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**THE MILITARY SCIENCE – SYSTEM OF HUMAN
KNOWLEDGE**

Military professor, PhD Dorin – Marinel EPARU

Department of Joint Operations, Strategic and Security Studies/ “Carol I” National
Defense University/ Bucharest,/Romania

Abstract:

An essential feature of human is his will of knowledge owed to its own needs or system needs he is part of. We born with instincts and die with more or less developed volume of knowledge. Anyway, human gets along his existence a value by the things he knows, by the things he can do and by his creations. The military science by its content is a creation of humans which in the knowledge process use common but also specific techniques, methods, procedures, means, norms and principles.

Key words: military science, knowledge,

1. The Systemic Approach of Military Science

The military science in the ensemble of other nature sciences is regarded as a science particular for a field, respectively the military field. This doesn't mean certain elements of its content can't be also found in other sciences used by other fields. Actually, among many sciences there are interferences, subordinated elements, common elements which generally brings consistence to the science.

The great savants of the world grounded their discoveries on the valuation of knowledge from many fields of activity. Neither the military science remains a close system; therefore, there appear connections and interferences with the technical sciences, economy, psychology, army's sociology, etc.

Thus, the military science offers an explanation of theories, laws and principles of fight by using knowledge from other sciences of fields of other sciences. The reason to be of the military science results from the fact it offers to the commandants' efficient knowledge and solutions for the organization and leading of the armed fight, for the efficient preparation of troops.

As regards the results of the military science, they must find their practical value in the settlement of some acting forms, procedures and methods which creatively, constructively and particularly applied in concern to the situation to lead to the victory. The victory is the dream for any fighter and one of the demands that provide this is to respect the norms, rules and principles elaborated by the military science. It is known the military power of a state greatly depends on the ratio of development of scientific knowledge with military specific found in as the theory of military art. Therefore, here is another argument in the favour of the necessity to develop the content and functions of the military science.

The specialists' in the art of war strongly sustained, over the evolution of the military power, the need to get the knowledge needed for the preparation and conducting the operations and battles.

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Here is what General Constantin Hîrjeu stated referring to the theory and the art of military leadership: „*It remains to see which of them, the art or the science, weights more today in the leadership of war. A military genius creates, does art; a military commandant, excepting the geniuses, skilfully use the methods of battle and the principles of the military sciences deduced from the practise of war, in other words, he does military science (:). Without a genius, the leadership of war will have from here on need of judgement (intelligence) and science. The science will give us the knowledge and the judgement (intelligence) the mean to use this knowledge to the war practise (to know is one thing, the know-how is something else). We will have to use by the capacities formed by science because the military geniuses don't come when they are called*”.¹

If we would be to synthesise the things said by the General Hîrjeu C., we can tell the military science originates in the practise of actions' conducting, and the actions are the expression of the application of the knowledge system that brings content to the military science.

There are needed a series of clarifications to appreciate if the military science is assimilated to a system and by the presentation of the characteristics we hope to answer to this problem.

1.1. The structural elements of the military science

In the scientists' world, there isn't always a unity of views. Almost everywhere are opinions, commentaries, sometimes contradictory over the mean of understanding or perception of a subject, phenomenon, thing, etc. Thus, neither as regards the status nor structure of the military science there wasn't a consensus. In this concern, in the specialty literature appeared formulations as: „*knowledge of war and the armed fight is an art, therefore, there isn't military science; knowledge of war and the armed fight compose a science therefore the military science can't be identified with the military art*”².

Such appreciations which triggered new and harsh disputes, only lead to an obvious progress to the thoroughness of the military phenomenon and basically to the recognition of the military science as fundamental mean of knowing the military field in general and the military action in peculiar.

The last results obtained in the field of military action knowledge emphasize the following components of the military science: the object of the military science, the general theory of the military science and the military art.

The object of the military science

The description of facts and events specific for the military field known by “*military action*” collocation there's the studied object of military science. The military action is composed by military actions by essence (operations of strategic, operative and tactic levels), military actions by destination and actions associated to the fight.

In the military actions by essence of offensive, defensive type – the defining element is the violent military confrontation as result of using a diversified range of armament and fight technique. The military actions by destination (designed for the fight) represent those actions needed to fulfil a mission or to aim an objective. In this category can be considered the specific actions to provide the actions and protection of troops, the logistical manoeuvre and, sometimes, even the deployment.

