

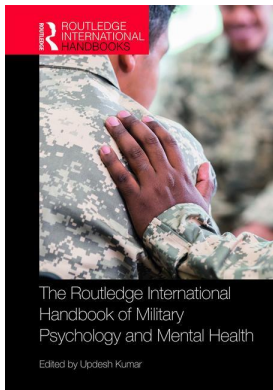
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WAR OF THE FUTURE AND PROSPECTIVE DIRECTIONS OF MILITARY PSYCHOLOGY

Alexander G. Karayani

The ability to look forward and to imagine horizons of own possibilities is a cardinal condition of existence and development of any science, including military psychology. A view of the prospect, like a distant light of car headlights, allows military psychology to see the right direction of movement, to highlight the most important landmarks and possible obstacles and be prepared for meeting the challenges of the future.

Forecasting is not just a look forward. It is a scientifically grounded attempt to imagine possible conditions, directions of development and prospective tasks of military psychology. It is necessary to analyze the main determinants of military psychology development in order to avoid reducing the prediction to meaningless divination.

Analysis of scientific literature shows that predicting the future is not a favorite theme of military psychologists. The bibliography on this problem is extremely scarce and includes only a few modern scientific works containing a general analysis of the prospects of military psychology (Bowles & Bartone, 2017; Cronin, 2003; Karayani, 2016; Kennedy & Zillmer, 2006; Laurence & Matthews, 2012; Mukherjee, Kumar & Mandal, 2009) and only one work directly dedicated to forecasting in the field of military psychology and practice (Matthews, 2014).¹ Studying of the mentioned works allows one to state that scientific prediction of military psychology prospects is connected by authors with their representations about future wars directly or indirectly.

Thus, Cronin (2003) allocates four factors as the most important variables of military psychology's prospective development: (1) achievements in technologies, (2) budget reduction, (3) political changes and (4) demographic changes. These factors reflect the state's perceptions of war threats and wars of the future. Laurence and Matthews (2012) and Matthews (2014) consider the type/types of future wars, modern technologies aspiring to the future and the science which has a decisive influence on the results of combat action as the main determinants of prospective trends of military psychology. Kennedy and Zillmer (2006) and Bowles and Bartone (2017) believe that the future of military psychology will depend on real characteristics of fighting,

1 Of course, there are works with limited access, which contain the forecast of military psychology's directions of development. However, for known reasons these works are not analyzed in this chapter. In addition, a number of works contain predictions about the future of individual military-psychological industries: psychological training (McNab, 2001), military neuropsychology (Kennedy & Moore, 2010), etc.

Sources of visions about wars of the future

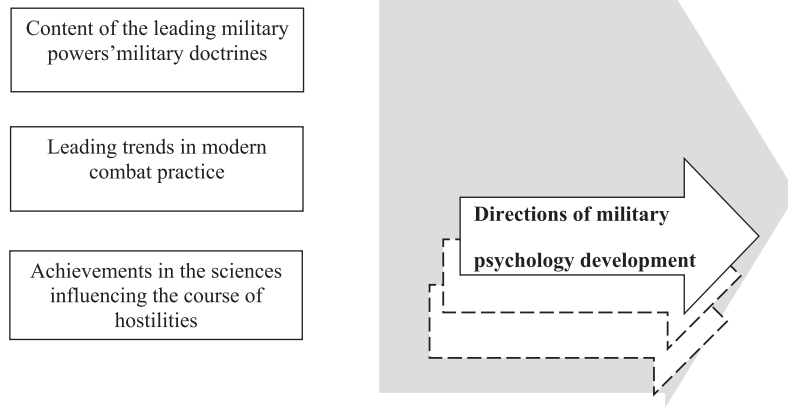


Figure 7.1 The influence of perceptions of future wars on the vision of prospective directions of military psychology development.

determining the level of psychological pressure on the military. Karayani (2016) points to the importance of containing states' military doctrines in the determination of sustainable trends of military psychology.

Generalization of the above approaches allows allocating those sources where the future of military psychology is already born today (Figure 7.1).

The link between official visions of future war and the prospective directions of military psychology is not accidental. A strong and mutually useful connection between military psychology, on the one hand, and military science and practice, on the other hand, was established. In early stages of its development, military science and martial arts grew out of the psychological insights, ideas and generalizations of talented generals. Their martial art was inextricably linked with the military's cunning and ability to preempt, frighten and deceive the enemy. With military psychology's acquisition of the status of a science, it began to develop, focusing on current and future needs of military science and combat practice. Precisely, military science and combat practice of troops are customers of specific research and practical activities of military psychologists. Military science predicts the kinds, means and ways of future wars, to which it is necessary to prepare servicemen, combat and the psychological qualities of warriors necessary for victory in the future battles (Karayani, 2016).

