**The weaponization of algorithms and how they shape power**

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At present, with the improvement of global digital infrastructure and the advancement of artificial intelligence technology, digital geopolitical competition is becoming increasingly fierce, and algorithms are increasingly being used as weapons in political competition. From adversarial neural networks to generate deep fakes to recommendation algorithms to influence public opinion, from political robots manipulating fake accounts to autonomous killer weapons performing unmanned reconnaissance and killing missions, from facial micro-expression recognition to portray the psychological curve of politicians to deep data mining to achieve cross-border precise political communication, the weaponization tendency of algorithms in digital political operations is becoming more and more obvious.

**Computational thinking intervenes in the political field**

　　The so-called "weaponization" of algorithms refers to a set of computational political operations in which political actors, supported by computing power and guided by computational thinking, purposefully, organizedly, and strategically use algorithmic tools and strategies to influence the behavior of others and shape the political environment in political interactions, thereby achieving their political goals and value pursuits. In this process, algorithms are not only used strategically as a tool to exert political influence, but also strategically as a weapon to shape rules.

　　Unlike the subjective experience judgment of traditional political thinking, computational thinking is a typical social engineering thinking. It assumes that everything is a number and everything can be calculated. It aims to use system science methods and computational means to understand the operation of social systems, that is, the monitorability, computability and evaluation of social environment and social behavior. In this regard, algorithms can be embodied as task identification, process control and implementation methods for social problems. Using computational thinking to study and solve social problems has obvious engineering and technical characteristics. The core of applying computational thinking to the political field is to achieve results that cannot be achieved by conventional problem-solving methods through certain automated and intelligent task modules, thereby optimizing political resource allocation and improving policy implementation. Different from the previous way of passively summarizing experience based on social facts that have already occurred, computational thinking is more of a way of thinking that actively explores and automatically explores problems in order to actively respond. It replaces experience with data and intuition with algorithms, aiming to achieve a transformation of political observation from subjective human analysis to objective intelligent discovery.

　　Simply put, the "weaponization" of algorithms can be intuitively understood as the intervention and application of computational thinking in the political field. Appropriate algorithms can accurately monitor and capture social facts, clearly judge problems and their development status, and thus provide policy responses that go beyond traditional thinking.

**Fighting Computation with Computation**

　　Looking to the future, in a digital intelligence environment, algorithms will be ubiquitous, and traditional international competition is quietly evolving into an "algorithmic politics" competition characterized by "computation against computation". First, in the military field, algorithms are being used as a new combat weapon and a new combat strategy. For example, in 2017, the US Department of Defense proposed the concept of "algorithmic warfare" and clarified the three major elements of "algorithmic warfare", namely, algorithm research and development for key mission requirements, construction and implementation of computing resources that match algorithms, and deployment of various intelligent military application technologies and systems based on algorithms. This move marks that the US military has officially laid out "algorithmic warfare" as its official combat concept. In view of this, more and more scholars believe that the involvement of algorithms in military conflicts will revolutionize the rules and forms of war, and bring unprecedented challenges to arms races and crisis management. Driven by algorithms, future wars are likely to move towards intelligent confrontation with algorithms as the core. Secondly, in the field of diplomacy, algorithms as a technology driver are innovating diplomatic work processes and changing the forms of diplomatic work. Following "cyber diplomacy", "new media diplomacy" and "data diplomacy", the rise of "computational diplomacy" can be seen as a socially computable form of intelligent transformation of diplomatic decision-making, diplomatic actions and diplomatic workflows. Relying on super computing power infrastructure and optional algorithmic tools, computational diplomacy integrates social computing theory and computing methods into the entire diplomatic process, which is specifically reflected in the algorithmization, automation and intelligence of diplomatic situation awareness, diplomatic decision-making process, diplomatic strategy execution and diplomatic workflow. Looking to the future, the overall development trend of computational diplomacy is to use digital empowerment and effective computing power to support holographic computing of multimodal and cross-modal data in the entire diplomatic process, such as intelligent intelligence perception, automated diplomatic workflows, visualized diplomatic strategy execution, and immediate and traceable policy feedback. In short, computational diplomacy is essentially a form of intelligent diplomacy driven by algorithms.

**Algorithm “embedding” and rule construction**

　　Algorithms are gradually showing a trend of being increasingly "weaponized" by political actors. In this regard, algorithms have not only become a new source of risk and a new security challenge, but they are also becoming a subject of power shaping in the process of being embedded in social structures.

　　First, algorithms are penetrating. Algorithms can easily cross the physical borders and interpersonal networks of a country and silently disturb the politics of other countries and their own citizens, so that the traditional national sovereignty boundaries and political rules of the game are like a figment of the imagination. For example, taking the Iranian "Twitter Revolution" as an example, with the support of algorithmic technology, the expression of public opinion on the Internet in one country can easily be incited by politicians in other countries into a purposeful, planned and organized "Internet color revolution". In April 2024, a research report by the Media Research Center (MRC) revealed that the technology giant Google has used algorithms to interfere in the elections of the United States and other countries many times since 2008. The report pointed out that Google's search algorithm used its biased search results to help the candidates it supported win the election while censoring their opponents. In short, the permeability of algorithms is gradually breaking through the limitations of sovereign boundaries and interpersonal networks, and extending the cross-domain influence of political actors. In this sense, algorithmic penetration is gradually evolving into a technical confrontation between international political subversion and anti-subversion.

　　Secondly, algorithms are embedded. As the logical rules for the realization of functions of artificial intelligence systems, algorithms are always embedded in specific social contexts, developed and deployed by certain specific actors for specific task areas, and achieve specific political goals through embedded allocation of resources and control of actions. In this regard, algorithms can be seen as a kind of "embedded power" that permeates every scene and every corner of artificial intelligence applications. In the name of facilitation, automation and intelligent realization of tasks, it fully participates in all aspects of human social production, life, work and entertainment in the form of background operation and invisible embedding, and is gradually evolving into an important force driving the intelligent transformation of various fields, shaping human cognition and changing the resource allocation pattern. In this case, algorithms are increasingly used as a "social rule-shaping tool". In the increasingly fierce international political game, the phenomenon of political actors purposefully, organizedly and consciously using algorithmic logic to achieve the construction of social norms will become more and more frequent, and algorithms are increasingly regarded as normalized intelligent tools to influence the behavior of others, enhance power, gain advantages or ensure security.

　　Finally, algorithms are ubiquitous. Simply put, "ubiquitous" means that algorithmic artificial intelligence is omnipresent in all aspects of its functions and services. Algorithms are not only the core link for artificial intelligence to achieve automatic perception and automatic calculation, but more importantly, the deep coupling of algorithms with various social fields integrates physical space and virtual space into a huge digital ecosystem, expanding the capabilities of intelligent technology. In the process of embedding algorithms into social task solving, they form ubiquitous power through the embedding of logical rules, that is, algorithms construct logic, logic forms rules, and rules are embedded in social structure. In general, with the advancement and large-scale application of artificial intelligence technology, algorithms will be further rooted in all aspects of human production and life, and will shape people's cognition and dominate people's behavior in a more hidden and imperceptible way, and then construct an algorithm-driven social structure and its normative system in the name of "intelligence".

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