¹ Constantin Hîrjeu, Pregătirea armatei pentru război. Studiu de organizare, de psihologie și de instrucțiune militară, București, Atelierele grafice SOCEC, 1921, p.191.

² Cf.Tratat de știință militară, vol.I, Editura Militară, București, 2001, p.20

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The third category, namely the actions associated to the fight are actions by which “*the military structures are prepared and brought to the readiness state in order to be able to undergo fight of non-violent military actions*”.³ Although here can be included other measures as: the preparation of territory and economy for defence, the preparation of population for defence, the creation of national defence system infrastructure, etc.

The range of these military actions underwent into a space and in a period of time forms the battlefield which in the most frequent situation is integrated.

The integrated character of the battlefield is given by the participation to the military action of many categories of forces of the army and types of weapons under a unitary leadership and in close cooperation in order to reach a common goal.

The military action is based on a complex social relation, namely the conflicting political relation (the social relation born by the armed conflict between the social groups, peoples, nations, states, coalitions, alliances) in its sharper form of manifestation, *the violence*. For the entire social life, the constraint or violence stands fundamental. It represents the reality dominating and the harmony as ethical principle keeps the role of desiderate, although is superior as value.

The military action undergoes among violence (the armed fight) and non-violence (non-violent military actions). Still, it might appear the question: have the stability and support operations a violent compound? The same question is available for the intermediary operations. Still, by the experience of the late military conflicts it results there can be moments wherein violence to also appear in such actions.

As type of social action which aims the disorganization of enemy's system of actions, its capturing or annihilation, and also the destruction of armament and fight technique, the military action presents many similitude with the other types of social actions but also a series of peculiarities. Thus, the similitude of the military action with the other types of social actions origins in the generic definition of the action concept as a deviation or change of the normal course of events following the intercalation of the agent in their trajectory as a event marked by an intention or a goal to the action's structure.

The military annalists are unanimously accepting the differences between the military action and the other types of social action, inclusively the political action, come from the nature of the agent involved in the action, action's goal and also the used means of battle.

The political essence of the military action is given by the metamorphosis of the political goal as military goal and objectives which accomplishment priory comes to the national or allied military structures.

The general theory of the military science

As specific field of analysis, research and explanation of the military phenomenon as a whole or some of its important dimensions, the general theory of the military science

³ F.T.1- Doctrina Operațiilor Forțelor Terestre, București, 2006, Secțiunea a-2-a, Caracteristicile confruntărilor armate moderne

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occupies a meaningful spot in the military science. It comprises a system of fundamental ideas or generalizes the military practice and reflects the real processes of the armed battle.

It designs “*an ensemble of sentences logically organized which synthesize information about the totality of the elements composing the military action, as well about the reports and relations settling between them, between them and the whole (the military action as a whole), between the military action and the human action in general*”.⁴

Any scientific research finality is to build an operational system of ideas into a field or subfield. In this regard, the general theory of the military science is the final result of scientific research of the military field.

The general theory of the military science includes all the directions and means of knowledge of the military phenomenon.

In a conception that enjoys the broadest sense, the general theory of the military science comprises: the categorical system, the sentences’ system and the methodology (an ensemble of methods and techniques of investigation of the studied object).

The categorical system of the military science comprises the basic notions used in the research of the armed battle phenomenon and the resolution of the issues related to practical undergoing of the military action.

There can be numbered as defining elements of system of categories and notions, collocations or concepts as follows: the military action, mission of combat, norms and rules of engagement, armed force, military potential, power of battle, armament and technique of fight, operation standards, operation, manoeuvre, battle, intermediary operations, deeply combat, interdepartmental operations, surprise, safety, etc.

The military theorists appreciate in the military science is “*frequently operating with conceptual series of contraries, even if not every time are sensed the multiple senses and implications of those concepts, their strategic consequences and techniques*”⁵ expressed in couples as: offensive – defence; attack – counterattack; offensive – counteroffensive; space – time; manoeuvre – counter-manoevre; hitting – protection; surprise – safety, etc. around which there were constructed systems of strategic, operative and tactical thinking.

The system of collocations is formed by statements with status of premises, hypotheses, axioms, logically organized definitions, characterized by systematization and uniqueness providing this single and specialized universe of theoretical discourse of armed battle phenomenon. A meaningful spot in the system of collocations is occupied by the axioms and this does as the general theory of military science to get along the character of logical system the one of axiomatic system. The axioms of the general theory of military science are formulations in form of the laws governing the military combat. They appear as essential necessary, repetitive and relatively stable reports between the intern dimensions of war phenomenon and also between them and other fields of social life determining the preparation and leadership of the military actions.