Let us consider the highlighted determinants of military psychology development (Figure 7.1).

Military doctrines of states about future wars

Scientifically grounded views on future international relations, determining the most significant threats to the country's security, outlining possible wars, formulating basic theses of military policies, and objectives for the protection of national interests are expressed in military doctrines of states. They take into account political and demographic trends, as well as the budget capacity of states.

Studying military doctrines of leading military powers shows that the world is entering an era of high-risk, large-scale wars again. A large-scale war is a war between coalitions of states or between the largest states of the world community (Military Doctrine of the Russian

Federation, 2014). In the military-doctrinal document of China, “White Book,” a new world war is considered inevitable (Cheng, 2013; Shishkina, 2015); in the military doctrines of the United States (National Security Strategy of the United States of America, 2017) and Russia (Military Doctrine of the Russian Federation, 2014), the danger of new world war, as it was earlier, is not excluded. In all recent editions of military doctrinal documents of these countries, the main source of danger that is identified is not international terrorism, but the world’s leading powers.

As is known, in large-scale wars the sides pursue radical goals and mobilize all their material and spiritual resources. Such wars, as the history of two world wars shows, can be perceived by people as a catastrophe of planetary scale, which in a moment destroys the basic beliefs and values of millions of people. War veterans can be subjected to extreme psychological stress. The immense space-time scale of the war, monstrous destructive power of weapons and gigantic loss of human lives in acting armies can lead to unpredictable psychological consequences (Karayani & Karayani, 2016).

However, large-scale wars of future in military, technological and psychological terms will differ significantly from wars of the past. According to the views of U.S. and Chinese military experts, understanding of modern and future wars is based on the imperishable methodological ideas of Sun Tzu (2003) and Carl von Clausewitz (2002) that the wars are becoming more and more psychological. According to their logic, war is understood not as the physical extermination of the enemy, but as a process of purposeful change of perception, consciousness, worldview, emotions, will and behavior of the enemy. The criterion of victory is considered the scrapping of the opponent’s will, forcing it to the desired actions and behavior. Such an understanding of war opens up a large arsenal of means of influencing the enemy. In essence, the war of today and the war of the future are hybrid wars.

Hybrid warfare combines features of all known types of wars: traditional wars of different generations and different scales (local, regional, large-scale), network-centric, behavioral, diplomatic, political and economic wars. At the beginning of the 21st century, the role of psychological methods of warfare (psychological operations, provoking civil disobedience, “color revolutions”, separatism, terrorist and guerrilla activities) noticeably increased in the structure of war.

War loses spatial and state borders, lines of distinction between war and peace, front and rear, law and lawlessness. The battlefield turns into a “combat space” (Messneras, as cited in Marchenkov, 2005, pp. 76–81), and a war itself can be remote, “silent”, invisible to inhabitants. Hybrid warfare can crawl “underground” for a long time like peat fire, systematically breaking out in the form of local and civil wars.

Political and religious organizations, financial and industrial corporations, private military companies, self-proclaimed quasi-states and civilians are becoming increasingly involved in achievement of military objectives. According to the views of NATO military strategists, the ideal of hybrid warfare is getting the enemy masses out of emotional balance and inducing them to struggle with their own government (U.S. Department of the Army, 2011). This way of achieving military goals is called the “Trojan Horse strategy”. Similar ideas are contained in the Chinese doctrine of political war “Three Warfares”, representing the triunity of war for public opinion, psychological warfare and legal warfare (Cheng, 2013).

The existence of civil war features in hybrid war can fill it with special intolerance, hatred and cruelty. Inflammatory ideas and propaganda slogans can penetrate into military units, disturb soldiers and destroy their values and moral guidelines.

The split in the enemy camp allows it to conduct war by remote methods without endangering its own warriors, causing panic and despair in the enemy ranks.

However, hybrid warfare is not limited to using “indirect actions”. In recent years, a peculiar “resurrection” of nuclear weapons has been observed. The possibility of using nuclear weapons is provided in the military–doctrinal documents of China, Russia and other countries. In the United States, a special doctrine that defines a strategy of using nuclear weapons was developed—the nuclear posture review (U.S. Department of Defense, 2018), which defines a course for tactical nuclear weapon development. Considering that terrorist organizations have more and more abilities to produce “dirty nuclear bombs”, the extent of nuclear weapon use in the wars of the future can be enormous.

