

Socio-Philosophical Foundations of Forming Technological Thinking in Military Personnel

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Abstract: This article highlights the socio-philosophical foundations of the formation of technological thinking in military personnel and explains that the evolution of thinking and the transformation of social consciousness in the information society constitute one of the central problems of modern humanities.

Keywords: Information society, evolution of thinking, transformation of social consciousness, digital thinking, algorithmic consciousness, mediatized consciousness, collective consciousness, information paradigm, simulation society.

Introduction: In the context of modern globalization, digital transformation, and the intensification of geopolitical processes, military activity is being fundamentally renewed in both content and function. The rapid development of information and communication technologies, artificial intelligence, cybersecurity, automated control systems, and the formation of digital military infrastructure necessitate a new understanding of the military sphere not only in technical but also in socio-philosophical terms. From this point of view, the professional activity of a military serviceman is now becoming directly connected not only with physical training and the execution of orders, but also with the ability to make prompt decisions in a complex technological environment, analyze information, and act under conditions of uncertainty.

Technological thinking emerges in these processes as the intellectual support mechanism of the military serviceman. It is not limited merely to the skill of using technical means, but also embodies such complex epistemological and axiological aspects as understanding technology as a social process, assessing its consequences, and foreseeing risks and opportunities. The formation of technological thinking in military consciousness elevates the individual's professional competence to a new level, transforming him not only into an executor but also into a subject

capable of conceptually analyzing a situation. This condition necessitates a reinterpretation of military activity as a social institution and requires the study of the military serviceman's consciousness as a complex open system.

The transformation of military activity in the modern information-cultural context, on the one hand, strengthens the dominant role of technology in the military sphere, while on the other hand, it further increases the significance of the human factor. The growing complexity of technological systems requires a corresponding complexity in human thinking. For this reason, the issue of forming technological thinking in the consciousness of military personnel appears not merely as a pedagogical or psychological problem, but as a profound socio-philosophical problem. This problem requires a reconsideration of the dialectical relations between human beings and technology, consciousness and technology, security and responsibility. The role of technological thinking in military professional competence is manifested прежде всего in the qualitative transformation of the decision-making process. In the modern military environment, decisions are often made under conditions of uncertainty, urgency, and excessive information flow. Under such circumstances, technological thinking enables military personnel to analyze situations systematically, evaluate alternative

options, and make responsible choices. This transforms military activity from a linear command-based process into a multivariant and flexible type of activity.

The philosophical foundations of the formation of technological thinking in the consciousness of military personnel require an analysis of the relationship between human beings and technology at ontological, epistemological, and axiological levels. Ontologically, technology becomes an inseparable part of military existence and determines the mode of being of military activity. Epistemologically, technological thinking creates a new model of acquiring knowledge, processing information, and applying it in practice. Axiologically, the relationship between technology and military activity must be interpreted in harmony with the values of moral responsibility, humanism, and security. Thus, this chapter analyzes the process of forming technological thinking in military personnel in a socio-philosophical context, in close connection with the modern transformation of military activity, the renewal of professional competence, and the structural changes in military consciousness. This approach serves to substantiate the necessity of developing not only the technical equipment of the military training system, but also the thinking of military personnel in accordance with the demands of modern technological civilization.

LITERATURE REVIEW AND METHODOLOGY

In the modern information society, since the activities of military personnel are carried out through technical means, algorithmic control systems, and within a digital environment, the forms of their thinking must also be shaped in accordance with the demands of this technological reality. Military thinking is now regarded not merely as strategic or physical preparedness, but as a complex cognitive system that includes technological perception, the ability to analyze information, and a culture of digital decision-making. A profound understanding of this process and its effective formation in practice require a socio-philosophical approach. As the Chinese military philosopher Wang Ganjin emphasizes, "as military technologies develop, military thinking is correspondingly algorithmized; a modern officer must achieve informational superiority not only through technical means, but also through thinking." This idea indicates the need to evaluate the role of technological thinking in military activity not as a pragmatic phenomenon, but as an ontological transformation.

