The People's Liberation Army and the People's Republic at 50: Reform at Last

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The People's Republic of China (PRC) may not have had the opportunity to celebrate 50 years of statehood had it not been for the People's Liberation Army (PLA) – nor, for that matter, is it likely that the PRC would have come into existence in the first place were it not for the PLA (as is evident in Mao's often-cited observation that, "Political power grows out of the barrel of a gun!").[1] As the Chinese Communist Party (CCP) rode the military to power in 1949, the army also subsequently acted on several occasions to rescue the regime, maintain the Party in power and *ergo* sustain the People's Republic. The PLA has also been the designated protector of "state sovereignty" and "unifier" of China – acting to incorporate Tibet, Inner Mongolia, Manchuria and border regions in the south-west and north-west during the early 1950s, and fighting several border wars against China's neighbours thereafter – and it is the PLA that is ultimately charged with ensuring both that Taiwan does not seek "independence" and that China's territorial claims in the East and South China Seas are protected.

These mandates – to maintain domestic order, safeguard national security and maintain the Communist Party in power – have been constant roles over time. Yet in 50 years the PLA has also evolved and changed substantially as an institution. Some qualitative departures have been taken in several core dimensions, affecting not only PLA capabilities and organization but also its institutional identity.

In 1949, the Red Army, as it was then called, propelled the CCP to power after 28 years of battling Kuomintang, Japanese and warlord forces. During this long period the armed forces grew from rag-tag guerrilla units into a disciplined (if poorly equipped) force of nearly two million soldiers. Having ridden the army to power, the Party still needed to rely on it to unify and govern the country. The PLA was instrumental in establishing the General Administrative Regions and governing large portions of China prior to 1954, and the armed forces were also instrumental in the "mopping up" campaigns against residual "bandits" and "splittists" in the early 1950s. Just as the PLA was consolidating power, however, it was severely tested on the battlefield in Korea. Despite sustaining huge losses (an estimated three million), Mao's "volunteers" held their own against United Nations forces. But the experience

1. Some revisionist histories question the degree to which the CCP came to power as the result of a "revolution." It may be more appropriate to consider the CCP's ascension to power and the establishment of the PRC as the result of a combination of the collapsing Kuomintang state and the military victory won by the PLA (then Red Army) over KMT forces on the battlefield. The revisionist view is expressed, for example, in my "The building of the civil-military state in China, 1949–1965: bringing the soldier back in," in Timothy Cheek and Tony Saich (eds.), *The Construction of State Socialism in China, 1949–1965* (Armonk, NY: M.E. Sharpe, 1996).

convinced Chinese commanders of their backwardness and the pressing need for modernization.

This is a quest that has bedeviled the PLA ever since. Lack of sustained commitment, inadequate financial resources, technological constraints, unreliable access to international assistance and the vagaries of politics have all served to restrict the PLA's pursuit of professionalization and modernization. It has been able to field some modern weapons which give it the attributes of a major power,[2] as well as evolving its doctrine, tactics and organizational structure,[3] but, generally speaking, military reforms have been slow to come, reflecting their lowest priority among the Four Modernizations. Reform of the military began after the landmark Central Military Commission meeting of December 1985, when significant reductions in the force structure ensued, but it has really only been since the mid-1990s (particularly after the Gulf War) that serious and sweeping reforms have been undertaken. These have involved complex changes, but the most important departures can be encapsulated in four categories: defence doctrine and training; force structure, command and control; military leadership and Party–army relations; and weaponry. Several important elements will necessarily slip between the cracks of this schema, but these factors will highlight the principal parameters of reform as the PRC turns 50.

Defence Doctrine and Training

Defence doctrine evolves and responds to several factors, including a nation's social and political culture, its military and strategic traditions, contemporary global military doctrines and the nature of warfare, and a nation's strategic environment. The latter two are exogenous to a nation, while the first two tend to serve as mediating prisms through which external stimuli are filtered. Together they provide a nexus out of which emerges a nation's defence doctrine.

