**Quasi-cognitive domain combat veins** -- Exploring the characteristics and development trends of cognitive domain operations

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link: http://81.cn/jfjbmap/content/2022-08/16/content\_322064.htm… **Yang Cunshe** **Editor's note** Cognitive domain warfare is to take people's will, beliefs, thinking, psychology, etc. as the direct combat objects, and then influence the opponent's decision-making and actions by changing his cognition. In the era of information-based and intelligent warfare, cognitive domain warfare has become an important form of great power game, and all parties are trying to achieve their political goals in a relatively controllable way. It is of urgent and important practical significance to gain insight into and grasp the characteristics and development trends of operations in the cognitive domain for winning future wars. At present, the cognitive domain has appeared on the stage of war as an independent domain, and has increasingly become a common domain of great power games, a place to fight, and a weight to win. The analysis of the characteristics and development trend of cognitive domain operations is reflected in at least the following eight aspects.

**The cognitive domain is the key domain for transforming military superiority into political victory**

Military confrontation is, on the surface, a confrontation of hard power between the two sides, but at a deeper level, no matter what the nature of the war is and what the purpose is, it is ultimately a contest of human will. The key to victory is the ability to impose one's will on the audience. As long as the enemy's will to war is deprived and crushed, it means that the war is won. Cognitive domain warfare takes people's will, spirit, and psychology as the goal of confrontation, strengthens one's own will and weakens the enemy's will, and then achieves the political goal of attacking the heart and mind. In this sense, the cognitive domain is the key domain for the transformation of military superiority into political victory. With the acceleration of the evolution of the form of warfare to intelligence, the advantage of cognitive quality brings the advantage of decision-making and action, which can not only occupy the commanding heights of morality and legal theory and shape the favorable situation of justice and legitimacy, but also achieve the goal of winning a small war or even without a war through hybrid warfare and comprehensive game means. In particular, in the context of great power competition, the cost of war is high, and all parties hope to force their opponents to retreat in a "humane" and "economic" way by intensifying the competition for the cognitive domain.

**By changing the perception of an opponent, you can change their decisions and actions**

The purpose of cognitive attack is to use an "invisible hand" to manipulate the opponent's will, so that the opponent feels "I can't" and "I don't dare", and then achieves the effect of "I don't want to". The practice of foreign armies shows that the cognitive attack on people's will, beliefs, thinking, and psychology can be long-term cultural implantation, information suppression in the form of "information ocean + covering mouth and closing the voice", active shaping of preconceived ideas and preemptive voices, or the use of historical grievances to provoke the outbreak of contradictions. At present, information technology, artificial intelligence technology, and media technology have strengthened the direct effect on the cognitive domain, and the use of intelligent generation software can create a large number of cognitive "ammunition", which can accurately act on the cognitive layer of the combat target, directly impose the "will on the opponent", and quickly change the strategic situation. Looking forward to the information-based and intelligent battlefield, situational awareness forces and platforms are widely distributed in operational domains such as land, sea, air and sky networks, and cognitive behaviors such as planning, decision-making, and control dominate the actions of various combat domains, especially in the future intelligent warfare, the cognitive advantage of man-machine hybrid will dominate the battlefield, and the "fog" of war cognition can be created through cognitive interference, cognitive confusion, cognitive blocking, etc., to induce the opponent to misjudge the situation and make wrong decisions and actions.

**Cognitive domain operations are full-time attack and defense, full coverage, full use, global shaping, and whole-of-government action**

Cognitive domain operations are characterized by all-round, multi-level, time-space, and cross-domain, blurring the boundaries between wartime and peacetime, and between the front and the rear, crossing battlefields and national boundaries, going beyond the purely military field, and extensively infiltrating various social fields such as politics, economy, and diplomacy. Full-time offense and defense, there is no difference between peacetime and wartime, there is no difference between the front and the rear, and it is manifested as full-time online and full-time combat. Full coverage, anyone, including intelligent robots, can become the target of cognitive domain operations. It is used throughout the whole process, throughout the pre-war, during, and post-war of joint operations, and the joint military operations have not been carried out, and the cognitive shaping operations have begun, and they will accompany the military operations, and will not stop with the military operations. Global shaping, cognitive shaping, throughout the strategy, campaign, and tactical layers, covers all domains of the land, sea, air, and space network, and cross-domain empowerment, which has an impact on global operations. Whole-of-government action and cognitive shaping are inherently strategic, requiring coordinated action across departments, fields, military and localities, and levels to achieve the best communication effect.