In the literature (Cronin, 2003; Karayani, 2016; Kennedy & Zillmer, 2006; Ritchie, 2011), it is shown that the psychological consequences of nuclear weapon use are due to the specificity of its main damaging factor action, as well as the necessity to act in the means of protection. The range of psychological reactions of military personnel to the use of nuclear weapons is very extensive: from disorientation and panic caused by loss of vision due to eye damage by light radiation, impaired perception and thinking associated with brain injury caused by shock wave, to radio phobia generated by penetrating radiation and radioactive contamination of the terrain.

If, in future wars, nuclear weapons will become a tactical means of confrontation and their use will be almost daily, the scale of mental trauma of the military and the number of persons who need psychological assistance is difficult to imagine today.

Along with weapons of mass destruction, in future wars, high–precision, hypersonic weapons and weapons based on new physical principles, electronic warfare, information and control systems, unmanned aerial and autonomous marine apparatus and controlled robotic models of armament and military equipment will be widely used (Military Doctrine of the Russian Federation, 2014). The means of defeat will become even faster, high–precision, possessing intellectual properties of search, identification, choice of attack method and guaranteed defeat.

All of this will make fighting extremely dangerous, tense, complex and stressful.

Leading trends in modern combat practice

Martial art changes faster than theses of military doctrines. To some extent, military art is a process and result of the creativity of many combat actions’ participants, both in regular armies and irregular paramilitary formations. The traits of future wars can be reflected in the live combat experience of commanders and soldiers as well as in developing methods of tactical action.

An analysis of stable tendencies in strategy and tactics of troop combat actions in modern military conflicts shows that the strategy of multi–domain confrontation (U.S. Department of the Army, 2018) is realized more and more actively. The essence of this strategy is that the enemy is affected in all areas of its presence and depth of its location.

Analysis of military activity spheres of various states’ armies allowed us to allocate 10 spaces of modern and future wars (Figure 7.2).

In Figure 7.2, it is seen that wars can be unfolded in 10 spaces of military confrontation: ground, underground, surface, underwater, air, cosmic, psychological, social, informational and cyberspace. The boundaries between these spaces are very conditional. Moreover, these spaces penetrate each other and unite in different constellations, making each war unique. At the same time, the conduct of hostilities in each of these spaces is characterized by pronounced psychological specificity.

Thus, in the *ground space*, warriors can face both high–tech opponent and irregular formations, which use tactics of sabotage, terrorist acts, ambushes, guerrilla actions, wide using of traps and improvised explosive devices (IEDs). Additional negative psychological effects can be caused by the presence of women and children in enemy ranks. According to statistics, about 300,000

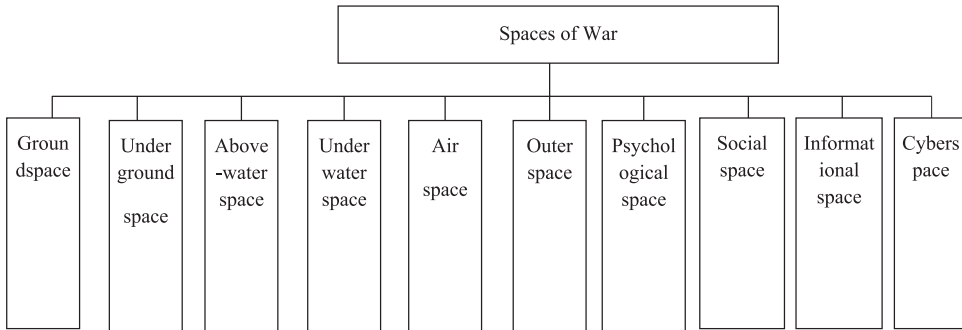


Figure 7.2 Spaces of future wars.

children participated in 30 military conflicts in the last 10 years (Inaeva, 2017). Children do not have a paralyzing horror of death. Often they perceive taking part in war like a game. Children more quickly acquire new activities, they are more easy, mobile, not burdened by property and obligations. Therefore, their number in irregular military formations can increase in the future.

The ground space is heterogeneous. In the ground space specific zones where human sensations, perceptions and feelings function in a special way are distinguished qualitatively, and maximum involvement of neuro-psychic reserves is required. Such zones include mountains, deserts, jungle, arctic regions and so on.