In the case of the contemporary PLA, these factors interact in uncertain ways. We know much more about the exogenous variables than the indigenous ones. For example, it is amply evident that the PLA has intensively studied the nature of contemporary warfare over the last decade – particularly the Iran–Iraq war of the 1980s, the 1991 Gulf War and the Yugoslav conflict of 1999. This has especially been the case with the study of high-technology warfare and the Revolution in Military Affairs.[4] Many lessons have been learned in terms of training and tactics, but there have also been lessons of doctrine and derived strategy. Half of

2. Particularly nuclear weapons and air, sea and ground-based ballistic missiles delivery systems.

3. These are traced in Harlan W. Jencks, *From Muskets to Missiles: Politics and Professionalism in the Chinese Army, 1945–1981* (Boulder: Westview Press, 1982); Harvey W. Nelsen, *The Chinese Military System* (Boulder: Westview Press, 1997 and 1981); Ellis Joffe, *The Chinese Army After Mao* (Cambridge, MA: Harvard University Press, 1987).

4. For a sampling of this study see Michael Pillsbury (ed.), *Chinese Views of Future Warfare* (Washington, D.C.: National Defense University Press, 1997).

these are what the PLA describes as its current operative military doctrine: "limited war under high-technology conditions" (*gaoji jishu tiaojian xia jubu zhanzheng*). The other half is so-called "active defence" (*jiji fangyu*) which can be traced back at least to Peng Dehuai and the 1950s, although it has evolved considerably in recent years from a continental land-based doctrine to one that is more oriented to China's periphery and emphasizes air, naval and space-based systems.[5] This doctrinal evolution has been analysed in some detail by Paul Godwin and others in recent years,[6] and includes an awareness by the PLA of at least the following elements:

- conflicts tend to be short rather than protracted;
- they are characterized by intense application of firepower rather than manpower;
- long-range "stand-off" precision guided munitions (PGMs) are the weapon of choice, and supplement strategic air power;
- mobile "rapid reaction" forces are more important than positional warfare;
- the "electronic battlefield" and over-the-horizon location and targeting capability requires total "battlespace awareness" at all times of day and night and in all weather conditions;
- satellites and airborne command posts and early-warning provide critical intelligence;
- information warfare and electronic countermeasures can confuse and disrupt enemy communications, command and control;
- battlespace penetration (force insertion), the element of surprise and stealth are critical to the initial phase of combat and disrupting an enemy's capability to respond effectively;
- combined arms and joint force operations are important and require close co-ordination and repetitive training.

These are some of the principal lessons drawn by PLA analysts and strategists in recent years, and they have been intensively studied by the Academy of Military Sciences and the PLA's many staff colleges. Few militaries in the world have devoted as many resources, in such a sustained and concentrated fashion, to studying the nature of contem-

5. China has over 12,000 miles of land frontiers, over 11,000 miles of coastline, 1.86 million square miles of claimed territorial waters, and 30,000 square kilometres of naval air space to protect. Interview, PLA General Staff, 6 December 1998.

6. See Paul H.B. Godwin, "From continent to periphery: PLA doctrine, strategy and capabilities toward 2000," in David Shambaugh and Richard H. Yang (eds.), *China's Military in Transition* (Oxford: Clarendon Press, 1997); Godwin, "Chinese military strategy revised: local and limited war," *The Annals of the American Academy of Political and Social Science*, Vol. 519 (January 1992); Godwin, "Changing concepts of doctrine, strategy, and operations in the Chinese People's Liberation Army, 1979–1987," *The China Quarterly*, No. 112 (December 1987); Nan Li, "The PLA's evolving warfighting doctrine, strategy, and tactics, 1985–1995: a Chinese perspective," in Shambaugh and Yang, *China's Military in Transition*; David Shambaugh, "The insecurity of security: the PLA's evolving doctrine and threat perceptions towards 2000," *Journal of Northeast Asian Studies*, Vol. XIII, No. 1 (Spring 1994); and Alastair I. Johnston, "China's new 'old thinking': the concept of limited deterrence, *International Security*, Vol. 20, No. 3 (Winter 1995).

