The experiences of modern warfare have shown that it is still possible to achieve surprise by place, time, method of action, and by choosing a target and using new means of war technology. Precisely the wars of the recent era, whose characteristics are vaguely defined limitations and an unclear degree of expansion of the conflict (local wars), are suitable grounds for the implementation of the principle of surprise. It still remains an important principle of warfare, as it has been in all recent wars. When it comes to surprise, we can freely add security as one of the principles of war that is complemented by surprise. The security of plans and the secrecy of planning provides a significant basis for the application of successful surprise. Those two principles complement each other perfectly if their essence is respected.

Concentration as a principle will not be achieved by the ratio of the number of units and people, but by the quality of the elements of combat power. The goal of the war will be the sources of strength of the aggressor military power in general (mainly motivational-willing) and the elements of the communication and information structure of the armed forces, not the classic elements of the aggressor forces of the operation. The fundamental means of security as a principle will be the timeliness of notification in the function of the security of the military forces and the population. The battlefield will not be primarily determined by the classical front line, nor will the classical understanding of offensive and defensive action be valid. But offensiveness will be the principle, but in the form of implementation through the supremacy of speed, activity, initiative and equipment and training in the modern sense.

When Jomini, Foch and Liddell Hart spoke about the "principles of war" or axioms, they were also guided by the breakdown of historical experiences that were available and primarily known to them. Analysing their "principles

of war”, we cannot get away from the impression that all the principles of war that we know today within the framework of nine terms actually came from the thinking of those three great men of military thought throughout history. Reading the aforementioned definitions of the principles of war and comparing them with the principles of war today, we can state with great certainty that the three of them, and some of their predecessors and contemporaries, established these principles of war long before us and that they are very much still relevant today. Of course, all principles are subject to time adjustments and the influence of technology, which sometimes develops too quickly, as I stated at the very beginning of the article.

Furthermore, it is evident that during the Homeland War, we applied the principles of war in a gradational manner. What do I want to say? Namely, it is evident that at the very beginning of the Homeland War, the application of the principles of warfare in the preparation and implementation of the operations themselves were applied selectively and, we can say so, accidentally. But as we developed as an armed force through the training at CDA, the principles of war were applied more and more comprehensively during the planning and implementation of the operations themselves. This can be seen on the example of the final operations in the Homeland War, Storm and Flash, which are a textbook example of the application and observance of all the principles of war during their planning and implementation, and thus obtained such results that the whole world admired our magnificent operations. In the above examples, I did not refer in detail to the other principles of war that were applied during the planning and implementation of given operations, but I focused on those principles that particularly stood out as positive and that in some way proved that there is continuity in the application of the principles of war from the classics of military theory to the Homeland War, up to the present day. I believe that it is very easy to read from the Homeland War that the principles of war are nevertheless universal and applicable for many years, which only confirms the thesis about the universality and longevity of the principles of war. Of course, the principles of war have developed throughout history and are subject to some changes over time and the use of new technology, but still, at their core, they remain unchanging and somewhat permanent.

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Sličnosti i razlike u načelima ratovanja – od klasika do Domovinskog rata

Sažetak

Načela ratovanja kako su ih shvaćali i objašnjavali te na kraju definirali klasici vojne misli Jomini, Foch i Liddell Hart, u članku sam nastojao povezati sa suvremenim određenjima načela rata koja su se primjenjivala u Domovinskom ratu kroz provedbu operacija, prvenstveno ofenzivnih. Ovaj članak daje stručni pregled Diplomskog rada „Sličnosti i razlike u načelima ratovanja – od klasika do Domovinskog rata“, koji sam pisao i obranio na Intergranskoj zapovjedno-stožernoj školi Hrvatskoga vojnog učilišta.

Ključne riječi

rat, teorije rata, načela rata, Domovinski rat, operacija.

Application of neural networks for the detection and classification of artillery targets

Adriana Stubičar, Mario Šipoš

Abstract

Neural networks have been in use since the 1950s and are increasingly prevalent in various domains of human activity, including military applications. Notably, GoogLeNet and convolutional neural networks, when appropriately trained, are instrumental in identifying and detecting individual objects within a complex set. In military scenarios, neural networks play a crucial role in the fire support process, especially when receiving target descriptions from forward observers. These networks are trained on image datasets to recognize specific features of individual elements or military objects, such as vehicles. As a result of this training, when presented with a new image, the network can accurately determine the type of vehicle, expediting the targeting process and enhancing the ability to provide a suitable response. This paper describes the application of neural networks for detecting and classifying artillery targets. It presents a specific problem and proposes a scientific solution, including explaining the methodology used and the results obtained.

Keywords

convolutional neural network, target detection, data augmentation

Introduction

Military target detection has been benefitting greatly from the growing popularity of convolutional neural networks (CNNs). CNNs are able to extract features and classify images with impressive accuracy, making them an ideal tool for this application. Specifically, CNNs are essential for synthetic aperture radar (SAR) target detection, a critical application in military and civilian domains. SAR images are known for their complexity, requiring sophisticated algorithms for target detection. Traditional target detection techniques that rely on the constant false alarm rate (CFAR) principle are insufficient in addressing the nuances of SAR imagery. Therefore, there is a pressing need for innovative approaches to solve SAR target detection problems, and CNNs are promising solutions to meet this demand (Huang *et al.*, 2021).

CNNs are efficient in military target detection due to several advantages they offer. Specifically, CNNs can acquire fine bounding boxes and the related class of objects, which is crucial in military operations. Additionally, CNNs can capture spatial, temporal, and thermal data and integrate them into a three-channel image, which can be combined as CNN highlight maps unsupervised. The Quick R-CNN technique inspires this technique and uses a cross-space move learning strategy to fine-tune the CNN model on multi-channel images. CNN architectures are commonly used in object recognition in the military, and transfer learning techniques can be applied to extract features learned from a large dataset and transfer them to another CNN architecture (Janakiramaiah *et al.*, 2023).

Military target detection can significantly benefit from the use of CNNs. These powerful tools can accurately extract and classify features from images. The advantages of CNNs in this context are numerous, such as their capacity to handle large amounts of data, high accuracy, and ability to learn and adapt to new data. CNNs have proven helpful in various military target detection scenarios, including SAR target detection, ship detection, and military object detection.

Neural networks

Neurons are the basic functional unit of the nervous system responsible for transmitting information between different body parts. Neurons have several components, including the cell body, dendrites, and axons. The dendrites receive input from other neurons or sensory organs, while the cell body integrates this information and sends the resulting output signal down the axon. Neurons communicate with each other at synapses, which are specialized sites of contact between cells where neurotransmitters are released. The basic properties of neurons and their signaling pathways are highly conserved across many species, and even simple systems like those found in the nervous system of invertebrates can give us valuable insights into the workings of more complex brains, including our own (Nicholls *et al.*, 2012).

Artificial neural networks are models used for machine learning that are inspired by the structure and function of the human brain. The network consists of interconnected nodes, or neurons, where each neuron takes in one or more inputs, applies a mathematical transformation, and produces an output. These outputs can be used as inputs for other neurons in the network, and the connections between neurons are weighted, meaning that some inputs have more influence on the output than others. During training, the model is given examples with inputs and corresponding desired outputs. Backpropagation is typically used to calculate the gradient of the loss function concerning the network's weights and then adjust the weights in the direction of the negative gradient. The loss function measures the difference between predicted and desired outputs. As the network is trained on more examples, it can learn to generalize to new inputs it has not seen before. The reason neural networks are so versatile is their ability to generalize, which enables them to perform tasks such as recognizing images, processing natural language, and understanding speech. Nonetheless, the complexity of deep learning models necessitates significant amounts of data and computational resources to be trained and used effectively (Goodfellow, Bengio and Courville, 2016).

Convolutional neural network (CNN) is a type of neural network that is especially well-suited for handling data with a grid-like structure, such as images and speech signals. At a high level, CNNs consist of layers of simple processing nodes that receive inputs, transform them using linear algebraic operations, and pass the outputs to subsequent layers. The main difference between CNNs and other types of neural networks is that they incorporate convolutional layers and pooling layers, which are designed to capture local image features and reduce dimensionality. In the convolutional layer, sets of weights, or kernels, slide or convolve over regions of the input image, transforming those regions into corresponding regions of an output feature map. The kernels capture local image features, such as edges, corners, and blobs, and each output feature map encodes a different subset of those features. The convolutional operation is typically followed by a ReLU activation function, which sets negative values to zero, producing a sparse output that is easier to compute and generalize while retaining non-linearities in the data.

In the pooling layer, the network reduces the dimensionality and increases the processing efficiency by performing local downsampling, typically by either max pooling or average pooling. This operation extracts the maximum or average response of each kernel output over a local region of the feature map, pooling similar features and reducing the overall number of parameters in the network. In addition to these layers, CNNs can include other types of layers, including dropout, batch normalization, and fully connected layers. Dropout layers can help prevent overfitting by randomly setting a fraction of the input units to zero during training, while batch normalization layers help normalize the input data to the subsequent layers. Finally, the fully connected layers transmit the high-level features learned by the convolutional and pooling layers to a final output layer for classification. CNNs have shown remarkable success in various applications, including image classification, object detection, facial recognition, and speech recognition. By automatically learning features from data, CNNs have reduced the need for manual feature engineering and have demonstrated strong generalization ability on unseen data (Patterson and Gibson, 2017).

Related work

Detecting and classifying military objects using CNNs has been a research subject for some time. CNNs effectively identify and categorize military objects, including vehicles, ships, and ground targets. There are several specific aspects of this research, such as:

Bilecik *et al.* (2022) proposed a classification approach based on a Mask Region-based Convolutional Neural Network (CNN) for detecting vehicles in UAV images. The authors discuss the growing use of UAV images in various fields, such as agriculture, security, the military, and highlight the importance of vehicle detection in military operations. The study shows that deep learning techniques, particularly CNN-based segmentation algorithms, can detect objects in images effectively. The authors demonstrate the effectiveness of Mask R-CNN, a CNN architecture-based approach, in detecting vehicles with high accuracy in images taken by UAVs. The paper provides an insightful discussion of the advantages of deep learning techniques, specifically Mask R-CNN, and their potential applications in other fields.

Kafedziski, Pecov and Tanevski (2018) proposed a solution for automated landmine detection using a Faster R-CNN with a Ground Penetrating Radar (GPR) system. The method uses deep learning and convolutional neural networks to discriminate between anti-tank (AT) mines and other objects. The system works well with custom datasets and can be extended to an arbitrary number of classes. The authors evaluate the performance of the method using Confusion matrices and ROC curves. The training and test datasets consist of both simulated and real measured data. The proposed method is considered a more efficient and safer alternative to traditional land mine detection methods.

Wu *et al.* (2018) discuss using the YOLO (You Only Look Once) network for object detection in remote sensing imagery. The YOLO network structure, which has 24 convolutional layers and two fully connected layers, is used for detecting objects in the images. The authors have pre-trained these convolutional layers on the ImageNet classification to enhance detection

resolution. The paper also highlights the significance of data augmentation in improving the robustness of the neural network. For data augmentation, the authors have employed various image operations like rotating 45 degrees, scaling 15-25%, cutting, switching frequency bands, and vertical/horizontal flipping. The authors have utilized the Adam optimizer to optimize the model parameters. The Adam optimizer adjusts the learning rate of each parameter according to the first-moment estimation and the second-moment estimation of its gradient function of the loss function.

Deepthi, Kumar and Suresh (2021) proposed a custom Convolutional Neural Network (CNN) to detect and classify objects in satellite images. The need for automation of object detection lies in the fact that manual identification of objects in satellite images is very time-consuming, and it becomes difficult to manage large volumes of data. Using a custom CNN, this work addresses the challenge of automated detection and classification of objects such as trees, buildings, and cars in satellite images. The proposed network was tested on satellite images and showed promising results with high detection accuracy. The authors have discussed the performance characteristics of the custom CNN, highlighting that it provides superior results to other machine learning techniques.

Kim, Song and Kim (2017) provided a technical paper discussing the problem of infrared (IR) target recognition using deep convolutional neural networks (CNNs). The paper proposes two strategies to deal with the problem of limited IR image data and target variations, which hinder CNN training. The first strategy is to train CNN models using all possible examples, similar to existing models, representing the RGB domain. However, this approach is not feasible due to the limited number of IR images. Therefore, the second strategy preprocesses IR images in the feature space using edge information or aggregated channel feature (ACF) to reduce IR variation and improve recognition rates. The paper describes how edge-CNN can accurately perform IR target recognition using a gradient magnitude map, gradient orientation map, or ACF-CNN. The paper also covers SE-ATMOSPHERE, which generates atmospheric data, and SE-SCENARIO, which controls targets and backgrounds to help generate synthetic IR images for CNN training. The paper uses several figures showing experimental IR target

recognition and detailed technical diagrams to support their proposals. The results of evaluating simulated infrared images using the thermal simulator (OKTAL-SE) have demonstrated the usefulness of IVO-CNN in military Automatic Target Recognition (ATR) applications.

Chen *et al.* (2019) presented an improved object detection and segmentation method based on Convolutional Neural Network (CNN) for military applications such as reconnaissance and strike. The proposed method adds Fisher discriminative criterion after the classification branch's Region of Interest (ROI) pooling layer. The proposed model has three branches: classification, regression, and mask segmentation. This paper describes the framework of object detection based on their proposed model, which includes data acquisition, model training, and detection stages. The authors use a Visible Image Dataset of multi-category armored targets in multiple scenarios acquired by an image acquisition device for model training. The effectiveness of the improved method is verified on two datasets, COCO and multi-category armored targets. The experimental results show that their proposed method can improve the accuracy of multi-category target detection and can accurately segment the target.

Tayara and Chong (2018) proposed a deep learning model for detecting and identifying objects in high-resolution aerial imagery. The model utilizes a top-down densely connected feature pyramid pathway to improve the detection and classification performance while reducing computation time. The authors conduct extensive experiments on a public dataset, comparing the performance of their model with various state-of-the-art models. The results showed that the proposed model achieves superior performance in terms of both accuracy and computation time. The authors suggest that their model has applications in urban planning, defense, and military applications.

Janakiramaiah *et al.* (2023) introduced a novel approach to enhance military object recognition using a relatively recent neural network architecture known as Capsule Network (CapsNet). Furthermore, they present a modified version of CapsNet, the multi-level CapsNet framework, aimed at improving the efficiency of military object recognition in scenarios where training datasets are limited. The effectiveness of the model under

consideration is substantiated by an assessment using a dataset of images of military objects. This evaluation entails a comparative analysis against the predictions generated by support vector machines and Convolutional Neural Network (CNN) architecture. The dataset used in the experiments contained 3500 images of military and general objects collected online. The performance of the proposed techniques was evaluated using a ten-fold cross-validation method. The proposed deep transfer learning technique performs relatively better than other techniques reported in the literature.

GoogLeNet

GoogLeNet represents a prominent convolutional neural network (CNN) architecture developed by Google researchers in 2014. The primary aim of creating GoogLeNet was to strike a balance between computational efficiency and accuracy, ultimately aiming to improve image classification performance compared to the prevailing standards during that period. A distinctive feature of the GoogLeNet architecture is incorporating Inception modules. These modules are meticulously designed to capture features within the same network layer at various scales and resolutions. Each Inception module comprises a series of parallel convolutional layers with distinct filter sizes. A pooling layer subsequently follows these layers, and the outputs from each parallel layer are concatenated. This intricate setup enables the network to distinguish between fine-grained and coarse-grained features within a single layer, thus improving its image classification capabilities.

In addition to the Inception modules, GoogLeNet includes several other design innovations, contributing to its exceptional performance. It adopts global average pooling instead of fully connected layers at the termination of the network, which diminishes the number of parameters and mitigates overfitting issues. Moreover, GoogLeNet incorporates auxiliary classifiers at the intermediate layers of the network. These auxiliary classifiers stimulate the network to learn more discerning features and enhance its generalization capacity to novel images. In the broader context of deep learning, GoogLeNet marked a significant advancement and underscored the importance of creating neural network architectures that are accurate

and computationally efficient. Its success has been influential, inspiring the development of subsequent architectures, including later iterations of the Inception architecture and other renowned networks such as ResNet and VGGNet (Szegedy *et al.*, 2015).

Training and validation

Data augmentation is a methodology used in machine learning to increase the size of a training dataset by generating modified versions of existing data. This technique is valuable when collecting high-quality data proves challenging, and its advantages extend to various fields of study. One notable benefit is the enhancement of model robustness and performance. Below, we elaborate on distinct data augmentation techniques:

1. **Zooming:** Adjusting the zoom level of an image allows the creation of new images with varying levels of detail, facilitating the ability of the model to identify objects at different scales and improving its scalability and adaptability to diverse scenarios.
2. **Cropping:** Cropping an image produces fresh images with different compositions. This is instrumental in helping the model understand objects in diverse contextual settings, thereby contributing to its contextual awareness.
3. **Rotation:** Rotating an image introduces new images with altered orientations. Consequently, the model gains an improved capacity to recognize objects from various angles, thus broadening its perspective.
4. **Scaling:** Altering the scale of an image generates images of varying sizes, enabling the model to recognize objects situated at different distances, strengthening the distance-related recognition capabilities of the model.
5. **Horizontal flipping** involves reversing the left and right sides of the image to create a flipped version. This technique helps improve symmetry and balance in images, correcting the orientation of an image captured or scanned in the wrong direction and generating new visual perspectives and variations.

6. Shearing: The process of shearing an image generates images of different shapes, assisting the model in recognizing objects with different aspect ratios and enhancing its adaptability to objects of varying proportions.
7. Channel shifts: Shifting the RGB or HSV channels within an image leads to new images with altered color distributions, equipping the model with the ability to recognize objects under diverse lighting conditions expanding its scope of adaptability.
8. Contrast adjustment: Adjusting the contrast of an image results in new images with varying levels of brightness and darkness, improving the ability of the model to identify objects under different lighting conditions and making it more versatile.
9. Noise: Introducing noise to an image produces images with different noise levels, equipping the model to recognize objects in noisy environments and enhancing its performance in less-than-ideal conditions.
10. Blurring: Blurring an image leads to creating images with varying sharpness levels, sharpening the proficiency of the model in recognizing objects within blurry images making it more adaptable.

These data augmentation techniques can be applied individually or in combination, effectively generating many new images from a limited dataset. By employing data augmentation, models can achieve enhanced performance and reduced overfitting risks, ultimately enhancing their overall effectiveness. In our research, we used zooming, cropping, rotation, scaling, and horizontal flipping to increase the number of photos for training CNN. The classification is based on the number of used images, ranging from 20 to 200. After data augmentation, the number of images is from 100 to 1000.

Figure 1 shows the relationship between the number of images used for CNN training and the accuracy of the model after training, represented in percentages. When using a CNN for training, the number of images used affects the accuracy of model after training. The percentage of accuracy improves as more images are used, with 66% accuracy achieved when 20 images are used for training. When 40 images are used, the accuracy improves

to 70%. Similarly, the accuracy is 74% for 60 images, 76% for 80 images, and 80% for 100 images. Using a more significant number of images for training leads to further improvements in accuracy. The accuracy continues to improve, with 82%, 86%, 88%, and 90% accuracy obtained when using 120, 140, 160, and 180 images. Ultimately, when 200 images are used for training, the model achieves an accuracy of 92%.

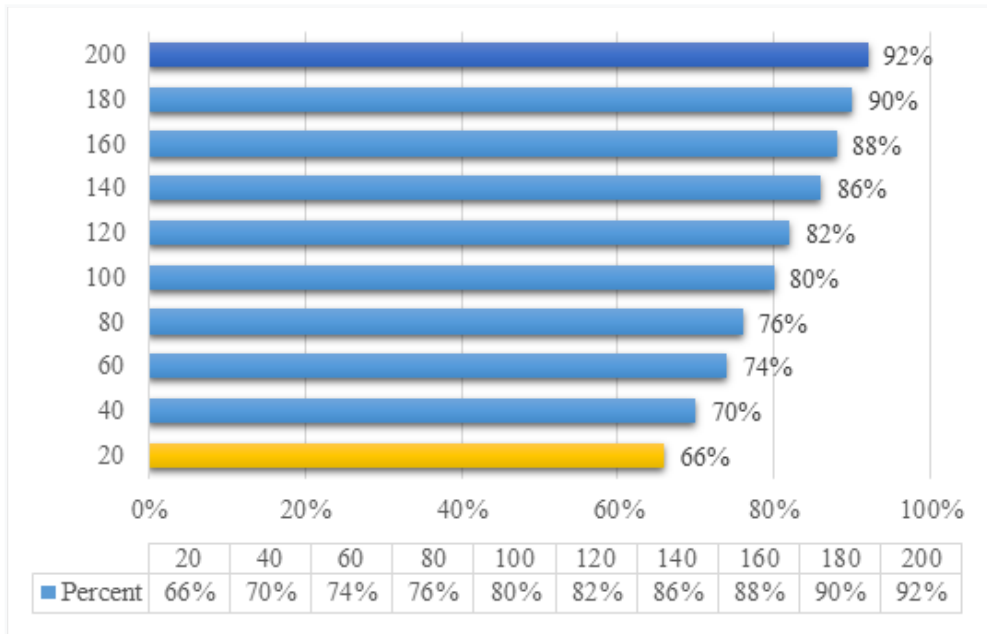


Figure 1. The relationship between the number of images used for CNN training and the accuracy of the model after training

Table 1 shows the results of a neural network model classifying two types of military vehicles, Abrams and Patria. The table includes ten rows, each representing a set of ten images. Each column represents the classification results.

The 'Y' sign indicates that the model classified the image correctly, while the 'N' sign means otherwise. For the Abrams class, images in rows 2, 3, and 5 were classified correctly in all dataset sizes. For the Patria class, images in

rows 7 and 8 were classified correctly in all dataset sizes. In contrast, images in rows 6, 9, and 10 for Patria and row 1 for Abrams were misclassified for most dataset sizes. The table gives valuable information about the accuracy rates of the model as the number of trained images increases.

Table 1. Results of a neural network model classifying two types of military vehicles.

Number	Image	Dataset									
		20	40	60	80	100	120	140	160	180	200
1	Abrams	N	N	N	N	N	Y	Y	Y	Y	Y
2	Abrams	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
3	Abrams	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
4	Abrams	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
5	Abrams	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
6	Patria	N	N	N	N	N	Y	Y	Y	Y	Y
7	Patria	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
8	Patria	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
9	Patria	N	N	N	N	N	N	N	N	N	Y
10	Patria	N	N	N	N	N	N	N	N	N	Y

Table 2 shows the results obtained by learning the GoogLeNet neural network. The table provides performance evaluation results based on the number of tested images, 40, 120, and 200, and the specific vehicle types, Patria and Abrams. A 'Patria' or 'Abrams' label indicates the actual vehicle class of the image, and the table indicates the degree of accuracy in recognizing the class of the image by the neural network. The results are provided in percentages, where higher percentages represent higher accuracy. The table thus provides valuable information about the performance of the GoogLeNet model for vehicle detection tasks.

Table 2. Results obtained by learning the GoogLeNet network.

		Results					
		40		120		200	
Number	Image	Patria	Abrams	Patria	Abrams	Patria	Abrams
1	Abrams	3.45	96.55	2.60	97.40	1.66	98.34
2	Abrams	44.80	75.20	22.45	77.56	16.15	83.85
3	Abrams	16.08	83.92	14.37	85.63	11.17	88.83
4	Abrams	38.74	61.26	31.18	68.82	28.41	71.59
5	Abrams	1.86	98.14	1.33	98.67	1.44	98.56
6	Patria	99.79	0.21	99.86	0.14	99.88	0.13
7	Patria	99.89	0.11	99.79	0.21	99.79	0.21
8	Patria	99.76	0.24	99.66	0.34	99.68	0.32
9	Patria	98.46	1.54	98.13	1.87	98.83	1.18
10	Patria	82.73	17.27	85.27	14.73	87.21	12.79

The significant oscillation in the correct recognition of armored vehicles from one image set to another or from one row of the table to another in Table 2 can be attributed to several factors, including the number of images used for training the neural network model. Table 2 provides performance evaluation results based on the number of training images, 40, 120, and 200, which can affect the accuracy of the model. The accuracy of the model may vary depending on the number of tested images due to variations in lighting, image quality, and object appearance that may exist among the images. These variations can cause inconsistencies in the performance of the model for object detection and recognition tasks.

A higher percentage of accuracy indicates a better performance of the model, but the acceptable level of accuracy would vary depending on the specific use case. For example, in a military context, a percentage of accuracy of 61.26 (Table 2, Number 4), which represents the accuracy of the model in recognizing Patria vehicles when tested with a sample of 40 images, may not be considered acceptable if critical decisions are being based on the output of the model. In contrast, a lower acceptable level may be sufficient for satisfactory performance in other contexts, such as in a basic object recognition.

Moreover, the acceptance level can also be influenced by various other factors, including the importance of the object being detected and classified, the criticality of the model's output, and the consequences of detection failures or false positives. Therefore, the acceptance level of accuracy for each dataset would be subject to the specific application, requirements, and context of the model.

Using transfer learning, GoogLeNet achieves higher accuracy with fewer training images than a neural network built from scratch. This technique involves utilizing a pre-trained model as a starting point for a new model. The pre-trained model has already learned to extract robust and informative features from natural images, and this knowledge can be transferred to the new model. Most pre-trained neural networks are trained on a subset of the ImageNet database, which is used in the ImageNet Large-Scale Visual Recognition Challenge (ILSVRC). These neural networks have been trained on over a million images and can classify images into 1000 object categories. Using a pre-trained neural network with transfer learning is typically faster and easier than training a neural network from scratch.

Conclusion

Neural networks have found significant applications in the military, a fact recognized by several nations, including the United States. Furthermore, their relevance extends to artillery for target acquisition. A well-trained neural network can detect various military objects, such as vehicles, allowing for the identification and determination of their specific technical characteristics.

The use of neural networks should increasingly become visible within the Croatian military, especially in artillery, given their practical and vital applications. The effective implementation of neural networks accelerates the target detection and classification processes, consequently improving accuracy in hitting targets. When using this technology, unmanned aerial vehicles (UAVs) can be employed, or cameras can be strategically positioned, with oversight entrusted to the commanding officer.

Our research has shown that using data augmentation techniques such as zooming, cropping, rotation, scaling, and horizontal flipping can significantly improve the accuracy of convolutional neural networks (CNNs) for image classification. We observed that the accuracy of the trained model improves as the number of images used for CNN training increases. Ultimately, the model achieved an accuracy of 92% when 200 (1000) images were used for training. Furthermore, we observed that transfer learning techniques can boost the performance of CNNs by extracting features learned from a large dataset and transferring them to another CNN architecture. This approach can be particularly effective when dealing with limited training data.

Comparing GoogLeNet and trained CNN from scratch, we found that while GoogLeNet performed better on a smaller dataset, our trained CNN achieved comparable performance on a larger dataset using data augmentation techniques. This suggests that the choice of CNN architecture should be based on the size and quality of the available training data.

In the context of military target detection, CNNs offer numerous advantages, such as their ability to handle large amounts of data, high accuracy, and ability to learn and adapt to new data. CNNs have proven effective in various military target detection scenarios, including SAR target detection, ship detection, and military object detection.

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Primjena neuronskih mreža za otkrivanje i klasifikaciju topničkih ciljeva

Sažetak

Neuronske mreže u uporabi su od pedesetih godina prošlog stoljeća i sve su zastupljenije u različitim područjima ljudske aktivnosti, uključujući vojne primjene. Posebno, GoogleNet i konvolucijske mreže, kada su odgovarajuće utrenirane, ključne su u prepoznavanju i otkrivanju pojedinih objekata unutar složenog skupa. U vojnim scenarijima neuronske mreže imaju ključnu ulogu u postupku pružanja potpore vatrom, posebno kada primaju opise ciljeva od prednjih topničkih motritelja. Ove mreže trenirane su na slikovnim skupovima podataka kako bi prepoznale specifičnosti pojedinih elemenata ili vojnih objekata, kao što su vozila. Kao rezultat treniranja, kada se prikaže nova slika, mreža može točno odrediti tip vozila, ubrzati postupak ciljanja i poboljšati sposobnost pružanja prikladnog odgovora. U radu se opisuje primjena neuronskih mreža za otkrivanje i klasifikaciju topničkih ciljeva. Rad predstavlja poseban problem i predlaže rješenje primjenom znanstvenog pristupa, uključujući objašnjenje korištene metodologije i dobivene rezultate.

