**Information Network: The Key to Winning Cognitive Warfare**

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introduction

In today's era of information and intelligent integration, information networks, with their advantages of deep reach, wide audience, and strong interactivity, will play an irreplaceable and important role in cognitive warfare. With the support of information networks, cognitive warfare will be more powerful and more sturdy. A deep understanding of the mechanism, basic form, methods and means of cognitive warfare of the role of information networks will help to timely control the initiative of cognitive warfare and lay the foundation for winning.

**The Mechanism and Law of Information Network Cognitive Warfare**

The essence of cognitive warfare in the role of information networks is to provide massive amounts of information through core algorithms, create biased cognitive scenarios, and influence the thinking and cognition of people and intelligent machines. This process integrates the operating rules of information networks and the internal mechanisms of thinking and cognition, has strong predictability, and is the underlying architecture and key point that must be grasped in information network cognitive warfare.

Sticky influence based on path dependence. The highly developed information network in today's society provides a platform that people cannot do without for learning, working, living, entertainment, military construction, combat and military struggle preparation, forming an interconnected path dependence between each other. This platform uses information as the core and the network as the medium. Through invisible stickiness, it connects different groups of people, societies, countries and even the military. It not only connects the entire world into a closely connected global village, but also objectively provides a bridge and bond for conducting cognitive operations, influencing the opponent's thinking and cognition, and winning cognitive wars. In 2009, US Secretary of State Hillary Clinton delivered a speech on "Internet Freedom", advocating the "Internet Freedom" strategy, attempting to use the channel formed by people's high dependence on the Internet to influence the thinking and cognition of the opponent's people, especially the younger generation, and spread American values.

Interactive influence based on information exchange. Education believes that interactive communication can effectively overcome the cognitive barriers formed by one-way information transmission, reach consensus, form empathy, and strengthen empathy through information exchange, emotional integration, and mutual promotion of needs. A big difference between information networks and traditional communication media is that they provide a carrier that can interact and communicate on a large scale, at a fast pace, and with high efficiency. In this carrier, the information-dominant party can repeatedly confirm the influence, adjust methods and strategies, and intervene in the thinking and cognition of the other party through the interactive mechanism provided by the carrier based on the other party's ideological fluctuations, emotional changes, attitude feedback, etc. For a long time, the United States has maintained a "engagement + containment" strategy toward China. One of the important considerations is that this kind of contact can effectively overcome the communication barriers and information gaps formed by simple blockade and confrontation, enhance the interaction between the two governments and the people, and thus find opportunities to open gaps and influence our ideas and ideologies. Although this strategy occurs in the traditional field, it is inherently consistent with the interactive influence mechanism of information networks based on information exchange.

Induced influence based on preset scenarios. The concealment, virtuality and permeability of information networks enable their controllers to create highly deceptive, tempting and inflammatory information scenarios through techniques and strategies such as water army flooding, information filtering and "fishing in troubled waters", so that opponents are deeply trapped in it without knowing it, but instead develop towards the preset process and results. This directional manipulation of information networks can subtly and efficiently influence, infect and shape the opponent's thinking and cognition, so that they are unconsciously led by the rhythm, and achieve a much better combat effect than confrontation. On the eve of the Iraq War, the US media spread false information such as the existence of weapons of mass destruction in Iraq through the Internet and other platforms, accusing the Saddam regime of colluding with al-Qaeda, rampant corruption, and unprovoked killing of the Iraqi people. At the same time, they tried every means to cover up the truth, filter out the anti-war voices of their own people, and strive to create an atmosphere that the Saddam regime is evil and hateful and the whole United States is united against the enemy.

**The basic form of information network cognitive warfare**

The laws of war and the mechanism of winning determine the basic form of war. The laws and mechanisms of information network cognitive warfare inherently determine the external presentation of this war. The most basic and representative ones include information confusion warfare, thinking misleading warfare and will destruction warfare.

Information confusion warfare. It is to use a large amount of complex information that combines the real and the fake, which is both true and illusory to infuse the network, so that the enemy's information network capacity is overloaded, the function is abnormal, the operation is disordered, or the specific audience is "deaf, blind, and insensitive", the cognitive ability is congested, and the thinking cognition and decision-making judgment are blocked. This form of warfare is often used in the early stages of combat and in opaque battlefields. The party with information advantage can make the enemy fall into a state of panic and be at a loss, so that perception fails, thinking loses its basis, and the enemy loses its footing. Bloomberg said that the Space Force, the sixth largest military branch of the United States, which was established not long ago, plans to purchase 48 jamming systems by 2027, aiming to "interfere with its satellite signals in the event of a conflict with a major power." The military of many countries generally feel that the information they obtain now is not too little but too much. The huge amount of information from all directions is gathered in large quantities, which puts tremendous pressure on situational awareness and analysis and judgment.

