

REFLECTIONS ON COMMUNICATION AND REDUNDANCY IN MILITARY INFORMATION SYSTEMS

Costinel Nicolae MARESI

“Carol I” National Defence University, Romania

“The word is half of the one who says it and half of the one who listens to it”

(Michel de Montaigne in *Essais*)

A military organization, with a modern information system, can develop rapidly, can shape the operational environment and obtain quality intelligence products by calling for a rigorously prepared and integrated internal and external communication in its operations. The current framework imposed by the enormous speed and the huge volume of information conveyed, unprecedented in the history of humanity, requires a good knowledge of this social process, often neglected, but which ensures many advantages, and few disadvantages, if we were to overlook the existence of redundancy. There are various hybrid threats to our nation's and our allies' security, that use different types of communication in the most innovative, surprising and effective way. The aim of the current scientific research is to analyze and develop the functions and role of communication in military information systems and to draw attention to the undesirable effects of redundancy in the decision-making process.

Key words: *internal military communication, external military communication, strategic communication, directed informational redundancy, military information system.*

1. INTRODUCTION

It cannot be disputed that “we live in an age of background noise, bits and decibels, of sophistication of communication technique, so we survive in a boom and information

booms. And yet, feedback is not encouraging: the more is spoken, the less is listened to.”(Rotaru, 2004, p. 10).

From the above the main scientific research objects of this article are distinguished:

communication and redundancy, with the mention that both are treated in correlation with military information systems.

The concept of *communication* emerged in the scientific literature in the 20th century, giving it the meaning of “*transmitting, receiving oral, written or other messages through which a human person or group receives information on any area of the surrounding reality*” (Arădăvoaice, 1997, p. 24), as seen in Fig.1.



Fig. no. 1 Reduced scheme of the communication processes

Source: Nicolaescu & Simileanu, 2005, p.14

The military information system is “*a set of equipment, methods and procedures and, if necessary, personnel, organized to complete the functions of information processing*” (Glosarul NATO de termeni și definiții. AAP-06, Ediția 2019, f.a., p. 67) in the military environment. Communication supports the military information system, but can cause significant dysfunction when there are certain types of informational redundancy.

2. INTERNAL MILITARY COMMUNICATION

Internal military communication is a basic process of military information systems, in which information is disseminated in two senses between chiefs/commanders and subordinates (vertical) but also between military personnel who do not have subordinate relations (horizontal).

The most relevant functions of internal military communication in military information systems are personnel motivation, maintenance of the information system, and development of human resources.

2.1. Maintenance of the Military Information System

The military information system shall ensure the command of the military organization with the necessary information for its proper functioning in times of peace or crisis and obtaining the information supremacy in the event of conflict. The ability to move information into the military information system is ensured by communication.

A stored information that has not been transmitted on time to the decision-makers means only time and resources wasted unnecessarily.

2.2. Personnel motivation

When they have a choice, people almost always turn to what is easier, more rewarding. "Acts of conduct never occur "for free", there is always an energy device and a constellation of meanings that explain why certain psychic manifestations occur", these represent motivation.

The information influences not only the level of knowledge of the beneficiary but also, more often, his affective part. People act in one way or another in relation to their interests, what they want to achieve and how information is communicated.

The motivational function of internal military communication is to induce people to act towards obtaining "*the advantages that the group will have and therefore the individual concerned???* as a result of success or negative effects in the event of failure"(Arădăvoaice, 1997, p. 37).

2.3. Development of Human Resources (Teaching Communication)

Military information systems through internal military communication shall inform the military on the battlespace situation, the requirements of the mission, the

courses of action, possible results, reactions to failure, and lessons learned from the operations.

The military information system is indispensable not only in operations but also in the military educational-instructive system.

Knowledge in the military environment is transmitted through military education and troop training. The latter is the component of the development of the human resource that ensures the combat capability of the military forces by preparing them to use the military equipment that they possess. What is learned in military educational institutions is practiced through training.

The vast majority of military groups are daily being involved in training or education programs. "*The transmission of knowledge, the formation of skills and habits constitutes on the whole the result of great efforts that implies actions prepared, triggered, led, controlled, regulated and evaluated through the intercession of an intense process of intercommunication.*" (Arădăvoaice, 1997, p. 205)

As regards the communication situations specific to the military environment (see Fig. 2) these are various and require continuous adaptation of the communication process by modulating the tone, volume, style and message for the success of the action.