Ključne riječi

konvolucijska neuronska mreža, otkrivanje ciljeva, povećanje podataka

Organizing for Innovation: A Fundamental Review

Pedro B. Água, André Nogueira, Anacleto Correia

Abstract

Innovation is highly sought by organisations and is one of the key factors in boosting effectiveness, performance, and sustainability across businesses, both in commercial and defence contexts. Absence of innovation can affect organisations in a number of ways, including the wasting of opportunities for greater operational effectiveness and improvement of internal processes, with a negative impact on the motivation of human resources, the main repositories of knowledge, values, and organisational culture. Innovative organisations generate a strong sense of belonging across their ranks and convey an image of effectiveness and fulfilment. The objective of this text is to analyse the fundamental tenets and trends in organizing for innovation through a fundamental literature review and critical analysis. The results characterise and update an overview of current thought on the subject of organizing for innovation, encompassing culture, processes, and leadership towards a higher innovation maturity level within organisations, and providing guidelines.

Keywords

innovation, culture, organization, leadership, organizing for innovation, process

Introduction

Innovation encompasses challenging the *status quo* and introducing new and better products, processes, services, or management approaches that add value (Deschamps, 2008). Innovation is, above all, transformation (Vilà, 2012). It may take several forms, including new technology, production processes, organisational change, systems, and programmes (Çokpekin and Knudsen, 2012). It is possible to distinguish between organizing for innovation and innovation itself. An innovative organisation is one that continuously seeks change. Conversely, innovation is anything – material or not – that results from the integration of one or more ideas. For an idea to be considered an innovation, it must be characterised by adding value to the organisation after its implementation (Miller and Brankovic, 2010).

Organisations that innovate typically design and implement strategies aimed at better results (Looy, Martens, and Debackere, 2005). Innovation outcomes can be incremental or radical, oftentimes classified as disruptive (Vilà, 2012). If an organisation seeks incremental innovation, it will usually recombine processes and improve products or services. According to O'Reilly and Tushman (2004), incremental innovation entails small improvements to existing products, services, or operations, which will become more efficient and add value to the organisation. On the other hand, if an organisation pursues radical innovation, it has to select ideas that have the power to change its competitive advantage, sometimes changing the economic structure of the industry (Skarzynski & Gibson, 2010).

According to Looy et al. (2005), it is difficult for the two types of innovation to coexist within the same organisation; however, this is what happens in so-called *ambidextrous organisations* (O'Reilly and Tushman, 2004). These organisations are characterised by having two distinct structures. One is in charge of maintaining the traditional business based on incremental innovation, which requires commitment, convergence, and dependence on actions, and another structure is dedicated to radical innovation, thus exploring new paths for innovation and fostering flexibility and divergence.

According to O'Reilly and Tushman (2004), ambidextrous organisations are the optimal choice because there are no contamination effects but rather

fertilisation from the radical into the incremental one. Looy et al. (2005) suggest, however, that these organisations may lose sustainability by being overtaken by others that focus only on one innovation typology.

As for innovation categories, one can also consider the following: (1) process innovation; (2) product innovation; and (3) business model innovation. *Process innovation* is understood as the introduction of new elements into operations or services to make them more efficient (Çokpekin and Knudsen, 2012). *Product innovation*, in turn, consists of new technologies or combinations of technologies to meet business or market needs (Çokpekin and Knudsen, 2012). As for *business model innovation*, Deschamps (2008) defines it as the creative reorganisation of a business model in order to improve its current business competitiveness.

Non-innovative organisations can, however, become success cases if they achieve a systematic ability to innovate. Accordingly, the first step towards sustained innovation capability is the commitment of top leaders to such a strategy. Vilà (2012) further argues in favour of a path that will lead to the maturity of the innovation process within the organisation. Such maturity goes through three stages: *awareness of* the current state of innovation, *systematisation of* the innovation process, and *consolidation of* the new stage of maturity in what innovation concerns.

An organisation can stimulate innovation by following two broad strategies: top-down and bottom-up (Deschamps, 2008). The *bottom-up innovation* strategy assumes that creativity within the organisation may be based on an innovation culture promoted by the employees across the organisation. On the other hand, *top-down innovation* is intrinsic to a certain organisational discipline, imposed by the innovation process put in place. These two different approaches depend on each other to survive and, together, may contribute towards a more innovative organisation.

Organizing for innovation is therefore dependent on a *culture of innovation*, the *innovation process*, and *leading change* within an organisation. Hence, the main research question puts focus on how the literature addresses the subject of organizing for innovation from the perspective of innovation cultures, innovation processes, and change management.

In order to answer such a question, this text was divided into four sections. In this section, the general context for *Organizing for Innovation* was laid out, and the research question that guided the literature review was established. The second section describes the selected methodology used to collect existing information on the subject. The third section summarises the main contributions and analyses on the subject of organizing for innovation, specifically in the areas of organisational culture, processes, and change management. The last section, *Conclusion*, summarises the main contributions.

Methodology

The research methodology used critical thinking together with a Systematic Literature Review (SLR) comprising the three stages of planning, development, and reporting (Kitchenham and Charters, 2007). The planning phase is framed by the need that motivates the literature review. In this phase, the criteria for the search for articles were defined by using keywords to answer the main research question, concluding with the performed review according to the SLR reference selection. The development phase materialises with the search itself. To this end, the articles to which the selection and extraction criteria would be applied were defined. It was decided to apply the search criteria to the article titles and abstracts, taking into account their publishing dates. Digital libraries were consulted, using filters and successive iterations.

The chosen key words for the search, as applied to the title and abstract of the articles, were *organizing for innovation*. In the first iterations, the period of publication was defined between 2010 and 2021; however, as a result of this search, it was not quantitatively relevant. Consequently, the period was extended, ranging from 2000 to 2021. Posters, presentations, and other texts that were not written in English were excluded from the selection. After assessing the quality of the obtained articles, a group of 37 articles was deeply reviewed. In addition, structuring books on the organizing for innovation theme was also selected and included in the reference list. The reporting phase of the SLR methodology was carried out after a full reading of the selected texts. It was possible to synthesise and list conclusions as an answer to the departing research question: *How to organise for innovation?*

Organizing for innovation

Innovative Culture

An innovative culture is evidenced when members of the organisation, individually or in groups, come up with innovative solutions to existing problems (Miller and Brankovic, 2010). According to Deschamps (2008), an innovative culture is characterised by exploration, experimentation, and entrepreneurship. Such a culture emphasises learning, optimisation, and knowledge sharing (Love, Roper, and Magniarotti, 2006), which encourages risk and is fault-tolerant (Cheltenham, 2016). Rao and Weintraub (2013) suggest that an innovative culture is characterised by six elements: resources, processes, values, behaviours, climate, and success, all dynamically interconnected in a systemic way.

In innovative organisations, creativity must predominate, being an effect of the freedom that must be experienced in such endeavours (Boeddrich, 2004; Çokpekin and Knudsen, 2012). Creativity is of the essence, as it is the main source of innovation using the generated ideas. Without ideas, there is no innovation (Boeddrich, 2004). Creativity is disseminated through knowledge sharing and formal and informal communication (Miller and Brankovic, 2011).

Creativity may arise from multiple sources. This happens especially in contexts where people are more connected, increasing sharing and communication more frequently (Água and Correia, 2020). Therefore, organisations have adapted, and ideas no longer come just from their Research and Development units but from other approaches, such as *collaborative innovation* (Bogers, Ollila, and Ystrom, 2016; Ollila and Ystrom, 2016), *open innovation* (Lakhani, Lifshitz-Assaf, and Tushman, 2013; Goglio-Primard and Crespín-Mazet, 2015; Winsor *et al.*, 2019), or *employee-led innovation* (Tirabeni, Soderquist, and Pisano, 2016). Each type of innovation corresponds to a source, i.e., a space where freedom has been given to sharing and communication and where networks have been formed. Such networks give rise to ideas, which, after going through the whole process, become innovations (Mascia, Magnusson, and Bjork, 2015). Organisational and cross-organisational networks also help

create and sustain innovation, which depends on these dynamics for thought flows across organisations (Kaminska and Borzillo, 2017).

Networks established inside and outside organisations can generate epistemic communities and communities of practice (Kaminska and Borzillo, 2017). Such communities are bound together by the knowledge that their members share (Colombo *et al.*, 2011). Epistemic communities are associated with knowledge exploration by heterogeneous members and are characterised by informality. However, there is a more formal aspect to this type of community: multidisciplinary teams (Love, Roper, and Magniarotti, 2006). These teams are known to achieve the objectives more creatively, faster, and with higher quality.

Communities of practice, on the other hand, are networks with less heterogeneity and are formally assembled for a purpose. Communities of practice enable collaborative innovation and open innovation (Goglio-Primard and Crespin-Mazet, 2015) since they have two types of actors: skilled and knowledge actors. *Skilled members* are those who identify knowledge and disseminate it within or outside the organisation. *Knowledge-linked members*, on the other hand, are the ones who typically create the knowledge. This type of community leads to the creation of innovation networks, which are structures that develop and implement innovation through cooperation and coordination (Goglio-Primard and Crespin-Mazet, 2015). From the perspective of Arena *et al.* (2017), organisational networks may have three categories of actors: *brokers*, *central connectors*, and *energizers*. These actors act in what is called an *adaptive space*. This adaptive space is characterised by the diffusion of resources, ideas, and information throughout the organisation to enhance successful innovation. *Brokers* are individuals who form links between communities inside and outside the organisation. *Central connectors* are those who disseminate and implement ideas, fostering trust, learning, and taking risks. *Energizers* are those who provide energy to projects, challenging top management to accept and allocate resources to radical innovations.

An organisation that aspires to innovate shall have the starting engine for that journey – leaders willing to innovate. Innovative leaders must have certain qualities that distinguish them from traditional leaders.

There are six characteristics that innovative leaders share (Deschamps, 2008). In other words, they:

- balance creativity and discipline well;
- accept risks, failures, and uncertainty while promoting learning;
- are committed to the mission of innovating and able to spread this dedication among the employees;
- show a willingness to acquire external technology and ideas, implement them, and experiment within the organisation;
- have the courage to stop projects; and
- have the talent to build and lead teams, as well as retain staff capable of fostering innovation within the organisation.

To practise innovative leadership, it is necessary to give purpose to innovation, direct workers, and introduce a sense of focus. Hence, Deschamps (2008) suggests the following imperatives for innovation leadership:

- have an urgency to do new things;
- have the courage to take risks;
- have criteria regarding risk management; and
- be agile in finding opportunities and executing projects.

According to Vilà (2012), an innovative leader must have emotional intelligence, political and influencing skills, and the ability to listen. To succeed, an innovative leader must be able to trust their employees, because only then will they be able to have the freedom to be creative.

Innovative leadership has to build a shared vision through values, which go along with innovation. However, more important is to demonstrate to employees that the decision-making processes are in line with those values (Palmisano, Hemp, and Stewart, 2005). With this stance, leaders will create a culture based on the values, attitudes, policies, and processes they practise (Deschamps, 2008; Schmiedel, Spiegel, and Brocke, 2017; Sull, Sull, and Turconi, 2020). When these values are assimilated within an organisation, it is possible to exercise *collaborative leadership* (Nanita, 2018) rather than the typical top-down management control.

The values that are intended to be intrinsic in an innovative culture shall meet with creativity and improvisation. However, these two features are not sustainable if there is no trust among an organisation's employees, so they are critical for an innovative culture. Miller and Brankovic (2011) highlight typical behaviours of innovative leadership culture, such as being a good listener, being humble, encouraging, rewarding, and being open to change. Incentives are also essential for creativity because they encourage employees to take responsibility, experiment, and take risks (Fonseca, 2018). Fault tolerance and extended time horizons to deliver results are part of the culture of an organisation that aims to be innovative (Manso, 2017). The rewards, which come after success, are equally important for all employees to realise that it is possible to bring value to the organisation through innovation (Rao and Weintraub, 2013).

Skarzynski and Gibson (2010) highlight some mechanisms that should be in place to promote innovation as a core value within the organisation:

- Leaders must behave in accordance with the values they express so that all employees understand the message, which must be conveyed with consistency.
- The presentation of new ideas should be made at all organisational levels, and top leaders should have an open-door policy for all ideas.
- There must be a recruitment plan that encourages entrepreneurship and risk-taking criteria when selecting recruits.

Another dimension that encourages the proliferation of an innovative culture is training. One of the most impactful examples of training that fosters innovation is that of the Whirlpool company. This organisation has divided training into three levels: the innovation ambassador, the innovation mentor, and the innovation consultant. The *innovation ambassador* is the lowest level that any employee should have. The training and certification of ambassadors is elementary regarding innovation competencies. The ambassador must recognise the value of innovation, and the company's process for innovation, and know how to use the tools the company makes available to innovate. An *innovation mentor* is someone equipped with innovation and leadership skills. The *innovation consultant* is someone who is exclusively dedicated to

innovation within the organisation. The aim is to ensure that the process of systematising innovation is underway and well-developed. The innovation consultants are the ones who deliver training to the other levels (Skarzynsky and Gibson, 2010).

An innovative culture that combines the above-mentioned characteristics will have a higher probability of success. However, another pillar of innovation, the innovation process, which is closely linked to culture, should be consistent and flexible.

Innovation Process

The innovation process is a set of actions aimed at fostering innovation within the organisation. The deployment of the innovation process has to be adapted to each organisation, ensuring a balance between quality and focus on organisational goals (Ende, Frederiksen, and Prencipe, 2015). Typically, three main phases are required for the implementation of an innovation process: idea elicitation, selection, and implementation. These phases need to be transparent and structured without restricting creativity or discouraging innovators (Boeddrich, 2004). The lack of methodical, systematic, and structured procedures at the beginning of the innovation process has a critical impact on the management of the innovation process.

The first phase of the innovation process, *idea gathering*, needs to be fed by a sustainable flow of ideas (Boeddrich, 2004) in order to create a portfolio that will be submitted to the next phase. Leaders should consistently elicit urgency from sources about the need for ideas. However, the pressure should not be too much. If this happens, creatives may become inhibited from producing radical innovations, which will consequently add little value to the organisation (Skarzynsky and Gibson, 2010; Tirabeni, Soderquist, and Pisano, 2016). Hence, it is important to give employees time to explore their ideas, recombine them with ideas from others, experiment with them, and connect within their networks. Google, for example, allows about 20% of its employees' weekly time to focus on creativity (Skarzynsky and Gibson, 2010; Tirabeni, Soderquist, and Pisano, 2016). It is important to empower the frontline employees as the main creatives within companies (collaborative

innovation and open innovation). Seeing ideas implemented is motivating for employees, perhaps more so than monetary rewards (Boeddrich, 2004; Manso, 2017). It is also necessary to support employees and their ideas throughout the process, which benefits both the innovator and the organisation. This support is provided by teams of trained innovation mentors, also referred to as *innovation champions* (Martin, 2011). Such individuals should be the first ones to attend innovation training outside the organisation in order to introduce new concepts. Soon after this training, they return to the organisation and implement innovation processes. Subsequently, they usually return to their former roles, where they have the objective of gathering, selecting, and implementing the ideas of frontline workers (Skarzynsky and Gibson, 2010). Innovation champions accelerate the innovation process as well as de-bureaucratise it (Boeddrich, 2004). The benefit of this approach for the organisation is to observe more quickly the implementation of ideas and, consequently, to respond to problems that may arise more quickly.

The idea-gathering phase draws resources from the organisational culture, which, desirably, should be innovative. Creativity, the involvement of many brains, the opening of opportunities to develop ideas, and potential recombination are key to this phase of the process (Skarzynsky and Gibson, 2010). Boeddrich (2004) defined general requirements for managing an idea portfolio as including:

- definition of strategic guidelines for innovative ideas;
- gathering a lot of ideas;
- systematic *clustering* of ideas; and
- predefined and transparent criteria for selecting and implementing ideas.

Moreover, some constraints are usually at play, and contrary to what may seem, they facilitate creativity (Wedell-Wedellborg and Miller, 2014; Acar, Taracki, and Knippenberg, 2019). One of the proposed constraints is the reduction of resources employed in the implementation of ideas, such as financial and human resources. In other words, the scarcity of resources reinforces the need for creativity to emerge to solve problems (Caniëls and

Rietzschel, 2015). Middle managers should implement constraints based on the directives from the top managers.

The fundraising phase is followed by the *selection of ideas*. After the portfolio is created, it is necessary to select the best ideas according to certain criteria. The selection is important because resources will be committed to the selected ideas. If the selection is not carried out, the ideas that do not add value to the organisation will continue to be discussed, which leads to a waste of time and resources (Boeddrich, 2004). The ideas chosen according to the organisation's criteria will have the quality to be implemented. This situation leads to an "internal market of ideas" (Skarzynsky and Gibson, 2010). A market of ideas, as in a normal market, suggests that demand has an impact on the selection of products. However, no even minimally reasonable idea should be wasted, so all of them should be inserted into a portfolio for possible recombination (Vilà, 2012).

The first criterion for idea selection, that is, the first filter, shall be guided by the difference between what the organisation wants from the innovation effort and the content of the idea. This difference, if large, may cause the idea to be removed from the innovation process (Boeddrich, 2004). Therefore, this situation leads the organisation to two commitments: the communication of what is intended with the innovation and the acceptance of the ideas based on a selection criterion. The second selection criterion relates to the risk inherent in an idea. If an idea is too risky for the parameters previously established by the organisation, it should normally be discarded (Day, 2007; Jay, 2016). The risk associated with an idea is measured by the number of resources the organisation is willing to spend on something new that may not add value. The third selection criterion includes putting the idea to the test on the field. Innovation champions have supported and accompanied the entire process of innovation thus far. Such individuals act as energizers and central connectors, as they must have good relationships across the organisations and persuade top managers to accept the associated risks. At this stage of experimentation, champions leave the idea in the hands of the process. Rao and Weintraub (2013) suggest that this phase should take place in "innovation islands". These spaces are typically small units where mistakes can be made without major consequences for the organisation.

Another advantage of these islands is rapid learning, which allows for quick correction of existing problems with the idea (Skarzynsky and Gibson, 2010). This phase may have several iterations until the innovation is ready to be implemented throughout the organisation.

The results that come from the successive failures are important and should be shared with the rest of the organisation so that they are not committed to again while providing lessons learned. Skarzynski and Gibson (2010) suggest a different sequence of concepts, proposing first to question the importance of the idea, i.e., to what extent the organisation is interested in the idea. The second question is the feasibility of the idea, that is, to assess the possibility of executing the idea with the existing resources. Finally, the last question related to the assessment of the idea's profitability, i.e., whether it will really add value to the organisation.

Before an idea is implemented, it must go through the last stage, the *innovation council*, a mechanism that hosts the responsibility for selecting the best conditions to support an idea, both in space and time (Deschamps, 2008). This council should be composed of senior managers with diverse knowledge and credibility within the organisation.

The implementation phase shall be conducted with caution because the acceptance of the process or product may not be immediate, which can become an obstacle to innovation. However, Deschamps (2008) suggests a stepwise solution that should be taken to mitigate resistance to change. The *first step* suggests an incubation of the innovation idea, which will serve to develop and test the product, process, or service. The *second step* is industrialization to produce and disseminate innovation. The *third step*, which relates to the introduction into the organisation or market, may take place naturally or slowly. Finally, there is the phase of implementation and integration of the innovation, where everyone is familiar with the innovation and accepts it. The time spent in this last phase is uncertain because resistance to change is different in all organisations (Skarzynsky and Gibson, 2010).

Innovation is a process in which new ideas are created and successfully deployed, despite barriers, internal or external, to the organisation (Deschamps, 2008). However, the transformation to an innovative organisation

is not just about designing an innovation process and, alongside it, building an innovative culture. The most difficult part is changing people's ways of thinking into a paradigm of *continuous change*. Hence, leadership is essential to creating fertile ground for innovation (Vilà, 2012). Some obstacles impose themselves on innovation, which may restrain the initiative to innovate. As such, it is necessary to identify them to mitigate them.

Barriers to innovation are generally imposed by people and the organisation in general, which hinder creativity as well as the discipline required for the innovation process to prosper and achieve the paradigm shift that innovation requires. Miller and Brankovic (2011) list seven constraints to innovation:

- Managers waste time on dazzling technological innovations that add no value to the organisation.
- There is too much bureaucracy in the innovation process.
- There is little time to make connections within potential networks, which hampers creativity.
- There is a lack of immediate results from innovation, which may lead organisations to return to the traditional way of working.
- There is inconsistent allocation of resources to innovation.
- There is a cultural barrier between the new way of solving problems and the traditional one.
- There is a lack of collaborative effort caused by silo cultures.

A changing culture goes through these obstacles; however, to overcome them, managers have to rely on the employees (Tietz *et al.*, 2018). Hence, to mitigate the obstacles, these authors mention six aspects where a greater effort should be made to achieve an innovative culture:

- definition and communication of innovation opportunities to clarify the organisation's objectives with innovation;
- delegation of responsibilities for innovation; a structured, rigorous, and centralised process for radical innovation; and an emergent, distributed, and localised process for incremental innovation situations;
- availability of resources for innovation (time, space, opportunities);

- organisation of the innovation process in a manner appropriate to the organisation;
- promotion of innovative behaviour (constructive criticism, monitoring of ideas, mutual help in overcoming organisational obstacles, and bureaucracy); and
- measuring innovation performance to celebrate every little achievement.

Obstacles to innovation do not suddenly disappear after taking certain measures. An organisation with a creased culture and dysfunctional routines is itself an obstacle to innovation (Garvin and Roberto, 2005). However, culture is not immutable, and although this is a goal that may take years to achieve, it is possible to make any organisation more innovative.

According to Whittinghill et al. (2015), mechanistic cultures are not conducive to innovation (Tsai, Chuang, and Hsieh, 2009). They are cultures characterised by control, formalism, and regulation (Reigle, 2003). Hence, they operate to follow orders, i.e., hampering creativity. On the other hand, organic cultures facilitate innovation (Prakash and Gupta, 2008; Robbins and Judge, 2009). These structures easily adapt to change and unstable conditions and are flexible. The intrinsically organic culture practises values that encourage creativity and innovation, as well as innovative behaviours (Lamore, 2009). A transformation will have to take place for innovation to become a systemic capability within an organisation. Therefore, the organisation will have to go through a process of change that will be conducted according to a plan. This process must be led in a chained and comprehensive way across the organisation.

Conclusion

Organizing for innovation goals aims at the introduction of new and better products, services, or processes. This is true for both the commercial and defence sectors, as it allows an organisation to deliver greater value. To move up on an innovation maturity ladder, organizing for innovation requires a culture of innovation, adequate innovation processes, and effective organisational change management.

The culture of innovation assumes an interest in pursuing innovative solutions to existing problems using exploration, experimentation, and entrepreneurship, emphasising learning, optimisation, knowledge development, the assumption of risks, and tolerance for failures that may occur during the process. Linking elements such as resources, processes, values, behaviours, and success all contribute to an innovative culture. The use of networks for sharing knowledge in formal and informal ways is needed to encourage the freedom to create and sustain innovation, which may occur through collaborative innovation, open innovation, and employee-led innovation. Networks established within and outside organisations can generate epistemic communities and communities of practice. The existence of an adequate leadership style willing to innovate is critical for a culture of innovation, complemented by a strategy that is supported by training.

The innovation process is a set of steps under the leadership of top managers. The implementation of the innovation process is carried out in phases: (1) gathering of a portfolio of ideas; (2) selection of suitable ideas according to added value criteria while weighing potential risks; and (3) implementation safeguards, internal or external to the organisation. A transformation has to occur for innovation to become a systemic capability within an organisation. Therefore, the organisation must go through a process of change that must be properly planned and managed, and this process must be led systemically and comprehensively across the entire organisation.

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Organiziranje radi inovacija – načelni prikaz

Sažetak

U organizacijama su inovacije izrazito poželjne. One su jedan od ključnih čimbenika u jačanju učinkovitosti, provedbe i održivosti u poslovanju, i u komercijalnom i u obrambenom kontekstu. Nedostatak inovacija može utjecati na organizacije na više načina, uključujući gubitak prilika za veću operativnu učinkovitost i poboljšanje unutarnjih procesa, s negativnim utjecajem na motivaciju ljudskih resursa – glavnih repozitorija znanja, vrijednosti i organizacijske kulture. Inovativne organizacije stvaraju snažan osjećaj pripadnosti u svojim redovima i odražavaju sliku učinkovitosti i ispunjenja. Cilj je ovog teksta analizirati temeljna načela i trendove u organiziranju radi inovacija temeljnim pregledom literature i kritičkom analizom. Rezultati prikazuju i osuovremenjuju pregled trenutačnih promišljanja o temi organiziranja radi inovacija. Obuhvaćaju kulturu, procese i vođenje prema višoj razini zrelosti inovacija unutar organizacija, a u konačnici pružaju smjernice.

Ključne riječi

inovacija, kultura, organizacija, vodstvo, organiziranje radi inovacija, proces

The violations of international humanitarian law against the persons forcibly taken from the Vukovar hospital and murdered at Ovčara

Ivica Kinder

Abstract

This article contains the analysis of the violations of international law against the persons forcibly taken from the Vukovar hospital after the fall of the city in 1991. It starts from the findings of the historians of the Croatian Homeland War concerning the changes of structure of the Yugoslav National Army (JNA) during the process of dissolution of the Socialist Federal Republic of Yugoslavia (SFRY), then of forces attacking Vukovar, and of the hidden role of the Republic of Serbia (Serbia). With a view to international law, the author analyses the negotiations that should have resulted with the evacuation of the wounded and sick from the Hospital. The analysis also covers the JNA's acts that led to the atrocity at Ovčara. Based on insights into the documentation of the International Criminal Tribunal for the former Yugoslavia (ICTY) in the "Vukovar Hospital" case, and available sources from the trials conducted in Belgrade against the immediate executors, the attitudes towards the legal qualification of the armed conflict have been examined, as well as of the victims and of the criminal offences against them. All of that is observed in relation to the Geneva Conventions of 1949, the Additional Protocols of 1977, international customary law, the Statute of the ICTY and the opinions of the selected Croatian and foreign legal writers, including some Yugoslav, as well as some contemporary Serbian legal writers. The conclusion is that both the ICTY and Serbia were not ready to admit the existence (at least as of 8 October 1991) of the international armed conflict. If they did, it would have led to application of a larger body of rules of international treaty

law regarding the variety of victims and, consequently, to more severe punishments for the perpetrators. Instead, the status of persons murdered at Ovčara had not been examined sufficiently, as not all of them were pure Croatian soldiers who became the prisoners of war, as some of them were also hors de combat or even wounded and sick civilians, or medical staff and other Hospital employees, or vulnerable civilians who were entitled to additional protection. Finally, there is a conclusion that the court trials, despite of perennial length and a few final convictions, brought neither the complete establishment of the facts nor sufficiently comprehensive criminal responsibility. Thus, neither satisfaction of international criminal justice nor sufficient contribution to peace and reconciliation process were achieved.

Keywords

Vukovar, hospital, Ovčara, JNA, ICTY, Geneva Conventions.

Introduction

The law of international armed conflict protects certain categories of persons, locations, and objects. It also forbids certain methods and means of warfare. It is not an aggregate of unfeasible rules that impose something impossible on the parties in conflict. It is rather a realistic compromise between the military necessity and the protection of participants of the armed conflict (Bakotić, 1997). Especially, it protects persons who do not participate or no longer take part in combat, such as civilians, the wounded and sick, the prisoners of war, the shipwrecked, the medical and religious staff, etc. It protects them by obligating the parties in conflict to treat them humanely and without discrimination. The wounded and sick must receive an adequate care, while prisoners of war must be given accommodation, food, and legal certainty. At all times the violence is forbidden against life, health and physical as well as mental state of those persons. Also, attacks on their personal dignity, their collective punishing, taking hostages or threats by such acts are forbidden, too (ICRC, 1999).

The Socialist Federal Republic of Yugoslavia (SFRY) ratified the Geneva Conventions of 1949 and Additional Protocols of 1977 on 21 April 1950 and 11 June 1979 respectively. Those Conventions and Protocols were the

first international treaties that Republic of Croatia (Croatia) acceded to by submitting the notification of succession, with effect as of 8 October 1991. With that day Croatia broke up all its state and legal ties with other republics and provinces of the SFRY. Such normative priority was an immediate consequence of tragic circumstances through which Croatia had to gain its independence. It was “a situation which had been imposed on Croatia against its will, within the fulfillment of the Great Serbia expansionist politics which resulted in aggression and armed conflict interwoven with countless violations of international humanitarian law, including a series of genocidal acts, all of that under the uttermost ineffectiveness of the international community mechanisms” (Bakotić, 1997, p. VII). The massacre of the Croatian policemen in Borovo Selo at the beginning of May 1991 was a clear indication of the upcoming grave crimes.