porary warfare. At the same time, in many of these areas PLA study has not been translated into application or development. In analysing the PLA today, ambition must not be confused with capability. Understanding these elements of warfare and the necessity of adapting the associated doctrine, training, command and tactics is the first step to assimilating and implementing them, but the PLA remains a long way from fielding a military force that can fight this kind of modern war. It has taken some of the first important steps – organizing rapid reaction units, undertaking much more night training, working on electronic countermeasures and information warfare, combined arms operations, and so on – but remains extremely backward in terms of equipment and weaponry, the educational level of its forces, and many other critical features needed to field a modern military.

Force Structure, Command and Control

Reform of the PLA's force structure began in the mid-1980s with the first round of streamlining. Between 1985 and 1987 one million service personnel (including civilians, *wenzhi ganbu*) were demobilized.[7] About 70 per cent of the cuts came from the ground forces, while the air force was reduced by 25 per cent. More than 30 units at or above the corps level were eliminated, as well as 4,054 divisional and regimental units.[8] Over 300,000 officers were demobilized, retired or transferred to civilian posts. The PLA Capital Construction Corps were transferred to civilian control and the PLA Railway Corps put under the authority of the Ministry of Railroads. But elements of both – along with border and special guard units, fire-fighting brigades, and a large number of ground force personnel – were transferred to the newly created paramilitary People's Armed Police (PAP). By 1987 the PLA had been reduced from 4.2 million to 3.2 million (including over 300,000 officers), but Deng Xiaoping still thought it too large a force. Further rounds of demobilization in 1989, 1992, 1994 and 1998–99 further reduced the number under arms to approximately 2.5 million. The majority of the recent cuts have come from the ground forces (19 per cent), while the Air Force and Navy have each been reduced by approximately 11 per cent. These reductions have largely come from north-eastern China (primarily the Liaoning Military District of the Shenyang Military Region) and from the least combat-ready infantry divisions.

Simultaneously, the PAP has grown to 900,000, a reserve force of 1.2 million has been reconstituted, while the militia has been reactivated and linked to PAP and local public security units. The reserves, which largely comprise demobilized officers and servicemen, now undergo regular training and are fairly well-equipped. Thus, while the PLA has shrunk by

7. The best study of PLA demobilization is Yitzhak Shichor, "Demobilization: the dialectics of PLA troop reduction," in Shambaugh and Yang, *China's Military in Transition.*

8. Arthur S. Ding, "The streamlining of the PLA," *Issues & Studies* (November 1992), pp. 92–93.

nearly 1.5 million over 15 years, this figure is misleading as one must consider the 900,000-strong PAP and 1.2 million reserves as part of the armed forces: they certainly are in command terms, as each is responsible to the General Staff Department (GSD) line of control. If these forces are added together, the total forces-under-arms still remain nearly 4.6 million!

Other key organizational reforms have changed the force structure. In the late 1980s the eleven military regions were amalgamated into seven in order to improve the centralization of command and control from the General Staff Department in Beijing. In 1989–90 this recentralization went a step further when the Central Military Commission (CMC) ordered all main and regional force units placed under GSD control (the latter had previously been controlled by military regional commanders). As a result, the movement of any forces of brigade size or larger must be authorized specifically by the GSD, and in no case can troops be moved across military region boundaries without CMC approval. Access to weapons and supplies was similarly tightened under the control of the General Logistics Department. Some of this recentralization was motivated by what the PLA learned from studying the Soviet military structure,[9] but it was also partially stimulated by the post-Tiananmen fear of disloyal regional commanders. Concomitantly, another key reform of the late 1980s was to restructure the PLA's 36 army corps into 24 Group Armies (*jituanjun*) that combined units previously commanded separately. Each Group Army is composed of 50,000–60,000 personnel supported by armoured, artillery, engineering, anti-chemical and logistics support units.[10] These initiatives grew out of the PLA's study of U.S. "Air-Land Battle" doctrine and combined arms operations. For example, the PLA no longer fields tank divisions as such, but rather integrated mechanized armoured divisions. It is moving towards the mechanization and mobility of all units, and will soon no longer have any infantry "foot soldiers" as such.[11] The overall emphasis to make "joint" what had previously been a highly compartmentalized command and deployment structure, but it has only really been applied to the ground forces and still begs true joint service operations. In recent years the GSD has contemplated a radical reorganization and further streamlining along the lines of the U.S. Joint Chiefs and regional commands, but this was apparently postponed in 1998 by the CMC as "too destabilizing" given the order for the PLA to withdraw from business and other initiatives at the time.[12]

