

Every Computer a Potential Weapon

Chinese Information War Doctrine and Its Place in Beijing's Strategic Doctrine

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信息战争

*"In the networked world of the future, every chip is a potential threat
and every computer a potential weapon."*

--Dr. Shen Weiguang--

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The Chinese characters on the front cover are the symbols of "information war" as translated by Christian Larson.

Executive Summary

Information Warfare plays an integral part of China's overall strategic doctrine, through the prevailing doctrine of "Local War under conditions of Informationalization."

Although similar in many respects to American IW doctrine, Chinese strategic discourse displays the influence of historical doctrines and other "Chinese Characteristics." The IW debate within China, however, is ongoing and doctrine remains immature in many aspects. Inherent contradictions between doctrines create the possibility for crisis destabilization and could do more to harm China's defense than assist it. China's military analysts, however, are approaching IW in a spirit of innovation, re-examining accepted positions and ultimately asking the proper questions, all of which have been shown to be pre-cursors to true military revolution.

Introduction

Two trends with far reaching ramifications dominated the transition from the 20th to the 21st Century; the rise of China to the status of a regional power and the rapid spread of information technology around the globe. China's economic boom has granted Beijing unprecedented political power on the global stage and has provided the People's Liberation Army (PLA) with the capital to undertake major modernization projects.¹ Information technology (IT) is now "so ubiquitous that it is as important as safe drinking water."² The utilization of this technology in the Persian Gulf War led the strategic community to examine the possibility that technology had once again changed the practice of the military art and the concept of Information Warfare (IW) gained wide acceptance as a legitimate military tool. China, the rising economic and military power, did not ignore this change in the global security environment and with their ancient appreciation for the centrality of information as a tool of statecraft and military power, a virtual cottage industry dealing with IW developed.³ In the process of changing their overall doctrine to fit the high-tech demands of modern warfare, PLA leaders became heavily influenced by IW advocates. China's modern Information Warfare doctrine plays a pivotal role in China's overall strategic doctrine, although the interaction of disparate elements of established doctrine and emerging trends create the possibility of making China less secure and the global security environment less stable.

The field of Information Warfare is fraught with questions of definition. Although Chinese definitions of IW will be examined in the course of this paper, it should be generally understood that the term IW denotes: "Those actions intended to protect, exploit, corrupt, deny, or destroy information or information resources in order to achieve a significant advantage, objective, or victory over an adversary."⁴ This paper deals with the creation and execution of IW doctrine, so a working definition of doctrine must also be provided. According to the United States Air Force, doctrine is "fundamental principles by which the military forces or elements thereof guide their actions in support of national objectives."⁵ In the case of most western nations, especially the United States, great volumes of official doctrinal work is published for public consumption. In China, such published pieces are unheard of and only one official doctrinal document has been released. When discussing Chinese doctrine therefore, sources cited are almost always articles independently published by members of the PLA and Chinese doctrine refers to the "collective set of ideas, methodologies, or tendencies to behavior that drive the manifestation of strategy into action."⁶ Both of these definitions must be kept in mind throughout this piece.

¹ For a general study of China's military modernization, see Austin Williams, *Arming the Dragon* (Georgetown, 2006).

² "Panic Postponed: Whatever happened to the Millennium Bug?", *The Economist* (8 January 2000), 22.; available from <http://0-search.ebscohost.com.library.lausys.georgetown.edu:80/login.aspx?direct=true&db=aph&AN=2660464&site=ehost-live>.

³ Toshi Yoshihara, *Chinese Information Warfare: A Phantom Menace or Emerging Threat?* (Carlisle: Strategic Studies Institute, 2001) 1-2; available from <http://www.iwar.org.uk/iwar/resources/china/iw/chininfo.pdf>.

⁴ Dorothy Denning, *Information Warfare and Security* (New York: Addison-Wesley, 1999), 10.

⁵ *Air Force Basic Doctrine* (Washington: United States Air Force, 1997), 81.

⁶ Carson, Tavenner, *Towards an Understanding of People's Liberation Army Information Warfare Doctrine* (Air Force Institute of Technology) 12; available from <http://stinet.dtic.mil/oai/oai?&verb=getRecord&metadataPrefix=html&identifier=ADA379682>.

Foundations of Strategic Doctrine

The dazzle of weapons tests and the sight of new systems still glistening with grease from Russian factories has blinded many in the West to the true transformational process occurring within the Chinese military. Weapons acquisition is only the outward sign of a deeper process of doctrinal change. Although many in the West debate the concept of an ongoing Revolution in Military Affairs (RMA), Chinese strategic thinkers buy into the concept wholeheartedly. Analysts Williamson Murray and Macgregor Knox, speak of military revolutions as fundamentally changing “the capacity of states to create and project military power.”⁷ While the debate rages on in the budget committees and planning offices of Washington, Beijing has wholeheartedly embraced the concept of ongoing fundamental military change. The 2006 Chinese Defense White Paper unequivocally states that “a revolution in military affairs is developing in depth worldwide.”⁸ In light of its acceptance of systemic change in the nature and practice of military force, China has moved away from their traditional strategic stance into new and uncharted doctrinal territory.

