
13. A NEW PLA FORCE STRUCTURE

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In 1995, the Military Commission of the CPC Central Committee had further decided that in building the army, it is necessary to pay more attention to quality instead of quantity and scale and attach greater importance to scientific and technological development instead of manpower. The formulation of the military strategic guideline in the new period and the decision to effect the “two transformations” in army building are explicit characteristics of the times. They reflect the objective need of army building in the new period . . . We have no existing examples to follow in ensuring quality army building.

Chen Bingde
Commander, Nanjing Military Region²

Our objectives are to develop the PLA into a revolutionary, modernized, and regular army with Chinese characteristics. We believe: A streamlined army of a reasonable size will be helpful to improving the international environment for arms control and disarmament, be conducive to enhancing mutual trust among countries, and be more beneficial for us to concentrate our energies to properly develop the economy.

Defense Minister Chi Haotian
Speech to the Japanese National
Institute for Defense Studies,
February 4, 1998³

As the modernization of the Chinese armed forces continues into the 21st century, changes in its force structure will be inevitable. Newer, more modern weapons and a new doctrine emphasizing joint operations necessitate that the size, organization, and command and control structure of the force be adapted to meet the new circumstances. A new force structure will seek to integrate the force's new

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²Chen Bingde, “Intensify Study of Military Theory to Ensure Quality Army Building: Learning From Thought and Practice of the Core of the Three Generations of Party Leadership in Studying Military Theory,” *China Military Science*, No. 3, August 20, 1997, pp. 49–56, in FBIS-CHI-98-065, March 6, 1998.

³Le Shaoyan and Gang Ye, “China: Chi Haotian on PRC Defense Policy,” *Xinhua Domestic Service*, February 4, 1998, in FBIS-CHI-98-035, February 4, 1998.

capabilities, maximize the performance of its new weapons, and effectively execute its new doctrine.

Because of domestic conditions and constraints that make China different from other nations, Nanjing Military Region Commander Chen Bingde correctly observes that there is no example for China to follow as it reshapes its forces. The Chinese military is constantly reminded of its role in society and its place among national modernization priorities. It is well aware that military modernization will be severely limited by funding constraints. In March 1998, President Jiang Zemin reiterated these realities in a speech to the military delegation at the Ninth National People's Congress:

The level of China's productive forces is still not high, and our economy is not that strong. Therefore, we must concentrate our energies on economic development. Without a highly developed economy, it is also impossible to promote the modernization of national defense and the army. We must always insist on taking economic development as the central task while paying adequate attention to modernizing the national defense, and seek coordinated development for both the economy and national defense. We must blaze a trail of modernizing national defense and the army with Chinese characteristics.⁴

From this passage it is clear that "paying *adequate* attention to modernizing the national defense" is a condition that Chinese military planners will have to live with. Therefore, by structuring their military organization more efficiently, the Chinese may be able to put to better use the limited funding available. Force structure reform thus becomes an integral part of military modernization.

Overall, it is important to note that the ultimate objective of modifying the Chinese military force structure is to better organize itself to achieve China's national military objectives. These national military objectives may be summarized as:

- Protect the Party and Safeguard Stability
- Defend Sovereignty and Defeat Aggression
- Modernize the Military and Build the Nation.⁵

Although the senior Chinese civilian and military leadership has outlined the general trends and directions that changes in the force structure will take, a detailed blueprint has not been made public, if one has been fully developed. Such a plan would certainly be considered sensitive or classified information. However, based on Chinese writings and speeches, it is possible to speculate about what the Chinese military of the early 21st century will look like. But first, a brief description of the current force may be useful as a point of reference.

⁴"China: Jiang Zemin on Army Building at NPC," *Xinhua*, March 10, 1998, in FBIS-CHI-98-070, March 11, 1998.

⁵See David Finkelstein's chapter in this volume.

THE CURRENT FORCE STRUCTURE

Article 22 of the PRC Law on National Defense adopted on March 14, 1997 states “The armed forces of the People’s Republic of China are composed of the active and reserve units of the Chinese People’s Liberation Army (PLA), the Chinese People’s Armed Police Force (PAP), and the people’s militia.”⁶ The missions of this three-tiered force are defined as:

The active units of the Chinese People’s Liberation Army are a standing army, which is mainly charged with the defensive fighting mission. The standing army, when necessary, may assist in maintaining public order in accordance with the law. Reserve units shall take training according to regulations in peacetime, may assist in maintaining public order according to the law when necessary, and shall change to active units in wartime according to mobilization orders issued by the state. Under the leadership and command of the State Council and the Central Military Commission, the Chinese People’s Armed Police force is charged by the state with the mission of safeguarding security and maintaining public order. Under the command of military organs, militia units shall perform combat-readiness duty, carry out defensive fighting tasks, and assist in maintaining the public order.⁷