Another key reform that will affect training was that given by the CMC in 1998 for the military and PAP to divest themselves of all commercial assets and activity. While the PLA's decade-long commercial involvement earned various units, officers, soldiers and their dependents important supplementary income during a time when defence budgets remained

9. Ironically, the U.S. military gives its field commanders far greater individual authority.

10. A Special Arms Department (*Te bing bu*) was formed under the General Staff Department and combines and fulfils procurement needs for these units.

11. Interview with former General Staff Department official, 8 December 1998.

12. Interview, National Defence University, 16 July 1998.

low, there is little doubt that it was highly deleterious to professionalism, readiness and training regimen.[13] The military's deep involvement in corruption, smuggling, prostitution and criminal triad activity also caused problems for a government trying to crack down on such activities. In addition, the PLA's influence over certain business sectors, such as telecommunications and aircraft production, skewed the corporate arena, making it difficult for domestic or foreign companies to complete effectively. For all these reasons, the PLA, PAP, Public and State Security Ministries were ordered out of business at the end of 1998. The directive is not being fully complied with: military units are finding ingenious ways to circumvent it, and more questions than answers remain concerning the disposition and fate of these enterprises, but it is nevertheless clear that many units have complied. By the end of 1998, approximately one-third of the estimated 15,000 PLA enterprises had their assets transferred to the State Economic and Trade Commission, were undergoing audits of their accounts, and were in the process of being "civilianized." It remains to be seen if the audits will result in arrests or court martials. As a result of the divestiture directive, General Logistic Department sources claim that the military will lose an estimated 5.1 billion *renminbi* ($600 million) of income per annum.[14] This department, which is responsible for military finance, had hoped to be compensated for this amount, and to fix the PLA budget as a defined percentage of total state expenditure and gross domestic product in future defence budgets, but was rebuffed in the 1999–2000 budget.

Increasing the educational level of troops is another recent reform intended to turn the PLA into a more technology-intensive force. At present only 50 per cent of officers have education beyond senior middle school, while the goal is that all junior-level officers will hold a B.A. or equivalent by 2010.[15] To do this, the PLA is just beginning to introduce a Reserve Officer Training Corps (ROTC) system into universities and vocational schools, and has sent delegations to the United States to study the American ROTC system. Of course, one of the most important reforms of recent years was the reintroduction of ranks in 1988 (after a 25-year hiatus). Also, beginning in 1999, conscription service periods were reduced to two years across all services. This reform will reduce the number of conscripts in the PLA from 82 per cent of its total strength to less than 65 per cent by 2000.[16] While the aim of this is to develop a more permanent force that relies on career personnel, it will also have the negative effect of not permitting rank-and-file soldiers enough time to master expertise in high-technology weaponry. Resource constraints also limit "live fire" training, although simulation training has increased in all three services.

13. See James Mulvenon, "Military corruption in China," *Problems of Post-Communism* (March/April 1998), pp. 12–21.

14. Interview, General Logistics Department, 9 December 1998.

15. *Ibid.* This figure rises considerably at and above the group army level, and among those who graduate from the National Defence University.

