

A Chinese Revolution in Military Affairs?

BY JASON KELLY

[China] must actively seek to promote the revolution in military affairs with Chinese Characteristics and make efforts to achieve development by leaps and bounds in national defense and armed forces modernization.

—Wen Jiabao, March 16, 2004¹

In the past decade, top Chinese military and civilian officials have affirmed the importance of a “revolution in military affairs” to China’s military modernization with consistent imprecision. In December 2004, for example, the State Council Information Office of the People’s Republic of China (PRC) published its third white paper on national defense. An effort to describe China’s national defense policies and the army’s modernization process, “China’s National Defense in 2004” is also an attempt to frame China’s military modernization in the context of global trends in military transformation. In the first chapter, the document declares that the “Worldwide Revolution in Military Affairs (RMA) is gaining momentum,” yet the paper never defines the phrase, nor does it explain more fully which elements of Chinese military modernization constitute a revolution.²

The abandon with which the term “RMA” is used, and the very ambiguity of the term itself, results in rhetoric that often conveys little concrete information or insight. Consequently, the discourse surrounding RMA frequently reflects political objectives rather than adherence to the original concepts laid out by those who first coined the phrase. Typically, references to a “revolution in military affairs” are intended to signify membership in the club of elite, cutting-edge militaries rather than an indication of actual military transformation. China is no exception to this tendency. To reconnect the more

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precise definitions of a revolution in military affairs to current reforms in the Chinese military, it is necessary to probe beyond the statements emanating from the Chinese leadership to assess whether China could in fact undergo such a revolution. The first step in such an undertaking is to delineate more precisely what constitutes an RMA.

A general consensus exists on the constituent parts of a revolution in military affairs, though analysts have set varying thresholds for when such a revolution has occurred.³ Most agree that significant, punctuated advances in technological capabilities initiate revolutions in military affairs.⁴ A technological stimulus, however, provides only the spark. A successful revolution also requires key bureaucracies to possess certain institutional characteristics that enable them to direct technological advances that dramatically improve military efficiency and efficacy. Andrew Marshall points to the interconnect-edness of technology and bureaucratic innovation in his commonly cited definition of an RMA:

[A] major change in the nature of warfare brought about by the innovative application of new technologies which, combined with dramatic changes in military doctrine and operational and organizational concepts, fundamentally alters the character and conduct of military operations.⁵

Most Chinese military planners and strategists rely on Marshall's definition of an RMA in their writings, as do analysts in the United States. Western and Chinese analysts thus approach the subject with roughly the same theoretical framework.⁶ Using this shared conceptualization, this essay focuses on whether a radical adjustment is taking place within the Chinese military, and if not, whether one could occur. Central to such a task is an examination of the stimulus of any RMA: technology. Implicit in most abstract discussion of a revolution in military affairs is the idea that the same technological stimulus prods all leading militaries toward reform and modernization. Revolutionary shifts in military doctrine and organization are assumed to have occurred at a common starting point.

A TECHNOLOGICAL STIMULUS PROVIDES ONLY THE SPARK FOR AN RMA.

Yet when applying the theoretical notion of an RMA to reality, each nation's distinctive military evolution becomes clear. Whether the People's Liberation Army (PLA) has embarked on a revolutionary path depends on the

technological, doctrinal, and organizational development of the Chinese military up to the present. The recent transformations in the Chinese military need to be evaluated in terms of Marshall's standard for a genuine RMA: "dramatic changes in military doctrine and operational and organizational concepts."⁷ Determining whether an RMA is occurring in China depends on two questions. First, has China's technology base shifted to such an extent that doctrine and strategy will shift radically? The answer to this question has been pursued at length and will be taken up briefly in a discussion of the strength of the technology sector in China and its ability to spur an RMA. Second, if this stimulus does appear, could the Chinese leadership harness these advances by dramatically overhauling strategic thought, military doctrine, and organizational structures? Answering this question requires an evaluation of the nimbleness of Chinese military and civilian bureaucracies. Finally, it is important to place the abstract notion of a revolution in military affairs and Chinese bureaucratic agility in the context of recent political developments in Chinese leadership.

Pockets of Excellence

It has been widely observed both within China and throughout the West that China's indigenous military and civilian technology sectors are insufficiently advanced to spur a dramatic reappraisal of People's Liberation Army doctrine and organization.⁸ Although David Shambaugh has shown that China's military production technologies are impressive relative to those of other developing nations, technological comparisons are generally made relative to the state of the art rather than to other nations.⁹ RMA advocates within China commonly observe that Chinese military technology is flagging relative to cutting edge technology.¹⁰ That China must import most of its technologically advanced military equipment demonstrates that its indigenous technology lags far behind.