The aggressor’s attitude towards the international law of the armed conflict and international humanitarian law in the years preceding the aggression can be found in the edition of the Military Publishing and Newspaper Center from Belgrade in 1986. It was the book entitled „The International Law of Armed Conflict“, written by Professor Gavro Đ. Perazić, LL.D. The multi-member Editorial Board was consisted of twelve generals of the Yugoslav National Army (JNA), including Lieutenant General Veljko Kadijević. Inter alia, Perazić wrote: „The wounded and the sick enjoy the protection in every occasion. However, when such persons are members of the armed forces and become captured, they become prisoners of war and enjoy special protection. They must be treated humanely and are entitled to particular care and medical treatment without any racial, religious, or ethnical discrimination. It is strictly prohibited to kill, exterminate and torture them ...“ (Perazić, 1986, p. 201).

With respect to the events that happened after the fall of Vukovar, which are in the focus of this analysis, we find appropriate at this point to recall the words of the former Chief Prosecutor of the ICTY, Carla del Ponte. She wrote that Serbian aircrafts, artillery, and tanks leveled Vukovar to the ground, turning it into the ruins and dust. She added that Serbian firing squads killed hundreds of prisoners of war, including the wounded taken from the city Hospital. It was her perception that far away from Vukovar many

Serbs were bewildered and convinced that the whole world had teamed against them. Additionally, Carla del Ponte stated that unfortunately some Serbs, including some of the Serbian leaders, even long after the war kept demonstrating self-pity (Del Ponte, 2008). Hence, there had been a serious discrepancy between the principles and rules proclaimed and taught by Professor Perazić and the JNA generals, who were at the same time proudly evoking the bright tradition of both appropriate rules and behavior of the Yugoslav partisan units during World War II (Perazić, 1986).

The Forces Attacking Vukovar

With a view to Croatia, Vukovar was one of the most important objectives of the aggressive Yugoslav and Serbian politics. In our opinion, it is in the best interest of understanding the complex relationship between the Yugoslav and the Serbian authorities with the JNA, to quote the historian Davor Marijan: „The Army did not initiate the war but did enable it by its active siding with Serbia. Namely, when Slobodan Milošević was threatening with war, it used to be received by neighboring republics with more or less respect, but it was only when the Army adopted his vision of Yugoslavia when his threats amounted to the real scale. Milošević could not materialize his threats from Gazimestan without the active support of the JNA.“ (Marijan, 2006, p. 41-42). In relation to that, we also find beneficial to mention the standpoint of the lawyer and publicist Tomislav Jonjić, who suggests that simple statement that the atrocities in Vukovar were committed by the JNA and the Chetnik units would mean an unfounded exculpation of the SFRY and Serbia (Jonjić, 2013).

When attacking Vukovar, the JNA was joined by the local Serb population, various volunteering units, even paramilitary forces affiliated with some political parties, as well as members of the Territorial Defense (TO) of Serbia and the Ministry of Interior (MUP) of Serbia. Even before the war, the JNA and the TO together formed the united armed forces of SFRY. With respect to volunteering and paramilitary units Marijan draws attention to the special Instruction which equalized the rights of volunteers with those of the JNA's active personnel and reservists. Marijan also points to the Order by which

the JNA adopted the so-called Territorial Defense of the Autonomous District of Krajina as its own combat component (Marijan, 2001). All that was happening within the process of dissolution of the SFRY, primarily because of the diminishing conscript manpower of the JNA, the loss of the mobilization potential and the poor turnout of reservists. With regard to such unification of the forces, Marijan concludes: „The common objective, the Greater Serbia erased the differences between their ideological convictions and political orientations“ (Marijan, 2001, p. 307-308).

When it comes to the TO units that were attacking Vukovar, the differentiation should be made between the local Serb rebel forces who called themselves the TO, and the TO units of Serbia and of the Socialist Autonomous Province (SAP) of Vojvodina. Namely, back in 1968 the SFRY introduced the TO as a new component of its armed forces, which was organized, unlike the JNA, on republic and provincial level. It was then enacted that financing of the TO would be done through the budgets of the republics and the autonomous provinces (Marijan, 2001). That fact is very relevant when judging the role of Serbia in aggression on Croatia, no matter how persistently Serbia claims it had nothing to do with that aggression. The TO units of Serbia and Vojvodina that conducted operations in Vukovar area originated from many Serbian towns. According to Marijan, they were from Bečej, Kragujevac, Kikinda, Kraljevo, Kula, Leskovac, Niš, Požarevac, Senta, Sombor, Srbobran, Srijemska Mitrovica, Subotica, Šid, Užice, Valjevo, Vršac and Zaječar (Marijan, 2013). At the same time, the key positions on senior levels of the TO of the local Serb rebels were often filled with the employees and sometimes even officials of the Serbian state services (for example, Radovan Stojičić-Badža, the official of the State Security Service of Serbia).

It is also important to understand how some TO units, both of local Serbs and of Serbia, were manned and even financed, as well as inspired for their activities. For example, within the TO of Vukovar, which was subordinated to the JNA Command, there were even units closely affiliated to the Serbian Radical Party of Vojislav Šešelj, primarily through recruiting and financing. In fact, they were nothing more than the Chetnik groups (Marijan, 2013). While even the TO units of the local Serb rebels were de facto paramilitary structures, such expression was primarily used to mark the Serb forces

coming to Vukovar from other parts of Croatia, from Serbia and from Bosnia and Hercegovina. Some of them were Serbian Volunteering Guard (also known as „Tigers“) of Željko Ražnatović Arkan, then Dušan Silni Squad (mostly volunteers from Stara Pazova who were sympathizers of the Serbian National Renewal, led by Mirko Jović), the unit called The Montenegrin, from the area of Fruška Gora, etc. According to the Serbian sources, all those units together formed the so-called Police Brigade of the Ministry of Interior of Serbia (Marijan, 2013).

Obviously, there was an enormous diversity among the military and paramilitary structures attacking Vukovar, in terms of the ways of their founding, manning, and financing, as well as of their original ideological background and motives. As an illustration, according to the documents available to the ICTY, Lieutenant Colonel of the JNA, Milan Eremija wrote in October 1991 that, for some groups, „the basic motive is not the fight against the enemy but plundering the people’s property and abuse of the innocent population of the Croatian ethnicity“ (Marijan, 2013, p. 38). Nevertheless, all of them were formally part of the JNA structure and under the command of the JNA’s officers. However, regarding the obedience of international law during the hostilities in the area of Vukovar and elsewhere in Croatia, there was a huge deficit on the side of those military structures. The European Community Monitoring Mission (ECMM) was very much aware of that (see more in: Miškulin, 2010).

That came out in most drastic extent through the treatment of persons from the Vukovar hospital, in particular regarding the requirements that forces must be commanded by a person responsible for his subordinates and that operations must be conducted in accordance with the laws and customs of war. Hence, within the above-described processes and mechanisms of gathering a wide variety of forces into the JNA’s structure, the JNA’s senior command failed in ensuring the obedience of international humanitarian law in a manner consistent with the doctrine of Professor Gavro Đ. Perazić. Moreover, they fell short of the basic humanity. At the trial against the immediate executors of the atrocity at Ovčara, in Belgrade, the trial chamber’s presiding judge Vesko Krstajić said upon delivering the judgment: “It is heroism to protect yourself from the enemy, but humanity is to protect the

others from yourself. You should consider this judgement as the judgement to your humanity.” (HLC-RDC, 2005, p. 3). Hence, the above-described enlargement of the JNA forces fell short of measures to mitigate the highly problematic attitude towards the respect for international humanitarian law within various armed groups the JNA consisted of, which implies the large portion of responsibility on the part of the JNA’s most senior command.

The Agreement on the humanitarian convoy to evacuate the wounded and sick from the Vukovar hospital, signed between Croatia and the JNA on 18 November 1991

Vukovar had fallen into the siege at the beginning of October 1991. After a few unsuccessful attempts to break through by military means, the negotiations between the Croatian authorities and the JNA neither brought the establishment of free corridors. The intended purpose of such corridors was the evacuation of the wounded and the civilians from Vukovar (Granić, 2022). When chief JNA’s negotiator, General Andrija Rašeta conducted consultations with Belgrade, the JNA’s senior command and the Serbian president Milošević (sic!) declined (Granić, 2022). Finally, after a few days of the negotiations in Zagreb, the solution was reached on 18 November 1991. It was the Agreement on Humanitarian Convoy to Evacuate Wounded and Sick from Vukovar Hospital (the Agreement), signed under the auspices of the ECMM (The University of Edinburgh-Peace Agreements Database, 1990-2023).

Along with the representatives of Croatia, the JNA and the ECMM, the representatives of the International Committee of the Red Cross (ICRC), the *Médecins Sans Frontières* (MSF) and the Maltese Cross, also took part in the negotiations. The signatories were Andrija Hebrang, Andrija Rašeta and Georges-Marie Chenu. The focus was on the humanitarian convoy, while the Hospital was supposed to become a neutralized zone under the protection of the ICRC. The Vukovar hospital was all the time the civilian institution. It took care of the wounded enemy soldiers, too, so after the fall of Vukovar three wounded JNA soldiers were found there under the medical treatment. For the protection of the Hospital, Croatia and the JNA primarily agreed to

guarantee the ceasefire around the Hospital as well as along the evacuation route. Both sides were also responsible for the security from mines within the areas under their control. The route of the convoy was also agreed upon (Vukovar-Priljevo-Lužac-Bogdanovci-Marinci-Zidine), including the location of transfer of the evacuated persons (Zidine, at the crossroads to Henrikovci).

The JNA had to provide the „suitable military vehicles“ for the transfer to Zidine, while Croatia had to provide the „suitable vehicles for the remainder of the journey“. Both sides had to provide the „suitably equipped and manned ambulances for some 40 seriously ill and lorries or coaches as appropriate for the remaining 360 or so casualties of whom around a third will be stretcher cases“ (sic!) (The University of Edinburgh-Peace Agreements Database, 1990-2023). The evacuation was supposed to include “all those wounded and sick undergoing medical treatment in Vukovar hospital who are judged by the authorities of the Hospital to be fit to make the journey” (The University of Edinburgh-Peace Agreements Database, 1990-2023). The Agreement did not provide for the evacuation of the Hospital staff or members of their families nor other persons (ICTY-Trial Chamber, 2007, para. 131). Both sides concurred to grant the opportunity to the ECMM to monitor the evacuation including the „full access to all elements of the evacuation“, as well as to facilitate the involvement of the ICRC, the MSF and the Maltese Cross, as appropriate (The University of Edinburgh-Peace Agreements Database, 1990-2023). As far as the neutralization of the Hospital was concerned, Croatia and the JNA left to the ICRC to advise them of the required period of neutrality.

Although the Agreement did not refer to any rule of international law specifically, the above-quoted provisions show it in fact combined the rules of two Geneva Conventions of 1949 (the First, on protection of wounded and sick soldiers on land during war, and the Fourth, on protection of civilian persons in time of war), as all four Geneva Conventions of 1949 have a character of international customary law and oblige all parties in armed conflicts (Meron, 2017). Article 15, paragraph 3 of the First Convention provides that parties to the conflict may conclude „local arrangements for the removal or exchange of wounded and sick from a besieged or encircled area“ (ICRC, 2016). Article 15 of the Fourth Convention sets out rules for the

establishment of „neutralized zone intended to shelter ... the wounded and sick combatants or non-combatants“. It is left to the parties to agree upon „the geographical position, administration, food supply and supervision of the proposed neutralized zone“, followed by „a written agreement ... signed by the representatives of the Parties to the conflict“ (ICRC, 2016). It is also fair to conclude that the ICRC and the ECMM were in fact recognized by both parties as „impartial organization“ that performed the humanitarian functions of „Protecting Power“, as provided in Articles 8 and 10 of the First Convention (ICRC, 2016). In conclusion, it is clear that the parties to the Agreement actually leaned upon the legal grounds typical for international armed conflicts.

The events in the hospital and the JNA's obstructions of the implementation of the Agreement on evacuation of the wounded and sick

At the time of the fall of Vukovar, in the Hospital – except the wounded and sick, physicians and other medical staff – there also were, in the nature of things, technical and other auxiliary staff (drivers, cooks, electricians, boiler operators, cleaners, laundresses, etc.). Article 20 of the Fourth Geneva Convention of 1949 especially protects the persons who are “regularly and solely engaged in the operation and administration of civilian hospitals, including the personnel engaged in the search for, removal and transporting of and caring for wounded and sick civilians, the infirm and maternity cases” (ICRC, 2016). There were also a few family members and friends of the patients and the Hospital staff, as well as some Croatian Radio reporters such as Siniša Glavašević. Many civilians sought shelter in the Hospital, deeming it was the safest location in the city. There were also some defenders who believed they would be safe if they reach the Hospital and cover up among the wounded, the medical staff, and the civilians (Lučić, 2017, p. 180). According to the findings of the ICTY's Trial Chamber in the “Vukovar Hospital” case, there were at least 750 people (450 patients and 300 civilians) in the Hospital. All of them were hoping for the evacuation (ICTY-Trial Chamber, 2007, para. 181).

However, already on 18 November 1991 the JNA started telling the representatives of the ICRC about the unfavorable security conditions and its inability to guarantee their security. The gunfire from the left bank of the Danube River had been mentioned, also that the bridge on the Vuka River was mined, etc. The ICRC representative Nicolas Borsinger arrived in Vukovar on 19 November 1991. He was supposed to lead the evacuation the next day. It came out soon that he would neither get the list of persons for the evacuation nor the JNA would allow him to make it himself. On 19 November, the JNA - again talking about the unfavorable security conditions - prevented the arrival of the United Nations' delegation led by Cyrus Vance. Some additional indications of the JNA's reluctance to implement the Agreement came out. For example, Mrkšić told the Hospital's principal, Dr. Vesna Bosanac he had no knowledge of what General Rašeta agreed upon in Zagreb. Then, at the meeting in the JNA's HQ in Negoslavci Nebojša Pavković, the liaison officer of the Federal Secretariat of National Defense (SSNO) denied the ECMM monitors' role in the evacuation.

Pavković also said the prisoners of war will not be allowed to leave the Hospital, that they were under the control of the JNA and if they would leave the Hospital, then Serbian paramilitary units and the local Serb civilians would attack the convoy (sic!). He also said that the prisoners of war will subsequently be exchanged for imprisoned members of the JNA, while the Hospital's management will be replaced with the military physicians and other JNA's staff (ICTY-Trial Chamber, 2007, para. 139). Considering Pavković's formal capacity, it is reasonable to conclude he spoke in line with the guidelines received from the SSNO. Hence, the JNA had just started to „convert“ all the persons that will be forcibly taken from the Hospital on 20 November 1991, into the soldiers-combatants and, consequently, into the prisoners of war, irrespectively of their factual status. The ICTY's Prosecutor will later use a different terminology (more will be said later in this article), while the final „conversion“ of the persons forcibly taken from the Hospital will be done by the ICTY's chambers.

In accordance with Pavković's words, later in the afternoon of 19 November 1991, instead of implementation of the Agreement, the JNA's security officers

Šljivančanin and Karan came to the Hospital. Major Veselin Šljivančanin was the chief security officer of both the brigade and the Operational Group (OG) "South". Among his subordinates were Captains Mladen Karan, Borče Karanfilov and Srećko Borisavljević. Šljivančanin's superior was Colonel Mile Mrkšić, both the commander of the Guards Motorized Brigade of the JNA and of the OG "South", subordinated to the Command of the First Military District as well as to the SSNO, both in Belgrade. Captain Miroslav Radić was the commander of the Third Company in the First Motorized Battalion of the afore-mentioned brigade. Among his subordinates were two commanding officers of the Vukovar TO, Miroljub Vujović and Stanko Vujanović (both later sentenced in Belgrade for having committed the atrocity at Ovčara).

At the time when Šljivančanin and Karan arrived to the Hospital, the detention center for soldiers and civilians who could not escape from Vukovar, already existed at the „Velepromet“ company's premises. The members of the JNA were making lists of the detainees there, while members of the Serbian TO and paramilitary, mostly Chetnik units were selecting detainees to physically maltreat them. Some of those detainees have never been seen again. On the other hand, it must be noted that the members of the Croatian forces who surrendered on 18 November 1991 at Mitnica, were transferred to Ovčara, where – in accordance with Mrkšić's order – the hangar had been prepared for the prisoners of war. Subsequently, already on 19 November, they were transferred to Srijemska Mitrovica, without any incident.

Upon arrival in the Hospital, Šljivančanin and his subordinates demanded Dr. Bosanac to hand them over the list of the persons planned for the evacuation. They took away all the copies of the list, as well as the patients' records and records of entries into the Hospital for past two months. „As they had both the evacuation list and the Hospital records, they had the entire Hospital in the palms of their hands“ (Starešina, 2017, p. 174). They captured Dr. Bosanac and took her to Negoslavci. In the evening, the representatives of the ECMM received the guidelines from their superiors from Zagreb, that when they will be monitoring the evacuation the next day, the Geneva Conventions will be applied upon all wounded prisoners of war, including the conduct of interviews with them in order to establish where they would prefer to go,

while the ICRC will be making the list of the evacuated persons (ICTY-Trial Chamber, 2007, para. 144). Such guidelines might have been formulated due to the awareness that the wounded and sick would fall into the hands of the JNA.

Although the Agreement provided for the opportunity of the parties to withdraw from the Agreement at any moment if they assess there are no conditions for its implementation, especially with respect to security, neither party (nor even the JNA) seized such opportunity explicitly. With due respect to the context in which negotiations and conclusion of the Agreement were conducted, and based on the content of the Agreement, the ICTY's Trial Chamber concluded that the Agreement was not a result of capitulation of the Croatian forces neither it depended on that. Hence, the evacuation should have been carried out irrespectively of the course of the combat operations (ICTY-Trial Chamber, 2007, para. 132). Moreover, in the Agreement there was no provision that soldiers of any party would be allowed to enter the Hospital after the ICRC would have taken it over. Based on all available evidence, the Trial Chamber did not accept the JNA's claims that there were no security conditions for the arrival of the international staff and for the evacuation of the wounded and sick (ICTY-Trial Chamber, 2007, para. 143).

In his recent general deliberations on the issue of security conditions for the execution of humanitarian activities, irrespectively of the events in Vukovar in 1991, the Serbian legal writer Kreća points out the „inherent weakness“ of the respective regulations, as well as of the regulations for the protection of the prisoners of war. In his opinion, that weakness lies in „subjective nature of the criteria that require the warring parties to provide the wounded, the sick and the shipwrecked with the medical care „to the fullest extent practicable“ and “with the least possible delay“. He adds that „impartial oversight and control over the implementation of these rules barely exists“. Regarding that, Kreća continues that „the Red Cross and other humanitarian organizations, in most cases, are prevented from reaching the battlefield, even the front, usually with the explanation that their security cannot be guaranteed“ (Kreća, 2022, p. 837).

On 20 November 1991, when the evacuation under the auspices of the ICRC should have commenced, during morning hours the JNA had already taken

from the Hospital approximately 270 persons selected by its security officers led by Šljivančanin. Five civil buses and one military bus had been ordered from Serbia for the transportation of those persons. That was an indisputable indicator of ignoring the previous negotiations about the appropriate means of transportation, as well as of lack of care for people. A very illustrative case is of the wounded Martin Došen who was on the stretchers that could not be loaded on the Serbian bus. The disturbing testimony before the ICTY was presented by his daughter. Basic principle of both Geneva Conventions for the protection of the wounded and sick is that those persons must be protected and taken care of irrespectively of the party of the conflict they belong to. Not only their murder or torture is prohibited, but also the intentional deprivation of medical care (Andrassy, Bakotić, Seršić&Vukas, 2006). Apart from the wounded and sick, there were also Hospital's technical staff, family members of Hospital's employees, but also other persons such as radio reporter Siniša Glavašević and his sound technician Branko Polovina, and other civilians. Later, the ICTY's Prosecutor stated it was found indisputable that nobody from the Hospital resisted. Hence, the JNA arbitrarily and without distinction made all those persons prisoners of war (such legal qualification was formally declared in the ICTY-Trial Chamber's Judgement, 2007, paras 479-480).

All those persons were first taken to the JNA barracks in the vicinity of the „Velepromet“ company's premises. It was around noon when the military bus went there first. The persons who were loaded on that bus at the Hospital site were those who did the most effort in resistance during the defense of Vukovar. Other buses arrived in agricultural compound at Ovčara somewhat later. The members of the Serb military and paramilitary units were already there, ready for mistreatment of the prisoners. Simultaneously with the transportation of the prisoners from the Hospital, the session of the so-called Government of the Serbian Autonomous Area of Eastern Slavonia, Baranja and Srijem was held. A few representatives of the JNA were present there, too. The session was chaired by Goran Hadžić, while mayor of Vukovar (and the minister of agriculture in the afore-mentioned „Government“) was present, too. Later at the trials, the JNA's officers claimed that Hadžić and his government decided to take over the prisoners from the Hospital to try

them in Vukovar. By saying that, the JNA most probably attempted to find the excuse for the subsequent dereliction of protection and control over the prisoners.

Despite the intention to implement the Agreement in accordance with the outcome of negotiations and as soon as possible, the representatives of the ICRC were finally allowed to enter the Hospital only around 10:30, i.e., after the JNA had already taken many of the wounded and other persons. The evacuation of the remaining persons was also organized by the JNA. Initially, they were all taken to Serbia, but after a night spent in Srijemska Mitrovica, some of them ended up in five different detention camps in Serbia, while others arrived in Croatia near Županja, via Bosnia and Herzegovina (Lučić, 2017). On the same day, in late afternoon, the members of the JNA's military police received the order to withdraw from Ovčara, which they obeyed around 21:00 hours. The executions of the prisoners followed, performed by the members of the TO and paramilitary units, while some prisoners died earlier due to the beatings at the hangar. At least 97 of all murdered at Ovčara were patients from the Vukovar hospital, while around twenty of murdered persons were the Hospital's employees (Lučić, 2017). Years later, at the trial in Belgrade, the permanent court expert witness Professor Miloš Tasić, MD, the forensic medicine specialist, employed at the Faculty of Medicine of the University of Novi Sad, said *inter alia* that 32 persons murdered at Ovčara were shot in the nape.

To sum up, the Agreement on the evacuation was not implemented because the JNA *de facto* declined it. Referring to the Agreement, the ICTY's Trial Chamber later established that the JNA did not get the authority to select persons to be evacuated nor the Agreement provided that the wounded and sick would be finally handed over to anyone else but to the Croatian side (ICTY-Trial Chamber, 2007). There are some well-argued opinions that it was the JNA's hidden agenda to specially punish some wounded and sick persons, as well some other persons from the hospital, including some employees (Starešina, 2017). It could have been noticed even a few days before the fall of the city. It was when the JNA leadership from Belgrade, through its representative in Zagreb, General Rašeta, initially refused the Croatian and international proposals for the evacuation of the hospital, by

claiming that security risks were too high. However, they also refused the risk-free option of the evacuation via the Danube River through Hungary, for which the Austrian government offered support in implementation.

It is fair to conclude that the JNA did it intentionally, being aware that there in the hospital were people who severely resisted them in the combat (Starešina, 2017). Even the Serbian media were preparing for quite a long time to create the atmosphere supportive to the execution, and intensified that campaign after the fall of the city (Lučić, 2017). In essence, it was all about the continued and systematic media „dehumanization“ and „satanization“ of the defenders of Vukovar in order to establish an „excuse“ for obviously earlier planned execution. During the trial before the ICTY, the witness Jovan Dulović, who was the Serbian war correspondent from Vukovar during the autumn 1991, quoted Vojislav Šešelj (ICTY, Prosecutor v. Slobodan Milošević, transcripts, p. 43453). After Dulović's diary, Šešelj said on 13 November 1991 in Vukovar, in Stanko Vujanović's house that „the JNA, TO and volunteers are all one army“ and that „not one Ustasha must leave Vukovar alive“ (HLC-RDC, 2004, p. 8-9). In Dulović's opinion, that particular statement very much affected the behavior of the members of the TO and the volunteers. Hence, it can be reasonably judged from various sources that the JNA, from the beginning, did not intend to respect the Agreement signed in Zagreb. After the atrocity at Ovčara, the Serbian media conducted efforts to cover-up that crime, for what also many firm indicators exist (Lučić, 2017). The former ICTY's investigator Vladimir Dzuro described in detail various aspects of the atrocity committed at Ovčara, including the discovery of the mass grave (Dzuro, 2019).

The statute of the ICTY and the legal framework of the indictments in „Vukovar hospital“ case

Regarding the crimes that could have been included in the Indictment in ICTY's „Vukovar Hospital“ case (number IT-95-13/1), both the Prosecutor and the Chambers were bound by the Statute of the ICTY. The crimes were enacted in Articles 2, 3 and 5. The Article 2 deals with the „Grave breaches of the Geneva Conventions of 1949“, Article 3 deals with the „Violations of the laws or customs of war“ and Article 5 deals with the „Crimes against humanity“ (ICTY Statute, 2009). As far as the „Grave breaches of the Geneva Conventions of 1949“ are concerned, it should be noted that Article 2, when enumerating the offenses, does not specifically mention the wounded and sick, or hors de combat, or medical staff, or any additionally protected category of civilian persons, etc. Namely, apart from the general coverage of “persons or property protected under the provisions of the relevant Geneva Convention” in Article 2, only the prisoners of war and civilian persons are specifically mentioned, but only in the context of „compelling to serve in the forces of a hostile power“ and „willfully depriving ... of the rights of fair and regular trial“. The civilian persons are also mentioned in relation to „unlawful deportation or transfer or unlawful confinement“, as well as in relation to „taking ... as hostages“. However, the fact that Geneva Conventions of 1949 protect all afore-mentioned categories of persons, makes Article 2 of the Statute of the ICTY applicable to the facts presented in the „Vukovar Hospital“ case.

In spite of that, the Prosecutor did not charge the accused JNA's officers with the „Grave breaches of the Geneva Conventions of 1949“ at all (the exception was the first Indictment, what will be explained later in this article). The officers were not charged even with the „willful killing“, „torture or inhuman treatment“, nor „willfully causing great suffering or serious injury to body or health“, not even with „willfully depriving ... of the rights of fair and regular trial“ and „unlawful deportation or transfer or unlawful confinement“. In the ICTY's work in general, the application of the Article 2 of the Statute was practiced only in the context of international armed conflict. However, Sandra Fabijanić Gagro points out the view of Davor Krapac on the possibility to consider the application of Article 2 even on

the non-international armed conflicts in cases of grave breaches of the rules of international humanitarian law which constitute international customary law (Fabijanić Gagro, 2007). In our opinion, non-application of Article 2 in „Vukovar Hospital“ case was a result of reluctance or unwillingness of the ICTY’s Prosecutors and Chambers to admit the existence of the international armed conflict in Croatia, as Geneva Conventions are international treaties originally negotiated and concluded for application to international armed conflicts primarily.

Hence, the Indictment in the „Vukovar Hospital“ case included the „Violations of the laws or customs of war“ (Article 3) and the „Crimes against humanity“ (Article 5). The review of the course and evolution of indicting in that case will be presented later in this article. Regarding the application of Article 5, we find important to highlight immediately that wording of that Article recognizes only civilians as the victims. It should also be noted that in „Vukovar Hospital“ case the civilians were among the victims, but only as a part of the wider population of the victims. When it comes to the „Violations of the laws or customs of war“, the list of crimes listed in Article 3 as examples shows they refer to forbidden methods and means of warfare only, and not to protection of persons in armed conflict. We generally find the application of Article 3 inadequate in the “Vukovar Hospital” case. Firstly, because of subsuming under the Article 3 of the Statute solely the violations of common Article 3 of four Geneva Conventions of 1949. Secondly, because common Article 3, unlike common Article 2, refers to “armed conflict not of an international character”. Finally, as opposed to Article 3 of the Statute, common Article 3 is focused on protection of persons and not on prohibition of certain methods and means of warfare. What we only find applicable from Article 3 of the Statute is “plunder of public or private property”.

However, the Prosecutor in „Vukovar Hospital“ case deduced from common Article 3 of four Geneva Conventions the crimes of murder, torture and cruel treatment. As the reason for such a „legal maneuver“ regarding the Article 3 of the Statute we see avoiding on the part of the Prosecutor, Trial Chamber and Appeals Chamber, to clearly and unambiguously determine the existence of the international armed conflict. Moreover, the reference to common Article 3, which is clearly related to „armed conflict not of an international

character occurring in the territory of one of the High Contracting Parties“, indirectly suggests that non-international armed conflict i.e. „civil war“ existed in the area of Vukovar (and in Croatia). That is exactly what Serbian side consistently claims even nowadays, both in sphere of the state politics and in legal doctrine. For example, the judge of the Constitutional Court of Serbia and Professor at the Faculty of Law of the University of Belgrade, Milan Škulić writes that “the only genuine international armed conflict, i.e. war between international actors on the territory of the former SFRY in 1990s“ was the NATO’s aggression on the Federal Republic of Yugoslavia (SRJ) in 1999, while all other previous wars on the territory of the former SFRY were actually civil wars, i.e. non-international armed conflicts (Škulić, 2022, p. 167).