16. "Army seeks mobility in force cuts," *Janes Defense Weekly*, 16 December 1998.

Taken together, these reforms of the force structure and command and control dovetail with the doctrinal "lessons" of modern warfare noted above, and they put into operation some of the lessons learned. These are important changes, and they represent recognition of what the modern battlefield environment entails, but old habits, norms and systems die hard. The PLA still remains heavily compartmentalized, under-resourced and ill-equipped, lacking in direct exposure to more modern methods, and with relatively poorly educated and paid soldiers.

The PLA Leadership and Party–Army Relations

Another stalwart element of PLA command and control that appears to show signs of incremental reform is the composition of military leadership and the nature of Party–army relations. Following the passing of patriarch Deng Xiaoping, the High Command of the PLA is almost entirely new. There has been near total turnover of the top 20 to 30 military officers in China during the last three years. This includes all the commanders, deputy commanders and political commissars in all seven military region commands; the directors and deputies of the General Staff, Logistics and Political Departments; the commanders of air, naval and ground forces; the commandants of the National Defence University and Academy of Military Sciences; the chairmen of the Commission on Science, Technology and Industry for National Defence and the new General Armaments Department, and other bodies. The Central Military Commission itself has seen more than half its membership turn over in the last few years. Only the top echelon of the Second Artillery, China's ballistic missile forces, has gone relatively untouched. Much more personnel turnover and organizational reform is anticipated in the next few years, as the PLA proceeds with downsizing, upgrading and streamlining its force structure.

Personal allegiances in the High Command no longer reflect pre-1949 Field Army loyalties. Rather, career paths to the top have much more to do with field service and commands, training in military academies and battlefield experience. While merit now counts for more, patronage politics are not dead in the PLA: many of today's most senior military have ties to retired General Zhang Zhen, and it is evident that current CMC Vice-Chairman General Zhang Wannian has also worked to install a number of his former subordinates in key command positions.

Significantly, the new High Command also largely comprises officers with battlefield, command and lengthy service experience. These are officers who commanded troops in the 1979 Sino-Vietnamese border war, the 1988 Nansha conflict, the 1969 Sino-Soviet border clashes, 1962 Sino-Indian conflict and the Korean War. With one or two exceptions, they are not individuals who have spent their careers as political commissars. Relatedly, the new High Command no longer comprises soldier-politicians, active in the rough-and-tumble world of Chinese elite politics. This signals a potentially very significant development in the Chinese political system: the breaking of the "interlocking directorate" and long-

standing symbiotic tie between the Communist Party and PLA.[17] We are now witnessing, for the first time in 70 years, a growing bifurcation of the two institutions. The PLA today is much more prepared to resist Party encroachment into military development, and attempts to pull the PLA into domestic politics or domestic security.

This also raises the issue of accountability of the armed forces, that is, the relationship of the army to the Party and state. The issue of putting the PLA under the command of the state, instead of the Communist Party, was first floated and debated during the Zhao Ziyang era of the late 1980s, and cropped up again in 1997. After Zhao's purge in 1989, he and his advisors were sharply criticized for propagating this "bourgeois" concept. But the debate resurfaced in the wake of the 1997 National People's Congress, when the National Defence Law was passed. This law clearly states a number of times that the armed forces are subordinate to the state (*guojia*), the National People's Congress and its Standing Committee, the President of the republic, and the State Council. Only in Chapter III, Article 19, is mention made that "the armed forces of the People's Republic of China are subject to the leadership of the Chinese Communist Party."

We will have to wait for a crisis to see how such constitutional stipulations play out. Historical experience, including 1989, is not encouraging in this regard. Nevertheless, the National Defence Law is a very significant document, and may signal important changes in the identity and accountability of the PLA.[18] It is too early to conclude that a "national army" is emerging in China, but a debate about the issue has clearly simmered inside the armed forces and among politically reformist intellectuals.