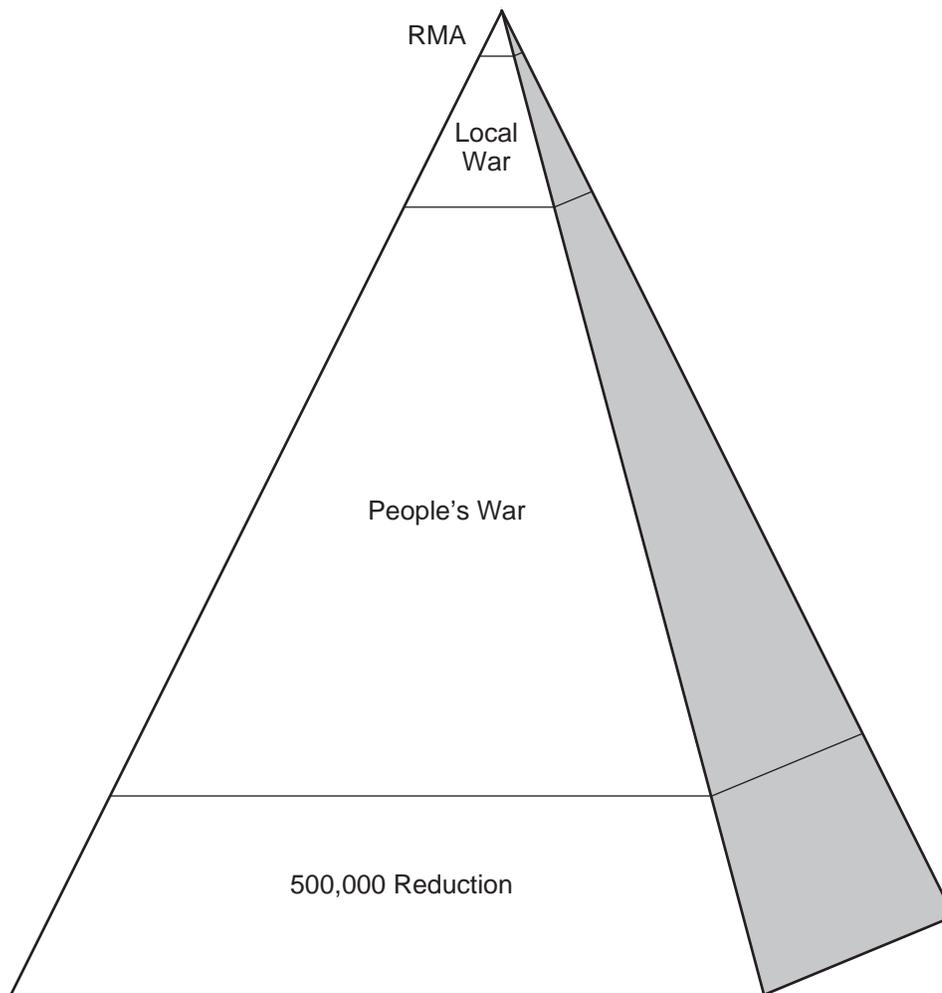
The active duty PLA consists of ground forces (army and the Second Artillery, also known as the Strategic Rocket Forces), the navy (including marines and some aviation units), and the air force (including airborne forces and some antiaircraft artillery units). Reserve forces are mostly ground forces, although a limited number of navy and air force units reportedly have been formed. The above passage would suggest that the primary mission of the active duty force is external defense, while the PAP is tasked with internal or domestic security. As a secondary mission, the active duty and reserve PLA forces and militia may assist the PAP in maintaining domestic security.

Apart from mission, the force structure also reflects the three schools of military thought prevalent in the PLA today: People’s War, Local War, and the Revolution in Military Affairs (the RMA school). These three schools are reflected in the PLA’s doctrinal development, equipment, and scenario planning. The relationship of the three schools to one another and Chinese force structure can be visualized as a triangle or pyramid composed of three tiers.

The base of the pyramid consists of the People’s War school—the vast majority of the PLA today. The military thought of Mao Zedong provides the theoretical foundation for this school. This doctrine has little utility beyond the borders of China, but a considerable portion of all Chinese military writing still must pay homage to the heritage of People’s War. Probably about 80% of the PLA ground forces, navy, and air force is best suited to fight a People’s War and is equipped with weapons designed in the 1950s and 1960s that would be museum pieces in many countries. This school relies upon the use of “existing weapons to defeat an enemy equipped with high

⁶“Law of the People’s Republic of China on National Defense,’ Adopted at the Fifth Session of the Eight National People’s Congress on March 14, 1997,” *Xinhua Domestic Service*, in FBIS-CHI-97-055, March 14, 1997. All quotations of the law are from this source. Hereafter cited as “National Defense Law.”

⁷Ibid.



Figure—Pyramid

technology weaponry.” These forces are trained to defend the mainland, its adjacent seas, and air space from invasion. They would fight along side the militia and swallow up an invader using concepts devised by Mao 60 years ago, now modified slightly to account for “modern conditions.” The tactics these units practice are similar to those used in the War Against Japan, the War of Liberation, the Korean War, and the 1979 conflict with Vietnam.⁸

The second tier of the PLA pyramid is the Local War school—maybe 15% of all army, navy, and air force units. Deng Xiaoping provided the critical strategic direction for this school. Local War is understood to be a limited war on the periphery of China

⁸The campaign against Vietnam was the PLA’s last major engagement against a foreign foe and its shortcomings provided the stimulus for military modernization efforts of the 1980s.

that will be short but intense, utilizing advanced technology weapons, with units fighting in joint and combined arms efforts. It envisions an element of force projection (i.e., the ability to transport combat forces beyond China's borders), but by definition is regional, not global, in nature. China usually regards Local War as its "next war"; the Persian Gulf War is often a point of reference for this school. China has no combat experience in this type of conflict. At this time, the development and dissemination of doctrine on how the PLA will fight such a war are in progress. The number of units actually prepared to live up to these modern standards is problematic. In the 1980s, the PLA began its current modernization program, focused on rapid reaction units and experimental forces. Some of these units, but by no means all, have received numerically limited imports of Russian hardware. Many units in this category still are equipped with outdated indigenous equipment and, like the People's War school, must devise ways to use their existing weapons to defeat a high technology opponent. This segment of the PLA probably does, however, receive more training opportunities than do units dedicated to fighting a People's War. This portion of the PLA is expected to grow in the future as the People's War segment shrinks in size.