The analysis of wars of the late 20th century—early 21st century shows that in cases where warring parties are determined to fight to the end and none of them succeed in realizing the strategy of remote war, the outcome of confrontation will depend on a soldier-infantryman. In these circumstances, the role of small, highly mobile, professionally trained, technologically equipped combat units will increase significantly. Such units will travel long distances in a short time to different natural-geographical and weather-climatic zones. This will require the ability of military to survive in a complex environment and maintain psychological stability and group cohesion in isolation from main forces.

The *water surface space* creates a special combat reality, which generates the “effect of a showcase”. There is nowhere to hide, so almost every battle on the water surface will be decisive.

The *underground space* of war is extremely difficult psychologically. Battle tunnels and underground communications were widely used in the wars in Korea (1950–1953), Vietnam (1965–1974), Afghanistan (1979–1989) and a number of Arab-Israeli conflicts. Today dozens of kilometers of combat tunnels are used in Syria not only for movement of militants, but also for some specimens of military equipment. In hybrid wars, irregular formations will use the action tactics of underground war increasingly actively. Such tactics allow parties to save forces under distant blows of the technologically superior enemy opponent, to seem invisible, omnipresent, owning the initiative. It can cause anxiety, distress and psychological tension in the military. The soldier thus is required to have the ability to act alone, in confined space, in conditions of poor visibility, constantly waiting for ambushes and traps for confrontation in underground communications.

The importance of *underwater space* in confrontation will increase due to active exploration of natural resources of the Arctic, laying of the Northern Sea Route, constructing of ocean oil platforms, holding of strategic gas pipelines and trunk cables of communication on the bottom of the seas. In underwater combat, soldiers must be ready to act alone, as part of small militant groups, in conditions of diminishing perceptual capabilities and lack of communication and in situations of uncertainty.

In hostilities in the *airspace*, increasingly widespread use of unmanned reconnaissance and shock aircraft (UAVs) creates new psychological effects. Sometimes more than 50 UAVs a day cruised in the sky of Syria. Swarm technologies used by drone groups are at the stage of testing. In such conditions, vigilance, observation and discipline of disguise become especially important qualities. The psychological features of reconnaissance activities and percussion drone operators require special studies.

War between technologically equipped adversaries can spread into outer space. We have yet to comprehend the psychological effects and consequences of hostilities in space.

Already today many experts assess the consequences of war in *cyberspace*, including psychological, as the most dramatic of possible consequences of military confrontation. According to experts' assessments, disruption of intelligence system functioning, analysis, combat management and communications can cause a sense of catastrophe, disorganization of management, abandonment, betrayal and panic among soldiers.

Informational space is closely connected with cyberspace. Through information, people create false realities that have a significant impact not only on the outlook, will and behavior of military, but also on world public opinion. Thus, one staged video about the use of poisonous chemicals against civilians can produce a more powerful social, political and even military effect than actually using chemical weapons.

According to experts' opinion, achievement of victory in wars of the information age is determined by the ability to provide informational dominance (Cheng, 2013).

In the middle of the 20th century, military theorist and futurologist Messner (as cited in Marchenkov, 2005, pp. 78) proved that war had gained a special *psychological space*, where issues of victories and defeats will be solved in the future. War is considered an intellectual, motivational, emotional and volitional confrontation. Such psychological phenomena as vision and understanding of fight, desire to fight, will to victory, self-confidence, confidence in justice of own actions, confidence in fighting comrades, belief in the commander, discipline, cohesion, pride for one's own unit and psychological stability of opposing sides' warriors are faced here.

Analysis of modern military events allows us to suggest that the *social space* will be the priority space of confrontation in future wars. Leaders, social groups and movements, electorate and masses will fight for this space. Thus, in Syria, negotiations with political, military and religious leaders and humanitarian actions for the population achieved more than bombing and ground-based hostilities.

Today it is obvious that in future wars hostilities will be waged simultaneously in several spaces. Attacks of warriors can be expected from space, from the air, from the ground, from underground, from near and distant waters and from underwater. Not only enemy soldiers, but also civilian populations, including women and children, will be a threat. Danger will come not only from the enemy's combat assets, but also from the mass media, computers, smartphones, televisions and radio receivers. Only soldiers who have a belief in the fair mission of their country, their army, their commander, combat comrades and their own forces and who have high psychological stability and the will to victory can act in this situation effectively.

Modern technologies are conductors towards the future

Modern combat technologies make a battlefield more and more similar to the circus arena, with numerous observers, powerful spotlights and dangerous predators.