Establishing such accountability is one of the central components of the process of democratization. This has now been accomplished in Taiwan – where the armed forces had a long history of subservience to the ruling Kuomintang – and it has also now occurred in South Korea, Indonesia, Thailand, the Philippines, Bangladesh, Pakistan, and some countries in Africa and Latin America. The decline of the praetorian guard has been a key feature of post-authoritarian politics in Asia. In recent years regime change has taken place across the region without military intervention, amid extreme financial hardship and social instability. This is testimony to the new strength of democratic institutions and more professional identities of armed forces across Asia. Taken together with other recent developments in Chinese politics, such as village-level elections and more open demands for structural political reform, the

17. For an explication of this thesis see my "The soldier and the state in China: the political work system in the People's Liberation Army," *The China Quarterly*, No. 127 (September 1991), pp. 527–568.

18. The National Defence Law must also be seen as part of a larger and important process to govern military procedures through law and regulations. In the last decade nearly 120 military-related regulations have been adopted by the CMC, State Council and National People's Congress, as well as more than 1,000 rules and regulations adopted by individual PLA service arms and Military region commands. Source: *China's National Defense* (Beijing: Information Office of the State Council, 1998), pp. 18–19.

changing nature of the army–Party relationship may portend the further dismantling of the Leninist system and preliminary movement towards nascent democratic reform in China. These indicators should clearly not be overstated, but they are potentially significant.

Another characteristic of the new High Command is that, with few exceptions, they have largely spent their careers in regional field commands deep in the interior of China. They have generally not travelled abroad and do not speak foreign languages. Accordingly, many display a distinctly insular and non-cosmopolitan world view. Some are highly xenophobic, suspicious of the West, hostile towards Japan, condescending towards China's neighbours and anti-American in particular. They have been trained in a world that prizes secrecy, and thus do not appreciate the importance of defence transparency. Their backgrounds as field commanders make them more comfortable with battlefield tactics than global security issues or political-military issues. Further, they all come from ground force backgrounds; only the commanders of the Navy and Air Force, appropriately, hail from these services. Given the direction the PLA is moving – trying to become a high-tech military capable of peripheral defence that emphasizes air and naval power projection, nuclear weapons modernization, ballistic and cruise missiles, electronic countermeasures, information warfare, anti-satellite weapons, laser and precision-guided munitions, and so on – one is struck by the fact that today it is a military led by soldiers with minimal exposure to these kinds of weapons, technologies and doctrine. These are individuals with little exposure to modernity, much less modern warfare. Beneath them, however, there is a whole layer of major generals and senior colonels who are completely opposite. It is this cohort who will manage the PLA in the early 21st century, as the current High Command retires.

Weaponry

Concomitant with the doctrinal reforms outlined above, the PLA Air Force and Second Artillery have become favoured sectors for research and development in the post-Cold War era. Following lessons from the Gulf War and Yugoslav conflict combined with the PLA's new operational doctrine of "limited war under high technology conditions," air and missile power have become the weapons systems of choice in building the PLA arsenal for the 21st century. New generations of intercontinental, medium and short-range ballistic missiles are being developed, and priority has been placed on acquiring MIRV and cruise missile capabilities. Two new indigenous fighters are under development. The F-10, a fourth-generation multi-role fighter, has been plagued with problems but may be ready for serial production in 2001–02. It uses a delta wing canard configuration, incorporates stealth-like design features, avionics (from Israel) and is far advanced over the current top-of-the-line F-8II.[19] The JH-7 (FBC-1) is a twin-engine strike fighter designed for long-range air cover missions, and is also in the flight-testing stage. As

19. "Air Force frontliners to see new fighter breed," *Janes Defense Weekly*, p. 26.

noted above, the PLA Air Force has also bought 48 Su-27 fighters, with a contract for production of 200 more (designated the F-11). The 1997 contract calls for the first 50 to be assembled from kits at the Shenyang Aircraft Corporation factory (the first two were flight-tested in late 1998), and licensed production will commence thereafter. The Air Force is also negotiating to acquire 20–60 Su-30 multi-role strike fighters from Russia, as well as AWAC early-warning and control aircraft from Russia and Israel. Once all these aircraft are in operation, and phased retirements of antiquated aircraft are completed, China will possess a diversified and 1980s-quality air force – but this will not be until about 2005–2007, even assuming all goes well in production and testing. One cannot be too optimistic on this score given the chronic problems that have plagued the civilian and military aircraft industry in China. Further, pilot training for combat situations in all-weather conditions and regular maintenance will be necessary, and the PLA Air Force's record on both scores has not been commendable to date.

