

# CENTRE FOR JOINT WARFARE STUDIES



## CENJOWS

### CHINESE COGNITIVE DOMAIN WARFARE

1. China Introduces “*Cognitive Domain*” as the Future Battle Domain Next to the Land, Sea, Air, Space, Electromagnetic and Cyber Domains.



2. An article appearing in multiple Chinese government journals paints a picture of what Chinese experts call the “*intelligentisation*” of warfare, a term coined by Chinese scholars in which artificial intelligence dominates the battlefield.
3. According to the article, “Human fighters will fade away from the first line of fighting. Intelligent equipment will be brought onto the battlefield in large quantities and as whole units. ‘Human-on-human’ warfare in the traditional sense will be superseded by ‘machine-on-human’ or ‘machine-on-machine’ warfare.” “Such means of human-

machine combination as brain-machine interfaces, external skeletal systems, wearable devices, gadgets implanted into human bodies will comprehensively enhance the inherent cognitive and physiological capacity of human fighters, and will forge out ‘*superman combatants*.’

4. According to Chinese thinking, true power will rest with those nations whose AI is capable of both analyzing immense amounts of data, and autonomously making decisions at incredible speed. The article elaborates, “*The cognitive domain will become another battle domain next to the land, sea, air, space, electromagnetic, and cyber domains of warfare. ... the three major war fighting dimensions, that is, the physical dimension, the informational dimension, and the cognitive dimension.*” The article further predicts “The boundaries of war will extend into the deep land, deep sea, deep air, deep cyber, and deep brain domains...Intelligentized warfare will be generalized to all military conflicts and rivalries, giving rise to a more striking feature of integration between military and non-military domains. The scope of war fighting will expand to the extremes. The boundary between peacetime and wartime will get increasingly blurred.”

5. Not surprisingly, China is vigorously developing its AI capabilities. In fact, on 7 June 2019, China expert Elsa B Kania in a testimony before the U.S.-China Economic and Security Review Commission Hearing on Trade, Technology, and Military-Civil Fusion Chinese Military Innovation in Artificial Intelligence had brought out that “Chinese military strategists anticipate a transformation in the form and character of conflict, which is seen as evolving from today’s “informatized” warfare to future “intelligentized” warfare. The PLA may even offset U.S. military power if successful in advancing innovation and leapfrogging ahead in the course of this transformation. She opined that “the PLA continues to confront critical challenges to operationalizing artificial intelligence (AI) across a range of applications, from issues of talent to the management of data and adaptation as an organization.”

6. The PLA is actively exploring and experimenting with new concepts and capabilities to leverage artificial intelligence to enhance its combat power and deterrence. Chinese defense academics and military strategists are creating ideas and theories of ‘intelligentized operations,’ seeking to determine new mechanisms for victory. The use of AI in war-gaming and operations research could contribute to conceptual advancements, including the exploration of new notions of human-machine coordination and confrontation.

7. America seems to be the leader in AI for now, thanks to Silicon Valley tech firms such as Google, which has developed machine intelligence capable of everything from defeating human chess champions to driving automobiles. The Pentagon is also jumping on the AI bandwagon, to create artificial staff officers, hive minds capable of controlling swarms of drones, or even robotic fighter pilots.

8. Yet even at best, China won’t lag far behind the U.S. At worst, China may take the high ground on the AI battlefield.

<https://www.cnas.org/publications/congressional-testimony/chinese-military-innovation-in-artificial-intelligence>

<https://nationalinterest.org/blog/buzz/china%E2%80%99s-scary-vision-future-warfare-humans-are-obsolete-119996>