Spacecraft groupings, heavy and light drones and remote surveillance cameras view each meter of a modern battlefield; numerous motion and noise sensors "listen" to every rustle; small-sized,

noiseless and barely noticeable combat robots have already begun “palping” everything that causes suspicion. Uninhabited underwater stations, underwater motion sensors and unmanned underwater combat vehicles will gradually transform the underwater space into peculiar huge “aquariums”. GoPro action cameras placed on helmets of warriors will make a large number of spectators witnesses to each warrior’s movement. The emerging “effect of a showcase” is a serious new challenge for participants in fighting (Karayani, 2016). It adds a sense of extraordinary responsibility, inevitable external control and lack of personal space to the feeling of danger, uncertainty and ambiguity.

At the same time, military and civil technologies develop in the direction of maximal expansion of a person’s natural abilities: eyesight, hearing, force, speed of movement and so on. Such technologies take an important place in the fighting equipment of soldiers, which is developed within the programs “Soldier of the Future” in the United States, Russia and some other armies. Judging by their content, the warriors of the near future will have superpowers, such as high speed of thinking, foresight, power, endurance, high security and survival.

The famous science popularizer Kaku (2011) notes that a chip in today’s musical greeting card surpasses all computing power available in the world in 1945. In today’s cell phone, there’s computing power that surpasses all the computing resources that NASA had in 1969 when two astronauts first stepped on the Moon.

Today, computer stations that possess considerable power and the ability to calculate many options for the development of combat situations and to offer effective ways of action are at disposal of warriors. The opportunity to be constantly aware of the situation, to make informed combat decisions and to carry out staging of combat tasks and target designations to subordinates in real time is given to commanders.

Built into the warrior’s combat equipment, the CCTV system allows them to detect the enemy for miles, in the day and night, in conditions of poor visibility. Nano-drones and planning mines with video cameras, emerging in a number of armies, provide warriors with the opportunity to peek behind obstacles, into various shelters, and view in advance paths of intended movement. So, the military equipment of the Russian warrior “Ratnik-3” will not only protect the warrior with reliable armor, but also will significantly increase its strength and endurance and allow him to make long marches on heavily rough terrain with a large combat load due to the exoskeleton. A masking system will automatically adjust the color of a warrior’s outfit to the background of surrounding area. The system of remote monitoring of psychophysiological condition, fatigue degree and sleep quality will allow commanders and military-medical workers to detect unfavorable physiological conditions and wounds of a warrior in time. All of this will increase the confidence of a warrior in his abilities, such as the fact that in case of injury, he will be provided with targeted and quick help (Karayani, 2016).

Technologies that save lives of soldiers and return them to active life after serious injuries and traumas will positively affect the mental state of warriors and their confidence in them. This will be facilitated by achievements of telemedicine and effective analgesics, narcotizing servicemen for the time of delivery to medical institutions, and perfect bioprosthetic limbs or exoskeletons, allowing restoration of their lost mobility (Matthews, 2014).

The above circumstances will allow tomorrow’s soldiers to make combat decisions using artificial intelligence, to detect enemies on the distant outskirts in the day and at night, to detect attempts of their hidden displacement and to feel great self-confidence and confidence in their colleagues and commanders. Professionally trained, tight-knit small units and individual warriors with high fighting spirit will be able to solve combat problems of historical scale. However, the presence of similar funds in the enemy will turn many military episodes into fierce intellectual and emotional confrontations.

Prospective vectors of psychology and related science development

The main features of the future war can be predicted by studying tendencies in the sciences, which develop prospective military technologies.

American military futurologist general Scales asserts that a scientific branch was a part of each significant war of the 20th century, radically influencing rapid development in fighting and making decisive contributions to victory. So, in World War I, chemistry allowed the development of combat poisoning formulations and explosives. In World War II, the leading science was physics which was the basis of radar and atomic bomb development, which had wide impact on the results of fighting. During the Cold War, which Scales calls World War III, information technologies which underlie powerful computers and advanced command and control systems development dominated. In the era of the Global War on Terrorism (World War IV), it has become impossible to win wars between political, religious and social ideologies solely by kinetic means. The way to victory, according to Scales, lies through use of firepower in close unity with the achievements of modern social sciences: psychology, sociology, anthropology, culturology (Matthews, 2014).

Today the military is increasingly interested in achievements in the field of psychology in its interaction with cognitive, social and neuro-sciences, first of all in cognitive neuroscience, neuropsychology, psychophysiology and social neuroscience. Achievements in integrated scientific fields can significantly change our views of particular perceptions by military of the combat situation and information, mechanisms of influence of combat stressors on mental states and combat activity of warriors, social and cultural variables of behavior and human interaction.