The new doctrine of peripheral defence has, of course, also included increased attention to developing a blue-water naval capability (*yuanyang haijun*), although this ambition has been severely hampered by lack of funds, an inadequate indigenous production base (to produce, for example, heavy cruisers, aircraft carriers and nuclear submarines), and lack of access to Western sources of supply for key technologies and armaments. China's top-of-the-line destroyer, the *Luhu* (of which the PLA Navy possesses two in active service), is outfitted with German and American engines, French and American radars and sonars, a French helicopter, Italian torpedo launchers, and French surface-to-air and ship-to-ship missiles. Since 1989 China has been prohibited from purchasing Western military equipment and there is little sign of a significant relaxation on this ban any time soon, despite loosening in European Union restrictions on some electronics. Even with restricted access to Western naval technologies and platforms, the Navy has upgraded electronic countermeasures, radar and sonar, fire control systems, and onboard armament on refitted *Luda* destroyers and *Jianghu* frigates. These are being supplemented by new generation *Luda III* destroyers, *Jiangwei*-class frigates, *Houjian* and *Houxian* missile patrol craft, and *Dayun* class resupply vessels. It is unclear to what extent the new 7,000 ton *Luhai* class destroyer incorporates foreign equipment and technologies. In all, the Navy has added nearly 20 surface combatants to its fleet over the last decade. The most important addition will be the two *Sovremenny* destroyers being built in Russia's St Petersburg shipyards. These vessels are armed with Moskit (SS-N-22 "Sunburn") anti-ship missiles and Uragan (SA-N-7 "Gadfly") surface-to-air missiles. Russia has also sold four Kilo diesel electric submarines in recent years, although the PLA Navy has experienced maintenance and operation difficulties with them. Also under development are Chinese-built Song class Type 093 and 094 (SSN and SSBN respectively) submarines.[20] Submarine construction and

20. "New PLAN to train, purchase vessel mix," *Janes Defense Weekly*, 16 December 1998, p. 25.

operation is extremely complex, and the Chinese record in each has been very poor to date.

Without access to equipment and technology from the West, the PLA will never be able to close the weaponry and defence technology gaps appreciably vis-à-vis Japan and the West. Transfers from Russia are meeting certain needs, but they are far from sufficient to provide the PLA with a power projection capability. Most Western analysts place the PLA's conventional capabilities 20 to 30 years behind the state-of-the-art, with the gap widening. Today, China's best conventional military capabilities resemble early 1980s European equipment. In many areas the technologies and hardware are of 1960s or 1970s vintage. For example, of the PLA's 8,500 main battle tanks 6,000 are T-59 vintage (so identified as it was 1959 when they came into operation). The remainder are T-69, T-79, T-80, T-85 and T-90 models. China's main tank factory at Baotou has produced more heavy trucks (in a joint venture with Mercedes Benz) than tanks, and the Shenyang Aircraft Corporation has produced more buses than planes, over the last decade. The situation for the PLA Air Force is similar. Fully 2,000 of its 2,748 fighter-interceptors are the J-6, a modified version of the 1960s vintage MiG-19. The PLA Navy remains a coastal green-water force with few real ocean-going warships. The PLA is attempting to plug some of its most glaring gaps through purchases of select equipment from Russia and Israel, but its overall order-of-battle remains extremely antiquated.

