



Gaining a Better Understanding of Future Intelligent Warfare through a Chinese Lens

OE Watch Commentary: Over the past decades, the world has undergone an evolution of disruptive technologies that have transitioned from mechanized warfare to informatized warfare. The next evolution is expected to bring in artificial intelligence technologies and China is determined to lead the way. The accompanying excerpted article not only “paints a portrait” of what intelligent warfare is shaping up to look like in the future, but it also explains the importance of innovation in new combat methods, formats, and concepts.

According to the article, published in *Xinhua*, there are three developmental phases in which science and technology go through before transforming the science of warfare. The first phase is “initial entry.” The second is “ongoing support.” The final phase is “eventual dominance.” By looking at current developments in artificial technology development and the degree to which they are applied in military matters, the author estimates that the technology is currently “in the initial entry phase and is rapidly moving towards the ongoing support phase of development.”

The author believes that, while information systems assist humans in combat, intelligent systems will eventually replace humans in combat. Mobile internet, big data, cloud computing, machine learning, and biomimetic technologies are examples of “intelligent systems,” and are expected to one day have disruptive impacts on warfare. Combat power will shift from being human driven to one driven by intelligent systems. Methods that drive command and control will shift from one that is currently assisted by information systems, to one in which artificial intelligence technology will allow command and control systems to become autonomous. Finally, humans who have long been on the front line of the battlefield will be replaced by autonomous systems and therefore, this new confrontation between unmanned systems will disrupt people’s traditional understanding of battlefield combat methods.

The author points out that through systematic research, four “classical types of intelligent combat” will be possible. First, “swarming” will increase effectiveness through quantity. Second, “Trojan horse-type combat” will enable more covert maneuvers or prepositioning of systems. Third, the “autonomous-type combat” will be unmanned combat systems requiring autonomous sensing, judgement and decision-making capabilities and will make up for human shortfalls (i.e.: slower reactions). Finally, “disability-type combat” in which unmanned platforms will target, paralyze, and destroy key components of enemy combat system-of-systems.

In the concluding paragraph, the article eloquently stresses the importance innovation has to the development of new systems, technology, ideas and concepts. The author stresses the importance of not only embracing the new technologies but also the concepts and methods/formats in which they will be used. Without doing so, ideas will become outdated and are likely to “restrain the arrival of radical change.” History has taught the importance of a willingness to change tactics to fit the scene and related technologies. In short, the author is urging China to be aggressive in and willing to make breakthroughs in technology and to embrace “new combat forms, and initiate a new combat era.” **End OE Watch Commentary (Hurst)**

Source: Lu Zhisheng, “为未来智能化战争画个像 (Painting a Portrait of Future Intelligent Warfare),” *Xinhua*, 18 October 2018. http://www.xinhuanet.com/mil/2018-10/18/c_129974033.htm

Warfare will soon enter a stage of autonomous confrontation between unmanned systems where reconnaissance and strike decisions will occur in seconds, and the characteristics of an “unmanned, shapeless, and silent” battlefield will become increasingly visible day by day. Science and technology (S&T) generally transforms warfare by going through three necessary developmental phases, namely initial entry, ongoing support, and eventual dominance. Looking at current AI technology developments and their degree of application in military matters, especially in actual practice in the Syria war, AI technology is currently in the initial entry phase and is rapidly moving towards the ongoing support phase of development.

If information systems assist humans in combat, then intelligent systems replace humans in combat. Intelligent systems are represented by technology groups, such as mobile internet, Big Data, cloud computing, machine learning, and biomimetic technologies will have fundamental, long-term, and disruptive impacts on warfare.

...The direct integration of humans and weapons is gradually transitioning to the relative separation of humans from weapons. Following the historical path of war, advanced technologies tend to catalyze the birth of new weapons and promote changes in how humans and weapons are integrated...

...In the future, with the sufficient development of AI technology, intelligent command and control systems will possess relatively powerful autonomous control and autonomous command capabilities and be capable of autonomously capturing information, assessing circumstances, making decisions, and handling situations relatively independently. This will create a new state of affairs; as the assistance of humans by information systems transitions to the partial replacement of humans by intelligent systems, traditional understandings of human command and control methods will become somewhat disrupted...

...In a future where unmanned systems are widely applied on battlefields, those in direct confrontation on the front lines are likely to be a series of unmanned systems and will not involve the human casualties normally seen in traditional battlefields...

...In the future, expensive weapon systems might be divisible into large numbers of small, cheap, and dispersed unmanned platforms that conduct highly efficient strikes against combat targets by way of swarm saturation attacks that transform quantitative advantages into qualitative advantages.

Every revolution within the history of human warfare has to varying degrees broken the multi-leveled “shackles” worn by combat personnel. However, while “shackles” with identifiable form are often easily broken, those “formless shackles” brought about by outdated ideas are far more likely to restrain the arrival of radical change. On the precipice of the arrival of unmanned combat, we must be bolder in innovation, be braver in making breakthroughs, actively seek change, enthusiastically acknowledge new combat forms, and initiate a new combat era.

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Continued: Gaining a Better Understanding of Future Intelligent Warfare through a Chinese Lens

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AVIC Cloud Shadow at Dubai Air Show 2017.
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