As element of the general theory of military science, *the methodology* is build of a system of methods and techniques of investigation able to be applied in the knowledge of military action.

Generally, the military action is presented as three stages: peace, crisis and war. Presently, the temporal and action delimitation of those stages become greater and increasingly delicate issue because there is certain interference of those.

⁴ Colectiv, *Tratat de știință militară*, vol.I, Editura Militară, București, 2001, p.22

⁵ Frunzeti Teodor, Mureșan Mircea, Văduva Gheorghe – “*Război și Haos*”, Editura Centrul Tehnic Editorial al Armatei, București, 2009, p.147.

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The thorough study of the armed fight aims to bring new elements as regards the knowledge about how are manifesting the laws and principles which governs the military action in relation to the qualitative mutations in the field of the military techniques; the elaboration of a unitary picture of different disciplines studying the armed fight; the emphasizing of multiple and complex mutual determinations and conditionings between the armed fight and the other types of social actions; the analysis of relational and functional modifications intertwining in the structure of military actions in the new conditions of war undergoing; the constitution of some strong, stable and mobile systems of action; the clarification of meaning of concepts, terms and notions describing the armed fight, etc.

The research methodology in the military science uses a wide range of methods and procedures, some common for many sciences or adopted from other sciences (empirical methods – the observation and experiment; analytical methods – induction and simulation, but also specific methods as the methods of applications and war games.

The military art

Along its existence, the military art as compound part of the military science was defined according to the evolution of the military phenomenon and of ensembles of ideas allowing a detailed analysis of it. The place and importance of the military science in the structure of military science are given by the fact it is the specialized field of organization and leadership of the armed battle. It comprises the principles, methods, procedures and rules of preparation and leading of the military actions and also the personal abilities needed for the commandants and troops to obtain the success in operations.

Clausewitz affirmations are suggestive for the correct perception of theoretical and practical-applicative part of the military art: „*Where the logician draws the line, where the premises end, which are the result of knowledge, where starts the judgement, there begins the art [...], where the goal is creation and production, there is the field of art; the science rules where research and knowledge are the goals*”⁶.

The content of the military art underlines its structure includes: the theory of the military art (technology of the armed fight) and the armed fight (the real undergoing of the operations).

The military art theory studies and generalizes the experience of the armed fight in order to know and elaborate principles, rules and procedures of action. It comprises the strategy, the operative art and tactics and is strongly related to the general theory of the military science.

The practical-applicative part of the military art known as “*the fight technique*” or “*the armed fight*” or even “*the execution of the armed fight*” refers to the real undergoing of the military actions.

The particularities of the military actions from the last two, three decades strongly emphasizes the importance of theoretical accumulations and practical experience in the projection and leading of operations.

1.2. The functions of the military science

The military science as any other science it hasn't an intrinsic goal. It is dynamic and useful because it satisfies the needs of knowledge and management of the military phenomenon, especially the armed fight.

⁶ Carl von Clausewitz, *Despre război*, Editura Militară, bucurești, 1972, pp. 132-133

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The military sciences functions are: referential, explicative, predictive and instrumental (the science of practice).

The referential function consists in the military science offers an image, a representation, a pattern of the military phenomenon and the armed fight. This function answers to the question “*how are structured and functions different fields (subsystems) of the armed fight phenomenon*”.

The explicative function comes to emphasize and differentiate connections between the armed battle compounds and the fields of the military phenomenon. The military science look to explain a phenomenon, law, principle, to look for the cause of an event in order to be better perceived, understood.

By its *predictive function*, the military science makes predictions over the evolvement of military events and processes, of the military phenomenon. In this concern, there can be deduced new knowledge, appreciations and conclusions over the possible projection of the military phenomenon.

The military science it also has *instrumental (practise science) function* by which offers patterns logically built, reasonable guides of action. By this function is provided the action’s improvement, the rapidity of operations’ preparation and leading, the avoidance of some major malfunctions of the actions’ systems.

2. Stability and Dynamism in the Military Science

Any science, in its essence and existence it has history, an evolution in time, according to other sciences impact and especially the transformations ongoing in the physiognomy of the studied object.

