**Explore the way to win in cognitive domain combat**

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**Editor's note**

Judging from the latest practice of local warfare, cognitive domain operations have become an important variable that profoundly affects the trend of warfare. In the cognitive domain battle, all parties fiercely compete for public opinion control, information guidance, cognitive shaping, etc., not only physical confrontation, but also competition from virtual space, showing the significant characteristics of "technology +" in the digital era. Exploring the way to win in cognitive domain warfare is of great practical significance for controlling the initiative in cognitive domain warfare and winning future wars.

**Seizing the control of the brain has become the ultimate goal of cognitive domain warfare**

The brain is the material basis of all thinking activities, and it is the command center that influences and controls human behavior changes, and feeling, perception and consciousness constitute the three aspects of the brain reflecting the world. How to win the right to control the brain has increasingly become the focus of research and attention of the warring parties in the field of cognitive domain warfare.

Actively fight for control of feelings. Sensation is the reaction in the human brain caused by the properties of objective things, which is the basis for the formation of various complex mental processes. With the rapid development of brain science, molecular biology, neurochemistry and other disciplines, human beings have gradually acquired the ability to intervene and control the brain at the physiological level. According to the results of foreign experiments, inhaled oxytocin will make people more trusting of others and more empathetic, which in turn affects a person's prosocial and moral performance. In future warfare, the belligerents will use physical stimuli such as sound and light, or chemical drugs to act on the auditory, visual, olfactory and other sensory systems of the target object, or even directly act on the human brain to stimulate specific emotional responses in the brain of the target object, and realize cognitive influence and control of the target at the physiological level.

Effectively fight for perceptual inhibition. Perception is a mental process formed on the basis of sensation and reflects the overall image and superficial connection of objective things. Among them, individuals' attitudes, motivations, interests, as well as past experiences and future expectations are the key variables that affect the individual's perception of perceptual goals. In wartime, the belligerents seize the favorable opportunity by aiming at the psychological doubts, weaknesses, and needs of the target object, and with the help of specific information, carry out emotional influence, mental inducement, or psychological disintegration on the perception of the target object, so as to increase the target object's expectation of war risks, weaken its will to resist and combat determination, so as to achieve the goal of fighting a small war, a small war, or even a soldier who surrenders without a fight.

Compete for the right to shape consciousness in an all-round way. Consciousness is realized through mental processes such as feeling, perception, and thinking, and is manifested as the unity of knowledge, feelings, and intentions. The fundamental purpose of war is to force the enemy to submit. Judging from the practice of warfare in ancient and modern China and foreign countries, in order to win the right to shape consciousness, the warring parties will do their best to mobilize all military forces that can be mobilized, and comprehensively use political, economic, cultural, diplomatic and other means to carry out political disintegration, diplomatic isolation, public opinion guidance, and legal declaration against the enemy, so as to arouse the rational thinking, ethical resonance, or value recognition of the target individual or group, and then change their world view, outlook on life, and values, and form a relatively stable and long-term cognitive influence or control, so as to achieve the goal of "total victory".

**Controlling information has become the key to cognitive domain operations**

Weapons and ammunition in cognitive domain warfare are information, and grasping the initiative in the generation, identification, acquisition, dissemination, and feedback of information is the key to winning the battlefield advantage in the cognitive domain.

Take the initiative to implement strong psychological stimulation to promote information infiltration. The confrontation in modern warfare is fierce and complex, and various elements of confrontation are unfolded in a multi-dimensional and multi-domain manner, and fighters are fleeting. The forces and means acting on the cognitive domain must closely follow the development and changes of the battlefield situation, and take the initiative to attack with the help of strong psychological stimulation methods such as subliminal information implantation, acousto-optic electromagnetic psychological nuisance damage, and non-contact emotional control, so as to induce confusion, confusion or radical changes in the emotion, will, thoughts, and beliefs of the target object, so as to achieve the purpose of controlling and influencing the cognitive system of the target object.