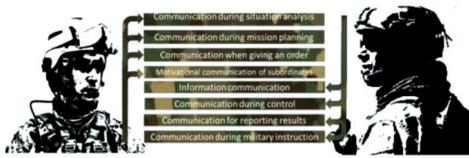


Fig. no. 2. Communication situations specific to the military environment

It is estimated that “60% of management problems are generated by poor communication” (Arădăvoaice, 2002, p. 38). Good internal military communication should follow a set of rules: *quantity rule, quality rule, relationship rule, meaning rule, style rule and responsiveness rule* (Arădăvoaice, 2002, p. 38).

3. EXTERNAL MILITARY COMMUNICATION

External military communication means the transmission of messages to the external environment of the military organization in a controlled manner and the receipt of information (messages) with or without the intention of the sender. The functions of external military communication are those illustrated in Fig. 3.

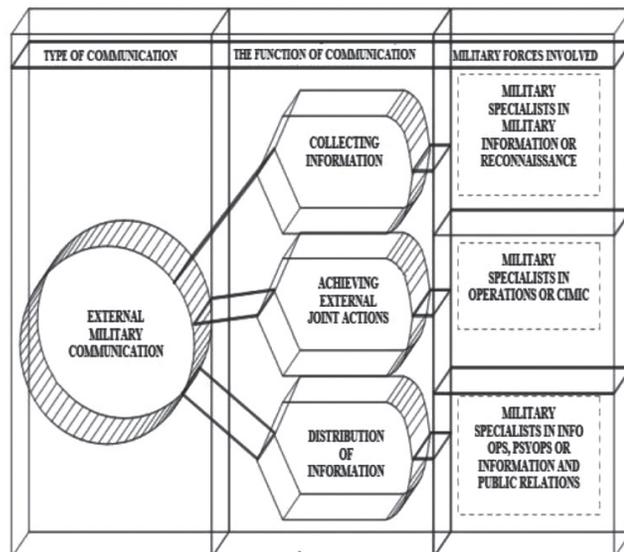


Fig. no. 3 The functions of external military communication and military means of achieving them

3.1. The collecting information function

The collecting of information through external military communication is carried out with military specialists in SIGINT, IMINT, OSINT, HUMINT or more recently, E-HUMINT actions.

“Communication is an important part of the activity of HUMINT operators, whether it is real or virtual (on-line).” (Ivanov, 2013, p. 138) The E-HUMINT information gatherer obtains information from the online environment, from people who are active in the virtual environment by maintaining blogs, being part of online social networks (Facebook, Twitter, Instagram), and so on.

Gradually more and more information products will be based on E-HUMINT because communication through social networks can have a major influence on important events: political elections, “colored” revolutions, the implementation of strategic infrastructure projects, and more.

3.2. Achieving External Joint Actions Function

In most cases, in the event of a crisis or when the military structure does not have the necessary resources to manage the situation, it must communicate with other public authorities, civil society institutions or other military bodies.

Joint actions with the external environment of the military organization require the sharing of information held about the situation through carefully planned external military communication with respect for the security of classified information, and the need to disseminate information linked to the need to know.

In most cases, the implementation of external joint actions is a specific objective of military personnel in the field of CIMIC (civil-military cooperation/collaboration) or military operations.

3.3. The Distribution of Information Function

Civil society, other military and civilian organizations must understand the military actions of our troops, support or at least not affect their development. Since the success of a military operation often depends on the support of the civilian population, especially if the fight goes to the urban environment, communication ensures this objective and becomes a key element for the success of victory.

Depending on the context in which the military organization finds itself, we distinguish three types of communications with its external environment: peacetime communication, crisis communication, conflict communication. Regardless of the type of communication, from the above listed, we are talking about strategic communication. Strategic communication, as defined in NATO doctrine, of September 2009 (see *PO (2009) 0141*, NATO StratCom Policy, 29 Sep 09) is “the coordinated and appropriate use of NATO communications activities and capabilities (*Public Diplomacy, Public Affairs, Military Public Affairs, Information Operations and Psychological Operations*) in support of Alliance policies, operations and activities, and in order to advance NATO’s aims” (*FAQ | StratCom*, f.a.).

The concept of strategic communication began as an attempt to combat the problems faced by NATO forces in military operations in Afghanistan when they needed to gain the support of Afghan populations. (Reding et al., f.a., p. 26) This concept is an important part of NATO’s comprehensive approach strategy, involving civil-military collaboration, counter-insurgency, peace operations, stability and crisis management.(Library, f.a.)

The purpose of operationalizing strategic communication is to shape the operational environment by inoculating a convenient behavior wanted by the military organization among the target audience. Through this process, clear and timely information is transmitted to the target audience about military actions that helps allied troops,

ruin the opponent’s strategic communication and create conflicts between the opponent and the target audience.

Comprehensively viewed strategic communication is a form of propaganda since contact with the civilian population must not be limited to simply informing them.