Technological thinking specific to the military sphere, on the one hand, is based on the rapid reception, selection, analysis, and transformation of information into practical decisions; on the other hand, this kind of thinking requires absolute discipline, hierarchical

reasoning, and the ability to interact with artificial intelligence. The German sociologist Klaus Eder states: "In technological thinking, the military sphere maintains itself in a constant balance between existential danger and technical superiority." This balance, however, must be formed consciously on a philosophical basis. In shaping technological thinking in military personnel, the socio-philosophical approach is based first and foremost on the relationship between the human being and technology. In this regard, the French philosopher Gilbert Simondon writes: "Technological thinking is not a consciousness merely brought close to technology, but a consciousness capable of understanding technology and engaging with it on the basis of humanity." This view advances the idea that a military serviceman should not work with technology unconsciously, but should develop a meaningful relationship toward it. The formation of technological thinking in the consciousness of military personnel must also be harmonized with intellectual and moral preparedness, epistemic discipline, and normative stability. This approach is expressed by the South Korean military educator Lim Gyu Bin as follows: "A modern military specialist is not simply one who can operate technical means, but a cognitive subject capable of harmonizing his thinking with strategic, social, and ethical parameters." Thus, philosophically grounded formation of technological thinking in the military context leads to the development of this sphere not in purely functional terms, but on the basis of conscious humanity.

Such a formation of thinking also includes concepts such as cognitive security, information sovereignty, the ethics of artificial intelligence, digital freedom, and intellectual responsibility within military society. This creates the basis for interpreting technological thinking not merely as an intellectual ability, but as a model of socio-philosophically responsible thinking. The formation of the technological component in the thinking of military personnel requires a socio-philosophical approach based not simply on interaction with technology, but on the ability to understand it, control it, and manage it in accordance with ethical and strategic criteria. This form of thinking is directly connected with the concept of digitally transformed security, the ethics of working with artificial intelligence, and the problems of intellectual sovereignty in the information society. Therefore, the issue of technological thinking in the military sphere, as a socio-philosophical concept, must become the core of modern security thinking.

Under conditions of the modern information society, the content and functional directions of military activity have undergone fundamental changes, moving from

traditional physical and technical predominance into a complex socio-philosophical space connected with information, culture, and consciousness. From the standpoint of social philosophy, military activity is no longer defined solely by armed confrontation or military-technical superiority, but manifests itself in close connection with information flows, cultural codes, social consciousness, and spiritual immunity. In this sense, modern military activity is becoming an integral part of the processes of shaping, preserving, and protecting consciousness in an information-cultural context. A. Muminov, analyzing the transformation of military activity in the information society, notes that “the modern concept of military security cannot be complete without control over the information and cultural space.” This idea shows that the strategic content of military activity is now determined not only by combat capability, but also by informational superiority. Critically speaking, while the author evaluates information control as a dominant factor, he does not sufficiently explore the contradictions that arise between this process and free thinking and information pluralism in an open society.

S. Otamurodov, analyzing military activity in the context of globalization and informatization, puts forward the conclusion that “in the military sphere, information-cultural threats have a more stable and long-term impact than physical threats.” This perspective shows that military activity has moved beyond the boundaries of time and space into the sphere of consciousness and identity. From a critical point of view, however, the author interprets information-cultural threats mainly as negative phenomena, but does not sufficiently reveal the new forms of cultural adaptation and intellectual resistance that emerge in response to them. B. To’raev, focusing on the socio-cultural essence of military activity, writes that “in the modern military system, alongside combat discipline, information culture and discipline of thinking are also becoming important factors.” This idea demonstrates the internal transformation of military activity, namely, the new demands placed on the thinking and consciousness of military personnel. From a critical perspective, there is a risk in equating information culture with military discipline, since this may limit the possibilities for creative and independent thinking. G. G’afforova, linking changes in military activity within the information-cultural context with ideological security, emphasizes that “ensuring information-ideological stability in the military sphere is becoming an important condition of state security.” This approach interprets military activity not only as a technical-organizational system, but also as an institution that protects social consciousness. Critically