The 20th Century military history of China was vastly different from western military history. Whereas the western military experience was defined primarily by technology, China’s was defined by ideology.⁹ China’s strategic doctrine in the post-revolutionary period revolved around Mao’s concept of a Peoples’ War. This doctrine came from the Communists’ experience with guerilla warfare during the Second World War and the conflict with the Nationalists, fused with the guiding ideology of Marxism/Maoism. This ideology preached that the inherent power of the people could be harnessed and “manifested in action... and all things could be accomplished.”¹⁰ People’s War doctrine meant that China needed little in the way of advanced military hardware or complex military organizations; groups of lightly-armed soldiers, assisted by the population, would use the strategic depth of China to execute a fluid, defensive war, falling back when pressured and striking only where the enemy was weakest.

After Mao’s death and the abysmal failure of Chinese forces in Vietnam, the People’s War doctrine was modified to “People’s War under Modern Conditions” under the leadership of Deng Xiaoping, a doctrine that saw an acceptance of a more mobile style of war using combined arms and motorized transport.¹¹ As China’s economic modernization picked up and China’s leaders acknowledged that they could no longer afford to so easily surrender territory, strategic thinkers began to discuss the concept of “local wars”, fought on the periphery of China rather than deep within the interior. As debate over the “local war” concept continued within the PLA, China continued to feel adequately protected by its armed forces and military modernization remained low on China’s modernization priorities.

⁷ Williamson Murray and Macgregor Knox, *The Dynamics of Military Revolution* (Cambridge, Cambridge University Press, 2001), 7.

⁸ *China’s National Defense in 2006* (Beijing: Information Office of the State Council, 2006); available from <http://www.fas.org/nuke/guide/china/doctrine/wp2006.html>.

⁹ Tavenner, *Towards an Understanding*, 44.

¹⁰ *Ibid.*, 44.

¹¹ Vincent Wei-cheng Wang, *Winning the War without Fighting?* (Richmond: University of Richmond, 2002), 13; available from <http://www.la.utexas.edu/research/cgots/Papers/53.pdf>.

The Persian Gulf War shattered this complacency. Iraq, the Chinese felt, was pursuing a doctrine similar to "People's War under Modern Conditions." The seemingly effortless destruction of the Iraqi military left China stunned. People's War, a cherished concept for the entire history of Communist China and a foundation of Maoist ideology, was now seen as "unsuitable both to the fighting and force building in the contemporary era."¹² In their often-cited book, *Unrestricted Warfare*, two futurist PLA colonels spend several chapters discussing the Gulf War in detail, claiming that the conflict "changed the world."¹³ This incredible shock to the international security environment led Chinese leaders in 1992 to focus on preparing China to fight a "high-tech war."¹⁴ The Local War concept, sometimes translated as "limited war," became the dominant strategic doctrine of China and military modernization was rocketed high on China's modernization priorities.

For Chinese doctrine, however, the Gulf War was only the first major shock. The 1996 Taiwan Straits Crisis and the 1999 NATO campaign in Kosovo shook the conceptual foundations of China's perception of modernization as purely mechanization.¹⁵ PLA leaders now realized that the Gulf War had heralded an entire RMA and that the mechanized force they proposed to build was already obsolete. They sought to employ the western-driven RMA, leapfrogging over the mechanization phase, and develop a modern military force through an RMA with "Chinese Characteristics." This played a major role in China's first officially release doctrinal document in 1998 entitled *China's National Defense*.¹⁶ This Defense White Paper, published by the Information Office of the PRC's State Council, is re-issued every two years, and provides the only authoritative look at Chinese doctrine direct from an official source. Later White Papers would announce the development of "local war under high-tech conditions" as the dominant strategic doctrine, until it was replaced in 2004 with "local wars under conditions of informationalization."¹⁷ An ill-defined concept, informationalization's inclusion in the most fundamental of China's strategic doctrines illustrates the intensity with which China has embraced Information Warfare.

China's National Defense in 2006: Views on Modern Doctrine

The most recent White Paper, China's National Defense in 2006, represents the only publicly available document detailing Beijing's current strategic doctrine and therefore, offers a piercing look at Chinese perceptions of the global security environment. Given the lack of direct existential threats to China today, the Chinese picture of international security is relatively peaceful. The paper states "World peace and security face more opportunities than challenges" and "China's overall security

¹² M. Ehsan Ahrari, "U.S. Military Strategic Perspectives on the PRC: New Frontiers of Information-Based War", in *Asian Survey* (University of California Press, 1997), 1166 & 1173; available from <http://www.jstor.org/view/00044687/di014576/01p0304h/0>.

¹³ Qiao Liang and Wang Xiangsui, *Unrestricted Warfare* (Beijing: PLA Literature and Arts Publishing House, 1999), 4; available from <http://www.terrorism.com/documents/TRC-Analysis/unrestricted.pdf>.

¹⁴ Kathryn Gauthier, *China as Peer Competitor?* (Maxwell AFB: Air War College, 1999), 18; <http://www.iwar.org.uk/iwar/resources/usaf/maxwell/students/1999/mp18.pdf>.

¹⁵ David Shambaugh, *Modernizing China's Military* (Berkeley: University of California Press, 2002), 2-3.

¹⁶ China's National Defense.