Recommendations, which are expected from neuropsychology, can make significant changes in the practice of psychological training, support and rehabilitation of fighting participants and recovery of wounded soldiers (Kennedy & Moore, 2010).

In-depth understanding of social and psychological regularities of interpersonal and inter-group communication allows specialists to transform a large number of social networks users of the opposite side into active distributors and even into producers of informational and psychological materials. Tactics of “crowdsourcing” allow the spread of ideology, worldview, values and culture among the population of the enemy through its population due to “soft power”. Thanks to this, social networks (Twitter, Facebook, YouTube, etc.) and virtual networks of messengers (WhatsApp, Viber, Telegram, etc.) can become the arena of civil informational and psychological warfare (Karayani, Karayani, & Tsygankov, 2018).

Thus, analysis of the content of military doctrines of the leading military powers of the world, stable tendencies in the practice of past and modern wars, trends in the development of military and potential military technologies and sciences aspiring to the future allows the suggestion that wars of the future can have a variety of faces and scenarios. If none of the opposing military forces will achieve absolute superiority in military force or its speed of application and retaliation, wars are likely to have a hybrid nature. Along with the most advanced military means, “asymmetrical”, “soft” and “indirect” strategies for coercing the enemy to the desired behavior will be used. Wars of the future can consistently or simultaneously leak in different spaces on tactical, operational and strategic forefronts.

Hybrid wars, gaining more and more psychological character, will give the soldiers a sense of uncertainty, obscurity, variability, contradiction, chaos, danger, poor self esteem, doubts about the fairness of their own actions and extraordinary personal responsibility. The force of the psychological pressure of the fight upon the military can surpass the limits of their opportunities.

In these conditions, psychology as a science about uncertainty, ambiguity, variability, danger, thinking, will and behavior, in community with other sciences should become a force that

helps soldiers to remain fighters and carry out the combat tasks, maintaining their mental and physical health.

The image of future war as a predictor of military psychology development

Shumkov (1905), at the beginning of the 20th century, stressed that military psychology will become a necessary science for a commander only when it will show him ways of increasing the psychological strength of his troops and reducing the psychological capabilities of the enemy in practice.

Will military psychology become a vital science to commanders in the future? The answer to this question depends on how military psychology will take into account prospective tendencies in military science, military art and military technologies, what it sees as its mission and tasks in future battles, how critically it will assess its real and potential opportunities and prospects and how it will build up relations with frontier social and neurosciences.

Analysis of the available military-psychological literature allows one to state that military psychologists of different countries (Karayani, 2016; Kennedy & Zillmer, 2006; Laurence & Matthews, 2012; Miao et al. 2017; Mukherjee, Kumar & Mandal, 2009), reflecting on the directions of military psychology in different terms, generally agree with their main list, placing different emphases only on their content. Military psychologists daily solve the most important tasks related to the study and development of soldiers' and commanders' personalities, consolidation of military teams, prevention of suicide, drug addiction, crimes in the army, development of new military equipment and so on. But their main mission is to train effective fighters and make them psychologically stronger, able to solve complex combat problems effectively and survive in modern combat.

This mission is implemented in the following areas: psychological selection of military personnel, psychological training of servicemen, psychological prevention of destructive combat stress and post-traumatic stress disorders (PTSDs), psychological assistance and rehabilitation of combat operation participants and veterans.

The concepts of psychological components of future wars described above will inevitably require improvement of the system of *psychological selection of military personnel*. Currently, the main focus is on assessing the conformity of military personnel's psychological qualities to one or the other military specialty. Therefore, cognitive methods, allowing measurement of the quality of perception, attention, memory, imagination and thinking dominate in the structure of psychodiagnostic methods.

However, according to experts (Matthews, 2014), effectiveness of a soldier depends only 25% on the degree of his or her cognitive quality development. In their "pure form", these qualities are necessary mainly only to those military experts whose activity is connected with tense cognitive activity—scouts; snipers; professionals managing complex hardware complexes and systems; operators of unmanned aerial vehicles, submarines and combat robots and so on. The absolute majority of combat action participants do not need "pure" cognitive qualities, but their concrete derivatives: not perception, but observation, not attention, but attentiveness, not memory, but mindfulness, not thinking, but resourcefulness.