The RMA school is at the top of the pyramid and is represented by only a very small portion of the PLA—thinkers in its premier academic institutions, a few officers in the General Staff Department and new General Equipment Department, some of the missile units in the Second Artillery, and a few other units equipped with modern cruise missiles. These elements are among the "pockets of excellence" described in the professional literature. The weapons that represent this school are also being incorporated into China's doctrine for Local War. The Chinese military and defense industries are investigating the entire scope of new technologies and theories applicable to RMA. Chinese defense industries are undertaking serious research efforts to identify areas upon which they should focus. No senior Chinese leader has lent his imprimatur to the RMA school. The lack of a focused, high-level vision of future war may slow the development of many of the concepts currently being explored by thinkers at lower ranks.

GENERAL TRENDS FOR A FUTURE PLA FORCE STRUCTURE

In recent years, the senior Chinese military leadership has outlined the general trends for the development of China's armed forces in the near- and mid-terms in professional writings and public speeches. Efforts have already begun in the following areas, and gradually the force structure will be modified to better implement these strategic directions:

1. Active duty PLA forces will become quantitatively smaller, with an emphasis on technological quality.
2. Reserves and the People's Armed Police will increase in size.
3. The PLA will retain many existing weapons and attempt to develop new tactics and techniques to defeat a high-technology enemy.

4. Only limited amounts of foreign weapons and equipment will be introduced into the forces; the indigenous Chinese defense industry will be the source of the majority of modern weapons.
5. Capabilities will emphasize rapid response and joint operations, focusing on precision attack, air operations, naval operations, information warfare, and space operations.
6. Command and control organizations will be reorganized to better manage the requirements of future warfare.

Like economic modernization, these elements of military modernization are considered long-term goals, which should be accomplished by the middle of the 21st century or 100 years after the founding of the People's Republic (2049). No specific milestones to achieve the different elements have been announced. However, by the year 2010 the general trends will have been in motion for over a decade and progress in these areas will be more apparent than they are at present. Chinese military capabilities will be improved but will still fall far behind many other contemporary modern forces. The remainder of the chapter will examine each of these six elements in more detail.

Smaller, but Better

In September 1997, President Jiang Zemin announced a 500,000-man reduction in the strength of the PLA, to be completed over the next three years. In reality, that reduction had begun a year earlier, as 14 ground force divisions in lower readiness categories were transferred to the PAP.⁹ By the time of Jiang's announcement, the number of PLA personnel transferred to the PAP probably ranged from 110,000 to 150,000. As the reduction continues, more, but not all, of the PLA forces to be reduced may be transferred to the PAP. The forces subject to this reduction come from the bottom of the PLA force structure pyramid, those best suited to fight a People's War. Many of the units that have been or will be eliminated are likely to be those manned at less than 100% strength, some even below 50%. Therefore, it is possible that *more authorized slots will be reduced than actual personnel*. Unless the PLA changes its policy on openness to outsiders, the specific units and numbers of personnel reduced may never be announced officially and thus remain the subject of debate and disbelief among many outside of China.

The majority of the forces to be eliminated in the ongoing reduction will be ground forces. According to the July 1998 Defense White Paper, ground forces will be reduced by 19%, naval forces by 11.6%, and air force personnel by 11%.¹⁰ These percentages amount to a reduction of about 418,000 ground forces, 31,000 naval

⁹Liu Hsiao-hua, "Armed Police Force: China's One Million Special Armed Troops," *Kuang chiao ching*, No. 307, April 16, 1998, pp. 42-47, in FBIS-CHI-98-126, May 14, 1998. See also Dennis J. Blasko and John F. Corbett, Jr., "No More Tiananmens: The People's Armed Police and Stability in China, 1997," paper presented at Staunton Hill Conference on the PLA, September 1997.

¹⁰Information Office of the State Council of the People's Republic of China, *China's National Defense*, July 1998.

personnel, and 52,000 air force personnel.¹¹ Of the 500,000 personnel to be reduced, the ground forces will account for nearly 84% of the total. In the year 2000, at the end of this reduction, the PLA will number approximately 2.5 million personnel, with ground forces (including the Second Artillery) comprising about 1.78 million, the navy 234,000, and the air force 418,000. During this period of troop cuts, the PLA will also experiment with organizational changes. Successful experiences during this period of experimentation will later be applied throughout the force.¹²

An important implication of the 500,000-man reduction underway is that the percentage of PLA ground forces within the total force structure will decrease as the percentages of naval and air forces increase. This condition parallels the increasing significance of the navy and air force in Chinese military strategy for the 21st century. In the past, the PLA was oriented to a continental defense strategy, which called for a large, dominant ground force. Now, as the PLA shifts its doctrine to local wars on the periphery of China, the navy and air force have risen in importance, receiving priority in PLA modernization efforts. They will naturally grow in proportion to the total force.

Presently, ground forces (including the Second Artillery) comprise 73% of the total force structure, with the navy and air force comprising only about 10% and 17%, respectively. If only for reasons of history, geography, and inertia, the PLA is likely to remain dominated by ground forces for several more decades, and many army units will still be best suited for the defense of mainland China using the People's War doctrine. However, as the PLA's focus shifts further from continental defense to a maritime orientation, naval and air capabilities will become more important and will better counterbalance the weight of the ground forces than they do today.

For a point of rough comparison, personnel numbers of the United States armed forces, which have global responsibilities that the PLA is not envisioned to assume, are much more heavily weighted toward naval forces (including marine forces) than they are to either the army or air force. Naval forces comprise 40% of U.S. forces, while the army and air force comprise 33% and 27%, respectively. For many reasons, the PLA is unlikely to select the U.S. force structure as a model for its modernization; however, over the years, the proportion of the PLA service arms will move further away from its nearly total dominance by the ground forces, as has been the case since the founding of the Red Army.