speaking, however, excessive centralization of ideological stability may artificially restrict the natural evolution of social consciousness. I. Ergashev, analyzing the role of innovative and informational thinking in military activity, notes that “if military activity in the information society is not based on innovative thinking, it loses the ability to understand modern threats and adapt to them.” This idea indicates the necessity for military activity to be dynamic and adaptable. From a critical perspective, innovative thinking can only be effective when it is harmonized not only with technological renewal, but also with ethical and social responsibility. In general, the transformation of military activity in the modern information-cultural space expands its socio-philosophical essence and carries it beyond the scope of armed force into the fields of information, culture, and consciousness. Military activity now performs not only the task of ensuring physical security, but also that of protecting social consciousness, developing information culture, and preserving spiritual stability. Therefore, from the perspective of social philosophy, analyzing military activity in inseparable connection with information-cultural processes has become an important scientific task of the modern era.

As a result of the informatization and digital transformation of modern society, military activity has also moved beyond the previously existing strategic-paradigmatic frameworks into a completely new information-cultural context. These changes are connected not only with the improvement of technical means, but also with the radical renewal of military consciousness, culture, information strategy, and communication styles. Military activity is now not merely a complex of operations carried out with weapons, but a complicated socio-philosophical activity based on identifying, evaluating, interpreting, simulating information, and developing cognitive strategies based on it. The philosophical foundations of this process are connected with the transition of modern war concepts toward an information-based model. According to the American strategic expert Thomas Rid, “Information technologies have changed the essence of war—now it is not weapons, but information that has become the dominant force. Military victory now depends on who can manage information faster and more reliably.” This idea demonstrates that the semantic field of modern military activity has been redefined: information is not simply a tool, but a strategic weapon in itself. The changes taking place in military culture are directly connected with the formation of the information paradigm in social consciousness. The Dutch military ethicist Hans-Georg Ehrhart explains this as follows:

“Military activity is now conducted not only through physical operations, but also through information flows, social media networks, cultural representations, and psychological positions.” According to him, the concept of modern military action is shifting into the form of a “cultured war,” in which war is conducted through social discourses, information fields, and cultural expressions.

RESULTS AND DISCUSSION

In the modern military sphere, the concept of information strategy has taken shape as an important strategic category. This strategy is based on mechanisms for collecting, processing, manipulating, and purposefully directing information toward the opponent’s consciousness. In this regard, the Russian military philosopher Oleg Bazanov emphasizes the following: “Information warfare is an activity aimed at transferring regional or global conflicts into the cognitive field and disabling the opponent’s decision-making capacity.” In this approach, the battlefield is increasingly becoming the structure of human consciousness itself. At the same time, digital transformation has also ensured the growing strengthening of elements of civil culture within the functioning of military institutions. The American sociologist Mary Kaldor describes this process in her theory of “new wars” as follows: “Modern wars are less about conventional clashes between states and more about control over information networks, social identities, and civil resources within societies.” In Kaldor’s theory, modern war is a process carried out in the field of thinking, where cultural hegemony prevails. Thus, the modern transformation of military activity in the information-cultural context opens new philosophical dimensions at the strategic, psychological, and socio-spiritual levels. A military serviceman is now interpreted not only as an executor of combat actions, but also as a cultured participant in information processes, a bearer of digital consciousness working with artificial intelligence, and an active actor of social communication. Such an approach necessitates deepening humanitarian and cultural-philosophical integration into the military sphere.

The transformation of military activity in the modern information-cultural context signifies not only a strategic and technological reality, but also a fundamental shift within the domain of socio-philosophical consciousness. The information paradigm is redirecting the essence of war from physical force or territorial control toward domination over consciousness, culture, and information. Military activity is no longer merely an armed confrontation between opposing forces, but rather a multilayered set

of cognitive operations carried out through the management of information flows, ensuring discursive superiority through cultural codes, and defining psychological positions. The French sociologist Roger Mucchielli writes in this regard: “The modern form of war is a psychological confrontation aimed at controlling social consciousness and cultural architecture through information media. In this war, the main weapons are image, semantics, and cognitive assumptions.” According to him, modern military activity is now directed not at physical objects, but at controlling meanings and perceptions.