Apparently, active equipping of a soldier with powerful computational means will slightly reduce requirements for some of his cognitive qualities. Indeed, devices of augmented reality, tactical communicators and other regular gadgets will take on complex cognitive functions. A soldier on a battlefield will be a "neuron" of a powerful "neural" network of combat control, articulated with groups of combat satellites, UAVs and detection and control sensors. Devices

mounted to the set of his combat equipment will allow him to see and hear better, to think more effectively and to make more informed decisions. Soon they will assume functions of storing and “carrying” the knowledge which is needed in battle. Interface of these devices is maximally simple and convenient that will allow one to receive and transfer necessary information almost instantly. However, such devices are very vulnerable. Therefore, a soldier must see, hear and understand a fight and act without gadgets’ help.

Predictive characteristics of future wars show that warriors of the future must have an unwavering faith in the justice of their country’s affairs, in their commander and their own forces (Copeland, 1951), a developed sense of debt, will, endurance and high resilience, creativity, initiative and leadership qualities to defeat the enemy.

Psychological selection should be directed toward the assessment of such abilities in warriors (Laurence & Matthews, 2012; Matthews, 2014).

To reveal the degree of development of intuition, emotional, volitional and motivational sphere of warriors by blank methods and diagnostic software-hardware complexes is not easy. It will be necessary to introduce to psychological selection methods of evaluation by means of simulating situations similar in their psychological structure to real combat situations. Such assessment can be carried out on a certain tactical background, during the process of working out tactical and fire tasks, military-sports games, working at combat simulators and so on. Virtual reality complexes and specially developed computer games can be actively used to simulate diagnostic situations in the future (Karayani, 2016).

The necessity of *psychological preparation* as a priority task in preparation for hostilities was understood for the first time at the beginning of the 20th century. Analyzing the psychological consequences of the Russo-Japanese War (1904–1905), Shumkov (1905) concluded that in addition to combat and technical training for a fight, there should also be psychological preparation. Even back then, the task of psychological preparation was seen not only to expand the psychological capabilities of own warriors (psychological training), but also to shake and undermine the psychic forces of the enemy.

Currently, many armies are aware of the need to abandon the priority of the “disease-treatment” strategy in favor of the strategy of prevention of psychological problems in participants in hostilities (Laurence & Matthews, 2012; Matthews, 2014) through their psychological preparation to change the focus in military psychology from retroactive management to proactive preparedness (Mukherjee, Kumar & Mandal, 2009).

Psychological training is considered the unity of general, special and target psychological training. Such architecture of psychological preparation allows the realization of universal, special and situational tasks, to make a soldier a universal fighter and a narrow specialist. Thus, *general psychological training* is conducted with all soldiers throughout their military service and is aimed to form their psychological preparedness for participation in hostilities and resistance to general combat stresses (Karayani & Korchemny, 2016).

The most ambitious, scientifically and methodically substantiated program of general psychological training of servicemen—the program “Comprehensive Soldier and Family Fitness”—is realized today in the United States (Laurence & Matthews, 2012; Matthews, 2014; Sinclair & Britt, 2013). With spiritual, emotional, social, family and physical dimensions in its structure, this program is designed to maximally psychologically prepare military personnel for performing tasks in the conditions of hybrid wars. The main goal in the implementation of the program is to make soldiers more resilient to stress factors of modern and future wars by forming their common beliefs, values, principles, mutual trust, friendly relations, optimism, self-awareness, strong character, self-regulation skills and ability to build reliable social connections.

Special psychological training is carried out with servicemen, who solve special tasks or act in specific combat spaces in specific natural and social conditions. *Targeted psychological training* is designed to configure people for performing a specific combat task, taking into account characteristics of the existing combat situation.

Special and targeted psychological training should be carried out on the basis of pre-developed psychological models of specific combat tasks. Servicemen should prepare for autonomous fighting against an extraordinary thinking enemy, in difficult weather-climatic and ethno-social conditions, in the day and at night, on the ground, saturated with means of observation and control, explosive devices and traps (Karayani & Korchemny, 2016).

Psychological training is designed to develop the military's rapport, skills of effective combat interaction and cohesion. Methods of learning, which cause trainee interest and competitiveness, providing instant feedback, applied on a specific tactical background, simulating confrontation with the enemy, interaction with the aggressively minded population and activities in zones of radioactive and chemical contamination, are well demonstrated in the development of such qualities. Modern complexes of virtual reality, simulators, team sports and tactical games such as "Paintball", "Airsoft", "Hardball" and related computer games can be used more widely for this purpose.

In the psychological training of unit commanders, it will be necessary to develop their ability to simplify a situation, to bring logic into illogical events, to act in multitasking mode and to make decisions in a matter of seconds. Commanders should be able not only to manage the fighting of their subordinates effectively, but also to take measures for misleading the enemy and to prevent its informational and psychological actions, to assess the possible behavior of the population in the area of a combat task performance, to interact with troops of allied armies and to be ready to act in conditions of communication and control means failure.