A force of 2.5 million will still be larger than needed for an adequate defense in the 21st century, especially as Chinese military doctrine stresses the use of high-technology weapons and equipment. The May 16, 1998 issue of the Hong Kong magazine *Wide Angle* predicts, "As the international environment relaxes and the national economy develops, further troop reduction may be required to ensure that

¹¹These specific numbers are derived by multiplying the White Paper's percentages by figures of 2.2 million, 265,000, and 470,000, found in International Institute for Strategic Studies, *The Military Balance, 1996/97*, London: Oxford University Press, 1996, pp. 179–181.

¹²Kuan Cha-chia, "Commander Jiang Speeds Up Army Reform, Structure of Three Armed Services to be Adjusted," *Kuang chiao ching*, No. 305, February 16, 1998, pp. 14–18, in FBIS-CHI-98-065, March 6, 1998.

the troops are well-equipped and highly-mobile.”¹³ Another recent prediction in the Hong Kong press envisions additional cuts of 100,000 personnel per year through much of the next decade, ending with a total force of about 2 million by 2010.¹⁴ Further reductions in personnel would be looked upon favorably by China’s neighbors (see Defense Minister Chi’s comments above) and benefit its own military modernization as its defense budget could be focused on fewer troops.

Therefore, it is likely that early in the 21st century Beijing will announce another significant reduction in the size of its standing forces. The bulk of future reductions beyond the current reduction can be expected to be felt again in the ground forces, and again in the units of a lower readiness category. The navy and air force may internally reorganize their forces and eliminate certain units (for example, many of the air force’s antiquated fighters will be retired and many of its anti-aircraft artillery units may be transferred to the reserves as more air defense missile units are activated), but for the purpose of this analysis it is assumed that the number of personnel in these service arms will remain constant or perhaps even increase. For the sake of argument, we will assume that the next reduction will also number 500,000 personnel.¹⁵

A little recognized fact is that civilians in the PLA are included among the total numbers of China’s active duty forces.¹⁶ Known as *wenzhi ganbu*, these PLA civilians wear uniforms and can be given ranks if necessary. Most PLA civilians serve in technical and logistics capacities, such as doctors, instructors, computer specialists, headquarters personnel, or technical service personnel, and would not be considered combat personnel. Some *wenzhi ganbu* also work in PLA commercial activities. The exact number of PLA civilians is not known, but possibly constitute 20–25% of the total force.¹⁷ After the 500,000-man reduction when the PLA numbers approximately 2.5 million, a conservative estimate of the number of PLA civilians in the force would be around 500,000.¹⁸

If this number seems high, the number of civilians who worked for the U.S. Department of Defense in 1997 was over 767,000, or an additional 53% added to the U.S. active duty strength of 1,443,000.¹⁹ Because the PLA is currently less technically

¹³Liu Hsiao-hua, “Jiang Zemin Convenes Enlarged Meeting of Central Military Commission, Policy of Fewer But Better Troops Aims at Strengthening Reserve Service Units,” *Kuang chiao ching*, No. 308, May 16, 1998, pp. 50–53, in FBIS-CHI-98-161, June 10, 1998.

¹⁴Willy Wo-Lap Lam, “New-Look PLA Plans More Cuts,” *South China Morning Post*, June 30, 1998.

¹⁵This number was derived independently, but is consistent with those found in Willy Wo-Lap Lam, “New-Look PLA Plans More Cuts.”

¹⁶Shaoguang Wang, “Estimating China’s Defense Expenditure: Some Evidence From Chinese Sources,” in *China Quarterly*, September 1996, p. 891. The author’s conversations with PLA officers in 1995 and 1996 support this assertion. The 1998 Defense White Paper also contains the statement that “different from many other countries, China includes . . . civil cadre . . . in the overall strength of the PLA.”

¹⁷Author’s conversation with PLA civilian in September 1996.

¹⁸In early 1997, *Wide Angle* magazine estimated that about 500,000 people serve in “military enterprises and such departments as military research, medical care, literature and art, sports, and education.” Yuen Lin, “China’s Military Strength and Peripheral Military Situation,” *Kuang chiao ching*, No. 293, February 16, 1997, pp. 62–67, in FBIS-CHI-97-059, February 16, 1997.

¹⁹*Defense 97 Almanac*, Issue 5, Washington: Department of Defense, 1997, p. 17.

complex than U.S. forces, it is not unreasonable that they would have a smaller percentage of civilians than does the United States. Most countries do not include civilians in the number of their active duty forces.

China would be able to *reduce significantly the size of its military without any impact on its capabilities*, if it were to declare openly the true numbers of its *wenzhi ganbu* and disaggregate them from the PLA active duty force statistics. Such a decision would conform to generally accepted international standards and would make comparisons between the size of the PLA and other militaries more accurate and illuminating. However, such an announcement would probably be interpreted by some critics as a disingenuous attempt to deceive the world about Chinese military strength. Nevertheless, for the purpose of this analysis, 20% of the PLA year 2000 end-strength will be subtracted from each component of the force to represent the approximate number of *wenzhi ganbu*, to more accurately portray the size of PLA forces.

The PLA could be further streamlined by removing from the active force the officers and enlisted troops devoted to commercial activities. The Hong Kong newspaper *Ming Pao* reported in May 1998 that President Jiang “clearly demanded that all army-run enterprises be separated from the army in three years” at an unpublicized meeting of senior military officers.²⁰ A recently announced policy has prohibited noncombat, as well as combat, units at Group Army level and below from engaging in commercial activities.²¹ In mid-July 1998, President Jiang announced that the army and the PAP must not engage in commercial enterprises.²² This edict was pronounced during an anti-smuggling meeting and probably applies mainly to commercial enterprises, such as major hotels, restaurants, real estate ventures, trade and investment operations, and other ventures in which crime and corruption are rampant. Traditional agricultural and light-industrial sideline production at the unit level and the PLA’s system of numbered factories, which produce nonlethal material and logistics supplies, will probably be affected only minimally, if at all. Most of the commercial management personnel about which Jiang spoke are found at higher headquarters, where they would not be considered deployable combat personnel. These personnel may be redesignated as *wenzhi ganbu* or non-military-related civilians and dropped from the active duty rolls once their enterprises are separated from the PLA.