¹⁷ *Annual Report to Congress: Military Power of the People's Republic of China 2006* (Washington: Defense Department, 2006), 17; available from <http://stinet.dtic.mil/dticrev/PDFs/ADA449718.pdf>.

environment remains sound,” illustrating China’s overall acceptance of the world today.¹⁸ Peaceful language pervades throughout the document, stressing that China seeks to be seen as a status quo power that does not pose a threat to peace and security:

China persists in continuing its peaceful development road. Balancing developments in both domestic and international situations, it is well prepared to respond to complexities in the international security environment. Guided by a security strategy of promoting both development and security, China strives to build a socialist harmonious society at home and a harmonious world to ensure both its overall national security and enduring peace in the world. It endeavors to enhance both development and security, both internal security and external security and both traditional security and non-traditional security; works to uphold its sovereignty, unity and territorial integrity and promote national development; and strives to sustain the important period of strategic opportunity for national development. China is committed to fostering a cooperative relationship of mutual benefit and win-win with other countries and working with them to promote common security.

The doctrine of China, therefore, is one of strategic defense. Beijing’s leaders claim that they do not intend to utilize the PLA in a coercive or offensive manner, but remain firmly committed to defense of China’s interests within their “strategic borders.” This term, however, is not defined in any of China’s Defense White Papers, leading some to fear that such borders extend far beyond China’s current territory. Russian analysts fear that these frontiers will expand with growing Chinese power, effectively declaring a Chinese Monroe Doctrine in Asia,¹⁹ analysis at least partially supported by American David Shambaugh, who draws China’s strategic borders from the Persian Gulf to the Pacific Ocean, and by Chinese naval proposals, which seek to control the Pacific west of the Dateline by 2050.²⁰ Criteria for the utilization of China’s military remain ill-defined, especially in key areas such as China’s completing territorial claims in the South China Sea and continuing tensions over Taiwan. Overtly, though, Chinese doctrine is not offensive or expansionary at the strategic level.

Operationally, however, China quickly adopted a doctrine of defense suited to its concept of fighting war on the periphery of China rather than deep within the nation. While People’s War advocated an extreme form of defense-in-depth, the PLA now seeks to fight by “implementing the military strategy of active defense” as outlined by the 2006 Defense White Paper. China seeks, therefore, to bring the fight to the enemy, using offensive maneuver and spoiling attacks to fight a defensive war. By seeking to engage the enemy on his own territory or within border regions prevents the widespread disruption of China’s booming economic base.

¹⁸ All excerpts from China’s National Defense in 2006 referenced in this paper come from the FBIS translation available from <http://www.fas.org/nuke/guide/china/doctrine/wp2006.html>.

¹⁹ Hudson Institute, *China’s New Great Leap Forward* (Cicero: Hudson Institute, 2005), 68; available from http://www.hudson.org/files/publications/China_Great_Leap_Forward.pdf.

²⁰ Shambaugh, *Modernizing China’s Military*, 66-67.

Beijing's strategic view of war, therefore, is one in which China is not the aggressor and that occurs on the periphery of China using offensive operations utilizing high-tech weapons systems. To better execute this doctrine, China has strived to restructure its military, reducing its manpower and outfitting them with the best weapons the PLA can acquire. The stated goal of this modernization is "achieving the all-round, coordinated and sustainable development of China's national defense and armed forces." This effort, however, takes "informationalization as the major measuring criterion," meaning that Information War doctrine is an integral part of overall Chinese doctrine. Chinese military thinkers and leaders have come to view the concept of information warfare as the primary driver behind the emerging world-wide RMA. The following section deals, therefore, with the development and practice of Chinese Information War doctrine.

Information Warfare Doctrine

The very first thing that strikes the student of China's Information War doctrine is its similarity to American doctrine. A great deal of the published works of Chinese IW thinkers overlap with U.S. publications, suggesting both that they are dealing with similar issues and difficulties and that China has sought to capitalize on previous doctrinal work abroad instead of producing an entirely indigenous doctrinal body. Although doctrine is rarely directly copied, two of the U.S.'s primary IW doctrinal publications, FM-100-6 and JP 3-13.1 have been translated into Chinese.²¹ Many analysts have fallen into the trap, therefore, of assuming that China's IW doctrine proceeds along identical lines as the United States, or that China, having failed to copy American IW doctrine outright, has pursued a flawed IW doctrine. The correct answer is that China has done neither of these things, and while significant weaknesses are apparent in China's doctrinal development, PLA thinkers are currently asking the right questions and thinking about the correct issues to continue down a road of sound doctrine.

One of the primary reasons that American IW thinking figures so prominently into Chinese thinking is that America is generally considered the current world leader in the theory and practice of this art. As Captain Carson Tavenner of the U.S. Air Force points out, doctrine is a combination of analysis and experience,²² and while China seeks to provide much of their own analysis, they lack the experience of the United States. A senior American Defense Department official reported that China seeks to gain all it can from the actions of the U.S.: "Every time we're involved in a campaign, there's a spate of articles [in China] analyzing it. Sometimes they put themselves in the shoes of our opponent; sometimes they try to see, 'What can we emulate that the Americans have done?'"²³ The most analyzed of all campaigns is the Persian Gulf War, which awes the PLA by the "perfect" (*wanshan*) nature of the attack, while Maj. Gen. Wang Pufeng, the father of Chinese IW, called the Gulf War the "epitome" of IW.²⁴ Perfection, however, may be overstated, as the Chinese firmly believe that the destruction of Iraq's air defense

²¹ James Mulvenon, "PLA and Information Warfare", in *The People's Liberation Army in the Information Age*, ed. James Mulvenon, and Richard Yang (RAND Corporation, 1998), 181; available from http://www.rand.org/pubs/conf_proceedings/CF145/CF145.chap9.pdf.