In the area of ballistic missiles, however, China's capabilities are considerably better – and improving. Great emphasis is being placed on achieving long-range precision strike capability, and also on mastering new information warfare techniques associated with the revolution in military affairs.[21] There is no doubt that China is actively studying these technologies (including laser-guided munitions, electronic countermeasures, computer viruses, anti-satellite weapons, high-powered microwave weapons, satellite photo reconnaissance, over-the-horizon sensors, phased array radars and high-speed telecommunications),[22] but one must not confuse ambition with capability. These are extremely complicated technologies to master, test, produce, deploy, assimilate and maintain. There exist numerous impediments – financial, human, technological – to China's ability to acquire and deploy such high-tech systems.

From the desire to develop these latter technologies and weapons systems, one could infer that China is preparing for asymmetrical military contingencies against opponents possessing state-of-the-art militaries (such as Japan or the United States), particularly in potential conflict over Taiwan. The purchase of aircraft, submarines and destroyers from Russia all appear to be "contingency-driven." They seem to indicate preparations to present a credible threat to Taiwan in the first decade of the next century (probably around 2007). Moreover, these purchases and the

21. Major Mark A. Stokes, "China's strategic modernization: implications for U.S. national security," unpublished manuscript, 1997; and Pillsbury, *Chinese Views of Future Warfare*.

22. Stokes, "China's strategic modernization."

emphasis on improving electronic counter-measures and Information Warfare capabilities further suggest a readiness to engage and disrupt U.S. aircraft carrier battle groups in a Taiwan conflict. The persistent attempts to acquire in-flight refuelling capability, and the development of the F-10 and FBC-1 fighters, perhaps indicate a desire to project air power into the South China Sea and beyond.

These acquisitions aside, there appears to be little evidence that PLA procurement patterns, indigenously or exogenously, are driven by specific threat perceptions or military contingency planning. On the contrary, China seems to be building on its few strengths, consolidating "pockets of excellence," while trying to "leapfrog" certain technology gaps and acquire a military capability in the first quarter of the 21st century that is of world-class standards. In other words, apart from Taiwan, PLA procurement seems driven by status factors more than specific contingency planning. Either way, the PLA finds itself far behind in research and development, and will find it very hard to catch up. Despite recent reforms that will begin the long and cumbersome process of overhauling China's laggard defence industries (including the creation of a central General Armament Department to oversee the process), the military-industrial establishment in China has to date proven almost wholly unable to meet the needs of the PLA services and move the military into the era of modern warfare.

Conclusion

In the five areas examined in this article, it is clear that the PLA is undergoing substantial organizational reform and incremental modernization. While recognizing that new departures and progress have been made, it would be premature to conclude that the PLA has crossed the threshold of modernity. It knows where it has to go, but it cannot seem to get there – and the chances of reaching this goal are severely constrained by a series of financial, resource, technological, organizational, cultural, creative and external constraints. This general prognostication does not, however, mean that in certain sectors and in certain contingencies the PLA will not be able to attain its desired goals. Much of the art of warfare is the ability to concentrate capabilities and bring to bear one's best resources to achieve specific, and often narrow, ends. Given that China's national security and defence needs are really quite limited, and geographically defined close to home, the PLA's ability to bring substantial force to bear against an adversary in its neighbourhood is not insubstantial. This point should especially not be lost on Taiwan, nor on Japan and the United States.

The PLA has been in transition most of this decade,[23] but the scope and pace of change is broadening and quickening. New training regimens are being undertaken, new tactics are being tried in accordance with new defence doctrine, new organizational hierarchies are being created, a new

23. See the articles in Shambaugh and Yang, *The Chinese Military in Transition*.

force structure is being put in place, new commanders are being appointed, and new weapons are being produced and fielded. The key operational and research questions for the next decade will therefore have much to do with the assimilation of these new innovations. Many militaries, including the Taiwanese at present, have encountered great difficulties in absorbing and assimilating new technologies and methods. The PLA will quickly learn the lessons that "software" is more important than "hardware," and it is not so much what you have that counts, but how you use it.