China has used these acquisitions to develop "pockets of excellence." Cognizant of new offensive capabilities generated by foreign militaries, particularly the United States, the PLA has acquired advanced weaponry so as to deter invasion and exert pressure on Taiwan. Paramount among these acquisitions are Russian imports such as Sovremenny-class guided-missile destroyers equipped with Sunburn (S-22) missiles; Kilo-class diesel powered attack submarines; Sukhoi Su-30 MKK fighter-bombers outfitted with Phazotron Zhuk M-E radar; and Beriev A-50 E AWACS aircraft.¹¹ "Pockets of excellence," however, are exactly that: isolated sectors of advanced technology that do not necessarily generate synergies, and are unlikely to do so in light of the expanding technology gap between such pockets and the military at large.

China has hitched its technological evolution to the global train by committing itself to a more open economy, abandoning much of the lingering Mao-era emphasis on technological self-reliance that had impeded innovation for decades.¹² Through this approach, China could realize massive technological progress in a relatively short span as it incorporates sophisticated foreign technology into its national system, enabling the Chinese military to take advantage of an RMA undertaken by leading foreign militaries.¹³

Charting Organizational Change?

An RMA requires more than large pockets to force marked shifts in strategic planning, doctrine, and organization. It also demands receptive military and civilian bureaucracies. Several scholars have taken up the question of what precisely allows a nation to most fully incorporate technological advances for military purposes. Most point to the somewhat amorphous concept of “innovation,” which Emily Goldman describes as “radical changes in organizational structure, resource allocation, doctrine, and strategy. It encompasses the process of adapting the institutions and practices of war making to changing technological opportunities and/or social and political developments.”¹⁴ Goldman posits that the key to innovation lies in applying technology successfully and efficiently to distinctive national and strategic operating environments.¹⁵ Innovation can generally be taken to mean flexibility, defined as the ability of a military, and society, to adjust its structures to reflect changes in technology. This definition, too, coincides with Chinese strategists’ conceptions of innovation and its relationship to RMAs. After calling on the PLA to “promote the revolution in military affairs with Chinese characteristics” and to “strive to accelerate the army’s modernization process,” former President Jiang Zemin urged its delegates at a plenary meeting in March 2004 to “constantly deepen comprehensive reforms, with structural staffing readjustments as the main feature; and bring about changes in the army’s basic operational forms and styles.”¹⁶

Because the three Chinese bureaucracies—the Chinese Communist Party (CCP), the central government, and the PLA—are intertwined so closely and inextricably, innovation takes on a distinctive quality in China. In spite of reform-era moves toward decentralization of power, lingering elements of central planning leave China’s bureaucracy less responsive than those of other, more pluralistic, nations. At first glance, the trend toward diffusion of authority undergone since the Mao and Deng eras appears to have loosened the constraints on innovation that accompany colossal concentrations of power in one or several top officials. Dispersal of power, it seems, would provide latitude for two core elements of institutional flexibility: dissention

and competing ideas. However, closer examination reveals that institutional dynamics at the elite leadership level militate against the rise in innovation.¹⁷ Context-driven bureaucratic and political conservatism within the Chinese leadership would serve as roadblocks should technological breakthroughs precipitate dramatic reforms, or should the PLA need to adjust its bureaucracy in pursuit of an RMA.¹⁸

The gradual and hesitant acceptance of the very notion of an RMA itself reflects the limited bureaucratic agility of the Chinese leadership. The concept of a revolution in military affairs first began to appear in Chinese writing as early as 1988.¹⁹ RMA thought began to blossom further following the impressive displays of military technology during NATO air operations in Serbia in 1999, which demonstrated to Chinese military leaders the sizeable gap in capabilities between cutting-edge militaries and the PLA.²⁰

During this period, however, more conservative and influential rival schools of thought sought either to maintain the existing doctrine (the Local War School) or to revert back to the original strategic thinking that originated with Mao (the People's War School). The Local War School drew its strength from many upper-level PLA officials, particularly those at the National Defense University who trained subsequent generations of military leadership. These individuals represented roughly 15 percent of all army, navy, and air force personnel. The People's War school, however, commanded the vast majority of support within the military, particularly among senior party officials and members of the General Political Department (GPD).²¹

The manner in which these substantial differences were ultimately glossed over demonstrates a strong sense of conservatism that undoubtedly impedes innovation. Each school prescribes substantially different policies and approaches to security in the twenty-first century. However, supporters of the schools seldom, if ever, *debated* in the Western sense of the word. Instead, government and military analysts claimed that each school was grounded firmly in the military traditions of People's Warfare established in the middle of the twentieth century under the revolutionary leadership.²² For cultural or political reasons, or both, Chinese analysts understood that outright abandonment of established strategic mores was not an effective means to pursue changes within the PLA.