²² Tavenner, *Towards an Understanding*, 13.

²³ Kathleen Rhem, "China Investing in Information Warfare Technology, Doctrine", *American Forces Press Service* (20 June 2005); available from <http://www.defenselink.mil/news/newsarticle.aspx?id=16594>.

²⁴ Mulvenon, *PLA and Information Warfare*, 178.

system was through the introduction of a computer virus.²⁵ This tendency to overemphasize the potential of IW is one of many weaknesses that will be examined in greater depth below.

Before Chinese Information Warfare can be studied deeply at a doctrinal level, the fundamental question of definition must be addressed. Chinese writers have just as much difficulty as American analysts in defining Information Warfare. Many of their definitions are simply descriptions of scattered elements of IW. In his 1996 article in Liberation Army Daily, Wei Jincheg described information warfare as occurring when “information is not only a weapon of combat but also the object sought after by the warring parties.”²⁶ Wang Baosun, in his analysis of the NATO operation in Kosovo, defined IW as “a military struggle in the information arena for the power to create information”,²⁷ suggesting a narrow view of IW that focuses on deception and propaganda. The most widely accepted and quoted Chinese definition came from the father of Chinese IW, Gen. Wang Pufeng. It reads:

*IW is combat operations in a high-tech battlefield environment in which both sides use information- technology means, equipment, or systems in a rivalry over the power to obtain, control, and use information. IW is a combat aimed at seizing the battlefield initiative; with digitized units as its essential combat force; the seizure, the control, and use of information as its main substance, and all sorts of information weaponry [smart weapons] and systems as its major means.*²⁸

This basic format, emphasizing the struggle to control information, is mirrored almost word for word by Senior Colonel Wang Baocun and Li Fei,²⁹ illustrating its general acceptance within the Information Warfare community. The goal of IW is accepted as “information dominance,” the struggle for which will “permeate everything and will be exceptionally fierce and intense.”³⁰ While Gen. Pufeng’s description and its ensuing descriptions are not far from American thinking, and would therefore suggest similar doctrines, the Chinese interpret their definition very differently and upon these interpretations there is little agreement. Information dominance has an acknowledged link with military victory, but the debate in China rages about what that link may be.

²⁵ Ch’en Huan, “The Third Military Revolution”, in *Chinese Views on Future Warfare*, ed. Michael Pillsbury (Washington: National Defense University, 1998); available from <http://www.fas.org/nuke/guide/china/doctrine/chinview/chinacont.html>.

²⁶ Wei Jincheg, “Information War: A New Form of People’s War”, in *Chinese Views on Future Warfare*, ed. Michael Pillsbury (Washington: National Defense University, 1998); available from <http://www.fas.org/nuke/guide/china/doctrine/chinview/chinacont.html>.

²⁷ Timothy Thomas, *Like Adding Wings to the Tiger* (Fort Leavenworth: Foreign Military Studies Office); available from <http://www.iwar.org.uk/iwar/resources/china/iw/chinaiw.htm>.

²⁸ Yoshihara, *A Phantom Menace or Emerging Threat?*, 12

²⁹ Wang Baocun and Li Fei, “Information Warfare”, in *Chinese Views on Future Warfare*, ed. Michael Pillsbury (Washington: National Defense University, 1998); available from <http://www.fas.org/nuke/guide/china/doctrine/chinview/chinacont.html>.

³⁰ Gauthier, *China as Peer Competitor*, 24.

In Search of “Chinese Characteristics”

The most fundamental question facing China is whether they will seek to engage opponents symmetrically or asymmetrically. In discussions of IW, Chinese analysts readily acknowledge that they will likely fight at a disadvantage, as almost all of their discussions of IW assume a technologically strong enemy that is often a thinly veiled United States. Gen. Pufeng writes, “When we engage in war with strong enemies in the future, we will face comprehensive and powerful information suppression,”³¹ a bit of understatement in light of the paralysis that modern information “suppression” can achieve. Since China is assumed in these scenarios to be the weaker power, the question remains whether China will strive to develop an equally strong IW capacity, allowing it to overcome its overall technological weakness, or will China exploit its technological backwardness by embracing asymmetrical tactics.

An equal number of western analysts can be found to argue that the Chinese have adopted either position, but the truth seems to be that the Chinese themselves have not yet decided. Although much of their writings discuss principles of asymmetrical warfare, they also realize the role IW can play as a combat multiplier on the conventional battlefield.³² A significant amount of money is being invested in updating the PLA’s C⁴ISR assets, including negotiations to purchase AEW aircraft and construction of command “nerve systems.”³³ If China sought to utilize asymmetrical means only, these expensive new systems would be vulnerable both to enemy counterattack and unintended “blowback” from Chinese attacks. Expensive efforts to produce Chinese military satellites, for example, are put at risk by the development of Anti-Satellite Weapons as tested by the Chinese in early 2007, which is sure to spur other nations to pursue similar lines of research. By developing both a symmetrical and asymmetrical capability, therefore, Chinese IW doctrine covers a wider swath of ideas than western doctrine and has much to offer the international IW debate. These concepts are the “Chinese Characteristics” upon which China seeks to base its RMA.

