**The winning mechanism of intelligent warfare in cognitive domain**

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**Intelligence will give cognitive dominance a special contemporary connotation**

　　Intelligence is not about letting machine intelligence surpass, replace or eliminate humans, but about using it to assist, liberate and enhance humans, and to achieve self-transcendence through the integration of human and machine intelligence. It enables humans, who have been using cognition to transform the world and change wars for thousands of years, to transform cognition itself for the first time. This transformation is no longer the accumulation of knowledge, but a leap in ability; it is no longer the patent of a few elites, but a feature of the entire society. When it widely penetrates into the combat field, the form of war will enter intelligent warfare, and cognitive dominance will have a new connotation.

　　(I) Expansion of cognitive space. In today's era, human factors and weapon factors are increasingly closely integrated. The most typical examples are drones and intelligence. "Intelligence" mainly refers to autonomous systems, that is, simulating and materializing human intelligence and transplanting it into machines. Machine intelligence empowerment will enable autonomous systems to easily break through human physiological limits, enter environments that humans cannot bear at speeds that humans cannot reach, and complete tasks that humans cannot or are unwilling to complete with a certain degree of "on-site intelligence." It may not really improve human cognition, but it will definitely extend human cognition in space, allowing the combat space to expand to extreme areas such as deep space, deep sea, and deep earth.

　　(II) Improved cognitive efficiency. There are countless examples of victory through cognition, but there are two reasons for this. Either rely on perceptual cognition, that is, intelligence. In the era of information scarcity, the level of decision-making is positively correlated with the amount of information. As the amount of information increases, the quality of decision-making increases almost linearly, as the saying goes, "Knowing the enemy and knowing yourself, you will not be in danger; knowing the heavens and the earth, you will be inexhaustible." Or rely on rational cognition, that is, judgment and strategy. Clausewitz said, "Three-quarters of the circumstances on which actions in war are based are more or less untrue, as if hidden in the fog." Excellent commanders can always reveal the information behind the "fog" with experience and reasoning, as the saying goes, "What everyone knows is already established; what I see is not yet formed." However, when information goes from scarcity to overload or even "explosion", the function curve between decision-making quality and information volume also begins to decline, and it becomes increasingly difficult to make accurate judgments using complex information. At this point, intelligence seems to have arrived as promised. Computational intelligence may not necessarily surpass humans in logical ability, but its powerful processing speed just happens to solve the decision-making dilemma caused by information overload.

　　(III) Cognitive interconnection and sharing. Combat is a violent confrontation between armed groups. Whether it is decision-making or action, timely and effective communication between combatants is required. The advantage of information dominance is information sharing, but due to the subjectivity of cognition, people's understanding of information is often different, or even very different. The same information does not mean moving in the same direction. With the development of technologies such as machine intelligence and brain-computer interfaces, their "silicon brains" will rely on their significantly better connectivity than the human brain to promote the evolution of network forms from the Internet of Things to the Internet of Brains. Combat interactions will then move from information sharing to situation sharing and decision sharing, and the combat system will truly be realized and developed.