Even when the Prosecutor decided to refer to common Article 3, in our opinion it did it only partially, as it did not take into account some other relevant crimes. Such crimes would primarily include „outrages upon personal dignity, in particular humiliating and degrading treatment“. Regarding that, as illustrations, let us quote two testimonies from the book of Danijel Rehak, about the acts against the prisoners at Ovčara: „Along the line they deprived us of items, jackets, watches, valuables, throwing them on one pile. They were taking away our personal documents.“ (statement code: mla1); „They were especially beating Ekrem Kemal, stomping at him, forcing him to sing the Chetnik songs.“ (statement code: mla1) (Rehak, 2000, p. 192). Apart from that, we find another crime deduced from common Article 3 that the Prosecutor could have charged the accused with. It is a crime of „passing of sentences and the carrying out of executions without previous judgment pronounced by a regularly constituted court, affording all the judicial guarantees which are recognized as indispensable by civilized peoples“.

As far as the „Crimes against humanity“ (Article 5) are concerned, we find beneficial to quote the whole provision, as its implementation led to many different interpretations at the ICTY in the „Vukovar Hospital“ case: „The International Tribunal shall have the power to prosecute persons responsible for the following crimes when committed in armed conflict,

whether international or internal in character, and directed against any civilian population:

- (a) murder;
- (b) extermination;
- (c) enslavement;
- (d) deportation;
- (e) imprisonment;
- (f) torture;
- (g) rape;
- (h) persecutions on political, racial and religious grounds;
- (i) other inhumane acts.”.

Instead of analyzing the different interpretations immediately (it will be done later in this article), it is useful at this point to stress that the Prosecutor and the Chambers dealt with the crimes of murder, extermination, persecutions on political, racial, and religious grounds and other inhumane acts. Taking into account all the facts presented during the trials before the ICTY in the „Vukovar Hospital“ case, it is our opinion that crimes of imprisonment and rape were unjustifiably omitted.

The analysis of the evolution of indicting in the „Vukovar Hospital“ case shows that when the ICTY’s Prosecutor submitted the final Indictment (Third amended consolidated indictment) against Mrkšić, Šljivančanin and Radić, in November 2004, they were charged with the crimes against humanity and violations of the laws and customs of war (ICTY-Prosecutor, 2004). As a matter of fact, between 1995 and 2004 there was a total of six Indictments. The Indictment of 2004 referred to maltreatment and execution of persons forcibly taken from the Vukovar hospital on 20 November 1991. Those crimes were provided for in Articles 3 and 5 of the Statute of the ICTY. As mentioned earlier, the accused were not charged with the grave breaches of the Geneva Conventions of 1949 (Article 2). As far as legal qualification of the conflict is concerned, the Indictment finally stated that „a state of armed

conflict existed in the territory of the former Yugoslavia“ (ICTY-Prosecutor, 2004, para. 21).

More detailed inspection of the course and the content of indicting in the „Vukovar Hospital“ case shows that initially there was indictment regarding Article 2, too. However, it was omitted in the second Indictment (Second amended indictment) in 2002, against Mrkšić (ICTY-Prosecutor, 2002). On that occasion, the previous indictment for violations of the laws or customs of war (Article 3) was additionally tied with the violations of common Article 3 of four Geneva Conventions of 1949. It is important to notice that Indictment from 2002, despite of having omitted the accusation regarding Article 2, still stated that Mrkšić „at all times relevant to this indictment, ..., was required to abide by the laws and customs governing the conduct of armed conflicts, including the Geneva Conventions of 1949 and the Additional Protocols thereto“ (ICTY-Prosecutor, 2002, para. 16). Also, in comparison with the Indictments from 1995 (Indictment against Mile Mrksic, Miroslav Radic and Veselin Slijivancanin) and 1997 (Amended Indictment, which also included Dokmanović), an explicit reference to Additional Protocols had been made.

However, the Indictment from 2002, also differently from the Indictments from 1995 and 1997, no longer stated that „all persons described ... as victims were protected by the Geneva Conventions of 1949“. Also in comparison with the previous two Indictments, it was no longer mentioned in the Indictment from 2002 that „a state of international armed conflict existed in the territory of the former Yugoslavia“. Instead, it was stated that „a state of armed conflict existed in Croatia“, but without the attribute „international“ (ICTY-Prosecutor, 2002, para. 15). Additionally to his obligation to respect the Geneva Conventions of 1949 and Additional Protocols of 1977, the Indictment from 2002 stated, for the first time, that Mrkšić, „as an officer in a command function in the JNA, ... was bound by the regulations of the JNA as set out in the „Strategy of Armed Conflict“ (1983), the „Law on All-Peoples Defence“ (1982), the „Law on Service in the Armed Forces“ (1985), the „Rules of Service“ (1985), and the „Regulations on the Application of the International Laws of War on the Armed Forces of the SFRY“ (1988)“ (ICTY-Prosecutor, 2002, para. 14).

The afore-mentioned omission of the accusation regarding Article 2 and the rephrasing of the accusation regarding Article 5, were later transferred into the Indictment from 2003 (Consolidated Amended Indictment). Hence, it encompassed Šljivančanin and Radić. However, in comparison with the Indictment from 2002, the Indictment from 2003 no longer listed the obligations related to the obedience of the Geneva Conventions of 1949 and Additional Protocols of 1977. Instead, it stated only generic obligation „to abide by the laws and customs governing the conduct of armed conflicts“ (ICTY-Prosecutor, 2003, para. 23). Moreover, according to the Indictment, they were „bound by the law and regulations as set out in the „Law on All-Peoples Defence“ (1982), the „Law on Service in the Armed Forces“ (1985), and the „Regulations on the Application of the International Laws of War on the Armed Forces of the SFRY“ (1988)“ (ICTY-Prosecutor, 2003, para. 21). In addition, it was stated that „these laws and regulations governed the roles and responsibilities of the JNA’s officers, set out their positions in the chain of command and obligated those officers, and their subordinates, to observe the laws of war“ (ICTY-Prosecutor, 2003, para. 21).

As far as legal qualification of the armed conflict is concerned, the Indictment from 2003 again contains the earlier formulation about „a state of armed conflict ... in the territory of the former Yugoslavia“, but without the attribute „international“, which was listed in Indictments from 1995 and 1997 (ICTY-Prosecutor, 2003, para. 22). Finally, like the Indictment from 2002, the Indictment from 2003 neither stated that „all persons described ... as victims were protected by the Geneva Conventions of 1949“. Hence, from the Indictment from 2003 (as a kind of the turning point) until the final, the sixth Indictment from November 2004, the Prosecutor established the statement that armed conflict existed in Yugoslavia, avoiding both to add attribute “international” and to mention Croatia. Hence, the Prosecutor did not declare the legal character of the armed conflict. However, we deem that starting from the first Indictment in 1995 until the final Indictment in 2004, enough factual substrate accumulated not only for the irrefutable statement of existence of international armed conflict, but also for accusing the JNA’s officers of grave breaches of the Geneva Conventions of 1949, as it was the

case with the first Indictment from 1995 and Amended Indictment from 1997 (willful causing of great suffering and willful killing).

With regard to obligation of the accused to implement international law, the Prosecutor finally set out the generic standard of obligation „to abide by the laws and customs governing the conduct of armed conflicts“. In addition, the Prosecutor pointed out the obligation regarding the respect for military regulations of the SFRY and the JNA (including those demanding respect for international law of armed conflict). The only connection of the final Indictment with the Geneva Conventions of 1949 was only indirect – through the reference to common Article 3, within the wider context of violations of the laws and customs of war, as an offense listed in Article 5 of the Statute („inherited“ from the Indictment of 2002). Ultimately, the final Indictment not even stated that victims were protected by the Geneva Conventions of 1949, which was omitted yet in the Indictment from 2002.

Why do we keep stressing the importance of referring to the Geneva Conventions of 1949? First, because those Conventions emphasize the protection of human beings as such and not only as members of armed forces (Andrassy, Bakotić, Seršić&Vukas, 2006). Furthermore, because the protected persons cannot renounce their rights, even if they wished so (Article 7 of First, Second and Third Geneva Convention, and Article 8 of Fourth Convention of 1949). Finally, because we deem the Prosecutor in the first place, but also both the Trial and Appeals Chambers, omitted to clearly state that international armed conflict existed in Vukovar and elsewhere in Croatia. As of 8 October 1991, the Croatian state had been constituted as an independent, which had immediate effect on legal qualification of the conflict that existed on its territory (Fabijanić Gagro&Vukas, Jr., 2008). The confirmation can be found in Opinion 1 of the Badinter Commission (Pellet, 1993). Also, the International Court of Justice (ICJ) found that Croatia declared itself independent from the SFRY on 25 June 1991, which declaration took effect on 8 October 1991 (ICJ, Judgment Croatia v. Serbia, 2015, paras 55 and 68). For its part, the Bassiouni Commission advocated the application of the law applicable in international armed conflicts, with regard to the armed conflicts in the territory of the former Yugoslavia (UN-Final Report, 1994). Ultimately, the final Report of the Bassiouni Commission spoke about the

„grave breaches of the Geneva Conventions of 1949“ (and other violations of international humanitarian law) committed in the territory of the former Yugoslavia (UN-Final Report, 1994, para. 42).

Considering the physical, geographical aspect, we already presented that many aggressor's forces came to Vukovar area from Serbia. In addition, some forces attacked Croatia even without coming to its territory, by shelling Vukovar from the territory of Serbia. Furthermore, the main military headquarters of all those forces was in Belgrade. Also, the prisoners of war from Vukovar were taken to prisons and detention camps in Serbia, etc. All that confirms the existence of international armed conflict. As Fabijanić Gagro and Vukas rightly point out, it is exactly the state border as a clear criterion for delineation between international and non-international armed conflicts (Fabijanić Gagro&Vukas, Jr., 2008). Finally, it must be noted that former SFRY, whose armed forces (the JNA) were attacking Vukovar, had ratified the Geneva Conventions and the Additional Protocols several decades ago.

If the ICTY was ready to pronounce an irrefutable qualification of the armed conflict, we deem that it would have substantially contributed to more precise establishment of facts, as well as to much stronger international, both legal and moral, stigmatization of the committed atrocity. Also, the ICTY would have made more appropriate contribution to international jurisprudence, for the sake of future cases of similar violations of legal status of victims of war, especially of the wounded and sick, as well as of the prisoners of war and civilians. Against such an attitude of the ICTY, there is an everlasting necessity of stigmatization, both in ethical and political sense, of the war crimes and the crimes against humanity, including crimes against the city of Vukovar as a whole, as well as the necessity of deserved, including not yet fulfilled criminal responsibility (see more in: Jonjić, 2013).

By omitting to do so, the ICTY brought injustice to the victims, as well as to Croatia as indisputably independent and sovereign state and victim of aggression at the time of the atrocity at Ovčara. Unfortunately, inadequate factual substrate, then inadequate legal qualification of the crimes, as well as certain legal opinions in „Vukovar Hospital“ case, still provide the opportunity for those who negate the international character of the armed conflict in Croatia. Consequently, even nowadays and even eminent Serbian

legal experts such as previously quoted Škulić, categorically deny the aggression on Croatia, i.e. the existence of the international armed conflict.

The victims in the „Vukovar hospital“ case in light of the ICTY’s indictments and judgements, with reference to their international legal protection

The Prosecutor described the victims as „Croats or other non-Serbs who were present in the Vukovar hospital after the fall of Vukovar“ (ICTY-Prosecutor, 2004, para. 5). It was stated in all six Indictments that “among those removed were wounded patients, hospital staff, family members of hospital staff, former defenders of the city, Croatian political activists, journalists and other civilians“. The women were also mentioned. Hence, the Prosecutor did factually correctly establish the general structure of the persons forcibly taken from the hospital. However, it did not undertake a more precise, individual categorization of victims across their respective international legal protection. From the third Indictment on, the Prosecutor generically named all those persons „the detainees“ (ICTY-Prosecutor, 2002, para. 25). In the first Indictment they were „captive non-Serb men“ (ICTY-Prosecutor, 1995, para. 1). In the second Indictment the terms „persons“ and “captives“ were used (ICTY-Prosecutor, 1997, paras 1 and 12). The status of victims was only partially considered during the trial and only a bit more effort was invested during the appeals proceedings. If that was done precisely and thoroughly, it would have justified even more severe punishments, particularly because of the crimes committed against specifically protected categories of persons among the civilians murdered at Ovčara, who were not eligible for the status of prisoners of war.

The Trial Chamber established that at Ovčara „not less than 200 of the male persons (with two women) removed from Vukovar hospital in the morning of 20 November 1991.“, were murdered (ICTY-Trial Chamber, 2007, para. 477). It further established that out of 194 identified victims 181 were active in the Croatian forces, while for 13 of them it could not establish any involvement in military activities (ICTY-Trial Chamber, 2007, para. 479). The Trial Chamber asserted that all those persons were selected based on the

criterion of known affiliation with the Croatian forces or due to the suspicion they belonged to those forces. For that reason, the Trial Chamber named them „prisoners of war“ (ICTY-Trial Chamber, 2007, para. 480). Although the Trial Chamber did recognize that some mistakes had been committed during the selection, it concluded that the Serb forces thought all persons taken from the hospital were actually prisoners of war with no civilians among them (sic!) (ICTY-Trial Chamber, 2007, para. 480). Legal consequence of such conclusion was renunciation of implementation of the Article 5 of the Statute, which prescribes the civilians as a target of the crimes against humanity. The Judgement stated they were all prisoners of war who were not armed and who no longer participated in hostilities, while many of them were wounded or sick (ICTY-Trial Chamber, 2007, paras 509 and 510). It is reasonable to conclude that the Trial Chamber considered the selection by the JNA as the moment when status of prisoners of war became effective.

The Prosecutor appealed that the Trial Chamber mistakenly excluded hors de combat from the victims of the crimes against humanity due to inappropriate interpretation of the definition of civilians as provided in Article 50 of the Protocol I of 1977 (ICTY-Prosecutor, 2007, paras 19 and 20). For that reason, the Prosecutor claimed that, in accordance with the Article 5 of the Statute, Šljivančanin should be sentenced for torture and Mrkšić for murder, torture and other inhumane acts, while their punishments should be increased. However, in the Appeals Chamber’s opinion, „whereas the civilian status of the victims, the number of civilians, and the proportion of civilians within a civilian population are factors relevant to the determination of whether the chapeau requirement of Article 5 of the Statute that an attack be directed against a „civilian population“ is fulfilled, there is no requirement nor is it an element of crimes against humanity that the victims of the underlying crimes be „civilians““. Although the Appeals Chamber accepted a great deal of the Prosecutor’s reasoning, it still did not decide that crimes against humanity had been committed, as it reasoned that Serb forces „acted in the understanding that their acts were directed against members of the Croatian armed forces“, and not against civilians (ICTY-Appeals Chamber, 2009, paras 32 and 42-44). Hence, the Appeals Chamber unjustifiably disregarded at least 13 civilians whose status must have been known to the members of

the JNA who conducted the selection in the hospital, as well as to Serb forces at Ovčara. It primarily relates to pregnant woman Ružica Markobašić and to radio-reporter Siniša Glavašević.

As far as hors de combat are concerned, already the Hague Regulations concerning the Laws and Customs of War on Land from 1907 prohibited to kill or wound an enemy "having no longer means of defense" (ICRC, 1988, p. 6). First of all, hors de combat must be a combatant. According to Protocol I, such person must fulfill the criterion of being in the power of an adverse party, or clearly expresses an intention to surrender, or has been rendered unconscious or is otherwise incapacitated by wounds or sickness, and therefore is incapable of defending himself (ICRC, 1987). Dinstein clarifies that the first category of hors de combat are healthy combatants who are „in the power of an adverse Party“, which means that they have been "captured or otherwise detained" (Dinstein, 2022, p. 214). The second category are combatants who are also healthy and not in hands of the enemy yet, but who want to be safe from the attack, so must express an intent to surrender (Dinstein, 2022). The third category are combatants who are not capable of defending themselves because they are wounded or sick (Dinstein, 2022). If combatant falls within any of these categories, abstains from hostility acts and does not attempt to escape, he must not be attacked and must be treated humanely. The combatant who became hors de combat remains to be a member of armed forces, so cannot be considered, or treated as a civilian (ICRC, 1987). Hence, hors de combat are combatants who because of their particular vulnerability enjoy additional protection by international law - immunity from attacks and human treatment guaranteed. International legal protection of hors de combat can also be found in common Article 3 of all four Geneva Conventions of 1949, which relates to non-international armed conflicts.

When judging the responsibility of Šljivančanin, the Appeals Chamber pointed out first that the Trial Chamber did not determine whether the conflict was international or non-international (ICTY-Appeals Chamber, 2009, para. 69). Although the Appeals Chamber also did not pursue such determination, it asserted that preconditions for the implementation of the Third Geneva Convention exist even in non-international armed conflicts

if the parties to the conflict have agreed upon. The Appeals Chamber drew the conclusion that such agreement was reached, from the following facts. First, that the ECMM instructed its monitors regarding the implementation of the Agreement reached in Zagreb, that Geneva Conventions should be observed with respect to prisoners of war. Second, that on 18 November 1991 General Panić issued order to all JNA forces around Vukovar, that all aspects of the Third Convention should be respected. Third, that Colonel Pavković made clear to representatives of the ECMM, that according to the directives of General Rašeta, the Croatian forces will not be evacuated with the humanitarian convoy but will be kept as prisoners of war under the Geneva Conventions. Ignoring the fact that the Agreement reached in Zagreb did not mention the prisoners of war at all, the Appeals Chamber concluded there is sufficient evidence that the JNA accepted the treatment of the Croatian forces as prisoners of war, i.e., the implementation of the Third Geneva Convention.

The Appeals Chamber also stated that common Article 3, which constitutes the customary law applicable in all armed conflicts, provides for equal protection of the prisoners of war as the Third Convention as a whole and its Article 13, in particular. Regarding common Article 3 with respect to the prisoners of war, the Appeals Chamber primarily deemed the protection enshrined in that Article (as well as in international customary law) of all those persons who no longer actively participate in hostilities, which covers hors the combat including those among them who are wounded or sick (ICTY-Appeals Chamber, 2009, para. 70). The Chamber further pointed out that the prisoners of war enjoy protection from the moment they fall into the hands of the enemy, which lasts until their final release. The Chamber highlighted that all that is not an obligation of the parties of the Convention only, but an individual obligation of every person in charge of the prisoners of war (ICTY-Appeals Chamber, 2009, paras 71 and 72). It pointed out that individual responsibility regarding the prisoners of war was prescribed by the JNA Rules, too.

Moreover, the Appeals Chamber even deemed that an individual is responsible if in charge of the prisoners of war only *de facto*, i.e., irrespectively of his *de jure* obligations, and even after *de jure* obligations ceased. In addition, the

Chamber accentuated that “in the context of preventing the commission of a war crime, an officer may be expected to act beyond the strict confines of his de jure authority”, “within the limits of his capacity to act” (ICTY-Appeals Chamber, 2009, paras 73 and 94). In Chamber’s opinion, Šljivančanin was under a duty to protect the prisoners of war, which included his “obligation not to allow the transfer of custody of the prisoners of war to anyone without first assuring himself that they would not be harmed”. The Appeals Chamber continued that Mrkšić’s order for the withdrawal of the military police could not relieve Šljivančanin of his position in the JNA’s structure and his obligations originating from such capacity (ICTY-Appeals Chamber, 2009, para. 74). In our opinion, the ICTY should have applied such point of view to Radić, too, as well to some other JNA’s officers subordinated to Mrkšić and Šljivančanin and involved in security of persons taken from the hospital and brought to Ovčara. Namely, according to the Indictment, after having realized that crimes had been committed, Radić took steps to hide and conceal those acts. Jovan Dulović, the Serbian war correspondent from Vukovar in autumn 1991 witnessed in detail about Radić’s knowledge (HLC-RDC, 2004, p. 15). Without any doubt, both Miroljub Vujović and Stanko Vujanović, who were sentenced in Belgrade to 20 years imprisonment, were subordinated to Radić (HLC-RDC, 2017, p. 2).

Epilogue of the criminal responsibility findings before ICTY and in Belgrade trials

Finally, the ICTY did not find the existence of joint criminal enterprise in „Vukovar Hospital“ case. Mrkšić was sentenced to 20 years imprisonment for having aided and abetted the violations of the laws or customs of war (Article 3 of the Statute), including the murder of 194 individuals, the torture of the prisoners of war and the cruel treatment through maintenance of inhumane conditions of their detention (ICTY-Appeals Chamber, 2009, VII. Disposition, p. 169). However, it was established that he did not order the murder of the prisoners. He was not found guilty of crimes against humanity (persecution, extermination, murder, torture, and other inhumane acts). The Trial Chamber sentenced Šljivančanin to 5 years imprisonment, only for having aided and abetted the torture of the prisoners of war in the hangar

at Ovčara, as a violation of the laws and customs of war. However, he was not found guilty of having aided and abetted the murder of 194 individuals, neither for persecution, extermination, murder, torture, and other inhuman acts. He was also not found guilty for having aided and abetted the maintenance of inhumane conditions of detention of the prisoners of war, because the Trial Chamber concluded that conviction for that crime would constitute an impermissible cumulation with the conviction for torture“ (ICTY-Trial Chamber, 2007, paras 677-681). Miroslav Radić was not found guilty already by the Trial Chamber, primarily because the Chamber did not accept the testimonies of three witnesses who stated that Radić was present at the location of hangar at Ovčara (ICTY-Trial Chamber, 2007, para. 714). As an illustration, one of the witnesses (statement code: Pen 58) said: „Upon arrival to Ovčara, we were leaving the bus one after another and had to run a gauntlet of soldiers. There was one Captain, Radić who coordinated the drawing up of a list of us, walking from bus to bus. He was a kind of their security officer there.“ (Rehak, 2000, p. 192).

The Appeals Chamber established that the Trial Chamber made an error by not finding Šljivančanin guilty for having aided and abetted the murder of 194 individuals at Ovčara. In the opinion of the Appeals Chamber, the only reasonable conclusion was that Šljivančanin – upon learning that Mrkšić issued the order for the withdrawal of the military police – should have realized that members of the TO and paramilitary forces will most probably kill the prisoners of war. Also, if he does nothing that his inaction will contribute to their murder. For that reason, the Appeals Chamber sentenced Šljivančanin for murder, too and increased his punishment to 17 years imprisonment. However, in subsequent trial initiated by his defense, Šljivančanin was finally not found guilty of murder of 194 prisoners of war. Namely, the JNA’s officer Miodrag Panić testified that Mrkšić did not tell Šljivančanin about his order for the withdrawal of the military police from Ovčara. Consequently, Šljivančanin was finally sentenced to 10 years imprisonment, for having aided and abetted the torture of the prisoners of war only. He did not serve even that term entirely, as he was released after having served two thirds of the punishment.

In 2004 in Belgrade, then still in the Federal Republic of Yugoslavia, the trial commenced against the persons who were, according to the Indictment, the immediate executors of the atrocity at Ovčara. They were members of the TO of Vukovar and members of the Serb paramilitary unit named „Leva Supoderica“. Miroljub Vujović and Stanko Vujanović were among them. According to the Indictment, they were charged with the violations of international law during the conflict that did not have a character of international armed conflict. In relation to the prisoners of war, they acted contrary to the Article 3 of the Third Geneva Convention, as well as contrary to the Protocol II (HLC-RDC, 2005, p. 1). Although the first Judgement, by which 14 persons were pronounced guilty, was reached already at the end of 2005, due to various remedies the trial lasted until 2018, when eight persons were finally sentenced to imprisonment. Miroljub Vujović, Stanko Vujanović and Predrag Milojević were sentenced to 20 years imprisonment, and Goran Mugoša to 5 years. While Nada Kalaba's punishment was increased to 11 years imprisonment and Ivan Atanasijević's into 15 years. The punishments of Miroslav Đanković and Saša Radak were reduced to 5 years imprisonment, while Jovica Pejić, Milan Vojnović, Milan Lančuzanin and Predrag Dragović were finally not found guilty. Đorđe Šošić died before the end of the trial (HLC-RDC, 2017).

The Indictment was based on the testimonies of two penitent-witnesses, who were both among the immediate executors. It came out that they did not place any burden of responsibility on the JNA's officers. The representatives of the injured parties claimed that the "indictment was selective" and that prosecutor was „very forethoughtful to the JNA's officers who appeared as witnesses in the course of the trial, although some of them should have been accused“ (HLC-RDC, 2005, p. 1). Namely, regarding some officers some very serious circumstantial evidence of their possible co-responsibility came out during the trial. Such circumstantial evidence was presented by some witnesses, as well as by some of the accused, regarding the course of events that started with the arrival of the JNA's officers to Vukovar hospital, and until the execution at Ovčara, as well as after the atrocity. For example, regarding Šljivančanin, that he was briefly present at the meeting of the so-called Government, that he demanded to personally execute the last detainee

at Ovčara, etc. According to Jonjić, the senior military leadership of the JNA, “which actually mostly participated in the destruction of the city and the occupation of the city and those parts of Croatia, remained spared” (Jonjić, 2013, p. 234). According to the Indictment prepared by the Croatian District State Attorney in Vukovar in December 2002, the senior military leadership of the JNA included Veljko Kadijević, Blagoje Adžić, Zvonko Jurjević, Božidar Stevanović and Života Panić (Jonjić, 2013).

Finally, it must also be noted that the trial chamber too lightly accepted the statement from the Indictment that the only victims at Ovčara were prisoners of war. Like at the trials in The Hague, insufficient focus was made in Belgrade, too, to establish the facts regarding all the categories of persons who had been murdered at Ovčara. Finally, the trials in Belgrade, like the ones before the ICTY, did not bring the cognition about the location where the remaining persons forcibly taken from the Vukovar hospital are buried.

Conclusion

As recognition of a state does not have a constitutive effect in international law, Croatia had to be considered an independent state as of 8 October 1991. As of that day, by having submitted the notification of succession with respect to international treaties concluded by the former SFRY, Croatia obligated itself to respect the Geneva Conventions of 1949 and Additional Protocols of 1977. However, neither the Prosecutor nor Chambers of the ICTY were ready to establish that fact during the trials in “Vukovar Hospital” case. Consequently, they did not recognize the existence of international armed conflict (i.e., aggression on Croatia), which affected the implementation of the Statute of the ICTY regarding the qualification of the crimes and the application of international humanitarian law. The customary law got the significant advantage before the international conventions.

The unwillingness became apparent on the part of the ICTY’s Prosecutor and the Chambers regarding the clear establishment who was who among the victims of the atrocity at Ovčara in relation to international humanitarian law. The respective status of each and every individual should have been determined – soldiers, combatants, non-combatants, the wounded and

sick, medical staff, journalists, pregnant civilian woman, elder persons, etc. Instead of that, all the victims had been subsumed under the category of the prisoners of war, exactly the category not recognized by international law of non-international armed conflicts. In that way, hors de combat and other wounded and sick persons including some civilians among them, fell by the wayside, and medical staff, the elderly, the pregnant woman, the journalists, and some others, even more. The distinction between the categories of victims for the purpose of more precise criminal law qualification and responsibility was neither established during the trials in Belgrade.

The achievements of the ICTY's Prosecutor and the Chambers deserve respect regarding Mrkšić's responsibility and punishment, but only partially and insufficiently regarding Šljivančanin, but not at all regarding Radić. The feeling of injustice towards Croatia as a sovereign and independent state at the time of the fall of Vukovar, towards the victims at Ovčara and their families and fellow defenders is still present and hard to erase. Unfortunately, incompletely established factual substrate, partially adequate and somewhat inadequate legal qualification of the crimes, as well as some doubtful legal opinions and interpretations in judgements against the JNA's officers, offer continued opportunity and reasoning not only to political, but also to academic opponents of the fact of dissolution of former Yugoslavia and of international character of the armed conflict in Croatia. At the same time the comprehensive role and responsibility of the JNA and its officers, including the most senior ones, remains out of sight. That includes the role of Serbia and the Great Serbian political circles, including the individuals such as still alive and in the Serbian society very vocal, but unpunished ideologist of the atrocity at Ovčara, Vojislav Šešelj. All that became apparent at the trials in Belgrade, too, no matter of how those trials were generally beneficial. Among the contemporary Serbian most eminent experts in international public law, Kreća (exactly like Gavro Perazić almost four decades ago) writes in detail, inter alia, about the forbidden methods of warfare, including the prohibition of ordering that there shall be no survivors, the specific prohibition of attacks against persons manifestly unable to defend themselves, about the treatment of the prisoners of war, about the protection of combatants who do not

take part in hostilities, about the role of the Red Cross in evacuation of the wounded and sick, etc. (Kreća, 2022).