If we look into the future, we can assume that deployed, deeply layered systems of psychological assistance (Karayani, 2018; Ritchie, 2011) to military personnel will be claimed mainly in large-scale military conflicts with massive use of troops.

In a dynamic fighting confrontation with the wide use of small autonomous units, using psychological assets will be an effective form of providing psychological support to the military. The experience of psychologically trained military personnel providing psychological assistance to colleagues in overcoming distress in combat situations has been accumulated in the British armed forces. The Trauma Risk Management System (TRiM) is being used here. It is considered that the timely response to traumatic situations with the support of colleagues helps to prevent subsequent development of PTSD among combat action participants (Hughes & Neville, 2014). In our opinion, the TRiM practice contains great heuristic potential for development of the system of psychological assistance to participants of combat operations.

The approach, developed by Hoge (2010), in which PTSD is considered not a disease but a kind of inertia in manifestation of combat reflexes among war veterans, seems very promising in prevention of PTSD. This approach allows one to overcome the military servicemen's fear of the stigma and resistance to seeking psychological help. It promotes transformation of PTSD from mental disorder to inertia of a warrior's heroic past.

"Virtual" therapists, tablets and smartphones with psychological self-help programs can help to remove the negative impact of stigma on war veterans. In our opinion, an interactive complex of virtual reality, BRAVEMIND, developed by Rizzo, contains great potential in working with PTSD (BRAVEMIND, 2019). It allows the realization of many forms of exposition psychotherapy of war veterans.

Future wars will require military psychologists to carefully assess the effectiveness of various forms of fight participants' socio-psychological re-adaptation. The reduction of the duration of the

military presence in the combat zone and the rotational nature of many specialists' participation in solving of combat tasks require additional studies of warrior re-adaptation practice, called in some NATO countries "Third Location Decompression" (De Soir, 2011; Karayani, 2018).

Today military psychology is in the prime of its strength. Military psychologists work in countries with different state apparatuses, with different ideologies and religions. They gain more and more authority among soldiers and commanders. In some armies, combat planes do not take off into the air, submarines are not set off to military campaigns and warriors do not go to perform military tasks without the approval of psychologists.

Military psychologists cannot prevent war, but they perform a high moral mission. They help compatriots who defend the national interests of their country with weapons in their hands to survive, to maintain mental and physical health on the battlefields and to return to peaceful life as full-fledged citizens.

Even a brief analysis of military psychology prospective problems, arising from ideas about future wars, shows that in the near future, military psychology will face grandiose challenges. Matthews (2014), evaluating the contribution of military psychology in various branches of social practice, showed that this contribution is weighty where military psychology actively interacts with other sciences—social, neuro-sciences, informatics. Apparently, it is in the integration with other sciences that military psychology will be able to comprehend the psychological features of wars of the future, find the key to understanding the psychological phenomena of combat, give warriors recommendations about turning fear into fury, indecision into anger, weakness into endurance and heroism and the ways of defeating yourself to become invincible (Karayani, 2016).

As military psychology becomes more international, international conferences are held, international textbooks are being developed and interpersonal contacts of different countries' military psychologists are carried out. In such international cooperation, first of all concerning the area of psychological assistance, rehabilitation and re-adaptation of fight participants, there is a powerful potential for the development of theory and practice of military psychology in the future.

Conclusion

Forecasting the future of military psychology is an important condition of its successful development. The right forecast allows definition of the most important directions of military and psychological research, lines of interaction with related sciences, the content of training of military psychologists and resources necessary for development. The correct vision of the prospect allows military psychology to be the science vital to commanders and soldiers in the face of new challenges.

Objective anticipation of the prospects of military psychology is possible only on the basis of the scientific analysis of future wars. The main character of any war is the person with concrete intellectual, emotional, motivational and strong-willed qualities and a certain level of psychological stability. Research into these qualities is a prerogative of military psychology. Therefore, war acts as the most important customer of military and psychological researches and technologies.

The image of future wars as in a mirror is reflected in military doctrines of the states, in issues of military scientific research, in steady trends of modern fighting events and in long-term goals of the sciences developing perspective military technologies. The face of future war which is depicted today contains such major lineaments as novelty, uncertainty, unpredictability and variability. These characteristics of the war make a request for soldiers, differing watchfulness, ingenuity, resourcefulness, positive thinking, ability to act in a team, dedicated to their profession

and loving their country. These inquiries are a specific compass that defines for military psychology the correct course into the future.

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