Some higher echelon engineer and transportation units have for years been dedicated to military and civilian construction and commercial projects. Since these units probably do minimal training for their wartime missions, they too could be transformed into organizations manned by *wenzhi ganbu* to support the PLA. Any attempt to quantify the number of PLA officers and enlisted currently performing

²⁰“Jiang Zemin Criticizes Slow Progress in Army Reform; Reducing the Army by 500,000 Not Proceeding on Schedule,” *Ming Pao*, May 19, 1998, p. A12, in FBIS-CHI-98-140, May 20, 1998.

²¹*Guangming ribao*, April 11, 1998; and “China: Noncombat Units Should Not Engage in Business Production,” *Xinhua*, April 10, 1998, in FBIS-CHI-98-100, April 13, 1998. This prohibition does not include sideline production found in unit farms.

²²Seth Faison, “China’s Chief Tells Army to Give Up Its Commerce,” *The New York Times*, July 23, 1998.

commercial activities would be a guess. Therefore, this option will simply be mentioned for consideration, and no personnel subtracted from the active duty strength in the following projection.²³

If, over the next decade, the PLA does not include its civilians in active duty personnel numbers and reduces another 500,000 from the ground forces, by about the year 2010 it will have a total manpower strength of approximately 1.465 million personnel.²⁴ The ground forces will comprise about 64% of that number, a drop of 9% from its current proportion of the forces. Assuming that the navy and air force are not subjected to major personnel reductions, but rather redistribute personnel among units, the proportions of these two service arms will grow to 14% and 23%, respectively. (See Table 1.)

Table 1
Comparison of U.S. and Chinese Active Duty Forces

Component	U.S. 1998	PLA 1998	PLA 2010(5)
Army (1)	483,000/33%	2,090,000/73%(4)	932,000/64%
Navy (2)	578,000/40%	280,000/10%	199,000/14%
Air Force (3)	383,000/27%	470,000/17%	334,000/23%
Total	1,443,000/100%	2,840,000/100%	1,465,000/101%

Sources: *Defense 97 Almanac* for U.S. forces and *The Military Balance, 1997/98* for the PLA.

Notes: 1. PLA Army figures include 90,000–125,000 Second Artillery personnel.

2. Navy figures include marine forces in both countries.

3. PLA Air Force includes all airborne and some anti-aircraft artillery personnel.

4. The number of PLA ground forces (Army) in 1998 evidently reflects the impact of the initial phase of the 500,000-man reduction announced in 1997. This number is 110,000 smaller than the 2.2 million listed in previous years.

5. Percentages do not add to 100 because of rounding.

The proportion of naval forces could be further expanded if Beijing decides to increase the size of the existing 5,000-man marine force by changing the uniforms and mission of several ground force infantry units stationed near the coast. If five infantry divisions, approximately 60,000 men, were converted to marines, the percentage of naval forces would grow to about 18% of the total force, while the ground forces would drop to 60%.²⁵ Such a decision would be politically sensitive internationally and probably be considered threatening by Taiwan, Japan, and countries having territorial disputes with China in the South China Sea. However, it would provide the PLA greater flexibility in its protection of its maritime claims.

Significantly, a *reduction of one million* from the 2.2 million-strong ground forces (as of 1996, prior to the current round of reductions) conducted over the next 12 years

²³If *Wide Angle* is correct (see footnote 13), many of the personnel in these units may already be included in the 500,000 personnel the author has assumed to be considered civilians working for the PLA.

²⁴This number would be consistent with Willy Wo-Lap Lam's earlier estimate.

²⁵According to *Jane's Defence Weekly*, "Rapid Deployment Key to PLA Modernization," April 15, 1998, the 31st Group Army in Nanjing Military Region has three infantry divisions capable of amphibious operations.

would have no adverse impact on the PLA's ability to project force beyond their borders. Currently, the PLA can move only a few tens of thousands of troops beyond its borders using air and sealift. With fewer forces, the military budget will be able to stretch farther than it can now. In an important long-term investment for the PLA, more funds could be made available for aircraft and ships suitable for transporting and supplying airborne troops, ground forces, or marines. Remaining troops will be able to undergo more training and receive more modern equipment than they currently do.

The size of PLA combat units will become smaller as newer, more capable weapons and communications and mobility equipment enter the force. There are too many factors, too many types of units, and too many unknowns as to exactly when and what new weapons will be incorporated into the inventory to speculate about the specific size of any tactical unit. However, it is well understood that the basic form of many units will change. As Li Xueyong of the Army Command Academy said at a 1998 "Theoretical Symposium on Characteristics and Laws of Hi-Tech War":

combat forces are bound to become smaller in size but stronger in combat effectiveness. As a result, smaller units are likely to become "comprehensively composed" and capable of fighting bigger battles.²⁶

Though Professor Li was referring to ground force units, the principle he outlines is applicable to other services as well. His reference to "comprehensively composed" units would translate into combined arms units, which organically integrate various service arms so the capabilities of each individual arm complement and enhance the others.

As Chinese military modernization proceeds beyond the first decade of the 21st century, the proportions of naval and air forces can be expected to continue to grow as more resources are shifted away from the ground forces. This trend will reflect a major transformation in the culture of the PLA. No longer will China's security be oriented toward army-dominated continental defense, but rather the PLA will turn its focus outward to its maritime periphery using naval, air, and missile forces.