In the last decades, the scientific means of interpretation evolved. The discovery of discontinuities in the means to conceive the theoretical demarche (Thomas Kuhn, *The structure of the scientific revolutions*), the passing from the verifications’ position to the promotion of assessments by comparing the theories and trials of identification of experiments able to falsify them if there aren’t correct (K. Popper, *The logics of scientific research*), the critics which R. Boudon does to the causal analysis of social constitutes major contributions to the instauration of how the scientific demarche is conceived, effectuated and assessed.

2.1. *Fields and disciplines of study in the military science*

Is known the military science developed not only by the multilateral way of thoroughness and comprising of the studied object, the increase of generalization and abstracting ratio, and also on the way of delimitation inside it of some fields, disciplines and branches.

The war became very complex phenomenon with consequences over all the social life dimensions. From here results the need for enriching the fields and disciplines of study in the military science. Therefore, if in its period of formation it was composed by the strategy, tactics, fortifications and military history, presently, there can be considered as disciples of study: the general theory; the military art; the history of military art; the training and education of troops theory; wherein can be added: the military psychology; the military sociology; the military leadership (management); the theory of ear games and others.

As long as the military phenomenon modifies from a day to another, we surely be assisting to an inter-conditioning and interference with other disciplines and fields. For

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example, although it seems as SF field, the parapsychology is more frequently in the attention of researchers of the military field.

Still, all these can't lead to the substitution of the military science with other sciences. The military action remains undoubtedly the object, the field of study of the military science.

“The war will be in the XXI century the sharper manifestation of the conflicting political relations existent at one given time between great groups of peoples (nations, peoples, states, coalitions of states, etc.) organized from military regard”⁷. Such confrontation doesn't limit to the military field but involves all the social life spheres: political, economic, technical-scientific, ideological, diplomatic, informational, psychological and other nature. Therefore, the military science in the effort to exacter define the dimensions and physiognomy of the military actions must find, borough some data and information from such different fields. Otherwise, the military science keeps own identity in the future having well defined object of study, own methods and techniques of investigation.

2.2. Directions and orientations of research in the military science

Romania's adhesion to NATO presumes the continuation of the effort to modernize the armed forces in order to be able for a better answer to any type of actions' exigencies. Along a modern endowment and capability, the army must be solidly prepared in a system of ideas compatible with the NATO member states. This presumes a common language, a unitary informational support, a modern conception and lastly an adequate methodology. All these become possible under the conditions wherein all the efforts of the military science by consecrated or becoming specialists are directed and oriented to a corresponding finality.

The changes produced in the late 10-15 years in the conception of forces use to solve some complex situations on peace, crisis or war impose from the military science part a profound and logical approach of the military action. The apparition of terrorism “*at open scene*” and the engagement of the armed forces against it makes like the military science to encounter a new dynamic in its theoretical, formative but also in the practical-applicative dimension by its field – the military art.

As object of study of the military science – the military action – it has known a profound and consistent dynamic in all its ampleness. The great diversity of forms, procedure, techniques and norms standing on the basis of projection and leading of the military action enforces the military science to have a permanently open, new content but also a stability of some enounces collocations and norms.

A systemic, functional approach of the military action will lead to a superior explanation of theories, principles and laws governing the military phenomenon. Thus, it will be more clearly discovered the connection between the military phenomenon and multiple aspects of the social life. Of course, presently, and especially in perspective we will assist to military deployments aiming diverse goals, participant forces, means of action and also post-conflict arrangements.

By this regard, there can be identified some research directions for the military science as: the integration of the historical perspective in the scientific creation and construction of the military field (military science field); the amplification of constructive demarches of scientific theories; the increase of theoretical thinking role and others.

⁷ Mureșan M., Văduva Gh. – “*Războiul viitorului, viitorul războiului*”, Editura Universității Naționale de Apărare, București, 2004, p.83

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The frequent appeal to the history of wars, armed combat is determined by the deep methodological and conceptual transformations of the military science that reach the general frameworks of knowledge and the contemporary perceptive approaches.

By this regard, it comes from the understanding of the entire evolution of the military science needed to determine its future development directions.

In the historical perspective, we have the possibility to reveal the factors which analysis is conditioned the scientific explanation of the military phenomena as: the economic conditions founded in the economic potential; the social-political relations, especially the regime of state and its politics; the mean of development of the military science, techniques and culture, country's population and military practice.

Today, we assist to the formulation of a great number of concepts and theories over the preparation and conducting the military actions under very complex conditions. Moreover, there is necessary a critical assessment of elements with normative nuance under the conditions of some restructurings of all the military systems.