**The key is the right to define the nature of the action or activity, the right to dominate the process, and the right to judge the outcome**

The struggle of cognitive game involves multiple adversaries and seems to be complicated, and the key is to fight for the "three rights" in the cognitive domain. First, the right to define the nature of the event is contested. That is, how to look at this event, whether it is just or unjust, whether it is legal or illegal. Usually preemptively, preemptively defined, forcibly defined by forming alliances, unilaterally defined by information suppression, and set up definitions to apply to issues, etc., are adopted to guide and shape the formation of qualitative cognition among the public. Second, it is necessary to compete for the dominance of the course of events. That is, how to do it, how not to do it, who is doing the right thing and who is doing the wrong thing, usually by setting up a trap and other methods, trying to lead the development direction, speed, pause, continuation and end of the target event according to the state that you expect. Third, compete for the right to judge the outcome of the incident. That is, how to evaluate this matter, who is the gainer, who is the loser, who is the immediate loser, who is the long-term loser, and so on. All parties are trying to control the judgment of the outcome of the incident to amplify their own advantages and the enemy's disadvantages, with the aim of taking advantage of the extended effect of the incident to continue to hurt the enemy and benefit themselves. **Morality and jurisprudence are the focus of contention** Military operations have always emphasized "the division is famous". Although the evolution of the form of war is accelerating, the essential nature of war being subordinate to politics will not change. The nature of the war and the will of the people are still the key factors affecting the outcome of the war. On the battlefield of cognition, if we occupy the commanding heights of politics, morality, and legal principles, we will be able to win the hearts and minds of the people and moral support, create an atmosphere of public opinion with more help from the people, and then grasp the opportunity to dominate the enemy. In every war or conflict, whether it is strong or weak, whether it is an attacker, a defender or a third party, all parties will make every effort to seize the cognitive dominance and the initiative of public opinion, do everything possible to package themselves with morality, pay attention to declaring a just position, and try to define the war and justify the action, so as to eliminate resistance, increase assistance, and create a favorable situation of "way" to defeat "no way". The two sides of the war have different differences in the balance of strength, and the way of cognitive confrontation aimed at occupying the commanding heights of morality and law will also be different. Recent wars have shown that when one side has strong soft and hard power, that is, strong military strength, many allies and partners, and a large share of international discourse, it often declares war in a high-profile manner. When military action has the potential to trigger a chain reaction, the term "war" is often vague. **Information is the basic "ammunition" for cognitive attack and defense** In the age of network information, the way of human communication continues to undergo complex and profound changes. On-site interactive communication has gradually given way to online connection, and some large-scale social platforms have become the main front of cognitive game struggle and the main channel for influencing people's cognition. On these platforms, various short videos have become the "first scene" for the public to understand the war situation, and information runs faster than artillery shells. Focusing on the use and blockade of platforms, dominance and regulation, all parties strive to disseminate and amplify their own propaganda, denounce and suppress each other's propaganda by manipulating social platforms, forming a situation of "I say more, you say less", "I am right, what you say is wrong", and "I can only say it, not let you say it". As users of large-scale social platforms, in the process of "listening", "speaking" and even "doing", the public is influenced by and influences others, and unconsciously becomes the agents and attack props of the behind-the-scenes promoters.

**Military action plays a key supporting role in shaping cognition**

The history of human warfare shows that military warfare is always the basic support for political competition, and psychological warfare is the multiplier of the effectiveness of military warfare. What cannot be taken back on the battlefield cannot be expected to be taken back at the negotiating table, let alone in the arena of public opinion. In modern warfare, cognitive communication actions always go hand in hand with joint military operations, psychological warfare and military warfare influence and support each other, and the trend of psychological warfare and psychological warfare is more obvious. Judging from the practice of war, it is absolutely impossible to do without military strength, but military action alone is not omnipotent. Many victories on the battlefield are not sufficient conditions for winning a war. In the Viet Nam War, the United States "won every battle, but lost the entire war." At the beginning of the 21st century, the United States fought successive wars in Iraq and Afghanistan, winning battlefield victories and failing to win political victories. In the same way, a military victory is not the same as winning a strong position in public opinion, nor is winning a victory on the battlefield a strategic victory. In modern warfare, two types of personnel play an increasingly important role, one by writing thousands of lines of code, and the other by writing thousands of pieces of information. The side with the superior quality of both types of personnel tends to have a greater probability of winning.

**Cognitive countermeasures are increasingly being used directly in warfare**

In previous wars, the impact and effect on the cognitive domain was mainly transmitted to the cognitive domain layer by layer through a large number of destruction actions in the physical domain. With the development and breakthrough of technologies such as information and communication, artificial intelligence, biological intersection, and brain science, new cognitive warfare tools and technologies are directly aimed at military personnel. Cognitive confrontation uses not only traditional information warfare weapons, but also a neural arsenal that targets the brain for combat. At that time, the machine will be able to read the human brain, the human brain will also be able to directly control the machine, the intelligent command system can directly provide battlefield situation and decision-making assistance, and realistic cognitive ammunition and accurate audience delivery will greatly enhance the effect of social impact. Cognitive confrontation technology is increasingly being directly applied to warfare, and the indirect cognition implied by the original informatization is gradually being transformed into a direct influence and control of people's cognition. It can be said that with the support of advanced science and technology, cognitive domain operations can achieve political goals more directly and efficiently by building a modern network architecture and developing a data visualization platform to quickly understand the information environment and effectively influence the target population.