More Reserves and PAP

Defense of the Chinese mainland from land invasion cannot and will not be ignored by PLA planners. Neither will the PLA's role in domestic stability be forgotten. However, large active duty ground forces may not be the most cost-effective way to perform those missions in the 21st century. For the defense of the mainland from land invasion, a larger reserve force may prove more suitable than a large standing active duty force. For domestic security, PAP forces have been tasked officially by the National Defense Law to safeguard security and maintain the public order.²⁷

²⁶Huang Youfu, Zhang Song, and Zhao Guifu, "Take Note of Trial of Strength on Network, Greet Battlefield Changes—Summary of Theoretical Symposium on Characteristics and Laws of Hi-Tech War," *Jiefangjun bao*, May 5, 1998, in FBIS-CHI-98-154, June 3, 1998.

²⁷"National Defense Law."

A land invasion of China is unlikely to be a lightning strike or bolt from the blue. Rather, PLA planners can assume a reasonable warning period during which they could mobilize reserve forces to augment the standing army. Even with active duty ground forces numbering less than a million, many units will be located near traditional “avenues of attack” into China and will be able to act in concert with the local reserve and militia forces to trade space for time, utilizing People’s War tactics. New smaller, more mobile ground forces will be able to be shifted from one part of the country to another to reinforce units in an area under attack. (Reserve and militia units will have an important role in supporting active duty forces from other regions once they arrive from their home bases.) Moreover, a more modern air force and mobile missile forces will be able to support the defense of a land attack against the mainland.

According to *Wide Angle*, an April 1998 meeting of the Central Military Commission emphasized the need to expand the reserve forces. After the meeting, the Military Districts were ordered to step up the implementation of plans to build reserve units.²⁸ At present, Chinese reserve forces are estimated to number 1.2 million.²⁹ Much of the equipment and many of the personnel affected by reductions in the ground forces (who do not go to the PAP) in the next decade can be expected to find their way into the reserves. In addition to army reserves, more naval and air force reserve units will be formed as older PLA equipment is retired and their units disbanded. A new form of reserves, similar to the U.S. Individual Ready Reserve, in which officers are centrally managed but not assigned to specific units may also have been instituted in the PLA.³⁰ These soldiers often are specialists used to augment headquarters elements at higher echelons.

Maintaining reserve forces is less expensive than active duty forces—according to *Wide Angle*, one-tenth the cost of an active army division.³¹ Eventually, the reserves could outnumber the total of PLA active duty forces, perhaps up to a total of 2 million if the PLA undergoes another 500,000-man reduction. A larger number of reserves than active duty forces would not be unique to the PLA. In 1997, total numbers of U.S. reserve forces (including National Guard units) were more than 1,449,000, slightly larger than the 1,443,000 on active duty.³²

A larger reserve force also would be able to assist many of the disaster relief and community service missions that the PLA, PAP, and militia are often called to perform. These missions will continue to be an essential role for the armed forces of China no matter what their size and composition. Such missions test the organization and command and control structure of the forces, as well as contribute to the national military objective of “building the nation.”

²⁸Liu Hsiao-hua, “Jiang Zemin Convenes Enlarged Meeting of Central Military Commission.”

²⁹*The Military Balance*, 1997/98, p. 176.

³⁰Thanks to Dr. David M. Finkelstein for providing information on this new type of PLA reserve officer.

³¹Liu Hsiao-hua, “Jiang Zemin Convenes Enlarged Meeting of Central Military Commission.”

³²*Defense 97 Almanac*, Issue 5, p. 23.

As the reserve force grows in size, the requirement for maintaining a large militia force will probably be reevaluated. Much of the existing militia strength would be of questionable military value in a modern conflict, and as more reserve units are established, some militia forces may be eliminated. However, because of the difference in wartime missions between the reserves and militia, the reserves are not envisioned to totally replace the militia. To formally disband much of the militia would appear to be a rational act (to many Western observers), but to do away with the entire militia would be difficult to justify as long as the PLA continues to hold Mao's military thought as the basis for all military strategy. Therefore, in the first decade of the 21st century, the Chinese militia will probably gradually be reduced to a smaller force than exists today, but not eliminated completely.

As the reserves expand, so too will the PAP. Currently the PAP strength is approximately 800,000,³³ and is probably on its way to about one million as the PLA continues its reduction through the year 2000. Once they get rid of their heavy weapons, the PLA's lower readiness disbanded light infantry and artillery units will be well organized and equipped to handle the internal security mission. The units will need specialized training and some specialized equipment in their newly assigned role, but the transition should not be too difficult. Many will likely become rapidly deployable, mobile reaction units.

Strengthening the PAP will make intervention by the active duty PLA less necessary, and therefore less likely, in a future domestic crisis (though always an alternative). Both the PAP and PLA will be able to focus on and train to perform their respective primary missions, rather than spending undue amounts of time on secondary missions. As the PLA becomes more technically advanced and complex, it will become less suitable for domestic security missions and will require specific, intensive training to maintain its proficiency in its mission to defend China from external foes.

Use Existing Weapons to Defeat a High-Technology Enemy

At a size of 3 million, the entire PLA could not be equipped adequately with modern equipment. Even at half that size, equipping the force with weapons of the late 20th century would be a daunting and expensive task. Beijing's decision in the 1980s to selectively equip only a portion of the force with the most modern equipment continues to make sense. The gradual introduction of modern equipment into the force allows for experimenting with how the PLA may best put the new equipment to work, as well as allowing time for doctrine to be developed and disseminated. At the same time, the education and sophistication level of the soldiers, sailors, and airmen has risen and the general mind-set of the PLA has been modified to accept the need for high-technology equipment. This is not a trivial transformation for a military that proudly continues to trace its roots back to a technologically inferior guerrilla force.