If the ICTY's bodies in trials against Mrkšić, Šljivančanin and Radić were ready to establish doubtless legal qualification of the conflict, at least at the time of the fall of Vukovar and in that particular area of Croatia, and the clear distinction among the variety of victims, they would have significantly contributed not only to precise establishment of the facts, but also to stronger international condemnation of the atrocity at Ovčara. Surely, they would have contributed to stronger moral stigmatization not only of committed crimes, but also of the perpetrators and other direct and indirect participants in those events. In sum, by doing so, they would have significantly contributed to international judiciary for future similar cases of grave violations of international humanitarian law, as well as of the right to self-determination. Various political considerations within the complexity of international circumstances and relations had been given primacy before the legal norms and complete justice for the victims.

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Kršenja međunarodnog humanitarnog prava na štetu osoba nasilno odvedenih iz vukovarske bolnice i ubijenih na Ovčari

Sažetak

U članku se analiziraju kršenja međunarodnog prava na štetu osoba nasilno odvedenih iz vukovarske bolnice nakon pada obrane grada. Polazi se od istraživanja povjesničara Domovinskog rata o promjenama u sastavu Jugoslavenske narodne armije (JNA) tijekom raspada Socijalističke Federativne Republike Jugoslavije (SFRJ), o snagama koje su napadale Vukovar te o prikrivenoj ulozi Republike Srbije (RS). Kroz prizmu međunarodnog prava analiziraju se pregovori koji su trebali dovesti do evakuacije ranjenika i bolesnika iz bolnice, kao i postupanja JNA-a koja su dovela do zločina na Ovčari. Na osnovi uvida u dokumentaciju Međunarodnog kaznenog suda za bivšu Jugoslaviju (MKSJ) u predmetu „Vukovarska bolnica“, pa i dostupnih izvora o suđenju neposrednim izvoriteljima u Beogradu, analizira se pristup kvalifikaciji oružanog sukoba, žrtava zločina te kaznenih djela počinjenih na njihovu štetu. Navedeno se promatra u svjetlu Ženevskih konvencija iz 1949., Dopunskih protokola iz 1977., međunarodnog običajnog prava, Statuta MKSJ-a te mišljenja pojedinih hrvatskih i stranih pravnih autora, uključujući neke jugoslavenske autore uoči raspada SFRJ-a i neke srbijanske u sadašnje doba. Analiza rezultira zaključkom o nesprenosti MKSJ-a i RS-a za priznanje činjenice postojanja, najkasnije od 8. 10. 1991., međunarodnog oružanog sukoba. Da je bilo takve spremnosti, to bi bilo dovelo do primjene širega kruga pravila međunarodnoga ugovornog prava glede raznih kategorija žrtava i, posljedično, do još težih kazni za počinitelje. Umjesto toga, status osoba ubijenih na Ovčari nije bio ispitan u dovoljnoj mjeri jer svi oni nisu bili isključivo pripadnici hrvatskih snaga koji su postali ratni zarobljenici, već je bilo i hors de combat, kao i ranjenih i bolesnih civila, sanitetskog osoblja i drugih zaposlenika bolnice te ranjivih kategorija civila pod dodatnom zaštitom. Konačno, zaključak je i kako suđenja, unatoč višegodišnjem trajanju i nekoliko pravomoćnih osuda, nisu donijela potpuno utvrđivanje činjeničnog stanja, niti dovoljno opsežnu kaznenopravnu odgovornost. Tako u kaznenopravnom smislu nije zadovoljena međunarodna pravda niti je dan dovoljan doprinos procesima mira i pomirbe.

Ključne riječi

Vukovar, bolnica, Ovčara, JNA, MKSJ, Ženevske konvencije

Military Science in the Grip of Institutionalisation – Slovenian Perspective

Pavel Vuk

Abstract

Military science is a set of different theories, knowledge and methods that can only be comprehensively addressed through a stable and mutually passable bridge between civilian and military educational institutions and their researchers. In the paper we conclude that the theoretical and practical dimensions of military science cannot be conceived without interdisciplinary integration, just as military science cannot be fully developed without its institutionalisation in both civilian and military educational institutions with a developed research activity. The development of military science as a systemic science provides, on the one hand, a source of strategic thinking on existential security issues and, on the other hand, an understanding of the benefits of the armed forces, as the ultimate means of the state, for society.

Keywords

science, military science, military disciplines, military subjects, military higher education institution, armed forces

Introduction

The term military science has been in use since the mid-19th century; for example, it has been included in the Merriam-Webster dictionary since 1830 and is interpreted as the principles of military conflict. It is quite likely that the term has also been used in languages other than English, which may have an even older history and a broader definition. However, there are many dictionaries that still do not contain a definition of military science. In Slovenia, the term military science is defined only in the Dictionary of Military Terminology. In addition to dictionaries, there is also literature that explains the concept of military science as a science in more depth. The most prominent recent ones are the Encyclopedia of Military Science published by Sage in 2013 and the Handbook of Military Science published by Springer in 2020. In Slovenia, military science is scarcely discussed professionally and scientifically and, as such, still represents a certain research gap. Žabkar (2003; 2005; 2010) has contributed the most with his reflections on military science in his works. Although these examples of records of military science show a diverse empirical trace, they nevertheless clearly speak of its existence.

The concept of military science represents, in the broadest sense, the interaction of the system of military disciplines, civilian and military educational institutions and their researchers, whose research is oriented towards the most important societal value – security, as a fundamental element of human existence and development (Grizold, 2001: 126–127). As the conceptualisation of military science is quite complex and based on interdisciplinary principles, many authors, including Sookermany (2020: p. 59), understand the concept of military science in a narrow sense as a scientific process by which we acquire substantiated and/or qualified knowledge about the military as a phenomenon, for example through experimentation, qualification or argumentation. Military science can thus be understood as an eclectic set of interdisciplinary approaches and endeavours that analytically tackle a wide variety of questions, objects or topics related to the military as a phenomenon, practice or idea.

Military science could therefore be said to be, and this is the thesis we are putting forward here, based on the structures of military and civilian

educational programmes offered by civilian and military higher education institutions with developed research activities.¹ These programmes reflect, in their own way, the understanding of military science in the country, as reflected in the way in which subjects are divided, studies are organised and how research work is included. The emerging doctoral programmes in military science (for example, the Finnish National Defence University) are inevitably important in this respect, as are other similar programmes such as war studies (for example, the Royal Military College of Canada with its postgraduate programmes in war studies) and defence, crisis management and security (for example, the Swedish Defence University). However, understanding the dimension and institutionalisation of military science is not sufficient without self-criticism, which is a necessary precondition for bringing about change. Self-criticism can only be sufficiently well-grounded in the profession if it also has a source in intellectual content. In this respect, military education constitutes the formation centre of the military profession, which means that in its pursuit, intellectual achievements are formally respected and validated, as Janowitz puts it, to the extent of their practical value (Janowitz, 2017: p. 430).

Military science is a complex, multidimensional, interdisciplinary branch of science which, if it is to be developed in an holistic way in any country, requires appropriate placement into the curricula of civilian and military educational institutions, where the various disciplines of military science are explored in a manner adapted to modern times. Military science as a concept and its role in the academic world and society still represent a considerable gap in Slovenian literature, as well as in its development through theory and practice, or rather a lack of clarity in the relations between educational

1 In this paper, we will understand the distinction between civilian and military in educational-procedural rather than institutional terms. According to different national practices, military educational institutions (called military or defence academies, etc.) may also operate within public education systems, but unlike others, they deal to a much greater extent with military contents. This distinction is made more as a theoretical assumption in order to make it easier to illustrate the differences; in practice, these differences are much less pronounced, due to the interdisciplinarity of the educational programmes. Secondly, we will consider civilian and military educational institutions as higher education institutions with a developed research activity.

institutions. Therefore, our aim in this paper is first and foremost to stimulate a critical debate on the understanding of military science and to highlight the role of the military education system in the context of military science from Slovenian perspective. Methodologically, the paper is based on a textual and discursive qualitative analysis of an eclectic mix of concepts, methods and approaches most commonly used in the analysis of military science, including the method of analysis and interpretation of secondary sources, and the regressive and deductive methods of inference as a process of logical thinking. An eclectic methodological approach can best explain the development and dimensionality of military science. It answers three interrelated questions: (1) how to understand the concept of military science in the contemporary security environment, (2) what are the benefits of developing military science for society, and (3) why the institutionalisation of military science through a military educational institution is important for military science.

Science in General

Today we live in a knowledge society. The constantly evolving social and cognitive activity in which science develops and acquires its fundamental characteristics makes it quite difficult to define the concept of science, at least in the sense of defending it in a uniform way. The concept of science will probably never be definitively defined, given the dynamic factor of social change and the multiplicity and diversity of all the disciplines of research. For the purposes of this paper, despite the changing and indeterminate conception of science, we will draw on the Encyclopedia of Slovenia (Encyclopedia of Slovenia, 2001: p. 195) to define the concept of science: *"Science is the totality of methodical investigation of the world and of systematically organized and demonstrable findings. The essence of science as a research and systematising process, manifesting itself in causally-consequential, thematically, chronologically or otherwise ordered knowledge, is methodical and interdisciplinary orderliness. Science arrives at scientific results through basic and applied research. The former leads to basic knowledge, the latter develops knowledge of applied value; in the latter, science integrates with engineering and technological endeavours and fosters invention."*

Let us stress here that the core of the scientific method is the rational ordering of things and their findings down to their simplest constituents by means of reduction. Unbiased and accurate observation, gathering and verifying information, analysing, establishing starting points and setting domains, experimentally verifying, rejecting and/or validating, and establishing rules and regularities lead to scientific conclusions and ultimately to scientific theory as the greatest achievement of scientific work. Hart-Davis says that science is not just a collection of answers, but a constant search for the truth about how the world around us works; and it tells us not only about facts, but also about the efforts to discover them (Hart-Davis, 2016: p. 10). Each science has to fulfil five requirements – its own subject matter, original methods, its own terminology, laws and interconnection with the achievements of other sciences (similarly, Žabkar, 2004: p. 17). Science is divided into sciences, which in turn are divided into disciplines (fields). Science is becoming more and more diversified due to specific research methods and new knowledge; new sciences and disciplines are being created. The role of modern science is determined by social rules, economic opportunities and the political capacity of individual countries; at the same time, the development of science is increasingly linked to the development and application of new technologies, blurring the boundary between scientific research and technological innovation. On the other hand, the public increasingly expects that the sound development of science and the application of its achievements will successfully address contemporary global and regional problems (see also Encyclopedia of Slovenia, 2001: 195–196). Expectations that are usually difficult to realise in practice, due to the interplay of many political, economic, socio-cultural, technological and other factors.

Science operates at three levels; research, teaching and organisation. Scientific work can be individual or collective, taking place in the context of the education and research system; universities, institutes, academies, societies and various forms of disciplinary and interdisciplinary networking. If the purpose of science is to arrive at new knowledge, truth and an orderly, transparent structure of knowledge through the method or methodology of scientific work, then scientific work is a reflection of clear, logical and profound thinking. Paparone thinks of science in a similar way, saying

that science is coherent knowledge, facts arranged according to their value (Paparone, 2013: p. xvii), or, to simplify this definition even further in the words of Thomas Huxley, science is “organised common sense” where common sense being “the rarest of all the senses”. After all, the best way to appreciate science is to study it, use it and, as Weiss (2021: xvii–xviii) points out, every so often, have a crack at creating it.

Military Science as an Academic Discipline

Sociologically speaking, there is and will continue to be a lack of uniformity in military knowledge. Can there be different ontological, epistemological and methodological frames of reference for the formation of armies and their operations? We believe the answer is yes. So what is the essence of the scientific study of the military and its core activity, warfare? Method creates doctrine, and common doctrine is the foundation that holds armies together. This foundation will only be obtained if we are able to scientifically analyse the activity of the army, of war and, above all, to discover its regularities and its value dimensions. Knowing these values, we will be able to investigate, as Žabkar says, any military operation in a descriptive, explicative as well as predictive sense (Žabkar, 2005: p. 12). In other words, this means that if we can establish a scientific method of studying, for example, crises with elements of armed violence, we will be able to predict future events from past events, and thus to determine the nature and requirements of future similar phenomena.

In the contemporary context of conceptualising science, modern military science represents sedimentary language² (such as the term doctrine) and processes (such as operational research) (Paparone, 2013: p. 22). Such a sedimentary connotation of military science is vulnerable to criticism. Therefore, it is the task of military researchers that from a morphological point of view reveal sedimentary knowledge systems and help to deconstruct sedimentary modernist epistemology (the act of critical reasoning) and to

2 In a figurative sense, we understand sedimentary language as a constructed language, formed on the basis of ideas that are transformed into attitudes or principles and become the rules of the institution.

create new or expanded ways of exploring the military domain (the essence of creativity). The problem we face in this unravelling of sedimentariness is that military science as an academic discipline is still ill-defined, stemming from a mix of curricula (syllabi) that include history, international relations, security studies, leadership, military operations and systems engineering, and other areas of the natural and social sciences. This lack of clarity in the definition of military science today particularly weakens its status among academic disciplines compared to its use in the 19th century, when military science was often written in capital letters and placed alongside physics, philosophy and other established academic disciplines. According to Voelz, this lack of understanding of military science was partly due to the institutionalisation of officer education programmes, which over-emphasised the formalised study of military theory. It is also partly due to rapid industrialisation and technological development, which have become central pillars of military power (Voelz, 2014: p. 84). Military science shares some basic characteristics with the natural sciences in the use of methods of observation, description, measurement and structured analysis to support causal inferences or explanatory hypotheses. However, it differs significantly from the natural sciences, notably in the absence of controlled and repeatable experimentation as an instrument for theory validation. Similarly, Žabkar concludes that the field of military science is simply too heterogeneous, (too) broad and focused on a wide variety of disciplines to be applicable in practice in this form. Especially not because many scientific theories are contradictory and cannot always be verified in peacetime, or would be too costly to verify due to expensive experiments (Žabkar, 2010: p. 45) and often unethical. This is also why the conceptual methodological foundations of military research are more closely related to the social sciences, as they often address issues related to international relations, foreign policy, diplomacy, military history, military theory, psychology, leadership, management, cultural and ethical studies, and others. In this context, the study and research of military science encompasses various fields of scientific disciplines ranging from history, philosophy, psychology, conflict and peace studies to anthropology, political science, sociology, geography and law. This does not mean, however, that taking into account scientific developments in the fields of biology, epidemiology or meteorology, for example, is neglected, as they

can offer useful starting points for military researchers in identifying natural constraints or opportunities for the military profession. We need to be aware that in most cases intuition, training and experience are simply not enough to predict outcomes with a reasonable degree of certainty. An integrative scientific approach is needed to identify and scientifically explore these limitations within the framework of military science. Today, as Kotnik (2022) states in an interview, we can certainly no longer think of military science in terms of a pre-modern logic of military exclusivism divorced from wider social realities, because military science would be too narrowly understood in terms of contemporary security challenges. The development of military science, especially since the end of the Cold War, has to be seen through the broader theories of complex security, which are studied in the context of defence studies as well as security studies. In these theories, the military dimension of security remains central to states and other international actors, as the Copenhagen School of Security recognises by considering it as one of the five fundamental dimensions of security (environmental, economic, political and social).

Like the most general concept of science, military science does not have a uniform definition among researchers, experts, dictionaries and encyclopedias – it is understood and interpreted differently (see Table 1). Despite these diverse views on its definition, in terms of finding a common starting point for its conception, it can be pointed out that it is a field of study rooted in the humanities and focusing on, as Piehler and Huston also put it, the study of how organised military coercion has been used in history and in the international community through the theoretical study of military processes, institutions, war and warfare, and the behaviour (of individuals and units in war and peace) (Piehler and Huston, 2013: p. 880). In addition, it also examines the relationship of the military to other instruments of national power (diplomatic, informational, economic, cultural), the theory and use of organised military coercion as an instrument of national power, and other issues related to the armed forces. As a science, however, military science (like political science, for example) can offer indications about humanity, but never a complete answer. This means, as Piehler and Houston also note, that military science also touches on issues that are not exclusively military

(Piehler and Houston, 2013: p. 881). Like any science, military science is concerned with exploring, explaining and defining objective regularities in the field it studies, has its own theory, principles and, above all, methodology, and is interrelated with other sciences and scientific disciplines.

Table 1. Defining military science from the perspective of researchers, dictionaries and encyclopedias

- The military science is the body of theories, concepts, and methods for employing armed forces. (**Glenn Voelz**)
- Military science is the body of theory about the use of military units and the armed forces as a whole in war and armed conflict. (**Kurt Piehler in Johnson Houston**)
- Military science is a system of knowledge about the current nature and laws of war, the preparation of armed forces, and modern methods for the conduct of armed struggle. (**Michael Kofman, Anya Fink, Dmitry Gorenburg, Mary Chesnut, Jeffrey Edmonds, and Julian Waller**)
- Military science is a system of knowledge about the essence and content of armed struggle and war in general. (**Vojna enciklopedija**)
- Military science is the principles of military conflict and of warfare. (**American Heritage Dictionary of the English Language**)
- Military science is the system of studies that deals with the logistical, tactical and other principles of warfare. (**Random House Kernerman Webster's College Dictionary**)
- Military science is the discipline that deals with the principles of warfare. (**WordNet 3.0, Farlex clipart collection (2003–2012), Princeton University**)
- Military science is the body of knowledge about military processes (e.g. decision-making), institutions (e.g. units, armed forces, training), behaviour (of individuals and units in war and peace), along with the study of war and warfare, and the theory and application of organised coercive force. (**Encyclopedia of Military Science**)
- Military science is the system of knowledge about the characteristics of war, its laws and the preparations of the armed forces and the state for waging war. (**Sovjetska voennaja enciklopedija**)
- Military science is an activity that seeks to methodically find systematically derived, organized and demonstrable insights into the theory and practice of the development, preparation, and combat and non-combat operations of the military at the strategic, operational and tactical levels. (**Slovenian Military Terminology Dictionary**)

Source: taken from authors, dictionaries and encyclopedias.

In this paper, military science will be understood as a **system of theories and methods on the principles and characteristics of warfare and war as a whole, military processes and the use of armed forces in crisis situations and war**. The operational definition of military science is based on the definitions shown in Table 1, but also takes into account Sartori's method of analysing concepts and Goertz's method of adding/subtracting adjectives to a concept (for more on this, see, for example, Vuk, 2018: p. 47). At its core, it encompasses three key components. *The principles and characteristics of warfare and war as a whole* refer to the exploration of the essence and content of military activity; armed struggle and war. The exploration of *military processes* (e.g. military decision-making, leadership and planning) is a necessary prerequisite for understanding the role and capabilities of armed forces in the national and international environment, either alone or in cooperation with allies. Research on the *use of the armed forces in crisis situations and war* is a deliberate identification of the purpose of the armed forces, which derives from the vital and strategic interests of the state, and at the same time the ability of the state/allies to deal with military and non-military threats to security in the national or international area. Such a definition of military science very clearly demonstrates the need for a systematic, methodologically appropriate and in-depth study of the system of military science (see Table 2) in both military and civilian educational institutions. In this context, those military sciences that cross over into other scientific disciplines should be developed in a complementary and integrative manner with civilian domestic and related foreign educational institutions in order to ensure the need for the comprehensive development of military science. In a broader sense, Janowitz also draws attention to this, since, in his view, a separate and disconnected military education system limits the more than necessary social integration of the military with civilian society (Janowitz, 2017: 204–205), which may lead to different development paths for the use of organised military coercion, isolated from social reality, that are contrary to the interests of society or even the state.

Similarly to Janowitz, but in a much narrower sense, Pieshel also notes that today, rather than the question of what military science is, the challenge is how military science can contribute to the state, its shared values and the

society that lives within it – the long-term security situation (Pieshel, 2020: p. 17). The answer to this question is anything but straightforward, as military science is difficult to justify in terms of its *raison d'être*. In fact, it would have to be demonstrated that military science performs a function necessary for the security of the state that no other scientific discipline, not even a matrix interplay of several civilian university disciplines, can fulfil. This is a rather strong obstacle, since today no discipline is a *sui generis* science. Most disciplines – from archaeology to zoology – have evolved into integrative sciences, which means that they draw on other scientific disciplines and integrate them into their own discipline of research. Philosophy also uses linguistics and psychology as auxiliary sciences, just as mathematics, for example, acts as an auxiliary science for astronomy, meteorology, physics, geography, geophysics, computer science, etc. Military science can therefore only be an integrative science, but with a clear defence of its primacy in the core (military) subjects. Compared to other sciences, military science, as Pieshel argues, must implicitly have an integrative character, which it must consciously allow and encourage, it must be open to the future and to the dynamism of the environment, so as not to become, due to stagnation, a purely etiological (causal) science (Pieshel, 2020: 19–20).

If we look at military science from the point of view of its development, we can see that, like other sciences, it has evolved gradually under the influence of general social progress, which, as Žabkar also says, has encouraged the development of new specialised disciplines or sciences for the in-depth study of particular areas of military activity. War and peace, as complex, multifaceted social phenomena, have been the subject of new disciplines, such as war studies, defence studies, general conflict studies, peace studies, philosophy, legal studies, international relations, economics, psychology, polemology, demography, medicine and others. Each of these disciplines also studies specific segments of war in depth from its own perspective, and the systemic character of military science has become increasingly dependent on the achievements of other disciplines. A similar division was also formed at the educational level, where the study of defence, security and non-military aspects of war began to take place in civilian higher education institutions, while the study of armed struggle and the military content of war took place

in military educational institutions (Žabkar, 2005: 11, 14–15). It is generally accepted that, to date, there is no universally accepted classification in the world that defines the precise relationship between the security sciences and the defence and military sciences. This classification continues to be heavily influenced by both domestic factors and changes in international relations, capabilities and the missions of the armed forces. Therefore, each country tailors its understanding of military science according to its own attitudes and needs – as a rule, they are by nature primarily interested in those areas of military science that are relevant to them. In Slovenia, for example, military science is not developed systematically at all, neither from an educational nor an institutional point of view; security and defence issues are partly studied at the Faculty of Social Sciences (University of Ljubljana), partly at the Faculty of Criminal Justice and Security (University of Maribor), partly at the Faculty of Government and European Studies (New University), and elsewhere, while military issues are partly developed within the framework of the Slovenian Armed Forces' Military Schools Centre. One of the reasons why this is the case stems from the fact that in Slovenia, during the thirty years of the development of the Slovenian Armed Forces, for various reasons and solutions, there has not (yet) been a need for the establishment of a publicly accredited military higher education institution with a developed research activity, which would systematically and scientifically develop, within the framework of military science, those specific military sciences that are primary for the military, as they cannot be developed by other educational institutions due to the peculiar military characteristics of the army. How we in Slovenia will approach the issue/ understanding of military science and which military sciences will be implemented in civilian and which in military educational institutions in order to be able to talk about a systematic, integrative or comprehensive approach to the development of military science is still an inter-institutional university challenge.

Institutionalisation of Military Science at a Military Higher Education Institution

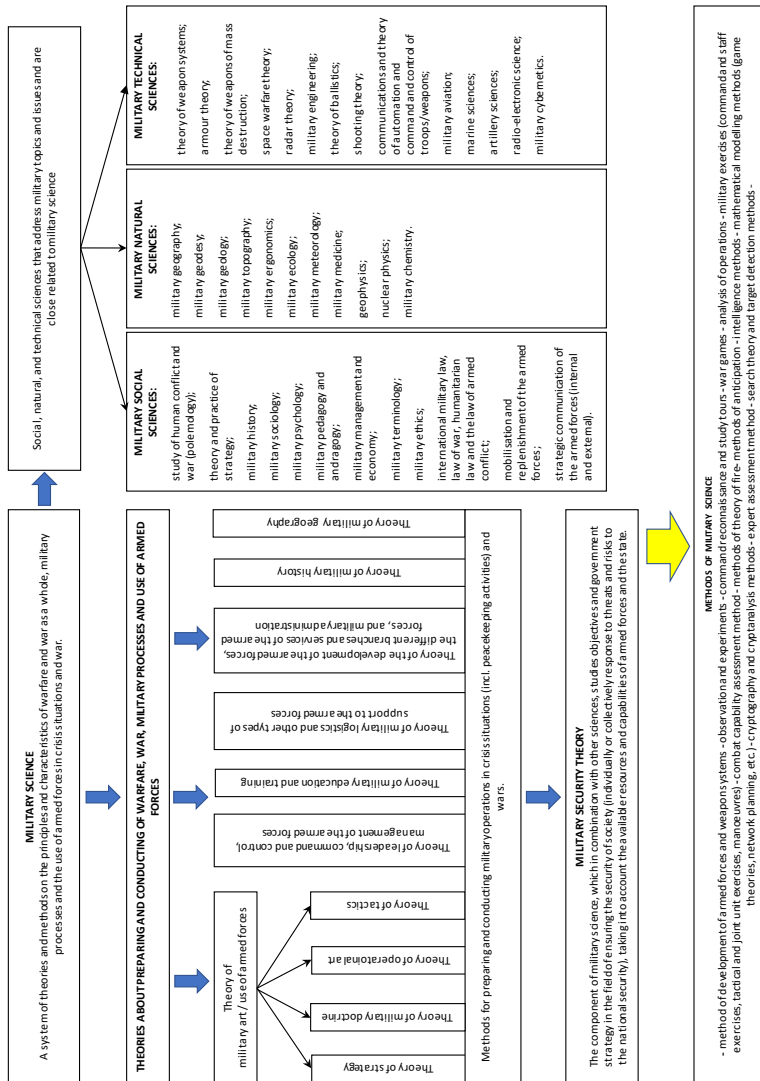
In order to define the core of military science, it is first necessary to analyse from where the subjects being taught draw the basic academic qualifications for their teachers, what the military-scientific reference of these subjects is, their unique characteristic, and in what way they are related to each other for the purpose of establishing a causal link. This is based on the assumption that military science cannot be developed comprehensively without a publicly accredited higher military (or defence, as is the practice in some countries) educational institution, where military education from the first to the third Bologna level is provided, supported by its own research activities.

A distinction is made between subjects in which teachers obtain a basic academic qualification at civilian universities and those in which, due to the specific activities of the armed forces, this basic academic qualification cannot be fully obtained at civilian universities. The former are characterised in that higher education teachers adapting their civilian-academic expertise to the requirements of military education. To achieve this, they usually need military competences and employment in a military higher education institution in order to be able to specify the curriculum design of a subject suitable for students of military education. Higher education teachers from civilian universities, whose research is partly concerned with security-related topics, can have a supportive effect in this respect – but for the reasons given above, it does not seem sensible to assign the delivery of such a course to them alone. For example, subjects such as military technology, military geography, military history, military logistics, military psychology, the theory of war or polemology fall into this category. Like the core subjects, the military science ancillary subjects are also located in a military higher education institution and represent the constitutive elements of the same value of military science. The latter is characterised in that the higher education teachers of these subjects obtaining the necessary basic academic qualifications and the university qualification of lecturer at a military higher education institution. Subjects such as strategy, operational command, and general command theory would fall into this category.

It is clear from the characterization of the two categories that in the first category, civilian universities can provide the basic academic and university lecturing qualifications, while in the second category, the military higher education institution is significantly more responsible for the required lecturing qualifications. Moreover, the first category is derived from a non-military scientific research field which only later specialises for military requirements, while the second category (both in terms of subject matter and career paths of teachers/researchers) is directly derived from military science. From the point of view of higher military education, the latter are considered to be fundamental subjects.