The white paper "China's National Defense in 2004" bore out this trend. The document breaks from the 2002 white paper, which, while discussing "leapfrog development in the modernization of the military," did not specifically discuss the notion of a revolution in military affairs.²³ The 2004 report,

on the other hand, devotes an entire chapter to the RMA, with nine sections explaining the critical importance to China's military future of its various components: reducing troop size, modernizing weaponry, increasing the human capital of troops, streamlining the bureaucracy, and incorporating technology into fighting.

That the notion of a revolution in military affairs has been pushed to the fore of public strategic thought in China demonstrates that top Chinese leaders are not so rigid that new concepts cannot emerge. However, the leadership still rhetorically couches the RMA in Marxism-Leninism, Mao Zedong Thought, Deng Xiaoping Theory, and "the important thought of 'Three Represents,'" Jiang Zemin's more recent contribution to Chinese political theory.²⁴ Significant pressures exist within Chinese leadership circles to slow the adoption of new doctrines to maintain a firm, explicit, and public link with the theories and doctrines of earlier leadership. The leadership has reconciled the ideas of Mao and Deng to the notion of a revolution in military affairs by softening the theoretical edges among the ideological frameworks.

What incentives and constraints are influencing the officials who determine PLA policy? How do these pressures impact the ability of the PLA to innovate should a technology stimulus develop that is capable of inciting a revolution in military affairs? Susan Shirk's work on the incentive structures of revolutionary political systems yields some insight into the inherent conservatism of the Chinese bureaucracy. Revolutionary regimes, she observes, consolidate power and distribute opportunity to those who exemplify the moral virtues of the movement that swept new government into office.²⁵ By probing the system of government appointments and dismissals under CCP auspices—the *nomenklatura* system—in an attempt to describe and analyze the criteria for opportunity distribution, Shirk concludes that "virtue" establishes the incentives and rules of the game within institutions in China.²⁶ That no quantifiable standard exists to demonstrate who is worthy of inclusion proves problematic; virtue is impossible to measure.²⁷ Following this line of thought, individuals within "virtuocratic" systems should tend to be more conservative than actors in bureaucracies with more transparent evaluation systems. Because individuals who determine access to power measure virtue, would-be cadres not yet admitted to the selective in-group and those interested in advancing their careers have an incentive to adopt ideologies and methods that resemble

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those prominent in the in-group and to avoid behavior that deviates substantially from established political norms.

Within the PLA, much of this conservative pressure emanates from the General Political Department (GPD). Michael Swaine has shown that the GPD exerts indirect and “potentially major” influence over defense policy “through its role as political and ideological watchdog and proponent of the party line.”²⁸ The GPD is, in other words, the arm of the PLA responsible for measuring virtue. As a result, “even senior military officers must pay heed, when making major policy decisions, to the political priorities established by the party center and enforced by the GPD.”²⁹ While substantial changes have

**PURE BUREAUCRATIC
INERTIA HINDERS
INNOVATION.**

taken place within the PLA in past decades, all in the presence of the GPD, most of these changes occurred at the behest of firmly entrenched, omnipotent leaders such as Mao and Deng. The potential for an individual leader to wield such tremendous political leverage declines substantially with each subsequent generation of leadership.³⁰ Without such a powerful figure, the conservative pressures

emanating from the GPD become more effective institutional roadblocks to innovation within the PLA.³¹ By exercising its leverage over policy through subjective political judgments, the GPD instills a bureaucratic normative environment that allows only incremental change. This is not to suggest that ideology still guides decision making to the extent it did prior to the advent of the reform era. Cheng Li’s work on the Fourth Generation of leadership, current President Hu Jintao and his contemporaries, ably demonstrates the decline of ideology as the dominant force in elite Chinese politics. The lingering presence of ideology, as manifested through the GPD, however, serves to retard the rate of innovation within the Chinese bureaucracy.

The distinctive political, social, and economic characteristics of the Fourth Generation leadership reinforce these virtocratic pressures. None of these leaders possesses the revolutionary credentials of the Deng era, nor can they claim a direct relationship to martyrs as Jiang and other Third Generation leaders could.³² Few experienced the step-by-step political ascension through grassroots political networks characteristic of previous generations; instead, many are the progeny of upper-level officials and have thus gained leadership posts more in the manner of what Li terms a “helicopter style.”³³ This rapid political ascension impacts leaders’ conservatism and, by extension, their comfort with innovation. Many Fourth Generation leaders have not cultivated the wide grassroots power networks that traditionally develop as individuals rise through bureaucracies. Lack of political roots

or revolutionary credentials leaves many members of today's leadership politically vulnerable and pressures them to tread cautiously when dealing with new political initiatives.³⁴ Dependence on family connections for political positions further reinforces this trend of policy consistency through succeeding generations.³⁵

A manifestation of this political insecurity is the near-universal adoption of rhetoric hailing the rise of China's technology industry. Li suggests that the technocratic worldviews now espoused by the Fourth Generation leadership highlight an attempt at political self-justification.³⁶ Rather than a belief system that guides policy preferences, the focus on technology constitutes a political device to supplant revolutionary credentials as a distinguishing expertise shared by much of today's leadership. Regardless of its source, this increased receptivity to technological change points to the increasing feasibility of an RMA.

