**Military Forum: Exploring the Key to Winning Cognitive Confrontation in the Information Age**   
  
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**introduction**   
Looking at the wars and conflicts that have broken out in recent years, the cognitive domain as an independent domain has become a battleground for countries, and cognitive confrontation is the focus of offensive and defensive actions of both sides. In essence, cognitive domain operations mainly influence and shape the opponent's thinking, psychology, beliefs, and will, and then influence and change their decisions and actions, so as to achieve the purpose of taking the cognitive initiative and defeating the opponent. At present, cognitive domain operations are gradually showing prominent characteristics such as rich content, diverse means, and concealed forms. In-depth research on the winning mechanism of cognitive domain operations and seizing the initiative in cognitive domain operations are the key to winning future information-based and intelligent wars.

**Adapt to the development of the situation and innovate the winning concept**

Military practice has repeatedly proved that victory or defeat in war is not only a confrontation of military strength and weapons, but also a contest of thinking methods and combat concepts. In order to occupy an advantageous and proactive position in the cognitive field, it is particularly important to establish a new guiding concept that is adapted to the information age.

**Gathering energy and optimizing.**   
Gathering energy and optimizing is an innovative development of the traditional concentration of superior forces. It is not only an important principle for winning an information war with intelligent characteristics, but also a key move to seize the comprehensive advantage of cognitive confrontation. In recent years, technologies such as information networks and cluster control have become increasingly mature, constantly promoting the transformation of combat to wide-area distribution and instant optimization. In line with this, in the cognitive domain, it is even more important to emphasize comprehensive measures, cross-domain energy gathering, and control advantages at decisive nodes and hubs to achieve rapid control of the situation and quick victory.

**Data-led.**   
As a new type of war resource, data has become the basis for modern war command and decision-making and the lifeblood of system operation. Giving full play to the advantages of data resources and taking the initiative in cognitive domain operations is an important part of seizing strategic commanding heights. We must further strengthen data awareness and data thinking, strive to improve the quality of data decision-making and data guidance, and truly make data a "booster" for cognitive victory.

**Intelligent collaboration.**  
 The continuous development of artificial intelligence technology and the continuous enhancement of autonomous perception, decision-making, and evaluation capabilities based on network information systems are driving the dynamic sharing of information between humans and machines, intelligent planning and task allocation, and close coordination and precise attack to become increasingly mature. In the cognitive domain, intelligent collaboration will become an important starting point, and information integration, human-machine collaboration, optimal decision-making, and real-time mutual assistance will become necessary means to gain battlefield advantages, take the initiative, and seek victory.

**Follow the internal rules and stick to value attack and defense**

Cognitive domain operations do not exist independently, but enter the perceptual space through physical domain actions and information domain flows, influencing the opponent's value judgment and changing the opponent's cognitive system in cognitive offense and defense, thereby triggering the opponent's cognitive "avalanche" effect, putting the opponent in a "land of defeat". For this purpose, it is necessary to conduct in-depth research and analysis of the opponent's political, economic, military, cultural and other factors, discover the core values ​​that affect the opponent's combat cognition, and then comprehensively adopt strategies, technologies and other means to deeply influence and shape the opponent's thinking cognition and value judgment.

It must be noted that the release of cognitive domain combat effectiveness is often highly durable. Only on the basis of foresight and long-term planning, by taking a series of uninterrupted, normalized and flexible means to gradually build common values ​​within the opponent, can influence be formed, thereby achieving cognitive domain combat effectiveness. In the information age, Western developed countries often use network communication technology to subtly influence and shape the opponent's thinking, cognition, and value system, thereby shaking the opponent's ideological and cultural foundation and building the basis of cognitive domain combat public opinion. The many "color revolutions" that have occurred around the world in recent years are largely the result of Western countries' long-term infiltration and manipulation of public opinion and the gradual release of cognitive domain combat effectiveness.

Undoubtedly, the confrontation in the cognitive domain ultimately affects the human brain, affecting people's emotions, motivations, judgments and actions, and even controlling people's thinking. For this reason, some people believe that as the engine of cognition, the "brain" may become the main target and main battlefield of future wars. It is worth noting that a significant feature of modern cognitive domain warfare is the frequent application of technology and its prominent role. Especially with the deep involvement of information technology and artificial intelligence, cognitive domain warfare will pay more attention to the competition of comprehensive technical strength. From this perspective, only by seeking breakthroughs and taking the initiative in cognitive technologies such as big data, cloud computing, information networks, artificial intelligence, brain control, and metaverse can we win cognitive advantages.

**Focusing on maximum efficiency and adhering to the combination of software and hardware**

Cognitive space is highly flexible, but in essence it is still a reflection of human activities and social relations, closely related to and interacting with the real world. Without the strong support of specific military operations in the physical domain, cognitive domain operations will ultimately be difficult to produce real results. From this perspective, cognitive domain operations are not isolated actions. Only by clarifying the inherent laws of the comprehensive use of cognitive domain operations soft power and physical domain hard power, integrating cognitive offense and defense into the joint combat chain, and achieving close integration, mutual support, and organic integration of combat forces in different fields, can cognitive domain operations be maximized.