³³*The Military Balance, 1997/98*, p. 179; and Liu Hsiao-hua, "Armed Police Force: China's 1 Million Special Armed Troops."

It also prepares the way for the mental shift necessary for naval and air force operations, not land warfare, to be the centerpiece of most future PLA operations.

As new equipment is introduced into the force, the PLA will still retain large numbers of older, lower technology weapons. Excerpts from the 1995 RAND study *China's Air Force Enters the 21st Century* illustrate this fact.

Though new information may revise some of the numbers slightly (see the following paragraph and Table 3), the trend is obvious. The majority of PLA Air Force fighters will be second-generation F-6 and F-7s well into the first decade of the 21st century. Though they may be upgraded with more advanced avionics, engines, and weapons systems, the survivability of these aircraft against the fourth-generation fighters of many potential foes is highly questionable. It will take many years before the proportion of truly modern aircraft outnumbers the older fighters in the inventory.

Table 2
Chinese Fighter Force Projection (excerpt)

Aircraft	Number in 1994	Number in 2005
F-6	2,824	544
F-7	586	919
F-8	205	466
Su-27	26	70

Source: Kenneth W. Allen, Glenn Krumel, and Jonathan D. Pollack, *China's Air Force Enters the 21st Century*, Santa Monica: RAND, MR-580-AF, 1995, p. 163.

Willy Wo-Lap Lam has reported that the fighter force will be reduced to about 1,000 aircraft in the next decade.³⁴ This number is supported by a recent projection by Ken Allen, who estimates that by the year 2010 the numbers of *relatively modern fighters* in the force will be less than 1,000. Table 3 estimates the composition of the “modern” Chinese fighter aircraft force in 2010.

Allen acknowledges that these total numbers may be on the high side. Significantly, more than half of this total figure will be the F-7-III, a modification of the MiG-21, an aircraft first designed in the 1950s. Army, Navy, and Second Artillery units all face similar challenges with the majority of equipment in their inventories.

All estimates of this type are based on imperfect information and are likely to be proven inaccurate in many details over time. However, the general trend indicated above cannot be denied—unless a drastic political decision is made by Beijing to change the priority for funding PLA modernization, the Chinese armed forces will continue to be equipped with older, but modified, equipment well into the 21st century.

Falling back on their Red Army heritage, the senior Chinese military leadership has emphasized that they will have to learn to make do with what they have got by

³⁴Willy Wo-Lap Lam, “More Cuts Planned for Lean, Mean PLA,” *South China Morning Post*, June 25, 1998.

creating new tactics and techniques that will optimally employ their existing weapons to defeat an enemy with high technology weapons. Chen Bingde joins the chorus as he repeats this mantra:

We must focus on defeating a strong and superior force with a weak and backward force . . . our Army still generally must rely on inferior weapons and equipment to defeat enemies with superior weapons and equipment . . . Comrade Jiang Zemin pointed out that we must study strategies and tactics to defeat the enemy with our Army's existing weapons and equipment, especially the strategic concept of fighting a people's war under conditions of high technology.³⁵

Table 3
Chinese Fighter Aircraft in the
Year 2010

Type	Number
F-7-III	480
F-8-II	240
Su-27	128
F-10	30
Total	928

Source: Kenneth W. Allen, "PLAAF Modernization: An Assessment," in James R. Lilley and Chuck Downs (eds.), *Crisis in the Taiwan Strait*, Washington DC: National Defense University Press in cooperation with the American Enterprise Institute, 1997, p. 244.

Units all over the army are investigating ways to implement this directive. A Group Army in the Shenyang Military region attacked the problem with vigor:

They mobilized the masses in launching the activity in which everybody assiduously studied and thought out "a few methods by which the inferior can defeat the superior." Over the past 15 months, everywhere in the barracks there have been fiery scenes of "I offer a stratagem or a method for 'winning a hi-tech war'." From the armies and divisions down to the companies, more than 320 teams, formed to tackle key problems, have been active on the training grounds, staging contest platforms at every level. All people, be they generals or soldiers, have got into action and racked their brains to think up methods for "winning a hi-tech war" and defeating the enemy.³⁶

Their efforts were successful in that they:

have attained more 320 achievements, such as the "mechanized army group's wartime ammunition supply system" capable of raising work efficiency by 108-fold, the "rocket mortar ground-wind allowance automatic measurement and calculation equipment" capable of raising shooting accuracy by 10-fold, and the "tank rapid-warmup system" which raises the capability of mechanized units to set out quickly under bitter cold conditions. They have "grafted" their hi-tech achievements to the

³⁵Chen Bingde, "Intensify Study of Military Theory To Ensure Quality Army Building."

³⁶Zhang Haiping and Liu Shiren, "Army Group Under Shenyang Military Region Starts Mass Training in Science and Technology," *Jiefangjun bao*, May 21, 1998, p. 1, in FBIS-CHI-98-155, June 4, 1998.

existing equipment, inventing more than 120 methods for countering hi-tech weapons of the powerful enemies, such as thermal imaging surveillance and electronic jamming. In the whole army, they are the first to realize a leap from surface to armored cars in terms of “field command automation system.” Given their success in attaining 800-plus achievements and solving 280-plus difficult problems of “winning a hi-tech war,” the mighty mechanized troops can move more quickly and become even stronger in the hi-tech battlefields.³⁷

A significant aspect of this report is that it indicates one element of “using existing weapons to defeat a high tech enemy” simply involves improving the performance of equipment that has been in the inventory for decades. For example, the “rocket mortar ground-wind allowance automatic measurement and calculation equipment” and the “tank rapid-warmup system” probably do not involve great technological innovations. This implies that for many years the PLA’s training on this equipment was performed at less than maximum capability under less than realistic modern battlefield conditions. Had these units actually been training consistently under realistic conditions, they would have confronted and been forced to solve many of these problems much earlier. That such an effort to develop methods to operate their weapons and equipment systems at maximum effectiveness was undertaken only in 1997 says much about the previous state of training in the PLA. On the other hand, the seriousness with which they have applied themselves to overcoming this problem indicates a step up on the ladder of military professionalism.