However, actually enacting structural, economic, and doctrinal change to reflect a new focus on technology encounters many more political barriers than does the adoption of technology-oriented rhetoric. Kenneth Lieberthal's work on the physiology of the Chinese bureaucracy sheds light on the constraints that the Fourth Generation leaders face. Because China is a rule *by* law system rather than a rule *of* law system, legal strictures do not severely restrict the actions of Chinese leaders.³⁷ Instead, small group dynamics limit individual leaders' behavior.³⁸ Informal power relations unguided by legal strictures are problematic for the diffusion of innovation throughout the Chinese bureaucracy because of the duplicative Chinese system of *kuai* and *tiao*. Horizontal (*kuai*) linkages between the three administrative bureaucracies—the state, the military, and the party—when crosshatched with vertical (*tiao*) linkages within each bureaucracy, obfuscate the administrative hierarchy. As a result, it becomes “easy for one actor to frustrate the adoption or successful implementation of important policies, especially since units (and officials) of the same bureaucratic rank cannot issue binding orders to each other.”³⁹ In this context, pure bureaucratic inertia hinders innovation.

Another direct consequence of this organic power structure is that elite decision makers confront a political calculus with no concrete boundaries or signposts. Similar to the pressures for conservatism accounted for by Shirk's framework, individual leaders have an incentive to remain in the middle of the pack. Outliers may find themselves subject to criticism or dismissal from a bureaucracy that does not grant them a firm legal foundation bolstering their claim to office. When central power was concentrated in the hands of a single figure, as under Mao or Deng, the political calculus of elite cadres was simpler: leaders strove

for policies that coincided with the views of those core leaders upon whose favorable opinion one's position depended. With the diffusion of power that has accompanied each generation since Mao, however, a counterbalancing rise in a legalistic normative environment clarifies the constraints and incentives faced by Fourth Generation leaders. Without it, Chinese leaders are once again pressured to remain in the political center and avoid expressing innovative new ideas that may lead to political isolation.⁴⁰

Hu's Innovation

Pressure to remain conservative within the Chinese leadership is particularly high during the punctuated periods of political uncertainty that accompany succession, yet these periods simultaneously offer opportunities for military leadership to gain increased influence over policy. When Jiang Zemin succeeded Deng Xiaoping, he used a combination of pork-barrel politics and promotions to consolidate his hold on power.⁴¹ Military cadres and Jiang could take solace in sharing a political network since each was beholden to the other. Jiang's approach to power consolidation is noteworthy. As a Third Generation leader, he was the first without personal revolutionary experience, and was also less authoritarian and more of a coalition builder.⁴² He was a new breed of politician in China, in line with what Lieberthal foresaw in the mid-1990s as the future of Chinese politics.⁴³

Hu Jintao's relations with the military are just as tenuous as Jiang's. Prior to assuming his role as vice chairman of the Central Military Commission (CMC) in 1999, Hu had no personal experience in the military, no connections to senior officers, and was widely believed not to command respect from the military.⁴⁴ His task was to build ties with the military as Jiang did, in a manner that Swaine describes as a complex game of senior party and military leaders placating, resisting, or diluting military views and pressures. In these circumstances, leaders generally resort to personal persuasion, balancing of bureaucratic interests, and direct control over formal organs and policy channels in an effort to balance authority with acquiescence.⁴⁵ Top military officials gain leverage from a new head of state's fear that the PLA might intervene during the transition period in favor of a rival.⁴⁶ Both the Deng-Jiang and Jiang-Hu transitions passed in smooth order, which perhaps indicates that the military has gained a greater voice over military affairs with each succession.

However, the fact that China has adopted a revolution in military affairs as an explicit military objective does not indicate that the PLA has gained added influence in elite leadership circles. For one reason, technocratic ideals

validate the personal qualifications of the Fourth Generation of leadership, as discussed above. Another potential source of pressure for the adoption of RMA rhetoric is China's traditional emphasis on technology as the bootstraps by which the country will pull itself up from developing-nation status. Evan Feigenbaum terms this traditional focus "technonationalism." Perhaps more importantly, the notion of an RMA in China dovetails neatly with Jiang's core contribution to leadership theory in China, the "Three Represents." Co-opting the most dynamic elements in China by embracing private entrepreneurs within the party, as emphasized by Jiang, legitimizes a larger role for the technology and innovation that accompany an RMA.⁴⁷ Not coincidentally, "China's National Defense in 2004" was written under the aegis of Jiang, who remained head of the state CMC until March 2005.