The Draw of Tradition

No doctrine is created in a historical vacuum. Doctrine is, after all, experience as well as analysis and no experiences are stronger for a nation than its own. Many of the “Chinese Characteristics” stem from China’s particular historical doctrinal experience. The most obvious come from the enduring legacy of Mao. As a former guerilla commander, Mao Tse-tung understood the key role that information plays in warfare in attacking the decision-making infrastructure of the enemy; “To achieve victory we must as far as possible make the enemy blind and deaf by sealing his eyes and ears, and drive his commanders to distraction by creating confusion in their minds.”³⁴ Although Mao’s conception of People’s War has fallen from grace as an overarching strategic doctrine, the term still appeared in *China’s National Defense in 2006*. It is, however, the style, rather than the form, of People’s War to which modern Chinese strategists adhere. Wang

³¹ Wang Pufeng, “The Challenge of Information Warfare”, in *Chinese Views on Future Warfare*, ed. Michael Pillsbury (Washington: National Defense University, 1998); available from <http://www.fas.org/nuke/guide/china/doctrine/chinview/chinacont.html>.

³² Huan, *The Third Military Revolution*.

³³ Kate Farris, *Chinese Views on Information Warfare* (Newport: Naval War College, 2000); available from <http://stinet.dtic.mil/oai/oai?&verb=getRecord&metadataPrefix=html&identifier=ADA382118>.

³⁴ Yoshihara, *A Phantom Menace or Emerging Threat?*, iii.

Pufeng, in his effort to combine traditional Marxist/Maoist warfare with modern concepts, highlights Mao's reliance on the Chinese people and superior tactics to defeat a more technologically advanced opponent.³⁵ In this, Chinese IW strategists seek to follow the honored Chinese tradition of "overcoming the superior with the inferior."

The modern ramification of "overcoming the superior with the inferior" is the concept of Modern People's War. Armed with computers rather than the light infantry weapons of Mao, IW thinkers imagine utilizing China's enormous population base to wage IW campaigns. Wei Jincheng wrote that "anyone who understands computers may become a 'fighter'"³⁶ and that due to the decentralization and informationalization of society "the chance of people taking imitative and randomly participating in the war increased."³⁷ These theories are advocated by many in the IW field within China and suggest that in the future, formal state and military structures may have less to do in the conduct of war than the general population. Wang Xiaodong writes:

*Even as to government mobilized troops, the numbers and roles of traditional warriors will be sharply less than those of technical experts in all lines...since thousands of personal computers can be linked up to perform a common operation, to perform many tasks in place of a large-scale military computer, an IW victory will very likely be determined by which side can mobilize the most computer experts and part-time fans. That will be a real People's War...*³⁸

Although China's tradition of popular involvement and mobilization in defense of the state is particularly well suited to these population-based concepts, it clashes directly with the hallowed place that control plays in the Communist Party's rule. Strict censorship policies and limited access to the internet make freeing the population to attack China's enemies a potentially lethal double-edged sword. The Chinese Communist Party (CCP) would likely hesitate to undertake such a risky action unless their hold on power was directly threatened. Increasingly enough, this decision may have already slipped out of the CCP's control. The rise of commercial IT coincided with a dramatic rise in Chinese nationalism.³⁹ Recent incidents involving Chinese hackers show that, to a certain degree, hackers are independently rising up to use their skills for China. This leads to the dangerous possibility that independent hacker action during moments of crisis, such as the 2001 "cyber-war" stemming from the U.S. EP-3PE incident, could increase the escalatory cycle, pushing nations closer to war. Chinese IW thinkers have yet to publicly address the ramifications of their "Modern People's War" concept"

Beyond Maoist ideology, Chinese thinkers have a wealth of ancient Chinese military traditions upon which to draw. Concurrent with the new-found popularity of writers such as Sun Tzu in Western military circles, the study of ancient Chinese statecraft has seen a major resurgence within the PLA.⁴⁰ One of the most popular

³⁵ Wang Pufeng, *The Challenge of Information Warfare*.

³⁶ Gauthier, *China as Peer Competitor*, 25.

³⁷ Thomas, *Like Adding Wings to the Tiger*.

³⁸ Yang Shuqi and Guo Ruobing, [no title], Beijing Zhongguo Guofang Keji X, September-December 1996, No 5/6, pp. 90-93 as translated and reported in FBIS-CHI-98-029, insert date 30 January 1998.

³⁹ Wang, *Winning the War without Fighting*, 28.

⁴⁰ *Annual Report to Congress*, 14

concepts gleaned from such study is that of winning without fighting. Sun Tzu wrote in *The Art of War*:

*Subjugating the enemy's army without fighting is the true pinnacle of excellence ... Thus the highest realization of warfare is to attack the enemy's plans; next to attack their alliances; next to attack their armies; and the lowest is to attack their fortified cities... Thus one who excels at employing the military subjugates other people's armies without engaging in battle...*⁴¹

Many IW theorists in China now claim that modern technology makes Sun Tzu's ancient dictums achievable and that through IT, an opponent's will and capacity to fight can be destroyed with little or no bloodshed. Such a feat would be particularly well suited to Chinese desires to re-incorporate Taiwan, as they would seek to conquer the island without destroying it and prevent American intervention without escalating into a major war with the United States. Many PLA IW theorists have therefore become obsessed with "no-contact" war waged entirely with bytes rather than bullets:

*Information-based confrontations will aim at reaching tangible peace through intangible war, maintaining the peace of hardware through software confrontations, and deterring and blackmailing the enemy with dominance in the possession of information*⁴².