Misleading thinking war. This is to form a biased information scenario by instilling specific information containing the intentions of the party controlling the information network, misleading, deceiving and influencing the thinking of specific countries, armies and people, so that they deviate from the correct development track and deviate in a direction that is beneficial to oneself and detrimental to the enemy. It is the highest level and common practice of cognitive attack. This kind of misleading is based on strong external pressure, based on specious strategies, and using watered-down information as a weapon. It implements clear-cut deception targeting the opponent's thinking characteristics and weak links, causing the opponent to lose direction in tension and panic and fall into the "trap" unknowingly. Over the years, while implementing the great power competition strategy, some countries have fabricated false situations, created false information, and spread true rumors through online water armies, fanning the flames around my country and inciting some countries that have historical grievances with my country and frictions with China in reality to provoke trouble. The purpose is to induce us to divert our attention, weaken the investment of resources and forces in the main strategic direction, deviate from the track of national rejuvenation, and seek benefits.

Will-destroying war. Futurist Alfred Toffler said that whoever controls the human mind controls the entire world. War is ultimately a confrontation between people. People's psychological activities greatly affect their mental state, which in turn affects their will to fight. Will-destroying war is different from traditional warfare that indirectly affects people's will through material destruction. It directly affects the psychological activities, mental state and thinking decisions of key figures, affecting military morale, fighting will and combat operations. With the development of science and technology and social progress, the intervention in people's will has evolved from the traditional strategy-based intervention to the "technology + strategy" stage. More than ten years ago, scientists developed a "sound wave cluster" weapon that emits extremely narrow sound wave "sound columns" from hundreds of meters away through an electromagnetic network, interfering with the enemy's judgment and even causing strong-willed soldiers to become insane. In recent years, studies have shown that artificial speech synthesis technology based on brain wave signals can extract signals from the brain and synthesize speech that humans can directly understand.

**Information network is the main means of cognitive warfare**

"Technology + strategy" constitutes the basic means of modern cognitive warfare. As a product of the development of modern science and technology, the information network's means of cognitive warfare are also mainly reflected in "technology + strategy". This provides us with a basic entry point for understanding and grasping the ways and methods and scientific paths of information network's role in cognitive warfare, so as to win the war.

Big data construction. As the core component of the information network, data is not only a carrier of information, but also the "new oil" driven by the value of the information network, and the basic ammunition for cognitive warfare. The basic logic of cognitive warfare in the information network is to construct complex information scenarios for my use through massive data, or to confuse the opponent's thinking and cognition, or to mislead and deceive the opponent's thinking, or to destroy the belief and will. In this logical framework, data is undoubtedly the most basic resource and the most core element. A few years ago, the authoritative department calculated that the world produces about 2.5 exabytes (EB) of data every day, of which only 20% is structured data that can be directly used, and the remaining 80% needs to be analyzed, identified, and screened. These data resources that have emerged in geometric growth provide an inexhaustible supply of "data ammunition" for constructing data information scenarios and implementing cognitive warfare.

Intelligent push. In the information network era, intelligent push has become a convenient channel for people to absorb external information, gain thinking recognition, emotional resonance, and influence others' thinking cognition. Using advanced technologies such as artificial intelligence to collect, organize, and analyze people's thinking inertia and behavioral preference data, forming anthropomorphic customized perception push, can produce an "echo wall" of social cognitive convergence and an information cocoon that shackles people. At the same time, it is also conducive to empathizing with others, understanding the opponent's thinking trends and possible actions, and taking targeted countermeasures. In life, we all have the experience of a large amount of similar information being pushed in after shopping online or searching for a certain type of information once or several times. This intelligent push method is applied to cognitive operations, which can easily enable the information leader to use information network data to conduct forward-looking analysis and judgment on the decisions and actions that the command and decision-making level of the combat target may make, and induce them to make the decision actions they want to see or make corresponding countermeasures in advance.

Emotional immersion. Freud said that we are not pure wisdom or pure soul, but a collection of impulses. In the information network space, the concept cognition that can be widely and quickly spread is often not a calm, rational and objective thinking analysis, but mostly impulsive and irrational emotional mobilization. This is determined by the fast pace of information dissemination and news release. The cognitive need to respond quickly to this information, in turn, leads to the conditioned reflex, impulsive and emotional response of "fast thinking", which transforms seemingly isolated social cases into psychological hints and behavioral drives with strong oppression and incitement, and explosively gives rise to irrational decision-making actions. In June 2009, a diplomatic cable disclosed by WikiLeaks described the extravagant scene of the family banquet of the Ben Ali regime in Tunisia, and solemnly described the regime as a corrupt and tyrannical "mafia", which deepened the resentment of the people of the country and became an important driving force for the "Jasmine Revolution" that ignited the overthrow of the Ben Ali regime.