Extensive use of intelligent algorithms to achieve accurate push. As the Internet infiltrates all aspects of human life, everyone will leave a huge amount of data and information on the Internet. In wartime, with the help of modern information technologies such as big data, cloud computing, the Internet of Things, and blockchain, the warring parties will deeply mine and associate the social data, trajectory data, financial data, online shopping records, search records, personal communication records and other network data information of the target object, so as to realize the "cognitive portrait" of the target object, and systematically analyze the interest preferences, behavioral trends, interpersonal relationships and value orientations of the target object, so as to grasp the characteristics of relevant individuals or specific groups in three dimensions. Then, with the help of intelligent algorithm technology, personalized customized cognitive information is accurately pushed to the target object, so as to influence the target object's attitude, emotion and value judgment towards the war, and then promote the realization of one's own combat goals and political intentions.

Effectively aggregate social support systems to achieve overall linkage. The social support system is the material and spiritual help and support that a person can obtain from others in his or her own social network, and is the key factor that affects and determines the emotional support and cognitive direction of an individual. It can be said that for the success of cognitive domain operations, it is crucial to obtain the support and assistance of the social support system of the target audience. With the help of modern information technology, it can effectively associate with specific social relations such as relatives, friends, classmates, and partners of the target object, and obtain the understanding, support and trust of the other party by exerting targeted influence on the above-mentioned related parties, and mobilize specific related parties to exert influence on the target object, which can win the trust and acceptance of the target object, and make it easier for the target object to change its cognition, so as to achieve the purpose of cognitive influence and control of the target object.

**Virtual space has become the main battlefield of cognitive domain warfare**

Under the trend of continuous expansion of human virtual space, virtual space is becoming the main battlefield of modern warfare, especially cognitive domain warfare, which determines the outcome of future wars to a certain extent.

The emerging form of communication has become a new means of cognitive domain warfare. With the continuous development of mobile Internet technology, emerging forms of communication represented by social media have gradually become a new platform and mainstream position for cognitive confrontation. Judging from the recent local wars, the role of social media has become more and more prominent, and the warring parties have not only become a common topic of discussion on mobile online media terminals around the world, but also the main position of the value perception game of different countries and different forces and factions around the world by publishing battlefield graphics, video recordings and comments and posts in real time with the help of personal blogs, forums and other platforms. With its unique characteristics of decentralization and interactivity, social media and other emerging forms of communication have broken the information monopoly and information control in traditional communication methods, and have given birth to many product forms, which meet people's information needs while unconsciously changing people's cognition. It is foreseeable that in the future, the role of social media will become more and more prominent in the cognitive domain warfare.

Cyberspace has become a new space for cognitive domain operations. Under the condition of informatization and intelligence, the threshold of network technology has been greatly reduced, and it is possible to watch the game in real time around the world. Modern warfare has evolved from a "living room war" in the television era to a "handheld war" in today's all-media era. Webcasts are more intuitive and richer than any form of war reporting, and "global synchronicity" has become a prominent feature. Through the live webcast, the videos and images of the fierce battles between the two warring sides, as well as many burned tanks and armored vehicles, as well as the homes destroyed by the war and the refugees who fled their homes, can be intuitively presented. People can see the micro-state of individual civilians and fighters on both sides through the Internet, and the "transparency" of the battlefield makes any attempt to cover up the truth and false statements more and more difficult. But on the other hand, the emergence of technologies such as intelligent voice cloning and video portrait simulation replacement has made what people see not necessarily "as they see", and what they hear may not be "as they hear".

The intelligent network corps has become a new force in cognitive domain operations. The development of information networks has broken through the limitations of the authenticity of interpersonal communication, and it is difficult for us to determine whether the other end of the network is a real person. Based on the need for large-scale interaction, intelligent, automated, and large-scale cyberspace robots are emerging, and they are widely active in all corners of cyberspace. These intelligent network corps have the ability to intelligently identify, respond intelligently and even think brain-like, and they are tireless and full-time, and the intelligent cyber corps is becoming an important force in the future of cognitive domain warfare. Judging from the current development trend of related technologies, the world's major countries and even commercial organizations are focusing on the potential prospects of network robots in group penetration, live broadcast and commentary, shaping public opinion situation, and controlling network crises, and increase research and development efforts in key technologies such as automatic acquisition, automatic cultivation and group penetration of network intelligent robots flexible guidance technology groups, and provide intelligent and efficient technical support for public opinion guidance, cognitive shaping, and behavior guidance and control by discovering and effectively using the laws of network user behavior.