The distinction between the subjects of first and second category is not intended to express qualitative superiority or inferiority. Both categories of subjects are equally important, and their interrelation is essential if the development of military science is to be the goal. Pieshel argues that military science should be structured as an organic body, based on the controlled interaction of objects and directed towards a singular goal – the well-being of society and the long-term security of the state (Pieshel, 2020: p. 50). Žabkar, on the other hand, argues that military science should increasingly be understood as a system of military disciplines (Žabkar, 2005: p. 21). In the context of modernist approaches, both Pieshel and Žabkar point out that military science in the postmodern period has transcended the traditional concern with warfare and warfighting, or the theory of the art of war. This in turn means that its expanded domain of research now inevitably includes the impact of the wider environment within which armed struggle takes place (similarly, Kotnik, 2022). From this perspective, it is difficult to pinpoint with any precision the system of military disciplines that shape military science. Therefore, in Table 2 we present a conceptual representation of the integration of military science with military disciplines, or classifications of military disciplines, not necessarily all of which are shown, nor necessarily all of which are relevant in a given period or country, or even all of which are also studied within different higher education institutions. The context of the development of modern military science shows that it is a dynamic and complex system of military disciplines, which are constantly evolving under the influence of societal progress, and which provide levers for the emergence of new scientific theories and disciplines.

Table 2. Illustration of the classification of military disciplines in the context of the development of military science



Source: adapted from Žabkar, 2003, 2004, 2005; Pieshel, 2020; Piehler and Houston, 2013; Kofman et al., 2021.

The key problem is not in the demarcation and classification of military disciplines, but in who will academise and evaluate the curriculum of core military subjects and be responsible for the scientifically based supervision of the development of the first academic year at a military higher education institution, which represents an important milestone in the process of its institutionalisation. Given that this could only be carried out by civilian higher education teachers with additional military training, who are not qualified in core subjects, Pieshel believes that a special university teaching mandate should be obtained for the first lecturers of core subjects (Pieshel, 2020: p. 21). Alternatively, one could argue for the first academic year in a way that is based solely on the military experience and knowledge of the teachers, rather than on hermeneutics as a scientific theory of understanding knowledge as a standardised and canonised (legitimised) method.

In addition, it should be asked who is the client and who is the user of academic learning content, who designs and didacticises the curricula, who carries out the pedagogical process at a military higher education institution, what is the military scientific quality of this process and where was it obtained, and in which scientific process are the core subjects didactically studied and developed into core academic learning content. The latter can only be designated as academic learning content when clearly defined learning content and learning processes with appropriate substantive research questions have successfully met scientific standards, and have been assessed as scientific.

The solution could therefore be for the first such higher education teachers to obtain a postdoctoral teaching qualification (habilitation) at a university already teaching core military science subjects, or for soldiers who have obtained a PhD at such a university to write a military science postdoctoral thesis and submit it to the body responsible for designating new scientific disciplines, or simply to propose such a discipline in the framework of legislation. In order to ensure that the first generation of university teachers thus created is capable of self-renewal, the establishment of a publicly accredited military higher education institution with its own research activities is a necessary and logical next step.

Of course, one may ask why (apart from the ability to self-renew the teaching staff in core subjects) is it necessary to establish a military higher education institution at university level? Could it not be possible to establish an independent military studies programme in interdisciplinary cooperation with the existing political science programme? Pieshel argues that such an approach would not make sense for two reasons; on the one hand, because the problem of obtaining university teachers with degrees in core (military) subjects and scientifically validated teaching content would still not be solved, and on the other hand, because the unique advantage of a military studies programme lies in the ability of its graduates to develop both military strategic thought (strategic military advice) and operational and tactical skills (the conduct of military operations) in order to achieve the country's political objectives and strategic interests (Pieshel, 2020: p. 23). Ultimately, the award of such a university qualification, which allows a military higher education institution to provide its own higher education teachers for core subjects, also depends on whether there are indications that military science can provide a unique and irreplaceable benefit to society. Sookermany argues that military science, institutionalised in a military higher education institution, can bring significant benefits to society, in particular in terms of the development of military knowledge, the existence of a military education institution, the stimulation of societal debate on the meaning and use of the armed forces, and the improvement of their performance (Sookermany, 2020: p. 66). The particular value of military science is its systematic and critical approach to military knowledge, which has traditionally been based on experience. Aaron also identifies in the study of military science a contribution to the improvement of practices based on methods that can contribute to a better understanding of old and new security challenges and to the creation of foundations for new paradigms that make sense of military life and practice (Aaron, 2019).

Studies programmes of the military disciplines do not necessarily have to justify their existence on the basis of socio-political added value. Given the right political choices, such a programme could be justified even without evidence of a unique societal benefit. However, since the military in Western pluralist democracies is measured against more stringent criteria than in many

civilian domains, especially approaches that might give it the appearance of achieving a higher social status, such decisions are generally weighed both in politics and at the scientific (university) level. Above all, the military should be seen as the *ultima ratio* of the state, ensuring the highest possible quality of security for the state and its citizens, based on sound, substantive and scientific foundations, and thus creating a unique added value for society. The unique advantage of studies programmes of the military disciplines in the context of military science thus derives primarily from the simultaneous provision of the state's advisory needs at the political level on existential security issues (strategic thinking) and the armed forces' scientifically based ability to exercise political will (knowledge and skills on military command and military operations) as the state's last resort (Pieshel, 2020: p. 51). In such an understanding of the benefits of the military for society, the need for studies programmes of the military disciplines is no longer a question, but rather an imperative.³

Discussion

In this paper, we have highlighted the importance of military doctrine for the armed forces, as the foundation that holds the army together. Conceptually speaking, military doctrine is primarily the logic of the professional soldier's behaviour, which, according to Janowitz, is devised by the military elite (Janowitz, 2017: p. 257).⁴ Importantly, this logic is based on a synthesis

3 Views on the need for studies programmes of the military disciplines and their benefits for society may also differ. Kotnik, for example, sees this need in more fundamental terms – through the prism of the state and society and their manifestation of ambitions to use the armed forces in accordance with established principles of political theory and international relations. If, for example, this ambition is minimalist, as demonstrated by the very limited allocation of societal resources to the development of armed forces, then the logical question is what is the point of developing military science. For Kotnik, the development of military science for its own sake, in the absence of a broad and intensive application of its findings in practice, is merely an irrational use of societal resources and the channelling of high-quality human potential, while some of the more fundamental questions and problems of military organisation remain unresolved (Kotnik, 2022).

4 The military elite can only be joined after years of professional education, training and experience. Compared to other professions, a military career is highly standardised, which is

of scientific knowledge (theory) and expertise (practical solutions) on the one hand, and tradition and political assumptions on the other. Janowitz emphasises that the military profession of each country develops a military doctrine that reflects its social environment, as well as its economic and geostrategic situation (Janowitz, 2017: p. 257). Military doctrine can therefore be understood as a kind of “operational code” of the military and its military strategic thought, based on historical continuity and changing on the basis of new experiences and self-criticism. The importance of an operational code or doctrine lies in providing guidance to military leaders to assess the suitability of a strategy to achieve a desired political objective. Therefore, as Žabkar points out, military doctrine can also be seen as an applied extract of military science (Žabkar, 2003: p. 209).

Understanding the concept of military science in the contemporary security environment is anything but easy, and it is even more difficult to get a broadly agreed view on it. The conceptualisation of military science involves politics, society and the military in a general sense, and civilian and military educational institutions in a narrower sense. How to overcome the divergence of ideas and to integrate the dimensionality of the concept of military science into a systematically organised whole is probably only possible and easier in theoretical terms, but in practice, due to a multitude of factors and intertwining interests, these divergences can be to some extent smoothed out mainly through discussions at academic level and agreements that make it possible to delimit, at least in principle, the study programmes that cover the fields of military disciplines. This would clearly demonstrate the need to institutionalise military science also in the context of a military higher education institution with a developed research activity and, consequently,

why Janowitz states that education at a military educational institution is the first and most important experience of every officer (Janowitz, 2017: p. 127). Although military education cannot erase a soldier’s social background, it does leave deep and lasting impressions on them. Janowitz emphasises that military educational institutions set standards of behaviour for the military profession (Janowitz, 2017: p. 127). In this sense, military educational institutions are also a source of the “same mindset” regarding military honour and the sense of camaradeship that prevails among soldiers. In other words, it is the military educational institution that should help to instil in officers the importance of career success gained through continuous hard work, self-education and the ability to see the “big picture”.

to publicly accredit and place this institution in the national education system. A military higher education institution would, however, in the framework of military science prioritise the development in those core military disciplines and military fields that are not (already) developed by other educational institutions or cannot be developed due to the lack of military qualifications. Military science, understood as a system of military disciplines, inevitably addresses the need for interdisciplinary pedagogical, research and academic integration to those responsible for the development of military sciences, if it is in the interest of the state to ensure the comprehensive development of military science and if it recognises the benefits of developing military science for society. This means that the development of military science is not possible without a military higher education institution, nor without other educational institutions, all of which together constitute the institutional whole and the integrity of the development of military science. It should be emphasised, however, that any accredited educational programme is required to be scientifically sound. Therefore, without exception, a military higher education institution wishing to be recognised as part of the European higher education system (Bologna Declaration, 1999) must ensure, justify and demonstrate that its educational programmes are based on sciences that are important, relevant and useful to society. This also means that such an institution must be guaranteed its independence and autonomy of action in order to be able to adapt to changing needs, the demands of society and advances in scientific knowledge.

By positioning a publicly accredited military higher education institution among the carriers of the development of military science in which its researchers are becoming increasingly specialised and both military and academically educated, the country is, among other things, convincingly demonstrating its attitude towards understanding the importance of military science as a whole, as well as towards scientific research in a specific military field. Two points are important to note here. Firstly, the content and quality of the educational process of a military higher education institution must meet the standards of the public education system (in the opposite sense, such a specialised institution does not contribute much added value to the development of military science). Secondly, there must be a political need for

such an institution on the part of the state and society, which not only sees the importance in the development of the armed forces, but also actually wants and knows how to use them.

Conclusion

Military science has changed dramatically in recent decades due to the dynamics of the international security environment, technological advances and societal changes. These changes are reflected in particular in the increased reliance of military science on the achievements of other scientific disciplines (e.g. political science, economics, diplomacy, informatics) and, consequently, in the expansion of the theoretical space. Thanks to specific research methods and new knowledge, military science has become increasingly diversified among the humanities, social sciences and natural sciences. Although many sciences and scientific disciplines have little to do with armed struggle or warfare, in the contemporary security environment they have considerable influence and relevance for states in conflict and crisis situations and in war as a social phenomenon. In this complexity of social phenomena, military science must be understood not as a homogeneous but as a systemic science. The growing and widespread use of the armed forces, which, by performing an increasing number of non-military tasks, go beyond the classical framework of military skills, also calls for a redefinition of military science and, within it, a classification of the system of military disciplines. The need to develop a theory that will integrate the renewed system of military disciplines into a coherent whole is a considerable challenge that cannot be effectively met by a country without a military higher education institution and a well-developed military research activity. This challenge is also linked to the requirement to create a military education institution that meets the modern requirements of autonomy for science, research and ultimately the institution itself.

Despite the fact that the research is mainly based on the conceptualization of military science as a system of military disciplines, it is extremely important in terms of its exploratory nature and perception of the problems. The findings of the research suggest that the area of military science should be

further developed. First of all, we propose an expansion of the research, which, based on theoretical knowledge, will be mainly oriented towards the applied study of military science; in terms of comparing the (inter)national study programs of various military and civilian educational institutions that develop military science. This could provide a useful link between military science and its application at military educational institutions through adequate programs, which is often insufficiently highlighted in research. Further study of contemporary military science as a science and a system of military disciplines, in addition to understanding its role among interdisciplinary branch of sciences, could further highlight its value as an integrative science, drawing on the humanistic, social as well as the natural sciences.

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Vojna znanost u stisku institucionalizacije – slovenska perspektiva

Sažetak

Vojna znanost skup je različitih teorija, znanja i metoda koji se mogu cjelovito obraditi samo kroz stabilan i međusobno prohodan most između civilnih i vojnih obrazovnih institucija te njihovih istraživača. U radu zaključujemo kako se teorijska i praktična dimenzija vojne znanosti ne mogu zamisliti bez interdisciplinarnog povezivanja, kao što se vojna znanost ne može u potpunosti razvijati bez njezine institucionalizacije u civilnim i vojnim obrazovnim institucijama s razvijenom istraživačkom djelatnošću. Razvoj vojne znanosti kao sustavne znanosti pruža, s jedne strane, izvor strateškog promišljanja po pitanjima egzistencijalne sigurnosti, a s druge strane, razumijevanje korisnosti oružanih snaga za društvo, kao krajnjeg sredstva države.

Ključne riječi

znanost, vojna znanost, vojne discipline, vojni predmeti, vojna visokoškolska ustanova, oružane snage

Climate Changes, the Role of Economic Diplomacy and the Impact on Global Security

Mladen Nakić, Valentina Čulina

Abstract

The rise in temperature and climate change is already taking on worrying proportions that seriously affect the security challenges for national security, especially the part related to economic diplomacy. The Paris Agreement currently does not provide an adequate response to reduce the consequences of climate change planned until 2030. This directly affects geopolitical stability, social insecurity and seriously threatens the world economy. As one of the responses to the threat of climate change, and thus to national and international security, the concretization of economic diplomacy as an essential aspect of national and international security is imposed. If climate change reaches the stage of an uncontrolled process, the international community could face challenges that can cause cataclysmic consequences. For this reason, climate change is becoming one of the key topics for thinking about global security.

Keywords

climate change, global security, economic diplomacy, biosecurity

Introduction

Considering global climate change, economic diplomacy plays a vital role in coordinating activities between countries, all aiming to prevent global consequences on our planet. Inevitable globalization, along with certain benefits, also brings some negative effects. Concern for the preservation of the natural environment and ecosystem has been forgotten. The ecosystem was being destroyed for the needs of economic development, social progress and social welfare, and as one of the consequences, climate change developed. Climate change has influenced the adaptation of economic diplomacy to new national and global security challenges. It is essential to emphasize the cause-and-effect relationship between climate change and economic diplomacy, i.e., how climate change shaped the health of the population, the economy of underdeveloped and developed countries, flora and fauna, and causally shaped modern approaches to economic diplomacy and thus contributed to the development of new branches of economic diplomacy.

On the other hand, it is necessary to highlight the social and collective threat of climate change for every country, which poses serious challenges and difficulties for global security (Lippert, 2019). Without a doubt, climate change plays an increasingly important role in defining relations in the international community. As a result, several key questions emerge. To what extent do the states want to look for solutions to existing climate problems together? How can the world economy respond to the current climate changes? What is the role of economic diplomacy in finding global (comprehensive) solutions for our planet? What tools does economic diplomacy have at its disposal to protect the system of national and global security? (Pazzanese, 2021).

It is more and more certain that the objective of the Paris Agreement to reduce warming to a limit of 1.5 degrees Celsius by 2030 shall not be sustainable. Parallel to this fact, the international community has been dealing with the refugee crisis for years, and as a result population displacement and radicalization are occurring. Rebellions of citizens against governments that pollute the environment and thus contribute to negative climate change are becoming more frequent. On the other hand, natural resources are consumed without a plan for their self-sustainability, which

inevitably leads to civil discontent and political violence, which creates a suitable ground for additional radicalization and strengthening of terrorist groups and organizations. China alone produces 30 percent of the world's carbon emissions, followed closely by the United States. We are witnessing climate change, but also global challenges for global security. The common denominator is biosecurity, which in combination with pandemic diseases, climate change, and disinformation, creates realistic assumptions for geopolitical conflicts such as Russian aggression against Ukraine. It is now evident that climate change is becoming part of geopolitics.

If we cannot or refuse to influence climate change positively, how to positively influence geopolitical challenges and threats arises. If we throw in war as a destructive human action into this combination, the result can indeed prove to be catastrophic for our planet.

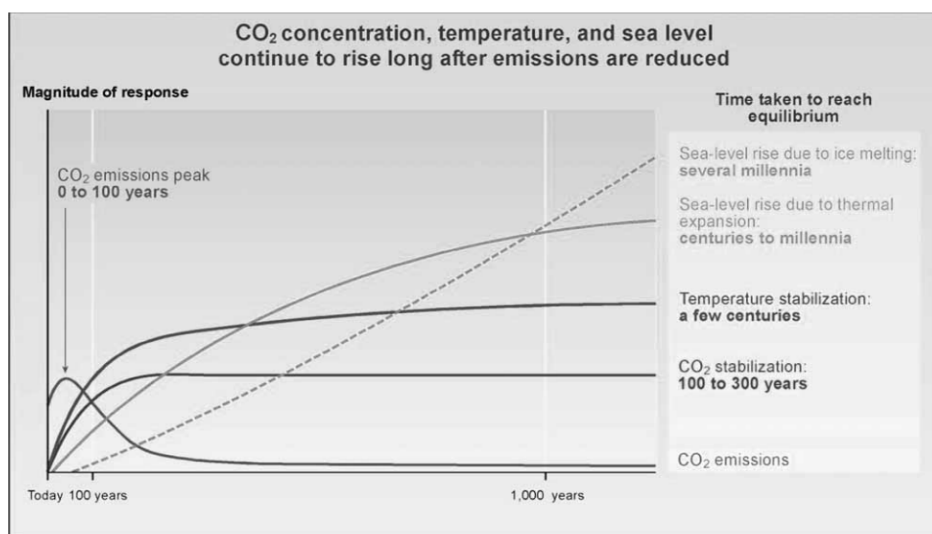
Importance of climate changes

The professional public is divided. Some believe that climate change is mainly a natural process, because it influenced the formation of the climate in the past and continues to shape it to this day. The climate is constantly changing thanks to various factors. Sun rays, astronomical changes, various natural phenomena such as the eruption of volcanoes or geysers, the collision of tectonic plates that cause the shifting of continents, and greenhouse gases contain something in common, and that is the impact on our climate. Others believe that climate change is most commonly recognized as a term closely related to human causes and that they represent changes that are a derivative of human activity on the Earth's surface. The need for progress and the desire to simplify the way of life of future generations led an individual to reform the climate in a negative sense and thus to an existential question. The best-known example of the contemporary problem of climate change is global warming, which has led to the melting of large areas of ice and the rise of water levels, which is regarded a product of human activities due to the increased emission of greenhouse gases. Global warming constantly leads to climate change in the form of increased temperature, which facilitates the transmission of various infectious diseases, but also leads to various changes

in flora and fauna and the possibility of complete extinction of certain plant and animal species. The necessary link with the environment has been forgotten and has been systematically destroyed, thus worsening the living conditions. Even during the Ice Age, man had to adapt to a certain climatic condition and accordingly find a way to survive. Millennia passed and man adapted to a different climate. Meteorological education of individuals soon began, so recurring climate patterns were noticed that were additionally linked to certain geographical areas, and through comparison and analysis, significant sudden climate changes were observed, and man had to face the concept of climate change. The climate is not static but changeable, and climate changes should be distinguished from variations within a certain climate period (Branković, 2013-2014). Climatic variations are associated with changes within a short period of time, for example within a period of one year, while according to Branković, climate change is defined as *“a significant and permanent change in the statistical distribution of climatic elements (or weather phenomena), usually over a period of several decades up to million years”* (Branković, 2013-2014). Climate changes occur under the influence of the joint action of nature and man. Nature affects climate change through natural phenomena such as the action of the sun, astronomical factors, volcanic eruptions and the movement of tectonic plates, while human action affects it through deforestation, the consumption of fossil fuels, increasing the emission of carbon dioxide and other harmful gases into the atmosphere and increasing aerosols in the air (MacKibben, 2005). Human activities have a harmful effect on the climate because they lead to climate changes such as global warming, strengthening the greenhouse effect and contribute to the creation of damage to the ozone layer. Human activity has greatly damaged the chemical composition of the air and thus worsened the balance of the climate system (Zaninović, Gajić Čapka, 2008). According to Zaninović and Gajić-Čapka, *“numerous physical and biological indicators of climate change have been observed, such as an increase in mean sea level, duration of ice on rivers and lakes, melting of non-polar glaciers, reduction of snow cover and frozen ground, shifting of the snow line, changes in seasons and the vegetation period, and thus also in the phenological phases (beginning of flowering of plants, beginning of yellowing of leaves, falling of leaves), shifting of the boundaries of certain plant and animal*

species, changes in reproduction and flowering, and the bleaching of coral reefs in the Pacific" (Zaninović, Gajić-Čapka, 2008). Due to human activity on the Earth's surface, the air temperature has risen sharply in the last hundred years and scientists' predictions are that it will not decrease, but that there will continue to be an increase.

Sluggishness of the climate system



Source: K.Zaninović, 2008.

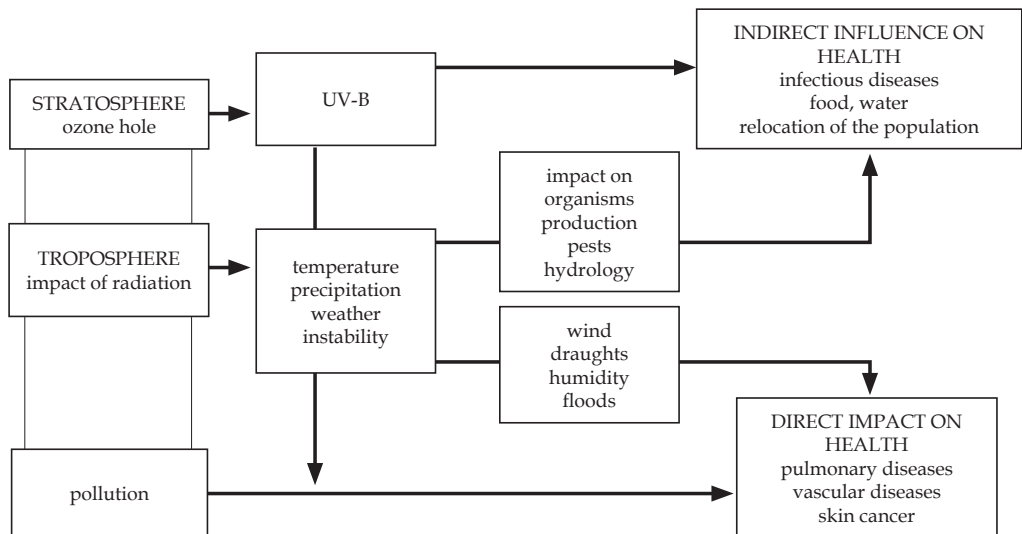
Climate change modeling and impact on global security

In order to be able to statistically process data and make future predictions about the course of climate change, it is necessary to understand the concept of climate models and climate change modeling. The climate model calculates the quantitative state of climate elements obtained by the interaction of the components of the climate system (Branković, 2013-2014). The types of climate models differ from simple ones in which the energy balance of a closed system is calculated, which is based on energy flows (heat, humidity), to very complex models of the general circulation of the atmosphere. The

general circulation model of the atmosphere combines the ocean circulation model, the ice sheet model, the soil process model, the vegetation model, and many others, and may also include various chemical processes within the components of the climate system on Earth, which are considered to be a global climate model. Unlike global climate models, regional climate models cover a smaller area, i.e., a continent or a region, and enable more detailed calculations of climate elements. Specifying the global or regional climate through climate models is impossible without taking into account the past time period for which there are measured climate data and then the climate model simulates the real climate. Validation of the model, i.e. comparing the simulated climate with the real one, proves the degree of confidence in the climate model. By studying climate models, it was determined that climate changes in the last fifty years are the result of solely the influence of human activity. Climate change modeling makes assumptions about future emissions of greenhouse gases, which depend on the socioeconomic level of human development, the number of inhabitants on Earth, energy production and consumption, urbanization, the size and utilization of arable land, the use of water resources, plant cover, traffic, etc. (Branković,2013-2014) Climate change affects the quality of life of every individual. They lead to numerous consequences and potential risks, such as the deterioration of the population's health or the creation of impossible conditions for life on Earth. Various studies prove that increased temperatures in multiple areas of the Earth's surface have laid a good foundation for the development of infections and increased mortality. Climate change also brings an increase in numerous costs. Due to the increased temperature, the costs and consumption of electricity for cooling also increase. Long periods of increased temperatures can result in droughts that reduce food production potential and cause dangerous forest fires. Climate change dramatically affects the population's health, the economy, and the flora and fauna, both regionally and globally. According to Zaninović and Gajić-Čapka, "*climate changes affect people's health, the most prominent of which is increased mortality due to heat waves, the frequency of which also increases with global warming*" (Zaninović, Gajić-Čapka,2008). Human activity has led to changes in the chemical composition of the air, which has led to changes in the climate system. Therefore, climate change

affects the health of individuals directly and indirectly. They have a direct impact through metamorphic diseases such as asthma, vascular diseases, skin cancer or rheumatism, and indirectly through the transmission of infectious diseases, the availability of drinking water, and the impact on food production. These are vital facts in assessing the effects of climate change on the threat to global security (Campbell, Parthemore,2016). Changes in optimal climatic conditions can significantly modify the properties of the transmission of disease and can also increase the spatial distribution of disease vectors, such as ticks, and extend the seasons of allergic diseases. Extreme weather events such as floods or tornadoes can result in physical injury and destruction of critical infrastructure. Climate changes can lead to the creation of resistance, that is, a change in the sensitivity of certain diseases, which is why the spread of malaria in Africa to higher altitudes (*highland malaria*) has been observed. Abrupt changes in temperature affect the growth and durability of water-borne infections, and abnormal amounts of precipitation can contaminate water.

Schematic representation of the influence of the atmosphere on ma



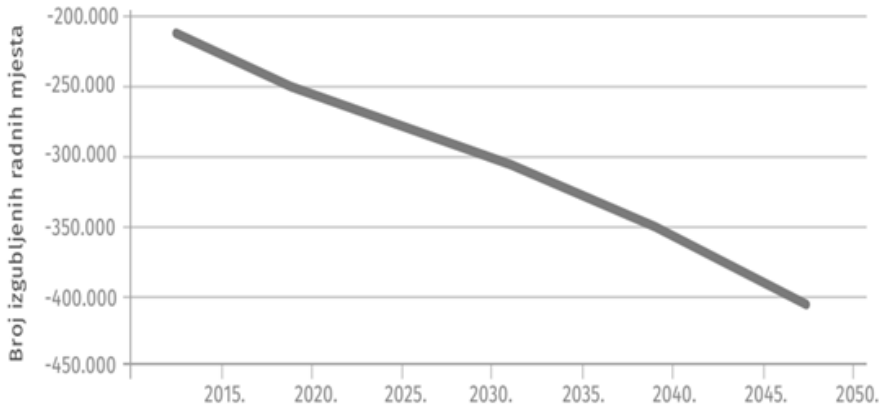
Source: K.Zaninović, 2008.

Global warming has brought with it heat waves which have proved to be fatal and which research proves that of all extreme meteorological events such as tornadoes, floods and storms, they still take the highest number of deaths. In Europe, the heat wave in 2003 killed more than 21 thousand people. Heat waves have a substantial impact on the health of individuals because if they are of a vigorous intensity and of a long-lasting nature, they significantly increase the risk of death. The risk of death during a heat wave increases drastically in the elderly due to reduced sweating capacity. Most often, a heat wave in older individuals causes cardiovascular diseases, respiratory system diseases or heat stroke. Newborns and children in general, are at greater risk due to limited thermoregulatory possibilities and dehydration. Furthermore, according to research, following older individuals and the youngest, women, manual workers and generally residents of dense urban areas are at greater risk of heat stroke. Climate change due to ozone depletion has also contributed to stronger UV radiation, significantly increasing skin cancer risk. Exposure to UV rays has a harmful effect on an individual's health because the possibility of skin damage such as burns or skin cancer increases drastically, various eye irregularities such as cataracts or snow blindness and various changes in the immune system can occur. Research proves that in the last twenty years, due to the weakened ozone layer caused by human activity, which as a result enables greater atmospheric permeability of harmful UV rays and by increasing the length of exposure to the Sun and thus to UV rays, the number of people suffering from skin cancer has increased significantly. In addition to skin cancer, harmful UV rays are also associated with various damages to the cornea, retina and lens of the eye, such as cataracts, which reduce and damage vision and can lead to permanent blindness. Absorption of harmful UV radiation leads to the weakening of immunity. The skin is the first pillar of the barrier against infections, and when it is damaged, the body's immune response to foreign substances is automatically weakened. Exposure to UV rays can cause various infectious, parasitic, bacteriological and fungal diseases and, in the last case, inflammatory changes in the stomach, because the basal metabolism decreases and the secretion of gastric acid increases (Premec, 2000-2001). So, these are all issues for wider global security, because its primary task is the protection of the world's population.

Impact on global economy

Climate change affects the economy of all countries. The need to adapt workplaces due to new weather conditions, the costs of damages from extreme weather conditions, high financial expenses for cooling the space and the reduction of the number of workplaces due to high temperatures represent a major economic issue. For example, according to the Report of the European Parliament and the Council on the implementation of the EU strategy on adaptation to climate change, the annual costs of flood damage in the European Union could increase from 4.5 billion euros to 23 billion euros over the next thirty years. (European Commission, 2018). High temperatures make work impossible, especially outdoors, and lead to shorter working hours due to heat stress. According to various scientific studies, climate change will affect the decline of GDP over a certain period due to a decrease in labor productivity, but also due to an increasing number of floods that will, among other things, change the current trade flows and damage numerous coastal areas. Due to climate change, many jobs will have to be abolished because it will only be possible to work if certain adjustments are made. For example, droughts due to high temperatures and the increased risk of heatstroke will have negative consequences on particular economic sectors and thus on the economy of a specific country as a whole.