4. INFORMATION REDUNDANCY IN MILITARY INFORMATION SYSTEMS

Informational redundancy is the second main concept of this scientific article and is defined as excess, the use of more information than is absolutely necessary or the dissemination of information without additional content to the existing knowledge. This term belongs to the American engineer Harry Nyquist

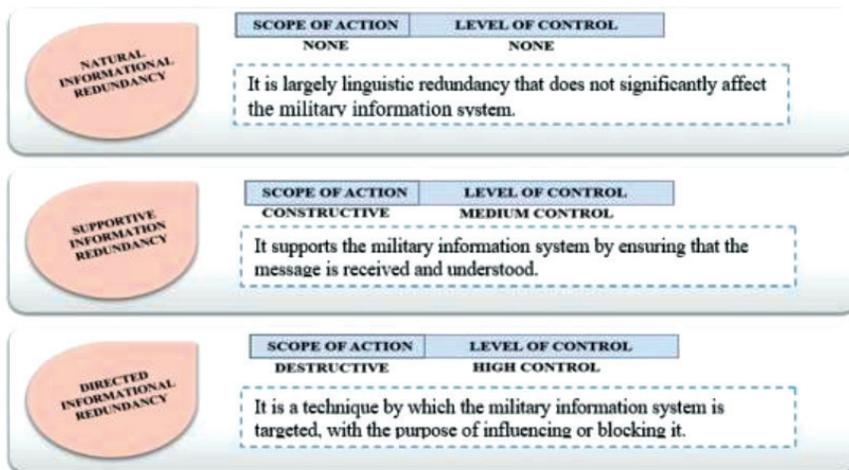


Fig. no. 4. Taxonomy of information redundancy according to the purpose and the degree of control exercised by the sender of information

who in 1920 used it to describe “*<<useless>> sinusoidal signal component*” (Lesenciuc, 2017, p. 26).

Depending on the purpose pursued and the degree of control exercised by the sender of information, the information redundancy is classified according to 5.

4.1. Natural Informational Redundancy

Natural informational redundancy is largely linguistic redundancy, relative surplus of “*signs contained by a message in the communication process, the use of duplicate words, unnecessary or unknown meaning*” (Dumitru, 2010, p. 121).

A well-known form of it is tautology (unnecessary repetition of the same information in other words) or pleonasm.

Natural informational redundancy is a hard-to-detect deficiency. Both chiefs/commanders and subordinates suffocate their interlocutors with insignificant information because they do not know how to communicate effectively.

4.2. Supportive Information Redundancy

It bears the general nature of informational redundancy with the indication that it supports the

transmission and understanding of the message between the interlocutors, especially when there are disturbances in the information circuit.

There are also situations when, although the aim is to support the military information system, the result is the exact opposite. Here is representative the habit of some military chiefs to claim from subordinates “*an endless stream of data, in reality of derisory utility to them, but devouring time for all involved. This wrong practice runs counter to the principle of rational autonomy of the executors*” (Arădăvoaice, 1997, p. 259).

4.3. Directed Informational Redundancy

Directed informational redundancy is the informational redundancy planned and executed by a hostile force which by affecting the military information system seeks to achieve information supremacy in opposition to another military force.

In John Boyd’s OODA (Observe, Orient, Decide and Act) loop explaining the decision-making process, the observation and orientation phases are within the scope of the military information system (see 6). Directed informational redundancy causes inconvenience in these initial phases, thus affecting the entire decision-making process.

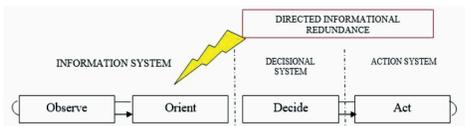


Fig. no. 5. Intervention of directed informational redundancy directed in the OODA decision-making cycle

Directed informational redundancy influences the military information system as follows:

- Inhibits critical thinking by biasing its staff;
- Hide or distract from essential information;
- Being a chronophage technique makes the relation information-reality asynchronous, the actual facts unfold faster than the information processed about them;
- Doesn't allow a high standard check of the collected information due to the fact the information flow is overloaded.

It is well known that the message of influence by which disinformation is carried out also implies “*informational oversaturation, (bombarding with new information, so as not to fix the old ones)*” (Gâdiuță & Sava, 1998, pp. 195–196). The mass-media and the internet, in particular, are the environments in which this technique is most often used. In this direction, some authors note that “*the hybrid war between Russia and Ukraine, which resulted in the annexation of Crimea to Russia and*

continues with large operations in the eastern regions of Ukraine - Donetsk and Luhansk, proves to us that the Internet can be an effective weapon of psychological warfare, of massive manipulation of both the peaceful population and the military forces” (Dumbrăveanu, f.a.), whose effects can be increased by appealing to directed informational redundancy.