—Wei Jincheng—

This obsession has led some analysts to conclude that China has over-emphasized information as a "panacea" and "silver bullet" in warfare, having belittled the role of kinetic strikes.⁴³ Many have argued that PLA IW doctrine ignores the difficulties and uncertainty of IW, as evidenced by Wang Baocun and Li Fei's assertion that digitalization makes the battlefield perfectly transparent and unifies all action into a unified whole.⁴⁴ Information is often portrayed as a goal, rather than a process and there is little discussion of how one gathers, analyzes and disseminates information at anything other than a theoretical level.⁴⁵ Captain Carson, whose analysis was referenced previously, discounts the development of Chinese IW doctrine due to their lack of formal targeting processes.⁴⁶ It is common, therefore, for Western observers to see Sun Tzu's influence as being negative, tempting Chinese strategists towards the unattainable goal of winning without fighting.

A closer examination of Chinese writings, however, reveals that many of these critiques are unfounded. While Chinese theorists are intrigued by the possibility of bloodless war, their current doctrinal prescriptions are much more realistic and follow

⁴¹ Sun Tzu, *The Art of War*, trans. Ralph Sawyer (Bolder: Westview Press, 1994), 177.

⁴² Wei Jincheng, "Information War: A New Form of People's War", in *Chinese Views of Future Warfare*, ed. Michael Pillsbury (Washington: National Defense University, 1998); available from <http://www.fas.org/nuke/guide/china/doctrine/chinview/chinacont.html>.

⁴³ Yoshihara, *A Phantom Menace or Emerging Threat?*, 27 & 30.

⁴⁴ Baocun & Fei, *Information Warfare*.

⁴⁵ Yoshihara, *A Phantom Menace or Emerging Threat?*, 24.

⁴⁶ Tavenner, *Towards an Understanding*, 10.

parallels in Western thought. Through deep strikes (*zongshen zuozhan*) on enemy C⁴ISR assets, identified as the vital points (*dianxue*) of the enemy, the PLA seeks to induce blindness, confusion, paralysis and ultimately system collapse.⁴⁷ Although this model follows closely with Western targeting doctrine, the use of the term *dianxue* is what gives this doctrine its particularly Chinese characteristic. The word comes from the Chinese martial arts tradition and refers directly to those vital points of the human body where an opponent can be crippled with minimal effort. Ch'en Huan writes that "by striking the *dianxue* of the enemy's information and support systems one can at one blow paralyze the enemy and collapse his morale."⁴⁸ Taking Sun Tzu as a guide rather than a doctrine, modern Chinese IW doctrine seeks to win through limited fighting at key points rather than the bloodless ideal that many Westerners assume they are pursuing.

Another difference between Western and Chinese IW doctrine stems from a greater emphasis by the Chinese on network attack principles. While this may partially stem from their wider view of the battlespace, a much-debated concept addressed in the following section, it also draws on ancient Chinese fighting principles of "killing with a borrowed sword." In Eastern fighting traditions, the mark of a great fighter was to use an enemy's own sword and body against him and the mark of a great general was to use the strengths of his opponent to defeat him. One ancient story that has greater meaning today is the Romance of the Three Kingdoms. In this traditional tale, a weaker army with no arrows uses a clever ruse to trick their stronger opponent into firing many of their arrows and then using these captured weapons in a successful attack.⁴⁹ Today, Chinese strategists undoubtedly see great beauty and skill in the concept of using their opponent's own IT against them. The global hacking community is a tremendous resource for China, especially if they seek someday to mobilize mass civilian "cyber reserves." As Shen Weiguang has corrected pointed out, "the information to attack the net is available on the net."⁵⁰ This makes computer network attack a popular choice for offensive information operations as an inexpensive alternative. The tools are cheaply and readily available and the risk of retaliation is perceived to be less, as China's enemies will not know if an attack is "a child's prank or an attack from its enemy."⁵¹ Fighting with the "borrowed sword" makes computer network attack a modern asymmetric tactic that is firmly rooted in the historical military and strategic tradition of China. It and other historical influences give Chinese IW doctrine its "Chinese Characteristics" and cover new doctrinal ground not explored by Western thinkers who lack the Chinese military tradition.

Widening the Battlespace

The single characteristic of Chinese IW that has aroused more discussion in the West than any other is that of battlespace definition. Although the expansion of the battlespace through precision airpower is a key element of the Western RMA, Western approaches to battlespace confine the conflict area as much as possible. U.S. doctrinal manuals such as FM 3-0 include simple diagrams showing the battlespace as defined by

⁴⁷ Mulvenon, *PLA and Information Warfare*, 181.

⁴⁸ Huan, *The Third Military Revolution*.

⁴⁹ Farris, *Chinese Views on Information Warfare*, 4-5.