The total number of jobs lost in the European Union due to climate change in the period from 2015 to 2050.



Source: Triple E, 2020.

The optimal working conditions are at a temperature of 16°C to 24°C, and with the increase in temperature due to climate change, employees are exposed to numerous health problems, their productivity is reduced and their risk of fatigue increases, which can result in various injuries at work. The most at-risk group is made up of workers who do physical work outdoors, such as masons and highway builders. Furthermore, climate change strongly affects the economic sectors of agriculture, forestry, fishing, energy and water supply, transport and tourism, construction, health, emergency and rescue services, banks and insurance, public services, production and industry. Agriculture is highly dependent on climate change, as sudden temperature differences, extreme weather conditions and rainfall affect the productivity and distribution of crops. Forestry is sensitive to climate change as it results in complex and slow adaptation of trees to new conditions, forest fires, damage from storms that affect the productivity of wood industries, increased levels of carbon dioxide that damage trees and an increase in the number of plant pests (Scharmer, Kaufer, 2016). Climate change affects fisheries, i.e., the relocation of fish stocks and the reduction or increase of certain species through rising sea levels, ocean acidification, and changes in water temperature and precipitation. Tourism is directly connected to climate change in such a way that high temperatures make it

impossible to enjoy a pleasant stay in the sunniest parts of the country that are attractive to tourists, rising sea levels threaten tourist infrastructure in coastal areas, cultural and natural heritage are becoming more and more endangered, winter tourism will last less because in the future, the snow cover will be thinner and melt faster. Climate change affects infrastructure and construction in such a way that buildings become unstable due to locations subject to floods or avalanches, through design that is not adapted to extreme weather conditions, resulting in damage and collapse, and through risks to the health and safety of construction workers. Due to climate change, emergency services and other public services, such as fire and rescue services are increasingly overburdened with work, and employees are increasingly at risk for their own safety and mental and physical health. Healthcare costs are very high and there is an overload of the healthcare system, which affects the country's economy as a whole. Climate change has a significant impact on the energy sector through changes in the average and variability of wind, solar and hydropower sources, the availability of crops as raw materials for bioenergy, the costs and availability of fossil fuels due to the melting of sea ice and permafrost, the efficiency of photovoltaic panels, thermal power plants and power lines due to ever-higher temperatures, suspension of technologies due to changes in the frequency and intensity of extreme weather events (Hamilton, 2018). Banking and insurance is affected by climate change, which manifests itself in large financial losses due to damage to infrastructure, land and property.

In the long run, the impact of climate change on the economy of countries leads to a decrease in the population's quality of life and higher costs that can put the economy of a certain country in a very unfavorable situation, thus reflecting on the global economic scene.

Impact of climate change and the role of economic diplomacy

In order to define and explain diplomatic science, numerous scientists, philosophers, and politicians often connected diplomacy with the economy. The art of negotiation, which dates back to the very beginning of the creation of nations and even certain forms of states, was closely related to

the trade relations of the time, which date back to 2500 BC. With the onset of globalization, diplomacy and the economy have merged even more into a single unit, which is known today as economic diplomacy. The concept of economic diplomacy, its complexity and importance is deeply connected with the external and internal policy of every country in the modern era. Today, this term is used more and more often, and it will definitely mark the near future. Economic, more specific trade relations were considered peripheral in diplomatic activities until recently (Žirovčić,2016). That is why trade attachés were in a subordinate position compared to other diplomatic representatives. Nevertheless, greater cooperation between countries, market liberalization and strong competition encouraged the development of activities related to economic growth, exports and investments (Žirovčić,2016). There is an increasing connection between diplomats and the economy, through involvement in activities related to increasing competitiveness on the international market, but also the opposite. Economy and diplomacy are slowly merging, and economic diplomacy is recognized for the first time as a unique entity and becomes an essential factor in the conduct of national politics.

Economic diplomacy is an instrument of foreign policy in the economic relations of international entities. Therefore, economic diplomacy implies diplomatic activities to support the financial and business sectors of the home country (Žirovčić, 2016). In short, it represents the use of all diplomatic and economic activities to protect national interests. The aforementioned activities can also be viewed within the framework of economic and commercial diplomacy. Economic diplomacy deals with issues of economic policy, for example, negotiations regarding international trade standards within the World Trade Organization (WTO) or some other international organization in the field of determining economic standards (Moons, Van Bergejik,2009). Furthermore, economic diplomacy uses economic resources as punishment or reward to achieve the national interest. On the other hand, commercial diplomacy represents the activities of diplomatic and consular missions that help the financial and business sectors of one's own country to achieve economic success according to the country's development goals (Plevnik, Mesić,2011). This activity includes the promotion of trade relations

and foreign investments. Trade promotion focuses on increasing exports to existing markets and finding new markets. Encouraging foreign direct investment abroad is carried out through lobbying by diplomatic missions, and in the home country, certain agencies are usually in charge of this with the goal of attracting investments, where activities related to foreign investments are carried out by employees of ministries and specialized agencies. Cooperation in science and technology with the inclusion of research and development sets as the main activities the improvement of the technical capacity of the business sector and competitiveness on the international market, which is mainly handled by the Ministry of Science. The promotion of tourism is crucial due to the possibility of foreign investments and balancing the balance of payments, and it is dealt with abroad by diplomatic missions that have promotional materials, while within the country it is dealt with by tourist boards and the Ministry of Tourism. Advocacy of the interests of the national business community is carried out by non-governmental organizations such as trade unions, other civil organizations, chambers of commerce, and in certain countries this is done by special commissions within some other state bodies or ministries whose main goal is to strengthen and advocate the business sector (Bazdan,2011). The complexity of defining the very concept of economic diplomacy indicates the long-term interweaving of the economy of a certain country and diplomacy, that is, the art of diplomatic negotiation. All of these factors confirm the creation and strengthening of the concept of economic diplomacy over a certain period of time, which is due to changes in certain state policies under the pressure of various circumstances from the very beginning until the modern era, and which is due to the new needs of society that are connected to today's times.

Climate change affects the economy of developed and underdeveloped countries around the world. Scientific research indicates that climate change has affected all economic sectors. Climate change is a problem for the economy of countries because it increases the risk of loss and damage to assets, increases the costs of infrastructure and services, and threatens national financial stability. Due to its great impact on the economy, climate change also affects the economic diplomacy of each country. Economic diplomacy's main goal is to protect national interests through diplomatic and economic

activities, and climate change affects its design, implementation and results. Extreme weather conditions as a result of greenhouse gas emissions pose a serious threat to global security and the economic picture of every country. Severe weather conditions have caused the economic development of certain countries to stagnate and the appearance of certain territories to change, resulting in the potential emergence of armed conflicts. The above represents a challenge to economic diplomacy, whose experts in multilateral negotiations must approach with a great deal of caution so that disputes do not escalate. Claims for energy resources located under frozen surfaces that have begun to melt due to climate change is one of the challenges faced by economic diplomacy in modern times, thus becoming a vital issue of global security. Economic diplomacy is a powerful means of securing national interests. The modern era has brought numerous advantages but also obstacles in the practice of economic diplomacy. New situations such as climate change have influenced the economic development of countries, but also the dynamics of multilateral negotiations of an economic nature. Due to globalization, the preservation of the environment has been forgotten. The ecosystem was being destroyed according to the needs of the development and progress of society, and as a consequence climate changes developed. Negotiations aimed at achieving favorable trade relations, preserving national interests and promoting exports and investments create a favorable environment for the development of the economy of each country. However, climate change has significantly slowed down countries' economic development and thus affected economic diplomacy activities. Climate change has greatly influenced the development and creation of modern economic diplomacy. Many relations between countries have become strained due to climate change. A well-known case is the Arctic region, which began to melt due to climate change and led to claims on the said territory by a large number of countries, because the Arctic region is not regulated by international law (Andrassy, Bakotić, Seršić, Vukas, 2010).

Climate change and the threat to global security - Example of the arctic

The Arctic, as the northernmost point on the Earth's surface, represents an interesting landscape because of its energy wealth and the enormous amount of drinking water it possesses, but also because of the climate changes that affect it and which concern the international community. Due to the deficit of international law, certain tensions arise between states where each state claims certain rights to that territory. The Arctic region poses a threat to biosecurity and the possibility of conflict escalation, both conventional and environmental (Scott, Czub, Dai, 2014).

Many researches and studies about this huge ice sheet, which covers one sixth of the Earth's surface, point to the fact that a quarter of the world's oil and gas reserves are located under the arctic ice and the sea, more precisely at depths of up to 500 meters. The resource potential of hydrocarbons in the Arctic is estimated at 106 billion tons of oil equivalent, i.e., 15 percent of the world's oil reserves and about 30 percent of natural gas reserves. The Arctic is also rich in mineral resources such as: bauxite, nickel, copper, uranium, phosphate, cobalt, ten million tons of zinc and lead carbonate, and even three billion tons of magnesium carbonate. The Arctic is also enriched with large quantities of coal, platinum, diamonds, tin, and gold, and the total value of this mineral wealth is estimated between a dizzying 1.5 and 2 trillion US dollars. In addition to energy and mineral resources, the frozen blanket also hides an abundance of amber and fossil ivory, and the Arctic Sea provides about 10 percent of the world's fish catch and fresh drinking water. The melting of the entire Arctic blanket, or even a more prominent part, would make the northernmost part of the Earth a new maritime traffic center, and an important strategic and military-political area, which leads to increasing tensions among sub-Arctic states and attempts to claim certain rights to these passages. The loudest is Canada, which firmly advocates the right over the Northwest Passage and therefore wants to regulate that passage according to its own wishes, while the United States of America, on the other hand, claims that it is international waters that everyone can use freely for the purpose of maritime traffic. Those sea passages also increased

the interest of China, which bases its economy on exports, thus 50 percent of its GDP depends on maritime transfer, and the fact of the possibility of shortening the route from Shanghai to Hamburg by 6,000 kilometers via the Arctic passages also increased its interest in by claiming certain rights in that area, citing the same arguments of unhindered passage as the United States of America. Tensions between the states will constantly increase with greater navigability in the future of the Northwest Passage, and the issue of that passage is has certainly not been concluded, while on the other hand, the Northeast Passage is not so controversial just because of the fact that Russia stretches along its entire length (Degan,1994). Disputed and unregulated sea lanes of the Arctic are not the only subject of disagreement between a dozen countries. The increasing need for new sources of natural gas and oil, due to the already almost used or completely exhausted other deposits in the world, turned the subarctic countries against each other.

The Lomonosov Ridge is a leading area of contention because ownership of it would mean control of a large part of the Arctic and all the riches found there. This undersea mountain range connects the continent of North America with the continent of Eurasia, so Russia and Denmark found themselves at opposite ends of the “ring”, where Russia on the one hand claims that the ridge is a continuation of Asia, and Denmark considers it to be an extension of Greenland. The dispute also led to certain provocations, such as a stronger emphasis on Russia’s desire to conquer that ridge, when the expedition led by Artur Čilingarov in 2007 had the primary goal of proving the connection of the Lomonosov Ridge with the Novosibirsk Islands, 1,800 kilometers away (Jozić,2011), and this proof resulted in by placing the Russian flag on 4,261 meters of the seabed of the Arctic via the MIR-1 and MIR-2 bathyscaphes, which caused great indignation from other countries and condemnation of Russia, which wants to symbolically appropriate that territory.

Quite unexpectedly, China joined the territorial claim, whose interest began in 1995. Although it has no possessions of its own in that part of the world, China sees itself as an almost Arctic country and wants the parts of the Arctic that have not yet been appropriated to be declared an international good, the heritage of all humanity. By doing so, China allocates large sums of money to mining in the area, thereby helping to finance it, and has also offered

lucrative trade contracts to Sweden, Iceland and Denmark, and in return has observer status in the Arctic Council and exclusive rights to exploit Greenland's natural resources. , a relatively undeveloped and poor island with its own administration, but under the authority of the Danish crown. Such an economic policy of China provoked sharp criticism and a reaction from the European Union, which, like the United States of America, increased its presence and interest in the region. The European Union therefore offered financial assistance in the amount of several hundred million so that exclusive rights would not be manifested only by China.

A part of this indigenous population is made up of the Inuit, who, due to their long life in the Arctic, also believe that they can lay claim to certain parts of that area, which is due to the belief that they are the only ones who can decide on it due to the past incorporated deep into their culture and identity, which is due to the opinion that the interference of great powers in that area and changing the ecological picture will greatly threaten the security of their community. In addition to the claims of the countries and population of the Arctic region for a certain part of the territory or at least some kind of exclusive right in the Arctic, the right to certain parts of the territory is also claimed by countries that do not have a direct territorial connection with the Arctic area, and Japan and the Republic of Korea received their observer status within the Arctic Council. According to international law, the Arctic does not belong to anyone and no country, not even those that somehow border it, own it. The only international treaty that regulates this area is the United Nations Convention on the Law of the Sea (UNCLOS,1994), and the issue of borders at sea is governed by Article 57, which reads: *"a coastal state may determine its exclusive economic zone up to a distance of 200 miles from starting lines from which the width of the territorial sea is measured"*. Conventional war in the Arctic area is ruled out due to the difficult accessibility of the area and the climate itself. But we are witnessing investments in some countries' military potential, especially considering the air space. Thus, Russia is building eight nuclear submarines of the "Borei" class, which will be intended exclusively for the Arctic region (Campbell, Parthemore, 2016). Canada is investing one billion dollars in the purchase of unmanned aerial vehicles with a weapon system that will patrol the north. Denmark has the "Thule" air base via

Greenland, and the United States has ground, air and naval forces stationed in Alaska. Although the states are not inclined to go to war in that area, due to the increasingly rapid melting of the ice and oil exploitation, which increase the possibility of an ecological disaster and to protect the flora and fauna of the Arctic itself, ecologists are increasingly vocal in their warnings of unfathomable environmental consequences in the event of any conflicts. The Arctic thus embodies the future of all humanity, not only because of natural resources and drinking water, but also because of the potential problem of melting glaciers and rising sea levels (Flannery,2007).

Conclusion

Climate change has changed the development of economic policies at both national and international levels. The usual pattern of economic operations has changed its course to claim resources that have become more available for exploitation in remote and untouched territories. The rapidly growing territorial disputes, environmental disputes and conflicts between indigenous populations and urban developed countries are not abating. The possibility of escalation of armed conflicts or environmental ones is growing more and more. Most of the consequences of climate change are experienced by underdeveloped countries that have had the least impact on pollution and the occurrence of climate change.

A quality diplomatic service that protects national interests through economic diplomacy strategies can contribute to economic growth at the national level, but it is also essential to apply climate diplomacy strategies. To preserve life on Earth in the future and protect the population, it is necessary to negotiate internationally in a way that takes into account both national interests and ecological guidelines aimed at preserving and restoring the ecosystem. Good education of the diplomatic service on climate change is necessary so that all diplomatic protocols can be carried out smoothly and to prevent further damage that can lead to fatal consequences at the international level. The exploitation of natural resources for economic purposes, among other things, has caused numerous climate changes. They represent a significant challenge for global politics and have become one of the burning issues that

the diplomatic service deals with. The UN General Assembly and the UN Security Council concluded that uncontrolled climate change poses a threat to international peace and security. Water scarcity and generally extreme climatic conditions cause migration and encourage the potential emergence of numerous armed conflicts over territory, and this represents a severe threat to global security. Furthermore, the UN Framework Convention on Climate Change (UNFCCC) concluded that it is necessary to limit the increase in global temperature to 2°C. Achieving such a goal is possible only with the creation of a certain international regime that requires the engagement of all countries in implementing the instructions given by the UNFCCC and international cooperation through formal and informal institutions and the implementation of strong national programs related to climate change. Climate change affects both developed and underdeveloped countries equally, so the UNFCCC represents the international cooperation of all countries that are equally represented and have the same right to vote, regardless of the level of development.

The 2015 Paris Agreement represents a success of climate diplomacy as it was ratified by states, committing states to accelerate action and investment in a sustainable low-carbon future. The United Nations Climate Change Conference in Glasgow in 2021 achieved an increase in funding for developing countries to combat climate change, the initiation of a global commitment to reduce methane emissions and the completion of the Paris Regulation. With the increasing impact of climate change on the population and the economy, the way has been created for the development of climate diplomacy as one of the newest and most relevant branches of economic diplomacy. The term climate diplomacy began to be used recently, and many experts interpret the definition of the term in several ways. A group of many definitions of climate diplomacy emphasizes that the main goal of climate diplomacy is the prevention of dangerous climate changes that harm the population and the economy. Climate diplomacy, its innovation and development are shaped precisely by climate change. The greatest challenge to climate diplomacy is the creation of synergy between the satisfaction of the national interests of states and the achievement of international cooperation, without which it is impossible to achieve the goals that will ultimately result in an

improved climate picture. Large financial investments to combat climate change represent an obstacle in the future that requires good preparation of climate diplomacy at the national level as well, not only at the global level (Randers,2014).

Following on from the above, certain recommendations are imposed in order to make the unfavorable trends of climate change reflect as little as possible on global security while making maximum use of the available resources of economic diplomacy.

Recommendation 1.

In solving complex climate problems, it is necessary to ensure a comprehensive approach, but also the consequences of climate change on global security, especially when it comes to the available resources of states, whereby economic diplomacy occupies an important place in coordinating measures at the global level.

Recommendation 2.

To ensure the synergy of economic and climate diplomacy as a basis for defining the elements of global security when dealing with the problem of climate change and adverse effects on the well-being of the population, infrastructure and natural resources.

Recommendation 3.

In order to obtain the best results related to climate change, it would be useful to have a quality strategy of economic (climate) diplomacy, which suggests the cooperation of diplomatic, economic and security services at the national and international level.

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Klimatske promjene, uloga gospodarske diplomacije i utjecaj na globalnu sigurnost

Sažetak

Porast temperature i klimatske promjene u cjelini već danas poprimaju zabrinjavajuće razmjere, koji nose ozbiljne izazove za globalnu sigurnost, posebno dio koji se odnosi na gospodarsku diplomaciju. Pariški dogovor zasad ne daje primjeren odgovor u cilju smanjenja posljedica klimatskih promjena, planiranog do 2030. godine. Time se na izravan način negativno utječe na geopolitičku stabilnost i socijalnu nesigurnost te ozbiljno ugrožava svjetsko gospodarstvo. Kao jedan od odgovora na opasnost od klimatskih promjena, a time i za nacionalnu i globalnu sigurnost, nameće se konkretizacija djelovanja gospodarske diplomacije kao važnog aspekta nacionalne i globalne sigurnosti. Dođu li klimatske promjene u fazu nekontroliranog procesa, međunarodna zajednica mogla bi se suočiti s izazovima koji mogu prouzročiti kataklizmičke posljedice. Zbog te činjenice, klimatske promjene postaju jednom od ključnih tema za promišljanje globalne sigurnosti.

Ključne riječi

klimatske promjene, globalna sigurnost, gospodarska diplomacija, biosigurnost

The programme of reforms in Bosnia and Herzegovina Cooperation or membership?

Ivica Jerkić, Robert Beljan

Abstract

This paper problematizes the content and meaning of the document “BiH Reform Programme”, initially published for the period of November 2019 – November 2020, and later submitted under the same name for 2021 and 2022, and seeks to answer whether these documents are Annual National Programmes (ANP) which imply the activation of the NATO Membership Action Plan. The content of the document is analysed in relation to the prescribed form of NATO’s Annual National Programmes and compared to the documents of countries that were aspirants for NATO membership, such as Montenegro and North Macedonia, as well as the current aspirant Ukraine. Since the content and meaning of the document have been interpreted differently by politicians, military experts, and the media in Bosnia and Herzegovina, it is necessary to define the status of the “BiH Reform Programme” document through the prism of real facts. After the general elections in Bosnia and Herzegovina, a coalition agreement was reached between political parties for the establishment of the government at the state level, entitled “Guidelines, Principles, and Objectives in the Executive and Legislative Authority at the BiH Level for the Period 2022 – 2026”. Since this agreement does not mention NATO cooperation or integration, the question of the real meaning of the “BiH Reform Programme” document and what we can expect in the future regarding relations with NATO is once again raised.

Keywords

Programme Reform, Annual National Programme, Membership Action Plan, cooperation, membership

Introduction

The adoption of the document “BiH Reform Programme” by the Presidency of Bosnia and Herzegovina on 19 November 2019, ended the political deadlock that had lasted since the parliamentary elections held on 7 October, 2018. Former Minister of Finance of the RS, Zoran Tegeltija, was appointed as Chairman of the Council of Ministers, and instead of the Annual National Programme (ANP), the adopted document “BiH Reform Programme” was sent to NATO Headquarters in Brussels.

The subject of this research is the content and meaning of the document “BiH Reform Programme”, with the aim of answering the question: is the document “BiH Reform Programme” an Annual National Programme, and does sending the document to Brussels activate the Membership Action Plan (MAP) for NATO membership.

The research methods used include content analysis and comparative analysis. At the beginning of the paper, the Annual National Programmes of Montenegro, the Republic of North Macedonia (since 11 January 2019), and Ukraine were presented, as sending these documents to Brussels meant activating the Membership Action Plan for these countries. By examining these documents, we were able to position the document “BiH Reform Programme”. The paper also provides an overview of the history and manner of cooperation between Bosnia and Herzegovina and NATO, as well as a detailed analysis of the content of the document “BiH Reform Programme”. The paper also presents the views of individual politicians in Bosnia and Herzegovina, military experts, and advisers, as well as media coverage of the document immediately after its adoption and publication. In the second part of the paper, the coalition agreement at the state level is analysed to determine the actual meaning of the document “BiH Reform Programme” with the passage of one calendar year.

Annual national programme of Montenegro (anp) 2010-2011

The first Annual National Programme (ANP) clearly defines priorities within the framework of democratic, institutional, and defence reforms in Montenegro in areas that are an integral part of society's democratization and achieving strategic priorities of the European and Euro-Atlantic integration. The introduction of the document emphasizes that NATO membership should represent the right model for achieving long-term stability, economic, and social prosperity. The content of the document is shaped by the content and principles of the Membership Action Plan and has five standard chapters: political and economic issues, military-defence issues, resources, security issues, and legal issues.

The textual part has nine pages, while the total content of the document with tables that explain and supplement the textual part is fifty-six pages. The tables precisely define goals, holders, activities with priorities, and deadlines for the implementation of activities. The document emphasizes intersectoral coordination of the competent state authorities and regular supervision by the Partnership for Peace Council. The need for stronger public support for Montenegro's integration into NATO is highlighted as a special feature.

Annual national programme of the Republic of North Macedonia for the period 2017-2018

The Annual National Programme of the Republic of Macedonia (ANP) for the period 2017-2018 contains five standard chapters, in the format of documents of the Annual National Programme of the countries that have activated the Membership Action Plan. The first chapter presents institutions, challenges, and integration processes, the second chapter deals with the issue of defence policy and military reforms, followed by chapters on defence resources, security issues, and legal issues. The document has seventy-three pages, of which forty-three are written text. In the introductory part, as a special feature, there is a direct letter from the Prime Minister of the Republic of Macedonia, Zoran Zaev, emphasizing that NATO membership is the highest priority of the country's foreign policy and that membership in NATO will

mean strengthening the international position of the country, building institutions, democratic values, and the rule of law. The letter emphasizes readiness to continue participation in NATO-led missions and to reach the military budget according to NATO standards. The document also highlights the government's commitment to reforms and mentions the 3-6-9 PLAN roadmap, where priority areas for reforms are defined: justice, intelligence services, and public administration. It also emphasizes the establishment of a functional and cohesive multi-ethnic society that will ensure a quality life for all citizens and promote sustainable development. The importance of EU membership, along with NATO integration, as well as good neighbourly relations and regional cooperation, are particularly emphasized.

Annual national programme of Ukraine (anp) 2019-2020

The Annual National Programme of Ukraine (ANP) 2019-2020 is shaped by the content and principles of the NATO Membership Action Plan and is structured into five chapters: political and economic issues, defence/military issues, resource issues, security issues, and legal issues (Government portal, 2020). The document was developed using the international results-based management (RBM) approach. The ANP of Ukraine envisages the reform of the security and defence sector, the alignment of the overall management system of the defence forces, strategic and operational management, intelligence work, communications, the establishment of democratic civilian control, and so on. It is crucial that the ANP-2020 is developed simultaneously with the state budget for 2020, so that all measures envisaged by the programme are financially supported. As the list of reforms included in the programme is wide-ranging and concerns bringing a range of areas of the country's activities in line with NATO standards, monitoring the implementation of the programme becomes a kind of country review in line with NATO criteria (Government portal, 2020).

For Ukraine, the ANP is a key instrument for integrating the country into NATO and a roadmap for reforms aimed at implementing the Alliance's standards and principles in reality. It was developed in 2008 when allies at the Bucharest Summit invited Ukraine to participate in NATO's Membership

Action Plan. For 2020, the implementation of the ANP aimed to achieve Goal 17.2 of the Government of Ukraine's Action Programme, "Ukraine meets the principles and criteria required for acquiring membership in the North Atlantic Alliance" (Government portal, 2020).

Bosnia and Herzegovina and NATO

Bosnia and Herzegovina and NATO have a defined relationship based on key strategic documents, which include the Defence Law of Bosnia and Herzegovina, the Security Policy of Bosnia and Herzegovina, and the Foreign Policy Strategy of Bosnia and Herzegovina for 2018-2023.

Article 84 of the Defence Law of Bosnia and Herzegovina defines activities for NATO membership, stating that "the Parliamentary Assembly, the Council of Ministers of Bosnia and Herzegovina, the Presidency, and all defence entities, within their respective constitutional and legal competencies, shall undertake the necessary activities for Bosnia and Herzegovina to become a member of NATO." (Parliamentary Assembly of Bosnia and Herzegovina, 2005, p.21)

The Security Policy of Bosnia and Herzegovina, in the section on Defence Policy under Chapter 4 – Elements of Security Policy, defines one of the principles as "Integration into Euro-Atlantic collective security structures." (Presidency of Bosnia and Herzegovina, 2006, p.10)

The Foreign Policy Strategy of Bosnia and Herzegovina for 2018-2023, in Chapter 2 – Foundations of Bosnia and Herzegovina's Foreign Policy, under section a) Security and Stability in the paragraph on NATO, states that "Continuing activities related to NATO remains a priority for Bosnia and Herzegovina's institutions. Priority activities will be primarily focused on activation and implementation of the Membership Action Plan (MAP). Activating the MAP, for which there is broad political consensus in Bosnia and Herzegovina, will enable all defence entities in Bosnia and Herzegovina (within their respective constitutional and legal competencies) to continue with activities related to NATO, as defined in the Defence Law of Bosnia and Herzegovina. Activating the MAP will further enhance Bosnia and

Herzegovina's institutions and effectiveness in defence and security, as well as promote Bosnia and Herzegovina as a safe and desirable country for foreign investment." (Presidency of Bosnia and Herzegovina, 2018, p.7)

The mechanism and programmes of cooperation between Bosnia and Herzegovina and NATO

The mechanism and programmes of cooperation between Bosnia and Herzegovina and NATO began with Bosnia and Herzegovina's accession to the Partnership for Peace at the NATO Summit in Riga in late 2006. Since then, Bosnia and Herzegovina has been cooperating with the Alliance through:

The Planning and Review Process (PARP). This mechanism enables the identification of the partner country's strengths and capabilities that can be made available in terms of exercises and capacities. It is also used as one of the main mechanisms for leading and evaluating defence and military progress in reforms, aimed at increasing the effectiveness of the Armed Forces of Bosnia and Herzegovina (AF BiH) and their modernization. Bosnia and Herzegovina has been participating in the PARP process since May 2007. "BiH completed its first PARP questionnaire in the autumn of 2007, less than a year after joining the Partnership for Peace, and agreed on the first package of partnership goals in February 2008." (Maxwell, Olsen, 2013, p.100)

Individual Partnership Programme (IPP). The aim of this cooperation mechanism is to adapt the defence system of Bosnia and Herzegovina to NATO standards. The list of cooperation activities with NATO is created according to the needs and priorities that can contribute most to the adaptation of the defence system to NATO requirements. The Individual Partnership Programme was created immediately after the submission of the Presentation Document, approved by NATO, in 2008, and in 2020, 161 cooperation activities were planned through the programme. Today, IPP is called the Individual Partnership Cooperation Programme (IPCP), and in 2022, 149 cooperation activities are planned through the programme.