Likewise, contemporary military strategies are increasingly based on shaping and manipulating the information environment through global digital communication tools such as the internet, artificial intelligence, and social networks. The American researcher John Arquilla explains this as follows: “The criterion of victory in modern wars is not the situation on the battlefield, but who has achieved superiority over information. Whoever spreads information faster through the network wins.” Arquilla’s position shows that information superiority has become the most important paradigm of today’s military reality. In other words, military activity is functioning as part of the general information-cultural environment of society. The German philosopher Peter Sloterdijk emphasizes: “Today’s security strategy is to prevent society from being invaded in the information field. Any violence begins first in the field of thinking, in words and in the semantic environment.” This idea points to the new boundaries of military strategy in the semantic, epistemological, and axiological spheres. At the same time, culture itself has also become a metaphorical resource in military activity. The military sphere now seeks to strengthen its legitimacy through art, aesthetic images, cinematic narratives, national identity, and historical archetypes. The Spanish scholar Manuel Castells calls this process “cultural security” and defines it as follows: “National security is protected not only by military technologies, but also by intercultural thinking, historical narratives, and discursive power. In this context, military consciousness is constantly grounded in culture.”

The above analyses show that military activity is now being shaped not only as a practical military discipline, but also on the basis of a culture of working with information, semantic governance, and cultural psychology. Such a transformation raises to the level of necessity the integration of philosophical thinking, information ethics, intercultural communication, and competencies of technological thinking into the military sphere. On this basis, the military personnel training system must also direct its strategic

orientations toward the complex formation of information-cultural competencies.

In the modern information-cultural environment, the content and practical directions of military activity are undergoing fundamental changes. These changes are directly linked to the increasingly deep integration of information tools, technologies, and global communication means into military strategy and tactics. Military activity is now becoming a complex cultural-analytical activity conducted not only through means of physical force, but also through control over information, communicative-psychological superiority, and the modeling of social consciousness. The transformation of information into a strategic weapon has become the central point of the philosophy of modern wars. In this regard, the Swedish security scholar Bjoern Palmertz writes: "In modern military activity, it has become more important to target the enemy's perceptual field than its territorial capabilities. Information tools have become the main means of controlling this perception." This shows that modern military strategy seeks the possibility of creating alternative reality, legitimizing actions through cultural contexts, and exerting direct influence on social consciousness.

Against the background of digital transformation, military activity is directed not only toward technological compatibility, but also toward semantic and cultural manipulation. The British military expert James Der Derian describes this aspect as follows: "Today's wars are struggles carried out through propaganda, aesthetics, media performance, and simulated realities. Military force is often displayed not in front of cameras, but behind the screen." For this reason, military activity is now unfolding in a new "cognitive field" through social consciousness, visual culture, and the communicative climate. Another important point is the planning of military initiatives through strategic intervention in social consciousness via the information environment. In a number of his analyses, the Spanish philosopher Manuel Liz writes: "No matter how technically perfect modern combat activity may be, it cannot succeed unless it possesses cognitive and axiological legitimacy. War now begins in consciousness and ends there." This idea indicates the necessity of defining military activity's strategy on the basis of humanitarian and philosophical criteria. In addition, such components as cybersecurity, artificial intelligence tools, and digital psychological influence are emerging as fundamental structural parts of modern military activity. In their study on this issue, P. W. Singer and A. Friedman, scholars from the U.S. National Defense University, state the following: "Military operations are now conducted in real time,

and in this process artificial intelligence not only manages information flows, but also analyzes them and creates models of action. Therefore, information culture is turning into military thinking." From this point of view, the information-cultural context requires a new approach to the military sphere. A military serviceman today must thoroughly understand not only military tactics, but also digital culture, visual communication, and information policy directed at the structures of civil consciousness. Military activity today is closer to "cultural-discursive positioning" than to "combat action."

The transformation of modern military activity in the information-cultural context requires a fundamental reconsideration of the philosophical and socio-cultural foundations of humanity's concept of security. While traditional military strategies were built on physics, technology, and geopolitical superiority, in the twenty-first century the factors determining such superiority are increasingly connected with information, consciousness, and cultural discourses. Military decisions are now produced on the basis of the speed of information flows, mental manipulation, forecasting through artificial intelligence, and criteria of ethical legitimacy. This process is not the militarization of social consciousness, but the socialization of military activity, that is, its formation in inseparable connection with the consciousness, culture, and systems of representation of society. The German philosopher Jürgen Habermas explains the transformation of military communication by the fact that culture has become a political and strategic resource. He writes: "In a digital society, every military action requires prior mental legitimation. This elevates not the actions themselves, but their socially accepted, information-based reception to the first level." Habermas's idea confirms that in the current era wars begin in culture, in text, and in discourse—that is, the information-cultural context is turning into real military practice.

