**Cognitive domain becomes the new frontier of international competition**

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With the fourth scientific and technological revolution, the world is accelerating into the era of artificial intelligence with high-speed information flow and deep interconnection of individuals. New technological advances have triggered new political phenomena, and the cognitive domain is gradually becoming a new topic of international competition. The so-called cognition refers to the process of receiving, encoding, storing, exchanging, retrieving, extracting and using information by the human brain or people using cognitive tools. It is the subjective construction of information by the cognitive subject. On this basis, the cognitive domain is the cognitive space of human beings, which refers to the common understanding mode or subconscious structure of the human brain for a specific field or specific problem. In the intelligent era, the new heights of international relations are constantly expanding, and the cognitive domain with the human brain as the research object and practice field is becoming a new frontier of international competition.

**Action Dimension of International Competition in the Cognitive Domain**

　　The "marriage" of international relations and cognitive issues began in the 21st century, among which three factors are related. First, the rapid expansion of national power in high frontiers. With the acceleration of national competition in physical space, countries have begun to actively expand new power operation space to achieve resource extraction and advantage expansion. A significant manifestation is that the cognitive domain has become a new source of national strength. Second, the field of strategic competition continues to extend. The cognitive domain has roughly experienced three stages of "cyberspace operations", "cognitive domain operations" and "cognitive strategy" on the international competition stage. Third, the practical application of emerging intelligence and neuroscience. The development and application of a new generation of artificial intelligence technology and neuroscience have brought cognitive domain issues into practice, various cognitive weapons have been created and deployed, and a variety of cognitive tactics have been put into actual combat, with rapid iteration and update. It can be said that the emergence of new technologies has not only increased the tools of national strategic competition, but also increased the strategic resources at the disposal of the country and activated the country's potential in new areas. In recent years, cognitive domain actions between countries have increased significantly. Specifically, there are three types of actions worthy of attention.

　　The first is cognitive domain warfare, which focuses on the battlefield and emphasizes the way cognitive technology changes the balance of the battlefield. Cognitive domain warfare can change the identity attributes of battlefield personnel, change the physical number of opponents on the battlefield and weaken the opponent's absolute power by undermining the will to fight, weakening the loyalty of soldiers, and promoting institutionalized camp conversion; improve the efficiency of cooperation and communication between various combat units and equipment on the battlefield, optimize the time and space combination of physical elements, improve capabilities without increasing the amount of material, and increase their own absolute power; activate or eliminate the potential of specific physical elements, such as shaping international public opinion through cognitive actions, and changing the cognitive concepts attached to material elements by manipulating audience costs.

　　The second is cognitive strategy, which focuses on integrating and utilizing physical domain resources to change public cognition. Among them, the three characteristics of cognitive domain determine the connotation of cognitive strategy. First, cognitive domain is public domain, so its strategic target is mainly the entire public at home and abroad. By controlling and changing people's reactions and processing methods of information, it creates doubts and confusion among the public, thereby affecting government decision-making and even undermining social stability. Second, cognitive domain is orderly, so cognitive strategy is based on specific interdisciplinary knowledge. Third, cognitive domain is persistent, so the ultimate goal of cognitive strategy is to maintain the country's long-term intervention ability in cognitive domain and ensure that the physical domain can always exert influence on cognitive domain.

　　The third is cognitive security governance, which is the premise for a country to carry out cognitive domain competition in the above two dimensions. Among them, cognitive security refers to a relatively safe state in which the objective cognitive ability of the country's citizens is not continuously destroyed and they have a subjective sense of security when facing cognitive attacks or psychological manipulation, with all members of a country as the main body. The reason why cognitive security governance is emphasized is that for countries participating in cognitive domain competition, the country's cognitive security is the basis for carrying out cognitive competition in other dimensions. If cognitive domain operations and cognitive strategies focus on offense, aiming to achieve cognitive suppression or psychological influence on other countries, then cognitive security governance focuses on defense, with the aim of exploring the country's cognitive domain risk loopholes and preventing cognitive interference from the outside.

**Cognitive Domain International Competition and National Security**

　　Different from traditional international competition, international competition in the cognitive domain breaks the binary space-time division between battlefield and society, soldiers and civilians, wartime and peacetime, and has the characteristics of "cross-scenario" or even "super-scenario", which exposes national security more directly to the risks of international competition. Therefore, if we want to gain international competitive advantages in the cognitive domain, the foundation is to understand the security risks and governance logic of the cognitive domain. In short, cognitive security includes two parts, objective and subjective, and the simultaneous realization of the two means that a safe state is achieved.

　　On the one hand, cognitive security is objective and is a universal security state that is not affected by individual mental differences. From an objective perspective, the level of cognitive resilience is an important criterion for judging whether the cognitive domain is safe or not. Paying attention to resilience means that there is no absolute security in the cognitive domain, that is, after suffering a cognitive attack, as long as it can quickly and effectively recover to the level before the attack, the cognitive domain can be regarded as safe. Generally speaking, the security state is related to active and effective defense measures, but this is not true in the cognitive domain. First, the technical cost of the cognitive domain defense measures is high and the negative social impact is large. "Defense everywhere" usually leads to the pan-security consequences of "everyone is in danger". Secondly, relevant intervention measures are often delayed. Risk identification generally occurs after suffering a cognitive attack, with more alarms and fewer warnings. Therefore, various cognitive defense technologies or countermeasures are mainly used to mitigate damage or hedge against retaliation. Finally, due to the concealment of cognitive manipulation technology and the lag in identification, it is difficult for countries to form an effective cognitive domain mutual deterrence. In short, in the face of various risks in the cognitive domain, defense measures are not an economically effective choice, but enhancing resilience, reducing inevitable losses, improving relief efficiency, and expanding the scope of intervention are feasible governance measures.

　　On the other hand, cognitive security is subjective. It is a stable mental state with a sense of security and protection, which is related to personalized feelings. From a subjective perspective, due to the widespread application of smart IoT in life, the scenarios in which the cognitive domain is attacked have greatly expanded, and cognitive threats cannot be completely eliminated. Therefore, the purpose of subjective cognitive security governance is to create a stable psychological expectation so that the public does not need to worry too much about threats from the cognitive domain. However, the key to achieving the above goals lies in whether a country can perceive cognitive attacks in a timely manner and respond at low cost. Therefore, it has become a common practice for countries to enhance the situational awareness of cognitive risks and cultivate the public's intuitive cognitive risk identification ability.

　　In short, international competition occurs not only in physical and technological space, but also in psychological and cognitive space. The relationship between power and ideas is becoming increasingly close, and the mechanisms of their influence are becoming more diverse, secretive, and efficient. With the rapid rise of international competition in the cognitive domain, future interactions between countries will also be spread out in a wider range of territories. The struggle over ideas, knowledge, and cognition will become a classic drama of great power games, just like the struggle over power.

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