Another complication is that the military itself remains divided on the proper doctrine for the PLA. As Pillsbury notes, a substantial segment of the PLA remains tied to the concept of a People's War. Commitments in the 2004 white paper to proceed with troop reductions, which contradict the prescribed massive land army of a People's War, may indicate that economic reform took priority over the military by the end of Jiang's rule. The opacity of the succession process and the concomitant scrambling of hierarchical relations highlight the difficulty of determining whether the incentives and disincentives to innovate are increasing or decreasing with the transition to the Fourth Generation of leadership.

THE NOTION OF AN RMA IN
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Several characteristics of the individuals joining Hu in the Central Military Commission point to a potential source of pressure for military innovation. The CMC is younger and more familiar with advanced technology. The average age of CMC members dropped from sixty-eight to sixty-one years following the 16th Party Congress in 2002.⁴⁸ Generals Liang Guanglie and Liao Xilong, directors of the General Staff Department and General Logistics Department, respectively, have both served as commanding officers in military exercises against Taiwan, which indicates that both have first-hand experience leading joint exercises employing China's most advanced weaponry. General Li Jinai, too, has spent his career in close contact with the PLA's most advanced technology; he rose through the military ranks as a political officer in the Second Artillery and later served on the Commission on Science, Technology, and Industry for National Defense (COSTIND) from 1992 to 1998.⁴⁹ Some scholars speculate that the promotion

to the CMC of leaders from the Air Force, Navy, and Second Artillery—the bedrock services in current RMA thinking—in the fall 2004 plenum points to these services’ ascendancy within the PLA.⁵⁰

Countervailing trends point to less pressure on the Chinese leadership for increased military technology capabilities and innovation. Of the twenty-four leaders appointed to the Politburo with Hu in 2002, none has any substantial military experience except the two career officers appointed to represent the PLA.⁵¹ This development may foretell a growing lack of appreciation among the nation’s top leaders of the importance of both technological advancement and doctrinal and bureaucratic innovation as required for a revolution in military affairs.⁵² In addition, Chi Haotian’s retirement from his position as vice chairman removed a significant advocate for scientific research and development for military purposes. Chi was charged with the “external affairs” portfolio and was believed to be a major driving force for the adoption of the policy of “informationalization” of the PLA.⁵³ He also had widespread exposure to foreign military officials from his years as minister of defense.⁵⁴ His international travels undoubtedly exposed him to more pluralistic and innovative bureaucratic environments.

Regardless of whether the leadership change nets a greater source of pressure for bureaucratic and technological innovation, any new political objectives invariably undergo substantial dilution before implementation. David Lamp-ton’s work on the rise of bargaining among the Chinese leadership highlights this additional source of bureaucratic inertia, which ultimately smothers attempts to break from existing political momentum.⁵⁵ The increased presence of bargaining itself is not unique to China, but the Chinese decision-making process relies on the consent or acquiescence of an unusually large number of individuals and organizations before policy is implemented.⁵⁶ Inherent in this system is a collection of pathologies that dampen innovation: blocked leadership, minority veto, and control by large organized groups.⁵⁷

Perpetual Evolution

While the appointment of new leaders to the Central Military Commission appears consistent with a firm commitment by the Chinese leadership toward pursuit of a revolution in military affairs, such moves do nothing to counteract the fundamental bureaucratic and political incentives for conservative behavior in the Chinese system. The gap between China’s newly adopted RMA rhetoric and the feasibility of an actual revolution in military affairs remains profound. Pockets of excellence, almost entirely the result of foreign military technology acquisitions, may contract or expand depend-

ing on external threat perceptions, the extent of China's expanding strategic frontier, the pull of domestic policy concerns, and the financial constraints faced by the leadership in Beijing. Yet the bureaucratic and political obstacles that Chinese RMA advocates face remain daunting. A political culture of conservatism swamps any incentive for innovative thought and impedes the flexibility that a revolution in military affairs requires.

This is not to say that the PLA is incapable of modernizing. To the contrary, the Chinese military has undergone significant adjustment and professionalization in its six decades of development. However, given the sweeping, nonlinear adjustments to military doctrine, organization, and weaponry that underpin current interpretations of what constitutes a revolution in military affairs, the distinction between a rhetorical and an actual Chinese RMA becomes clear. Whether China's putative path toward professionalism, legalism, and globalism will ultimately remove existing structural impediments to innovation remains to be seen. ■

NOTES

¹ Wen Jiabao, "Report on the Work of the Government," Xinhua News Agency, 16 March 2004, quoted in James Mulvenon, "Your Guess Is As Good As Mine: PLA Budgets, Proposals, and Discussions at the Second Session of the 10th National People's Congress," *China Leadership Monitor* 11 (Summer 2004): 1.