The crossing from the analysis of some reasonable, structural, systemic aspects will allow the widening of the informative spectre of the military science.

2.3. Modern coordinates for the assessment of the military science

The beginning of the XXI century created in the military science a series of problematic situations came in the asymmetrical actions field, of fight against terrorism, of stability and support actions (operations). To those, we add the issues related to the more aggressive and good informatization but with certain vulnerabilities of the newest results in the high tech fields; we can say certain collocations as the informational war or network-based war carries the military science a new effort of creation in the theoretical and practical plan.

The military science must continuously adapt the military actions' principles, methods, procedures and rules of preparation and leading therefore these to correspond to the organizational, structural and endowment transformations specific for the modern military system.

The era of information technology fundamentally modifies our perceptions over the military confrontation and asserts us to the profound research of phenomenon.

From the analysis of the already presented facts, it results the military system is an ensemble of elements in interaction, constituting an entire organized with specific properties and own functions, different from the ones of the composing elements, a distinctive and relative autonomous formation reported to the surrounding area which can be identified in any field (physical, biological, social, etc.).

The system's objects are, at their turn, structural totalities (subsystems) in which framework the system's laws aren't identical with the ones of the component elements. The adjacent (complement) of the concept of system is the one of environment wherein are included elements situated outside the system which influence it or are influenced by it.

The trends of evolution of the military science must be strongly correlated to the evolution of the military phenomenon as a whole. Under the influence of factors standing on the basis of changes in the modern physiognomy of war, the military science must continuously adapt its principles, methods, procedures and rules of preparation and leading of the military actions therefore these to correspond to the organizational, structural transformations and the endowment specific for the modern military system.

Even all types of conflicts and actions seem to reproduce in new forms the ones of the antiquity, Middle Ages and modern and contemporary époque, their comprising

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sphere, content and means of undergoing assert new rules, new configurations and even new principles. These are found in the reform of defence policies, doctrines and strategies of all countries and armies in the world.

NATO, the alliance that owns the supremacy in the field of modernizing forces, means, doctrines and strategies of use seems to continuously adapt to the necessary changes.

We live into a changing world, a world of sort of questions and all means of many questions. Some have simple answers, others have complicated ones, but many have undetermined answers. The questions over “the world war” are part of this category.

The military science must keep up with the evolution of all sciences with which it has common elements, the evolution of the military phenomenon and society in its whole. The military action, as object of study of the military science bears and will bear in the future essential modifications in concern to its goal, engaged forces and means, the conception of their engagement, all being connected to the political objective.

The military science must offer the complex framework to solve the problematic it involve the armed fight in the future wars, to share models for the resolution of challenges raised by the military phenomenon, phenomenon in a continuous change.

References:

- [1] Boaru Ghe., colectiv – „*Aspecte ale conducerii sistemelor militare*”, Editura Militară, București, 1999.
 - [2] Clausewitz K. V. - “*Despre război*”, Editura Militară, București, 1982.
 - [3] Frunzeti T. – “*Lumea 2011*”, Editura Centrul Tehnic Editorial al Armatei, București, 2011.
 - [4] Frunzeti T., Mureșan M., Văduva Ghe. – “*Război și Haos*”, Editura Centrul Tehnic Editorial al Armatei, București, 2009.
 - [5] Frunzeti T., Bădălan E. – “*Simetria și idiosincrasia în acțiunile militare*”, Editura Centrului Tehnic Editorial al Armatei, București, 2004.
 - [6] Frunzeti T. – „*Changing military paradigms*”, Edition elaborated by the editorial staff of Romanian Military Thinking Magazine, Military publishing house, Bucharest, 2005.
 - [7] Popescu L., colectiv – „*Teoria generală a sistemelor și implicațiile asupra managementului organizației*”, Conferința internațională KIP 2007 „*Cunoașterea este prin ea însăși putere*”, Editura Universității Naționale de Apărare „Carol I”, București, 2007.
 - [8] Mureșan M., Văduva Ghe. – “*Războiul viitorului, viitorul războiului*”, Editura Universității Naționale de Apărare, București, 2004.
 - [9] Onișor C. – “*Teoria strategiei militare -realitatea XX, perspective XXI*”, Editura Academiei de Înalte Studii Militare, București, 1999.
 - [10] Sun Tzî – “*Arta războiului*”, Editura Aurelia, București, 1996.
- *** Colectiv de autori – „*Tratat de Știință Militară, vol. 1 și vol. 2*”, Editura Militară, București, 2001.