⁵⁰ Gauthier, *China as Peer Competitor*, 27.

⁵¹ *Ibid.*, 27.

the commander's "concept of operations."⁵² This definition limits the battlespace to the military realm and is likely a product of Western traditions of the distinction between civilian and military spheres. In Chinese Communist culture, however, this distinction is less clear. The role of the general population has already been discussed in the context of "People's War" and the repressive nature of the Communist regime means that IW, especially perception management and information control are more than wartime measures, "it is a way of life."⁵³ In his 1998 article, Liu Ping sought to expand the psychological warfare techniques that pervade Chinese civil society into China's warfighting doctrine:

*The psychological warfare in a local war in the future high-technology context goes beyond the confines of military struggle into political, economic, diplomatic, cultural, religious, and various other realms, forming an all-dimensional, highly in-depth, and multi-level operational effect.*⁵⁴

This concept that IW should target all levels of a society removed all limits from targeting and expanded the battlespace to encompass the entire world. While director of the Central Intelligence Agency, George Tenet gave a speech that quoted an article in *People's Daily* that read "an adversary wishing to destroy the United States only has to mess up the computer systems of its banks by high-tech means. This would disrupt and destroy the US economy."⁵⁵ The point that Director Tenet stressed that day was simple: everything is a target.

This sense of vulnerability to Chinese IW attacks was compounded by a book published by two PLA colonels in 1999 entitled *Unrestricted Warfare*, which argued, in the words of one of its authors, for a "generalization of warfare."⁵⁶ They state that in light of the expanding scope of human activity in the modern world, technology has increased the means with which to engage in combat and they accept as a natural fact that human beings will use every conceivable means to achieve their goals.⁵⁷ This diversity of means has expanded the concept of warfare beyond the military sphere to encompass all of a society and therefore the new principle of war they acknowledge is "using all means... to compel the enemy to accept one's interests."⁵⁸ Warfare in their eyes is ruled by no limits or boundaries: "Unlimited measures to accomplish limited objectives is the ultimate boundary."⁵⁹ Although their work was their own and has not been formally accepted as doctrine by the PLA—the 2006 Defense White Paper made no mention of its precepts—*Unrestricted Warfare* is an idea that has a broad base of support within the Chinese IW community from its foundations on the basic expansion of the IW battlespace.

⁵² FM 3-0 Operations (Washington: U.S. Army, 2001).

⁵³ Farris, *Chinese Views on Information Warfare*, 3.

⁵⁴ *Ibid.*, 13.

⁵⁵ Gauthier, *China as Peer Competitor*, 27.

⁵⁶ Farris, *Chinese Views on Information Warfare*, 25.

⁵⁷ Liang and Xiangsui, *Unrestricted Warfare*, 50.

⁵⁸ *Ibid.*, 7.

⁵⁹ *Ibid.*, 210.

Execution and Practice

To write and discuss a topic is the role of academics. The primary minds behind Chinese IW doctrine, however, are military men for whom action must be taken to fulfill this doctrine. Within the greater context of Chinese military modernization, IW is playing an increasingly active role. Chinese emphasis on quality of manpower over the role of advanced technology evident in the People's War doctrine has translated into increased practical and theoretical training at all levels of the PLA. The Chinese Ministry of Education now offers specialization in IW at universities across the country.⁶⁰ Within the PLA, IW training is targeted around three age groups, providing theoretical knowledge to the military's current leadership and training younger generations to grasp the technical knowledge need to command in the future.⁶¹ Classroom knowledge is utilized in field exercises, including a large scale simulation involving two full Group Armies in the Beijing Military District in 1999⁶² and 2001 wargames in the Taiwan Straits that simulated the invasion China has planned since 1949, but with a new twist; the assault was led by IW attacks to paralyze C4ISR systems.⁶³ While many of these exercises fail to capture the full complexity of IW operations, they represent important stepping stones that illustrate progression towards fulfillment of China's stated IW doctrine.

Elements of this doctrine may already have seen operational use. Since the start of the new millennium, networks in the United States, Taiwan and Japan have all experienced attacks that seem to have originated from China. Some, such as the 2001 "cyber war" between Chinese and American hackers, may have been examples of the doctrine of "People's War" or the actions of nationalistic Chinese outside of government control. Others, such as break-ins during 2000 at the unclassified network at Los Alamos,⁶⁴ may have been instances of espionage. Still others, such as the Titan Rain attacks on Defense Department systems that included attacks that temporarily shut down the Naval War College network in 2006 or the disinformation spread from a penetration of the Taiwanese Defense Ministry in 2006, bear the mark of military precision and coordination.⁶⁵ Whether these actions occurred outside of government control or were operational tests of military hackers that sought information and the positioning of backdoors for later access remains unclear. Pentagon officials remain concerned. "China has downloaded 10 to 20 terabytes of data from the NIPRNet (DOD's Non-Classified IP Router Network)," said Maj. Gen. William Lord, Chief Information Officer of the Air Force's Office of Warfighting Integration. "There is a nation-state threat by the Chinese."⁶⁶

Western analysts are quick to point out that whatever threat China may pose to the United States, the PLA's current capabilities are well below the levels needed to fulfill

⁶⁰ Gauthier, *China as Peer Competitor*, 19.

⁶¹ Thomas, *Like Adding Wings to the Tiger*.