² Information Office of the State Council of the People's Republic of China, "China's National Defense in 2004, The Security Situation," (Beijing: Information Office of the State Council of the People's Republic of China, December 2004). [http://english.people.com.cn/whitepaper/defense2004/defense2004\(1\).html](http://english.people.com.cn/whitepaper/defense2004/defense2004(1).html).

³ There is also substantial disagreement over whether any current militaries have crossed the threshold into a "revolution." See Clifford J. Rogers and Colonel Howard J. Marsh, both in Thierry Gongora and Harald von Riekhoff, eds., *Toward a Revolution in Military Affairs?* (Westport, CT: Greenwood Press, 2000); John Orme, "The Utility of Force in a World of Scarcity," *International Security* 22:3 (Winter 1997/1998): 145-156.

⁴ Scholars hold differing perspectives on the singularity of technology's role in driving a revolution in military affairs. Ron Matthews, for example, asserts that technology, along with political, economic, industrial, global, strategic, and military pressures, contribute collectively to an RMA. Here, I assume that technological advances are a function of political, economic, global, strategic, and military pressures. As a result, I treat technology as one of two necessary requirements for a revolution in military affairs. For an alternative perspective, see Matthews, "Introduction: 'Managing' the Revolution," in Ron Matthews and John Treddenick, eds., *Managing the Revolution in Military Affairs* (New York: Palgrave, 2001), 1-18.

⁵ As quoted in Jeffrey McKittrick, James Blackwell, et al., "The Revolution in Military Affairs," in Barry Schneider and Lawrence E. Grinter, eds., *Battlefield of the Future: 21st Century Warfare Issues* (Maxwell Air Force Base, AL: Air University Press, 1995). <http://www.airpower.maxwell.af.mil/airchronicles/battle/chp3.html>.

⁶ Michael Pillsbury, *China Debates the Future Security Environment* (Washington, DC: National Defense University Press, 2000), Chapter 6. <http://www.fas.org/nuke/guide/china/doctrine/pills2/part09.htm>.

⁷ It should be noted, however, that China's military evolution is by no means independent of external influence; it is shaped to a significant degree by perceptions of external threats, which are a function of the military evolutions of the states China perceives as potential threats.

⁸ For a fuller discussion of China's flagging technology sector, see David Shambaugh, *Modernizing China's Military: Progress, Problems, and Prospects* (Berkeley, CA: University of California Press, 2002), 245-250; James C. Mulvenon, "The PLA Army's Struggle for Identity," in Stephen J. Flanagan and Michael E. Marti, eds., *The People's Liberation Army and China in Transition* (Washington, DC: National Defense University Press, 2003), 109-129; Roger Cliff, *The Military Potential of China's Commercial Technology* (Santa Monica, CA: RAND, 2001).

⁹ Shambaugh, *Modernizing China's Military*, 244. This may seem to contravene the notion that revolutions in military affairs should be gauged in terms of a nation's distinctive military evolution. However, indigenous Chinese military technology, with the exception of the Second Artillery's missile developments, is more than a decade behind the most advanced militaries today. That China's military technology base is so far behind is a function

not just of other nations' technological prowess, but also of the lack of technological innovation within China. Any indigenous technological advances that are made tend to trickle into operations and doctrine due to the gradual and piecemeal nature of their development. The pace at which this occurs is more in line with evolution rather than revolution, although the merits of such a distinction is, as mentioned above, are dependent on the imprecision of the concept of an RMA.

¹⁰ Officers who work at the China Aerospace Corporation and the Beijing Institute of System Engineering, for example, share this view—although many of these individuals have a professional stake in emphasizing the role of leading technology in an RMA and its apparent absence in the Chinese defense industries. See Pillsbury, *China Debates the Future Security Environment*, Chapter 6.

¹¹ James C. Mulvenon, Bernard D. Cole, Richard D. Fisher, Jr., and Richard A. Bitzinger, "Part III—Military Trends," *The People's Liberation Army and China in Transition* (Washington, DC: National Defense University Press, 2003), 109-177.

¹² Evan A. Feigenbaum, *China's Techno-Warriors: National Security and Strategic Competition from the Nuclear to the Information Age* (Palo Alto, CA: Stanford University Press, 2003), 218.

¹³ Previous RMAs, such as the one that accompanied the advent of the longbow in the fourteenth century, did indeed spread through international exchanges of technology, though not necessarily via commercial exchanges such as China's contemporary acquisitions. Technological advances in offensive capabilities required defending nations to revolutionize the means by which they deterred invasion, defended themselves, and counterattacked. Viewed in this way, a true revolution in military affairs would be difficult to contain.

