Military Science in the Grip of Institutionalisation: Slovenian Perspective

Vuk, Pavel

Strategos, 7(2), 2023, 117-140
UDK 32
UDK 355/359
Professional paper

STRATEGOS

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 hollisticaly 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 language[2] (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'etre*. 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 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

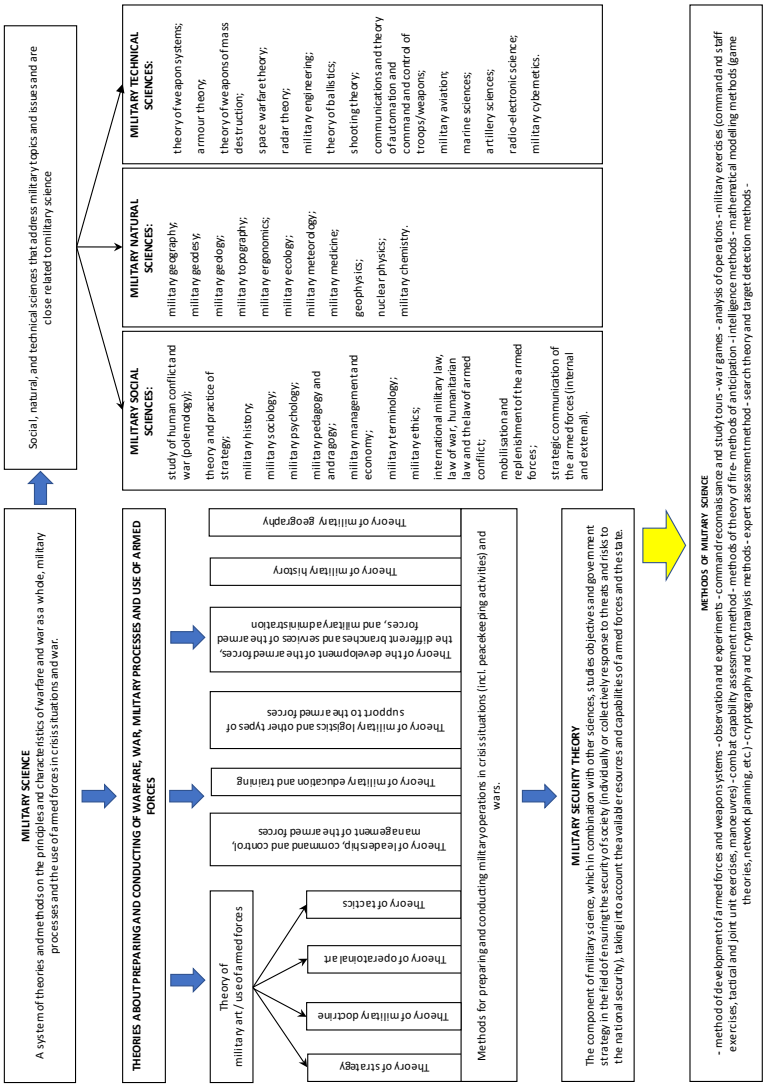
In order to define the core of military science, it is first necessary to analyse from where the subjects being taught draw the basic academic qualifications for their teachers, what the military-scientific reference of these subjects is, their unique characteristic, and in what way they are related 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.

References

Aaron, J. (ed.). (2019). *Design Thinking: Applications for the Australian Defence Force*. Joint Studies Paper, Series No 3. Canaberra, Australian Defence College.

Bologna declaration. (1999). The European Higher Education Area. Bologna, European Ministers of Education.

Enciklopedija Slovenije [Encyclopedia of Slovenia]. (2001). 15. zvezek. Ljubljana, Mladinska knjiga.

Grizold, A. (2001). Varnostna paradigma v mednarodnih odnosih. In: Evan Luard (introductory studies, Simoniti, I. & Grizold, A.), Človek, država in vojna [Man, the State and War]. Ljubljana, Fakulteta za družbene vede, 83–161.

Hart-Davis, A. (ed.). (2016). *Znanost* [Science]. Velika ilustrirana enciklopedija. Ljubljana, Mladinska knjiga.

Janowitz, M. (2017). *The Professional Soldier: A Social and Political Portrait*. Reprinted in 2017. New York, The Free Press.

Kofman, M., Fink, A., Gorenburg, D., Chesnut, M., Edmonds, J. and Waller, J. (2021). *Russian Military Strategy: Core Tenets and Operational Concepts*. Stuttgart, CNA.

Kotnik, I. (2002). Reflections on military science from the perspective of an Slovenian expert on security, defence and military issues. The interview was moderated by Pavel Vuk (11 October 2022), and the raw transcript is available from the author.

Paparone, C. (2013). *The Sociology of Military Science: Prospects for Postinstitutional Military Design*. New York, Bloomsbury Publishing.

Peischel, W. (2020). The Essence and Core of Military Science: An attempt at a definition by means of applying two dialectically opposed approach. In: Peischel, W. & Bilban, C. (eds) *Building Military Science for the Benefit of Society; International Society of Military Sciences*. Berlin, Carola Hartmann Miles-Verlag, 17–52.

Piehler, K. & Houston, J. (eds.). (2013). *Encyclopedia of Military Science* (Volume 2). Thousand Oaks, SAGE Publications Ltd.

Sookermany, A. (2020). Military Science – Missing in Action? In: Peischel, W. & Bilban, C. (eds.) *Building Military Science for the Benefit of Society; International Society of Military Sciences*. Berlin, Carola Hartmann Miles-Verlag, 53–73

Voelz, G. (2014). Is Military Science "Scientific". *JFQ*. 75(4), 84–90.

Vojna enciklopedija [War Encyclopedia]. (1975). (Volume 10). Beograd, Grafički zavod Hrvatske.

Vuk, P. (2018). Definiranje konceptov na primeru vojaške strategije. *Contemporary Military Challenges*. 20(4), 47–69.

Weiss, F. G. (2021). *The New Art of War: The Origins, Theory, and Future of Conflict*. Cambridge, Cambridge University Press.

Žabkar, A. (2003). *Marsova dediščina, temelji vojaških ved* [Mars heritage, the foundations of military science] (Book 1). Ljubljana, Fakulteta za družbene vede.

Žabkar, A. (2004). *Marsova dediščina: metode in smeri razvoja* [The Mars heritage: methods and directions for development] (Book 2). Ljubljana, Fakulteta za družbene vede.

Žabkar, A. (2005). Vojaška znanost, obramboslovje in varnostne študije. In: Bebler, A. (ed.), *Sodobno vojaštvo in družba* [Modern military and society]. Ljubljana, Fakulteta za družbene vede, 11–44.

Žabkar, A. (2010). Vojaške doktrine med politiko in vojaško znanostjo. *Contemporary Military Challenges*. 12(4), 33–47.

About the Author

PAVEL VUK, Ph.D. (pavel.vuk@mors.si), holds a doctorate degree in Defence Studies at the Faculty of Social Sciences (University of Ljubljana). He has been employed at the Ministry of Defence since 1992. From 2011 to 2015, he headed the Strategic Planning Division within the Defence Policy Directorate. Since 2016, he has been lecturing on strategy and operational art at the National Military College of the Military Schools Centre (Slovenian Armed Forces). In addition to his role as a lecturer, he performs the duties of the vice-dean for Scientific Research at the Military Schools Centre as of 2022. He is particularly engaged in the areas of military science, security studies, defence studies, defence planning and military sociology. He has published numerous scientific articles on the aforementioned subjects in publications at home and abroad.

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