Intensified Dialogue (ID). The aim of this cooperation mechanism is to enhance cooperation with NATO in areas related to political and economic issues, defence issues, resource issues, security issues, legal issues, and public

diplomacy. Bosnia and Herzegovina was invited to improve cooperation with NATO at the level of the Intensified Dialogue at the NATO Summit in Bucharest in April 2008. (Foreign Policy Initiative BH, 2012, p.3)

Individual Partnership Action Plan (IPAP). This cooperation programme allows Bosnia and Herzegovina to receive NATO assistance in accordance with common goals, interests, specific needs, and capabilities. IPAP is a two-year programme intended for partners, consisting of four chapters that cover: political and security issues, defence and military issues, public diplomacy, science, environmental protection, crisis management, and administrative and security issues and resources. Bosnia and Herzegovina has been using this programme since January 2008.

Membership Action Plan (MAP). This cooperation programme takes place through one-year cycles and through all parts of the state reform processes (politics, security aspects, economy, legal legislation). "MAP is a necessary step in the process of integration into the NATO alliance, but obtaining MAP status does not provide a guarantee to the aspirant state for eventual full membership in the alliance" (Duran, 2017, p.213). Unlike other mechanisms that are mostly of a technical nature, MAP is purely political, and that is one of the main reasons why Bosnia and Herzegovina has not been able to access MAP. Many political failures have arisen from political disagreements and a lack of cooperation among political elites (Preljević, 2017, p. 42). The period of participation in MAP lasts until NATO assesses that the aspiring country is ready for membership. Bosnia and Herzegovina was conditionally accepted into MAP at the NATO Summit in Tallinn in 2010 (conditioned on registering immovable prospective military property as state property used by the BiH Armed Forces). In December 2018, NATO invited Bosnia and Herzegovina to submit its first Annual National Programme, which would mean activating MAP. Instead of the ANP, a document called the "BH Reform Programme" was sent to Brussels at the end of 2019, which is interpreted differently.

The Armed Forces of Bosnia and Herzegovina (AF BiH) in NATO-led peace support operations

The Armed Forces of Bosnia and Herzegovina (AF BiH) participated in NATO-led peace support operations in Afghanistan. The International Security Assistance Force (ISAF) was established based on the Bonn Agreement of 25 December 2001, which provided for the transitional administration of the country and the future of post-Taliban Afghanistan with the help of the international community. The mission was authorized by United Nations Security Council Resolution 1386. The primary role of the ISAF mission was to support and assist the government of Afghanistan in securing and maintaining a safe environment that would enable the reconstruction of Afghanistan and the establishment of democratic structures and the expansion of the central Afghan government's influence. Involvement of the AF BiH involvement in this mission began with the deployment of two staff officers to the Danish battle group in late March 2009. From March 2009 to December 2014, close to five hundred members of the AF BiH were engaged in this mission. Participation of the AF BiH in the ISAF mission included staff officers, infantry units, military police instructors, and military police units.

The ISAF mission was later transformed into the Resolute Support Mission, and involvement of the AF BiH in the Resolute Support Mission began on 1 January 2015. By the beginning of 2021, over seven hundred and fifty members of the AF BiH were engaged in the mission. The Resolute Support Mission included staff officers, senior non-commissioned officers, infantry units, military police personnel, and explosive ordnance disposal units. The units and individuals of AF BiH in the missions in Afghanistan have demonstrated to be capable, trained, effective, and fully credible partners to NATO allies. There were no serious injuries, wounds, or deaths during the entire period of engagement. In line with conclusion of the Presidency of Bosnia and Herzegovina in December 2015, Bosnia and Herzegovina expressed its interest in participating in the Enhanced Enduring Partnership mission, a civilian-led mission that was to succeed the Resolute Support mission. Additionally, AF BiH is a desirable partner in a possible future NATO training mission in Iraq.

BiH Programme of Reforms

The initial document “BiH Reform Programme” is titled for the period of November 2019 to November 2020, confirming that it is an annual document. The document contains five chapters, namely: political and economic issues, defence and military issues, resource issues, security issues, and legal issues. The other two documents that were sent had the same content. The chapter on political and economic issues elaborates on foreign and security policy issues through relations with NATO, the EU, and neighbouring countries, as well as regional cooperation, international political organizations, financial institutions, arms control, demining, crisis management, and internal policy issues such as human rights, combating corruption and organized crime, border security, counterterrorism, civil society, science, democratic control in the defence and security sector, etc. The economic chapter provides general economic indicators and planned activities for economic development.

The chapter on defence and security issues elaborates on defence reform, planning, military effectiveness, military operations, personnel management, military infrastructure, and movable and immovable property. The resource chapter elaborates on planning, budgeting, and execution of the budget system, with a special section on the military budget. After the chapter on legal issues, tables with indicators and explanations of the textual part are created.

The fact that the “BiH Reform Programme 2019 - 2020” document contains a total of three hundred and thirty-three different activities or tasks that various ministries and institutions in Bosnia and Herzegovina need to realize annually shows its comprehensiveness. One hundred and forty-four activities are permanent and will be included in future annual documents until complete implementation. Only the Ministry of Defence of Bosnia and Herzegovina is responsible for seventy-one activities independently and for sixteen activities that need to be realized in cooperation with other ministries.

One of the most important sentences in the document is that the submission of the “BiH Reform Programme” represents the beginning of the implementation of defence reform, i.e., the strategic document “Review of BiH Defence”

adopted in 2016. Additionally, the “Commission for NATO Integration (CNI) at the Council of Ministers of Bosnia and Herzegovina is responsible for coordinating between ministries and agencies in the implementation of defined activities that make up the document.” Furthermore, the document emphasizes that all defined activities are in accordance with previous decisions of the Presidency, Parliamentary Assembly, and Council of Ministers of Bosnia and Herzegovina, and that Bosnia and Herzegovina will continue to develop its defence institutions and Armed Forces by adapting them to NATO standards.

Differences in the content of the ANP and Reform Programme

Analysing the contents of the document Annual National Programme of Bosnia and Herzegovina (ANP) for the period of 2018-2019, which was never sent to Brussels due to political disagreements, and the content of the document “BiH Reform Programme 2019 - 2020” key differences were observed in their contents (Starčević, 2019). The sentence in the first paragraph 1.1.1 Relations with NATO in the ANP read: “Euro-Atlantic integration, along with EU integration and the development of good neighbourly relations and the enhancement of regional cooperation, is a priority of the foreign policy of Bosnia and Herzegovina aimed at Bosnia and Herzegovina’s inclusion in contemporary European political, economic, and security integrations.” This sentence was removed from the content of the “BiH Reform Programme.”

Also, in the text of the ANP, the words “approximation,” “accession,” and “measures” were replaced in the “BiH Reform Programme” with the words “cooperation,” “association,” and “steps.” The part of the document referring to Bosnia and Herzegovina’s path towards accession to the Membership Action Plan (MAP) was also removed from the “Reform Programme,” which explains the Tallinn conditions when the MAP will be activated and the transfer of prospective military property to the state. Other paragraphs in both documents are almost identical, except that in the ANP, it is stated that Bosnia and Herzegovina has identified accession to Euro-Atlantic integration processes as one of the priorities of its foreign policy. In the “Reform Programme,” the word “priorities” in this same sentence was replaced by the word “goals.”

Politicians on the BiH Reform Programme

Milorad Dodik, a member of the Presidency of Bosnia and Herzegovina at the time of sending the Reform Programme document, thought that the document did not have an integration process in terms of membership because the document itself stated that membership was not prejudged, and it was quite clear that integration processes were not part of that overall document (Presidency of Bosnia and Herzegovina, 2019).

Šefik Džaferović, also a member of the Presidency of Bosnia and Herzegovina at the time of sending the Reform Programme document, told the media: “Our friends from the world and NATO support the Reform Programme. It is enough to say that the document is acceptable to NATO, that it follows the principles of the rule of law and respects all decisions” (Huseinović, 2019).

Branislav Borenović, the leader of the political party PDP, said in a statement to the media that there is no difference between ANP and the Reform Programme and that Milorad Dodik privatized the process of adopting the Reform Programme document, hiding it from the people, political structures, and academic community. He added that Bosnia and Herzegovina’s path to NATO membership is an irreversible process and that Dodik, with his signature, placed the NATO border on the Drina River, annulled the institutions of RS, and trampled the voted military neutrality (Klix.ba, 2019).

Dragan Čović, President of the Croatian Democratic Union of Bosnia and Herzegovina, when asked, “Is Bosnia and Herzegovina in the MAP?”, replied: “So what if it is, and what if it is not? We have to compete for our place on our Euro-Atlantic path. All relevant decisions made on the NATO path are valid. Whether we will ever join NATO depends on the institutions of Bosnia. The Croatian side has no doubts about it, the Serbian side does, and that will be respected” (Radio Sarajevo, 2019).

NATO on the Reform Programme of BiH

The Foreign Ministers of the North Atlantic Council, in a meeting held on 5 November 2018, welcomed progress in the registration of prospective military locations as state property and called on Bosnia and Herzegovina

to continue with reforms and expressed NATO's readiness to accept the first Annual National Programme of Bosnia and Herzegovina. This provided an opportunity and an open possibility for Bosnia and Herzegovina to further enhance its partnership with NATO, as the largest and most successful political-security alliance in human history under the Membership Action Plan (MAP). After the Reform Programme document of Bosnia and Herzegovina was handed over to NATO Headquarters on 24 December 2019, the document was analysed by NATO bodies and accepted by NATO. Although the Reform Programme is a document of Bosnia and Herzegovina, and its implementation is the obligation of the state and its competent institutions, the acceptance of the document by NATO implies the availability of support and expert and material assistance from NATO Headquarters and member states in its implementation, which has already been confirmed in practice through a series of concrete programmes of sponsored education, training, and valuable donations of material resources, for example, in the defence sector. During the presentation of the accredited letters of the Head of Mission of Bosnia and Herzegovina to NATO, Ambassador Mithat Kujundzic, NATO Secretary-General Jens Stoltenberg welcomed the submission of the Reform Programme document of Bosnia and Herzegovina and confirmed that the document represents a continuation of cooperation between Bosnia and Herzegovina and NATO (Mondo, 2020).

NATO Sarajevo spokesperson Ines Kuburović commented on the Reform Programme document of Bosnia and Herzegovina: "NATO looks forward to supporting Bosnia and Herzegovina as the authorities begin implementing the reforms contained in the Programme and Defence Review of 2016, and in this regard, the NATO Sarajevo Headquarters is available to the BH authorities for further support of defence and security sector reforms" (Radio Sarajevo, 2020).

Media in Bosnia and Herzegovina about the Programme of Reforms in Bosnia and Herzegovina

The adoption of the "BH Reform Programme" by the Presidency of Bosnia and Herzegovina has attracted great media attention, as it meant unblocking the government and opening the possibility of establishing the Council

of Ministers of Bosnia and Herzegovina. Almost all mass media in Bosnia and Herzegovina (television, internet portals, newspapers) informed the public about the content of the document. Some of them, such as *Večernji list*, *Srpska info*, and *Klix.ba*, published the original content of the “BH Reform Programme” immediately after its adoption. Most of the media fulfilled their role of informing the public by publishing the content of the document, quoting politicians, and emphasizing the messages of the ruling and opposition parties, using words such as victory or betrayal. They also quoted various military analysts and experts who confirmed, depending on their proximity to some political lobbies, that sending the “BH Reform Programme” is a way towards NATO membership, or just a continuation of cooperation with NATO. With this type of communication with the public, the media in Bosnia and Herzegovina confirmed that they do not have journalists-analysers who would define their position on the issue of the importance of NATO integration of Bosnia and Herzegovina and its position on that path. Since the media informed the public based on the opinions of politicians, selected military analysts, and only by publishing the original content of the document, the real function of educating the public is questionable. (Kunczik, Zipfel, 2006, p.38)

Military experts on the BiH Reform Programme

Former military representative of Bosnia and Herzegovina to NATO, Alija Kožljak, told Radio Free Europe that “I can responsibly claim that what Bosnia and Herzegovina was asked for, has been forwarded to NATO Headquarters in Brussels, and that is the Annual National Programme (ANP), with a different name - ‘Reform Programme.’” He based his opinion on the structure of the document, which, according to him, completely matches the structure of the Annual National Programme that other countries had sent to NATO before Bosnia and Herzegovina. He noted that “in the case of Bosnia and Herzegovina, it may happen that two chapters are condensed into one, political and economic aspects, but everything is covered through content” (Sandić-Hadžihasanović, 2019). Later, in a study published in 2021, Mr. Kožljak pointed out that “BH Reform Programme” is structured precisely as ANP by applying the same methodology and claims that it enables Bosnia

and Herzegovina to fully utilize the benefits of MAP. However, Kožljak is cautious and concludes that due to the strong influence of national interests and political factors, the case of Bosnia and Herzegovina shows that the successful implementation of ANP does not necessarily guarantee NATO membership (Kožljak, Šehović, 2021, p. 12).

University professor from Banja Luka, Miloš Šolaja, believes that the “BiH Reform Programme,” which was sent to Brussels, is significant due to the anticipated reforms. According to him, the programme of changes, transformation, and reforms, which includes the Membership Action Plan, pertains to the areas of economy, finance, politics, law, justice, defence, and security, and is something that certainly needs to be changed on the path to the European Union. In a statement for Radio Free Europe, Professor Šolaja said, “Therefore, the fact is that reforms are more necessary for Bosnia and Herzegovina to participate in security, that it is much more important than the status of the document. At this point, it cannot be said that this is the status of MAP and the path to NATO. Simply put, this is a broader framework of partnership and cooperation that has existed for thirteen years” (Sandić-Hadžihasanović, 2019).

For Denis Hadžović from the Centre for Security Studies, the “BiH Reform Programme” has all the characteristics of ANP. He believes that the document was modified compared to what other countries had sent and that NATO leaders will decide whether the conditions have been met for the activation of the Membership Action Plan. For him, the activation of MAP would mean implementation of the Defence Review, i.e., the implementation of the equipment modernization plan so that the Armed Forces of Bosnia and Herzegovina could be operational and meet the standards (Sandić-Hadžihasanović, 2019).

Assistant Minister of Defence for International Cooperation, Zoran Šajinović, emphasizes: “The Annual National Programme (ANP) is a conceptual framework and a link to the processes that we as a country should undertake in terms of further building a democratic society through institutional reforms, improving the overall security and economic environment that will provide better opportunities and brighter prospects for everyone in Bosnia

and Herzegovina. By adopting the document “BiH Reform Programme” and its acceptance by NATO, continuity and improved intensity of partnership cooperation have been ensured, as well as real foundations for the availability of assistance and support from NATO Headquarters and member states in its implementation. (Mr. Šajinović, 2021, perscomm February 26, 2021.)

The Reform Programme for 2021 and 2022

After the difficult birth of the Reform Programme for 2019-2020, Bosnia and Herzegovina sent two more such documents to Brussels, the Reform Programme for 2021 and the Reform Programme for 2022. The content of all three documents is similar, with the significant difference that in the last two documents, the name of the Commission for NATO integration has changed to the Commission for Cooperation with NATO. This Commission is tasked with determining priorities in implementing the obligations arising from Bosnia and Herzegovina’s participation in the Partnership for Peace programme and the Reform Programme of Bosnia and Herzegovina document. Additionally, the Commission’s mandate is to organize and manage the development of annual documents of the Reform Programme in the framework of cooperation between Bosnia and Herzegovina and NATO, and to submit them to the Council of Ministers for consideration and adoption (Radio Free Europe, 2021). Regarding the renaming of the Commission, most of the so-called pro-Bosnian political parties do not see a significant difference and remain convinced that the path towards NATO membership continues. On the other hand, the ruling parties in Republika Srpska believe they have successfully stopped that path, agreeing only to cooperation with NATO, following the example of Serbia (Cero, 2021).

Unlike the initial document, the Reform Programme for 2021 and 2022 is available to the public through the eConsultations platform. The page explicitly states: “This document is submitted without prejudice to the final decision on membership. By adopting the Reform Programme for Bosnia and Herzegovina 2022, the continuous work of Bosnia and Herzegovina’s institutions in determining priorities in implementing Bosnia and Herzegovina’s obligations arising from participation in the NATO Partnership for Peace programme will be enabled” (eConsultations, 2022).

Programme reforms in post-election agreements 2022

General elections were held in Bosnia and Herzegovina on 2 October, 2022. They decided the composition of the Presidency of Bosnia and Herzegovina, as well as the state, entity, and cantonal assemblies. In the context of this work, the election results for the Presidency of Bosnia and Herzegovina and the state parliament are of particular importance, as they are the two bodies with authority over Bosnia and Herzegovina's foreign policy.

According to the official results of the 2022 Bosnian and Herzegovinian Presidency elections, released by the Central Election Commission (CEC), Denis Becirovic (SDP) from the Bosniak voters, Zeljka Cvijanovic (SNSD) from the Serbian voters, and Zeljko Komsic (DF) from the Croatian voters were elected to the Presidency of Bosnia and Herzegovina (Radio Sarajevo, 2022).

In the parliamentary elections, SDA (8), SNSD (6), SDP (5), and HDZ BiH - HNS (4) were the political parties that won the most votes and thus the most seats (Central Election Commission of Bosnia and Herzegovina, 2022). Shortly after the elections, the SDP started forming a coalition with SNSD and HDZ BiH - HNS to secure enough seats to establish the government. Thus, the coalition of parties called "The Octet" was formed: Social Democratic Party of Bosnia and Herzegovina, Our Party, People and Justice, Bosnian-Herzegovinian Initiative - Fuad Kasumovic, For New Generations, Party of Democratic Action, Party for Bosnia and Herzegovina, and People's European Union. This created conditions for negotiations on the establishment of the government at the state level.

The power-sharing structure, where parties in power represent all three constituent ethnic groups, is designed to prevent tyranny of the majority and ensure commitment of all three groups to the central state of Bosnia and Herzegovina. However, in essence, it has resulted in permanent political blockade and paralysis in the last twenty years. Since each ethnic group must be represented in almost every government structure, reaching consensus on anything is difficult (Whitsell, 2022, p. 4).

In a relatively short time for Bosnia and Herzegovina, after several meetings of the leaders of these political parties, an agreement on the establishment of

the government was finalized. After signing a document called “Guidelines, Principles, and Goals in Executive and Legislative Power at the BiH level for the period 2022-2026” with Milorad Dodik (SNSD) and Nermin Nikšić (SDP), the leader of the HDZ Dragan Čović stated that after a long time, a partnership had been made that was “put on paper,” unlike previous forced coalitions (Dnevni.ba, 2022).

The process of drafting the agreement document was quite similar to the process of drafting the “Reform Programme of BiH”. Initially, Dragan Čović and Nermin Nikšić signed an agreement with almost the same name: “Guidelines, Principles and Objectives of Action in Executive and Legislative Authority for the Period 2022-2026.” The text of this document is slightly longer than the final document signed with Milorad Dodik to form the government. What is particularly noticeable is the chapter on Euro-Atlantic integration. The original document signed by leaders from the Federation of BiH on Euro-Atlantic integration in the first chapter, among other things, states:

- “Respect for commitments undertaken and continuation of further activities in the implementation of the reform programme and cooperation with the NATO Alliance and its members;
- Modernization of the Armed Forces of Bosnia and Herzegovina in accordance with international obligations and the needs of the state of Bosnia and Herzegovina;
- Implementation of all elements of the Membership Action Plan (MAP) and timely adoption and implementation of the annual reform programmes;
- Implementation of decisions of the Constitutional Court of Bosnia and Herzegovina regarding the registration of military property” (NES BiH, 2022).

On the other hand, the document signed with Milorad Dodik does not mention cooperation with NATO or the Armed Forces of BiH at all. After the signing, the protagonists were asked about relations with NATO. “There is no doubt that there is cooperation with NATO, it is indisputable that it was stated in the document that this does not prejudice the expansion and it

is indisputable that the decision on accession of Bosnia and Herzegovina to NATO will be made in Bosnia and Herzegovina. HDZ has its positions on NATO and thinks it should, the Octet thinks it should, we think it should not and we have not added or subtracted anything from the reform programme," said Dodik about the path to NATO. "Of course, we can emphasize the differences that are evidently present in our views, but we have decided to focus on what we can agree on and try to restore hope to the citizens," Nikšić said. Čović was also satisfied with the agreement reached and only commented on the EU status, expressing confidence that "the way will be open with partners from outside for financial transactions with the EU and for the candidacy status for BiH" (Dnevni.ba, 2022).

Through the prism of agreeing on establishment of the government for the period 2022-2026, we can consider the real meaning of the "Reform Programme of BiH" document. It is clear that the parties from RS currently have no intention of making a move towards NATO membership, so agreeing on the annual Reform Programme of BiH will likely be in the tone of what has already been seen, which is masking the content and carefully choosing words to define relations. With the lack of goals of the ruling coalition regarding NATO cooperation for the period 2022-2026, we can expect a continuation of the discussion on the intensity of cooperation with NATO. Although the Octet stated "NATO is implied so it does not need to be included in the agreement", the question of the character of the document sent to Brussels under the name "BH Reform Programme" arises again (Latif, 2022).

Final discussion

In researching the content and meaning of the document "BH Reform Programme," primarily content analysis and comparative methods were applied, which included the following variables in the document "BH Reform Programme," documents of Montenegro, North Macedonia, and Ukraine:

- Period and name of the document
- Size of the document
- Structure of the document
- Official country position
- Key messages

The “BH Reform Programme” is an annual document titled for the period November 2019 – November 2020 and later titled for the year for which it provides an overview. In Montenegro, North Macedonia, and Ukraine, the name of the document is identical, Annual National Programme. All documents, national programmes of these countries are annual.

The size of the “BH Reform Programme” is fifty-three pages (2019 – November 2020), sixty-eight (2021), and seventy-three (2022), while the analysed document of Montenegro is fifty-six pages. The document of North Macedonia has seventy-three pages, and the Ukrainian document has one hundred and eight pages.

The “BH Reform Programme” document has a structure that is formally the content of the annual national programmes of Montenegro, North Macedonia, and Ukraine, which activated the Action Plan for Membership. It concerns political and economic issues, defence and military issues, resource issues, security issues, and legal issues. Also, all compared documents have a part of written text and a part with tables that supplement the written text. In the first part of the “BH Reform Programme” document, there is no official commitment to NATO membership, unlike all three compared documents, where the country’s intention for full membership in NATO is unambiguously expressed.

In the “BH Reform Programme” document, it is stated that the document is submitted without prejudging the final decision on membership. The document from Bosnia and Herzegovina emphasizes the word “partnership,” while in the compared documents, it is “membership.”

The key message of the “BH Reform Programme” document is that Bosnia and Herzegovina will raise the level of cooperation with NATO, participate in joint exercises, crisis response exercises, and peace support operations, develop a military structure compatible with NATO, but without prejudging membership. All planned activities are in line with previous decisions of the Presidency, Council of Ministers, and the Parliamentary Assembly of Bosnia and Herzegovina, which means that regardless of not prejudging membership in NATO, the obligation from Art. 84 of the Defence Law of Bosnia and Herzegovina remains regarding the activities of the Parliamentary

Assembly, the Council of Ministers, and the Presidency of Bosnia and Herzegovina, and all defence subjects on the necessary activities for Bosnia and Herzegovina's accession to NATO. (PA BiH, 2005, p.21)

The key message of the document in Montenegro is that membership in NATO is a model for achieving social and economic prosperity, with a focus on the need for strong public support for the country's integration into NATO. NATO membership will mean strengthening the country's international position and building institutions, democratic values, and the rule of law - the key message of the document from the Republic of Macedonia. The Ukrainian document emphasizes that the content of the document is a guide for reforms, and that all reforms are financially supported and fully aligned with NATO standards. Ukraine's ANP is shaped as closely as possible to the content and principles of the Action Plan for NATO membership. Looking at the current situation where Russia invaded Ukraine in February 2022, it is evident that Ukraine's membership in the MAP does not guarantee activation of the Alliance in defence of Ukraine, but it is a fact that Alliance members have significantly helped Ukraine defend its sovereignty.

Conclusion

Based on the results of the research carried out according to the defined variables, using the content analysis and comparison method, several key conclusions can be drawn regarding the meaning of the document "BH Reform Programme".

The adoption and submission of the document "BH Reform Programme" was a positive response from the state institutions of Bosnia and Herzegovina to the offer and invitation of the foreign ministers of NATO member states on 5 December 2018. By adopting the document "BH Reform Programme" and its acceptance by NATO, continuity and an enhanced intensity of the partnership cooperation were ensured, and real foundations were created for the availability of assistance and support from NATO Headquarters and member states in its implementation.

Although the ANP form is defined, this is a document whose content is not prescribed by NATO but represents what the state, as a MAP partner,

determines as its own goals and priorities to be implemented over a period of one year, as well as the modalities and means for achieving the set goals. The document "BH Reform Programme" has a content fully aligned with the ANP form and defines key objectives and priorities for the period it covers.

Although it is stated on the NATO alliance's official website in the "Membership Action Plan" (MAP) section that Bosnia and Herzegovina participates in MAP and although the content of the document "BH Reform Programme" fully corresponds to the prescribed form of the Annual National Programme (ANP), the document "BH Reform Programme" formally does not represent the Annual National Programme (ANP) of Bosnia and Herzegovina.

The key fact for this conclusion is that Bosnia and Herzegovina, with the document "BH Reform Programme", is not seeking or prejudging NATO membership but emphasizing that the final decision will be made by the Presidency of Bosnia and Herzegovina and the Parliamentary Assembly of Bosnia and Herzegovina. The document also emphasizes that all activities are in accordance with previous decisions of the institutions of Bosnia and Herzegovina, which implies that the obligation under Article 84 of the Defence Law of Bosnia and Herzegovina remains, i.e., activities on accession to NATO. This opens up the possibility that some future annual programmes, regardless of their name, will define membership instead of cooperation and clearly define Bosnia and Herzegovina as an official aspirant for NATO. Taking into account the agreement on the establishment of power for the period 2022-2026, it is difficult to expect such a scenario in the near future.

In any case, the documents "BH Reform Programme" represent an additional step forward in cooperation with NATO, especially in the defence part, implying the growth and expansion of the various programmes and mechanisms of cooperation. And most importantly, submitting the document "BH Reform Programme" meant the beginning of the implementation of the defence reform, i.e., the beginning of a new chapter in the development and modernization of the Armed Forces of Bosnia and Herzegovina.

If all planned activities from the documents "BH Reform Programme" were implemented, it would mean the reform and standardization of institutions and the entire society of Bosnia and Herzegovina. At the same

time, it would mean the readiness of the state to access not only NATO but also the European Union, which would be much more important than the formal perception that the document “BH Reform Programme” represents a continuation of the path towards NATO membership or just the highest degree of cooperation with NATO.

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Program reformi BiH – suradnja ili članstvo?

Sažetak

U ovom se radu problematizira sadržaj i značenje dokumenta „Program reformi BiH”, koji je inicijalno objavljen za razdoblje studeni 2019. – studeni 2020., a poslije pod istim imenom poslan za 2021. i 2022. godinu. Traži se odgovor jesu li ovi dokumenti Godišnji nacionalni programi (ANP) koji znače aktiviranje Akcijskog plana za članstvo u NATO savezu. Sadržaj dokumenta analiziran je s obzirom na propisanu formu Godišnjih nacionalnih programa NATO-a i uspoređen je s dokumentima zemalja koje su bile aspirantice za članstvo u NATO-u: Crne Gore i Republike Sjeverne Makedonije te sadašnje aspirantice Ukrajine. Budući da je inicijalno od strane političara, vojnih stručnjaka i medija u Bosni i Hercegovini na različit način protumačen sadržaj i značenje dokumenta, potrebno je kroz prizmu stvarnih činjenica definirati status dokumenta „Program reformi BiH”. Nakon provedenih općih izbora u BiH, sklopljen je koalicijski sporazum između političkih stranaka za uspostavu vlasti na državnoj razini pod nazivom „Smjernice, načela i ciljevi u izvršnoj i zakonodavnoj vlasti na nivou BiH za razdoblje 2022. – 2026. godina”. Budući da ovaj sporazum ne spominje NATO suradnju ili integraciju, ponovno se nameće pitanje

stvarnog značenja dokumenta „Program reformi BiH” i pitanje što možemo očekivati u budućnosti kada su u pitanju odnosi s NATO-om.

Ključne riječi

Program reformi, Godišnji nacionalni program, Akcijski plan za članstvo, suradnja, članstvo