¹⁴ Emily O. Goldman, "Introduction: Military Diffusion and Transformation," in Emily O. Goldman and Thomas G. Mahnken, eds., *The Information Revolution in Military Affairs in Asia* (New York: Palgrave MacMillan, 2004), 1.

¹⁵ *Ibid.*, 2.

¹⁶ Jiang Zemin, speech at PLA plenary meeting, 11 March 2004, quoted in James Mulvenon, "Your Guess Is As Good As Mine: PLA Budgets, Proposals, and Discussions at the Second Session of the 10th National People's Congress," *China Leadership Monitor* 11 (Summer 2004): 2. Innovation is also cited frequently among strategists whose work is not meant for broad public consumption, and thus less likely to be discussed for political purposes. See, for example, Gao Chunxiang, *Xin junshi geming lun* (Beijing: Chinese Academy of Military Science, 1996), 202; Colonel Zhang Zhaozhong, interview in Ma Ling, "The Attempt Behind the 'Bombing in Error'—Interview with Renowned Military Commentator Zhang Zhaozhong," *Ta Kung Pao* (Hong Kong), 17 May 1999, A4. Both cited in Pillsbury, *China Debates the Future Security Environment*, Chapter 6.

¹⁷ The discussion below of "leaders" and "leadership" concerns not only members of the Politburo and the Central Military Commission (CMC). Also important in a discussion of bureaucratic rigidity are deputies of the party congresses and the National People's Congress (NPC). While less influential than counterparts in more pluralistic governments, these individuals have gained leverage in their ability to shape decisions—and to impede innovation. For an account of party and NPC delegates using newly obtained voting power to block proposals by Jiang Zemin, see Cheng Li, *China's Leaders: The New Generation* (Lanham, MD: Rowman & Littlefield, 2001), 166-168.

¹⁸ Here, and throughout the text, I use "conservatism" to refer to the reluctance of individuals to pursue substantial deviation from established political norms.

¹⁹ For example, see General Mi Zhenyu, *Chinese National Defense Development Concepts [Zhongguo guofang fazhan gouxiang]* (Beijing: Jiefangjun Chubanshe, 1988) in Michael Pillsbury, *Chinese Views of Future Warfare* (Washington, DC: National Defense University Press, 1997), 361-381.

²⁰ Pillsbury, *China Debates the Future Security Environment*, Chapter 6.

²¹ Dennis J. Blasko, "A New PLA Force Structure," in James C. Mulvenon and Richard H. Yang, eds., *The People's Liberation Army in the Information Age* (Santa Monica, CA: RAND, 1999), 258-288.

²² Pillsbury, *China Debates the Future Security Environment*, Chapter 6.

²³ Information Office of the State Council of the People's Republic of China, "China's National Defense in 2002, The Security Situation," (Beijing: Information Office of the State Council of the People's Republic of China, 2002). <http://www.china.org.cn/e-white/20021209/index.htm>.

²⁴ For references to the political roots of modern Chinese military doctrine, see "China's National Defense in 2004, Innovative Political Work." [http://english.people.com.cn/whitepaper/defense2004/defense2004\(1\).html](http://english.people.com.cn/whitepaper/defense2004/defense2004(1).html).

²⁵ Susan L. Shirk, *Competitive Comrades: Career Incentives and Student Strategies in China* (Berkeley, CA: University of California Press, 1982), 2.

²⁶ *Ibid.*, 4. Shirk's study is grounded in the neo-rationalist assumption that individuals maximize utility in light of contextual constraints, consciously or not. Shirk, *Competitive Comrades*, 5.

²⁷ *Ibid.*, 15.

²⁸ Michael D. Swaine, *The Role of the Chinese Military in National Security Policymaking*, Revised Edition (Santa Monica, CA: RAND, 1997), 51.

²⁹ *Ibid.* This should not be construed to indicate that dissent is entirely absent. The PLA has evolved, and innovation is clearly not entirely absent. Yao Yunzhu of the Chinese Academy of Military Science has written of "heated debates" prior to 1985 regarding the switch to the Local War doctrine. See Yao Yunzhu, "The Evolution of Military Doctrine of the Chinese PLA from 1985 to 1995," *Korean Journal of Defense Analysis* 7:2 (Winter 1995): 57. Rather, the point here is that innovation is stifled.

³⁰ For an example of a powerful central leader pushing military reform through the bureaucracy quickly and with minimal opposition, see Li's account of Deng's implementation of Plan 863 in Li, *China's Leaders*, 196.