I conclude this topic with a brief assessment of a well-known military strategist: “*Napoleon said that all the rhetoric contains only one figure worthy of interest: repetition. The stated thing, through repetition, ends up imprinting itself in thoughts, to the extent that it is accepted as a proven truth.*” (Le Bon, f.a., p. 64)

5. CONCLUSIONS

From the military leader to the last military on the right flank of formation everyone must be aware of the value of communication. Communication is equally decisive both within the military organization and at times when the military is forced to cooperate inter institutionally with other social entities, from the average citizen to the various international military organizations.

Communication is probably the most effective way for a state to project and defend its strategic objectives, especially using its armed forces specialists.

Depending on the chosen communication channel, the message can break through all possible barriers: spatial, temporal, psychological, and so on.

Thus I analyzed valuable aspects of communication and information redundancy importance for the military information system, and I proposed new scientific research horizons with a new operational concept, that of directed information redundancy.

Directed informational redundancy raises new questions, which may be the beginning for new scientific research in the field:

- How do we realize, in due course, that there is a directed informational redundancy?

- How do we fight directed information redundancy?

- Who is the one who overloads the information flow and what he pursues through these actions?

The military organization needs to pay more attention to communication and information redundancy, especially in the context of the emergence of hybrid threats.

Last but not least, we must prepare for new horizons in communication, “*in addition to type man/nature communication (biotechnology) and human/society (audiovisual-advertising), a new man/his double formula (artificial intelligence)*” (Rotaru, 2004, pp.

13–14) will occupy a leading role in social processes in both the civilian and military environments.

REFERENCES

- [1] Arădăvoaice, G. (1997). *Comunicarea în mediul militar*. Editura Academiei de Înalte Studii Militare.
- [2] Arădăvoaice, G. (2002). *Relatiile interumane în mediul militar. Reguli pentru optimizarea lor*. Editura Militară.
- [3] Dumbrăveanu, A. (f.a.). *Societatea comunicării: De la post-adevăr la redundanță informațională*. 8. Preluat în 15 iunie 2020, din https://ibn.idsi.md/sites/default/files/imag_file/170-177_1.pdf
- [4] Dumitru, E. (2010). *Comunicare și redundanță în sistemele informaționale militare (teză doctorat)*.
- [5] FAQ | StratCom. (f.a.). Preluat în 4 august 2020, din <https://www.stratcomcoe.org/faq>
- [6] Gădiuță, I., & Sava, D. (1998). *Decizia militară. Raționalitate și legitimitate*. Editura Militară.
- [7] *Glosarul NATO de termeni și definiții. AAP-06, Ediția 2019*. (f.a.). Preluat în 10 iulie 2020, din <https://www.google.com/url?sa=t&rct=j&q>
- [8] Hentea, C. (2015). *Propaganda și rudele sale: Mic dicționar enciclopedic*. Editura Militară.

- [9] *Information redundancy*. (f.a.). TheFreeDictionary.com. Preluat în 15 iunie 2020, din <https://encyclopedia2.thefreedictionary.com/information+redundancy>
- [10] Ivanov, L.-M. (2013). *Pentru o lume mai sigură într-o eră a incertitudinii: Contribuția serviciilor de informații: culegere de studii de intelligence*. Editura Academiei Forțelor Terestre "Nicolae Bălcescu".
- [11] Le Bon, G. (f.a.). *Psihologia multimilor*. Ed. Antet XX Press.
- [12] Lesenciuc, A. (2017). *Teorii ale comunicării*. Academiei Forțelor Aeriene „Henri Coandă”. http://www.afahc.ro/ro/facultate/cursuri/2017_teorii_ale_comunicarii.pdf
- [13] Library, N. M. (f.a.). *NATO LibGuides: NATO Comprehensive Approach: Essentials*. Preluat în 4 august 2020, din <https://natolibguides.info/comprehensiveapproach/home>
- [14] Nicolaescu, G., & Simileanu, V. (2005). *Restructurarea sistemelor informaționale*. Editura Universității Naționale de Apărare : Top Form.
- [15] Reding, A., Weed, K., & Ghez, J. J. (f.a.). *NATO's Strategic Communications concept and its relevance for France*. 63. https://www.rand.org/content/dam/rand/pubs/technical_reports/2010/RAND_TR855.2.pdf
- [16] Rotaru, N. (Ed.). (2004). *Comunicarea în organizații militare: Antologie de texte* (Ediția a II-a revăzută și actualizată). Editura Tritonic.