⁶² Ibid.

⁶³ Wang, *Winning the War without Fighting*, 31.

⁶⁴ Thomas, *Like Adding Wings to the Tiger*.

⁶⁵ Bill Gertz, "Chinese hackers prompt Navy college site closure", *Washington Times* (30 November 2006); available from <http://www.washtimes.com/national/20061130-103049-5042r.htm> and Roberto Pretoni, "China VS. Taiwan: It's Cyber War", *zone-h* (19 June 2006); available from <http://www.zone-h.org/content/view/4769/30/>

⁶⁶ Dawn Onley and Patience Wait, "Red Storm Rising", *Government Computer News* (21 August 2006); available from http://www.gcn.com/print/25_25/41716-1.html.

their doctrines. Analyst Paul Godwin reports that China has a persistent “doctrine-capability gap” and that the PLA is not “capable of conducting the kind of war their doctrine envisions.”⁶⁷ There is little doubt that China has adopted doctrinal concepts from the United States that their current force structures are not capable of executing and even the “Chinese Characteristics” discussed above would require significant modernization for their fulfillment. No harm is done, however, by establishing doctrines that force modernization. One of the key factors that allowed Germany to operate Panzer divisions with such skill in World War II was their development of tank doctrine in the 1920s, when Germany did not own a single tank.⁶⁸ The PLA should be cautioned to not delude themselves into thinking that doctrine on paper directly translates into capabilities, but their experiences in IW field exercises and their limited operation experiences during the 2001 “cyber war”, have likely done much to teach humility and to illustrate self-vulnerability. The Doctrine-Capability Gap still exists, but as long as China acknowledges this gap and strives to close it, China’s progress towards a modern “informationalized” force will continue.

Conclusions

China’s debate over IW doctrine is still ongoing so it is difficult to draw broad conclusions. While a coherent doctrine remains to be seen, one point is abundantly clear; whatever form IW doctrine may take, it is a central pillar of China’s strategic doctrine. That Beijing identifies their strategic doctrine with the phrase “local wars under conditions of informationalization” puts IW at the very pinnacle of strategic thought. From that point down, IW is enmeshed throughout China’s strategic and military thinking and planning. The reasons for this are many; some strategists see IW as a way to modernize on the cheap, others see it as an asymmetric tool to bring more advanced nations to their knees and still others see it as one of the few arenas where the great power struggle for supremacy is incomplete.⁶⁹ IW is, for whatever reason, extremely popular within the PLA hierarchy, especially among junior, rising officers.

Given, however, that concrete doctrine has yet to coagulate, China’s IW doctrine and its interactions with strategic doctrine contains several points where consequences and ramifications have not yet been fully thought through. The paradox of modern People’s War, lack of a full appreciation of the complexities of IW, and the concept of information as a “silver bullet” have all been previously discussed. A final point of danger comes from the Chinese strategic doctrine of active defense and its interaction with IW. Offensive initiative is greatly rewarded within IW, as the role of the attacker is infinitely less complex than the role of the defender. Given China’s stated doctrine of defense by offensive action on China’s periphery, the inherent offensive advantage of IW, and traditional Chinese interest in stratagems and surprises, the logical doctrinal conclusions support a policy of IW preemptive strike. Such a policy is advocated by some within the IW community, such as Lu Linzhi, who saw Iraq’s defeat in the Gulf War as a result of their failure to take aggressive action and who wrote: “For the weaker party, waiting for the enemy to deliver the first blow will have disastrous consequences

⁶⁷ Wang, *Winning the War without Fighting*, 15.

⁶⁸ Williamson Murray, “Armored Warfare”, in *Military Innovation in the Interwar Period*, ed. Williamson Murray and Allan Millet (Cambridge: Cambridge University Press, 1996), 39

⁶⁹ Yoshihara, *A Phantom Menace or Emerging Threat?*, 7.

and may even put it in a passive situation from which it will never be able to get out...”⁷⁰ Such a doctrine of preemptive strike may be gaining acceptance as the Department of Defense reported that the PLA’s 2005 field exercises began to incorporate offensive IW operations that consisted of mostly first strikes on enemy networks.⁷¹ In crisis situations, especially dealing with the Taiwan Straits, a rush to land the first blow is highly escalatory and risky, leading to IW brinksmanship and a hubris similar to that common in pre-WWI Europe’s rush to mobilize. Chinese and many western strategists, examining Chinese strategic doctrine and IW doctrine as separate fields, have not fully analyzed this dangerous interaction of doctrine.

Analysis of Information Warfare’s place within general Chinese strategic doctrine shows that IW forms the central pillar of China’s modern strategic outlook, but this position is not without danger. Debate in China is ongoing and the ramifications of doctrinal choices have not been thoroughly thought out. Drawing the conclusion, however, that Chinese doctrine is flawed due to its inclusion of “Chinese characteristics” is an unfair assessment. Chinese IW doctrine is not perfect, but the continuing debate within the PLA illustrates that the Chinese are approaching their doctrines with a spirit of questioning, experimentation, and thoughtful analysis. Past experience has shown that it is this spirit, more than anything else, which leads to successful doctrinal creation and military innovation.

⁷⁰ Mulvenon, *PLA and Information Warfare*, 183-184.

⁷¹ *Annual Report to Congress*, 36.