³¹ Shambaugh has also noted that “conservatism in thought and behavioral norms” inhibit innovation in China, such as “a preference for the status quo and fear of change (fostering risk aversion).” Shambaugh, *Modernizing China's Military*, 82. Shambaugh, however, implies that this risk aversion stems simply from cultural factors. This explanation fails to account for different behavior by actors in different bureaucracies in China. Shirk's work suggests a neo-rationalist explanation that accounts for the disparate behavior she observes in different social and bureaucratic contexts. She observes that the behavior of students in Chinese high schools was dependent on contextual incentives and constraints, not merely broad cultural norms. See Shirk, *Competitive Comrades*, 6.

³² Li, *China's Leaders*, 130.

³³ *Ibid.*, 145.

³⁴ *Ibid.*, 140. A potentially significant mitigating factor against this conservatism is the fact that many Fourth Generation leaders have spent most of their lives establishing elite political contacts and personal networks that serve to enhance their sense of confidence in their political positions.

³⁵ These observations are not intended to indicate that none of the Fourth Generation leadership has carved out a network to provide political stability. Wen Jiabao serves as an obvious exception. Indeed, Wen was kept on during Jiang's succession of Deng precisely because of his political network in Beijing. See Li, *China's Leaders*, 157.

³⁶ *Ibid.*, 228. Li's discussion of this trend focuses more specifically on the advent of the “knowledge economy” in Chinese political rhetoric. *Ibid.*, 204.

³⁷ For a discussion on the distinction between “rule of law” and “rule by law” in China, see Randall Peerenboom, *China's Long March toward Rule of Law* (Cambridge: Cambridge University Press, 2002), 2-12.

³⁸ Kenneth Lieberthal, *Governing China: From Revolution through Reform* (New York: W. W. Norton, 1995), 187.

³⁹ *Ibid.*, 170.

⁴⁰ Whether the replacement of power consolidation by legal norms and greater transparency has arrived yet is a subject of ongoing debate. Mulvenon implies in his analysis of Jiang's delayed relinquishment of his post as chairman of the CMC that the elite leadership today is hardly constrained by the legal system. See James C. Mulvenon, “The King is Dead! Long Live the King! The CMC Leadership Transition from Jiang to Hu,” *China Leadership Monitor* 13 (Winter 2005).

⁴¹ Shambaugh, *Modernizing China's Military*, 35.

⁴² *Ibid.*, 36.

⁴³ Lieberthal, *Governing China*, 228.

⁴⁴ See Mulvenon, “The King is Dead!” *China Leadership Monitor* 13: 1. Also see Shambaugh, *Modernizing China's Military*, 32.

⁴⁵ Swaine, *The Role of the Chinese Military in National Security Policymaking*, x.

⁴⁶ Lieberthal, *Governing China*, 227-228.

⁴⁷ For a fuller discussion of “Three Represents” and its core elements, see Joseph Fewsmith, “Studying the Three Represents,” *China Leadership Monitor* 8 (Fall 2003).

⁴⁸ James C. Mulvenon, “The PLA and the 16th Party Congress: Jiang Controls the Gun?” *China Leadership Monitor* 5 (Winter 2003): 4.

⁴⁹ *Ibid.*, 7-8.

⁵⁰ James C. Mulvenon, “The King is Dead!,” *China Leadership Monitor* 13: 6-7.

⁵¹ The Politburo appointed with Jiang Zemin in 1997 was similarly devoid of a military presence, with the exceptions of Generals Zhang Wannian and Chi Haotian, both PLA appointees. By contrast, among the twenty-five members of the 1982 Politburo under Deng's leadership, twenty had military experience. H. Lyman Miller, “China's Upcoming Leadership Changes and the PLA,” *Strategic Insights* 1:6 (August 2002). <http://www.ccc.nps.navy.mil/si/aug02/eastAsia.asp>.

⁵² During Jiang's rule, Chi Haotian and Zhang Wannian both served on the Politburo. H. Lyman Miller, “With Hu in Charge, Jiang's at Ease,” *China Leadership Monitor* 13 (Winter 2005): 5.

⁵³ *Ibid.*

⁵⁴ James C. Mulvenon, “Chi Haotian: A Political Biography,” *China Leadership Monitor* 1 (Winter 2002): 2.

⁵⁵ Lampton bases his analysis on Dahl's and Lindblom's definition of bargaining as “a form of reciprocal control among others....Bargaining commonly means reciprocity among representatives of hierarchies.” Because bargaining is a political interaction rooted in murky power dynamics and reciprocal control, Lampton concludes that the role of bargaining in Chinese decision making will increase with each subsequent generation of Chinese leadership. David Lampton, “A Plum for a Peach: Bargaining, Interest, and Bureaucratic Politics in China,” in Kenneth Lieberthal and David Lampton, eds., *Bureaucracy, Politics, and Decision Making in Post-Mao China* (Berkeley, CA: University of California Press, 1992), 34, 37.

⁵⁶ *Ibid.*, 35.

⁵⁷ *Ibid.*, 37.