Today, information media are no longer merely a component of the military field, but have become a strategic zone in their own right. The Spanish military philosopher Carlos Blanco explains this as follows: "Information is now an independent weapon; possessing it is an indicator not of combat superiority, but of superiority in thinking. Information has turned into cultural discourse, and discourse into military position." According to him, the renewal of military strategy is taking place as a transition from military codes to semantic and visual codes. In this information-based cultural context, military activity is becoming not simply a matter of command, but a field of competition among identities, narratives, and contexts in the sphere of consciousness. The Canadian sociologist

Marshall McLuhan stated in this regard: "Information technologies have brought military activity from the periphery to the center. War is now conducted not with physical targets, but with conceptual and representational targets." This process is expressed in the form of visual wars, information-driven domination, and control over mental realities.

These changes also require the introduction of a humanitarian approach into the military sphere. Military activity is now turning into a socio-philosophical construct connected with communication, aesthetic symbolism, the historical-cultural semiosphere, and mental legitimation. Developing this idea, the Italian philosopher Donatella Di Cesare writes: "Wars now exist in visual culture. Military practices are formed not from the internal environment outward, but within internal discourses themselves. The concept of war is a narrative." Within this framework of thought, the constitution of military activity is increasingly determined through intercultural understanding, semantic superiority, and control over information flow. Thus, the modern information-cultural context is taking military activity out of its traditional structural frameworks and transforming it into a cultural-social activity existing in the semantic-information field. A military serviceman today must therefore possess not only technical and physical training, but also competence in information culture, cognitive thinking, and the analysis of social narratives. This, in turn, requires a reconsideration of theories of pedagogy, politics, ethics, and aesthetics related to the military sphere.

CONCLUSION

The transformation of military activity in the modern information-cultural context is not only the evolution of military technologies and armed strategies, but also a profound paradigmatic shift taking place in social consciousness, the information environment, and cultural discourses. Military activity is no longer shaped through traditional physics-centered or battlefield-action models, but through information flows, symbolic power, social semantics, and visual narratives. These changes are redefining both the essence of modern wars and their means and goals. In this regard, the Swiss philosopher of information Felix Stalder emphasizes the following: "Today's wars are conducted not on the battlefield, but through control over the transmission, interruption, and management of information. The essence of war now lies in undermining informational resilience and reconstructing social consciousness and social reality." His approach reveals the need to view military activity not simply as a technological instrument, but as a sphere of social semiosphere and ontological activity.

From this perspective, modern military activity increasingly takes the form of cognitive war, domination over information, and cultural formatting. The Japanese geopolitician Koichi Mashino explains this phenomenon as follows: "Today's wars are conducted not with chemical or nuclear weapons, but with discursive tools that re-formalize social consciousness. Every text, visual image, and social signal is a strategic semantic unit." This analysis indicates the necessity of approaching modern military activity on the basis of mental semantics.

First, in the modern information-rich and technologically increasingly complex military security environment, the formation of technological thinking in military personnel appears as an objective social necessity. Since technology has become not an auxiliary means in military activity, but the ontological foundation of military existence, the professional effectiveness of a serviceman is directly determined by the level of his technological thinking.

Second, the transformation of military activity in the modern information-cultural context is leading to substantive and structural changes in military consciousness. The introduction of digital control systems, artificial intelligence, cybersecurity, and automated decision-making mechanisms requires military personnel to abandon the traditional executor's mindset and adopt systemic, analytical, and reflective thinking.

Third, technological thinking is the central intellectual component of the professional competence of military personnel. It is not limited to technical literacy, but includes the ability to analyze situations comprehensively, assess risks in advance, and develop alternative strategies. In this respect, technological thinking elevates military professional competence to a qualitatively new stage.

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