In the information age, the focus of cognitive confrontation is by no means simply to pursue the complete elimination of the enemy, but to emphasize the precise release of combat energy through precise time, precise information and precise actions, thereby depriving or reducing the enemy's decision-making ability. On the one hand, we should pay attention to making full use of asymmetric means, through efficient and fast actions in tangible combat domains such as land, sea, air and space, to destroy the enemy's intelligence, command, communication, strike, and support links, defeat the enemy's war potential foundation, and firmly grasp the initiative on the battlefield. On the other hand, we should emphasize preparing for a rainy day, laying out virtual space confrontation in advance, always paying attention to the confrontation of spiritual will, and actively seeking ways to form strong psychological oppression and disintegrate the opponent's will to resist. In order to achieve the superposition of the two effects, we should pay close attention to the coordination of information and fire strikes in the physical domain and the comprehensive destruction and paralysis linkage in the cognitive domain, closely track the effects of accurately striking the enemy's decision-making, actions, spirit and beliefs based on the network information system, and actively explore the tactics and methods with the fundamental purpose of winning the heart and mind.

**Aiming at paralyzing the system's operation and fighting spirit**

No matter how the times develop or how technology advances, people are always the decisive factor in the outcome of war and the core force supporting the operation of the combat system. Among them, the fighting will can be said to be the spiritual core that supports combat. Cognitive domain combat is to take a wide range of measures, especially with the help of intelligence warfare, psychological warfare, public opinion warfare, network warfare and other lethal means, to attack, weaken and deprive the enemy's fighting will, the spiritual core, so that it will succumb psychologically and voluntarily, and ultimately cause its combat system to collapse.

Cognitive domain warfare in the information age has the characteristics of a large range and all fields. Depriving the enemy of the will to fight emphasizes interference, influence, and control in multiple fields, multiple dimensions, and multiple time periods, and achieving cognitive advantages over the enemy through overall joint efforts to realize one's own combat intentions. For example, accurately grasp the opponent's cognitive basis, thinking mode, cultural habits, etc., and take targeted actions such as creating a situation, changing the atmosphere, stimulating psychology, and infiltration and erosion to disintegrate the overall unity of the opponent's cognitive system and strongly weaken the opponent's determination and will. Another example is to widely adopt various cognitive means, actively use physical domain and information domain offensive actions, and strongly destroy the opponent's key nodes, interfere with the opponent's cognitive judgment, and delay the opponent's effective response to destroy and deprive its soldiers' morale. It is also possible to adopt targeted strategies based on the opponent's traditional culture, rational logic, and character shortcomings, and systematically carry out military, economic, cultural, diplomatic, and public opinion actions at all levels in a step-by-step and systematic manner to form effective control in changing the original cognition to dissolve and soften its will to fight. With the in-depth development of technology, cognitive equipment represented by brain control weapons in the future may have the ability to directly interfere with or control the enemy's brain cognition, not only causing confusion in their consciousness, but even inducing them to take actions that violate the common sense of war.

**Focus on proactively adapting and optimizing combat design**

Although cognitive domain operations play an increasingly prominent role in modern warfare, we cannot assume that cognitive domain operations are omnipotent or even replace traditional combat operations. The comprehensive effectiveness of cognitive domain operations is a complex system engineering. In order to take the initiative in cognition and adapt to information warfare, we must start from the overall strategic situation and strive to optimize combat design in practice.

**Integration of strategy and technology.**   
In cognitive domain operations, the use of strategy is an inherent part of it. Although the importance of technical factors in modern cognitive domain operations is increasing, the status and role of strategy is still irreplaceable. It can be said that the process of the development and evolution of cognitive domain operations is, to a certain extent, a process of mutual promotion and close integration of strategy and technology. In this process, strategy is enriched by the addition of technology, and technology is stronger due to the use of strategy. To grasp the cognitive initiative and fight a good cognitive initiative battle, we must not only make good use of strategy, but also strengthen the application of technology, organically combine the use of strategy and technology, and strive to enhance the comprehensive effectiveness of cognitive offense and defense.

**Combination of offense and defense.**   
Cognitive domain operations are the unity of opposites of offense and defense. They are cognitive offensive and defensive activities that involve influence and counter-influence, penetration and counter-penetration, destruction and counter-destruction, control and counter-control in cognitive space. We must recognize the strengths and weaknesses, seize the cognitive loopholes of our opponents, concentrate our efforts on pursuing them relentlessly, paralyze their psychological defenses, and fully seize the cognitive initiative. At the same time, we must identify the transition nodes between offense and defense and strengthen cognitive protection across the board. We must stick to our own cognition, clearly publicize our own values ​​and war positions, unify our will, rally our soldiers, and inspire morale. We must strengthen protective concealment measures in important cognitive areas, reduce the perceptibility of our own political, economic, social, information and other sensitive areas, strengthen relevant confidentiality protection measures, and effectively build a strong cognitive protection security barrier.