The same spirit is also being applied in theory to information warfare of the 21st century. It is evident that the PLA has studied assiduously the 1991 Persian Gulf campaign. Nearly all the writings about future battle plans begin with attack on enemy command and control and air defense units:

we should learn to fight an information battle by relying upon existing equipment. After an information battle starts, we should immediately launch an all-round attack on the enemy’s C3I system by relying upon artillery, airmen, and campaign strategic missile units, and dispatch special units to an enemy’s rear . . .³⁸

The untested question is whether such intentions can be successfully executed. So far, most of the techniques and tactics the PLA has developed are the result of academic studies of conflicts involving foreign militaries. There is little indication that the PLA has tested any new techniques they have developed *against actual high technology weapons*. They simply do not have access to the kind of weapons and systems they are seeking to defeat for them to test the effectiveness of their innovations. While they can quantitatively evaluate whether they have improved the effectiveness of their weapons, the PLA cannot be confident that the theoretical methods they have developed to defeat high technology weapons will be successful on a modern battlefield.

Perhaps, the large numbers of existing weapons will best fit into camouflage, concealment, and deception (CC&D) schemes. The vast majority of existing

³⁷Ibid.

³⁸Zhang Deyong, Zhang Minghua, and Xu Kejian, “Information Attack,” *Jiefangjun bao*, March 24, 1998, p. 6, in FBIS-CHI-98-104, April 14, 1998.

weapons in the PLA inventory, even when their capabilities are maximized by equipment modification or employment techniques, simply do not have the range to be used in an offensive manner against many modern high technology weapons systems with long-range target acquisition, stand-off, and precision strike capabilities. As PLA leaders have the opportunity to observe personally modern military capabilities as part of their foreign diplomacy efforts, a telling indicator of their understanding of modern warfare will be if they continue to believe that existing weapons are capable of defeating a high technology foe.

Foreign Imports vs. Local Production

In the 1997 book entitled *The Third-Generation Leadership Group of the Party and the Building of the Quality of Armed Forces*, published by the Chinese Commission of Military Sciences and the Academy of Military Sciences, Chengdu Military Region Commander Liao Xilong states that:

Jiang Zemin has emphasized time and time again that self-reliance should be the key word in strengthening our Army's modernization. Judging by this, in developing its arsenal for cross-century purposes, the PLA will continue to adhere to the principle of mainly relying on self-reliance and drawing on foreign experience to a limited extent. As far as some leading-edge weapons are concerned, in particular, domestic production will be the top priority.³⁹

The balance between self-reliance and foreign import has long been a matter of debate, but appears to have been resolved with the emphasis on self-reliance. Speaking at the macro-planning level, Cao Gangchuan, currently director of the General Equipment Department, is quoted in the book mentioned above when he was Minister of the Commission of Science, Technology, and Industry for National Defense (COSTIND):

Recently, Jiang Zemin pointed out that at present and for some time to come, it would be impossible to improve all the weapons and equipment of the PLA. It is imperative to identify priorities and find out what needs to be done and what can be left aside for the time being. In particular, we must make up our minds to concentrate financial resources, materials, and research resources on the research and development of critical technologies and critical weapons, in order to achieve breakthroughs and innovations . . . On the one hand, we should focus on achieving a breakthrough in key technologies . . . we should set our eyes on the leading edge of science and technology world-wide . . . On the other hand, we should focus on the development of new-generation weapons and equipment. In the scheduling of defense research programs, substantive measures should be taken to strike an overall balance between demand and possibility; as far as financial resources allow, make up our mind to cut non-key projects . . .⁴⁰

These words indicate that hard choices in priorities must be made. The acquisition of limited numbers of a few types of foreign equipment has been approved.

³⁹Kuan Cha-chia, "Military Regional Commanders Express Support for Jiang Zemin, Military Works Out Development Plans for the 21st Century," *Kuang chiao ching*, No. 300, September 16, 1997, pp. 12-17, in FBIS-CHI-97-288, October 15, 1997.

⁴⁰Ibid.

However, the PLA leadership would prefer that most of the new equipment entering the force be of Chinese origin. And, for the most part, that means the majority of the PLA's equipment will still lag behind world standards. Therefore, the PLA leadership has resigned itself to a mix of old and new equipment for the foreseeable future. As Chen Bingde says, the PLA must "energetically explore new methods of operations to make use of the combination of high-, medium-, and low-grade weapons in combat."⁴¹

The ability of the Chinese defense industries to produce advanced weapons and deliver them in large numbers to the forces is debatable. Shenyang Aircraft Corporation is reported to have begun production on the first Su-27 to be assembled from knockdown kits supplied by Russia.⁴² The annual production target is 10–15 aircraft, which will not be achieved for several years. Annual production of the F-8 series fighter is estimated to be about 24 per year and F-7 about 50.⁴³ The F-10 reportedly has recently made its initial test flight; flight-testing could go on for up to two years before it goes into production.⁴⁴ If the F-10 goes into production early in the 21st century, it will probably replace F-7 production at Chengdu. The Allen, Krumel, and Pollack RAND study referenced earlier suggests that China cannot afford more than one full-scale primary fighter development program at any one time.⁴⁵ Thus, it is likely that F-8 or Su-27 production will suffer. Once the F-10 reaches full-scale production, it *could* reach 75 aircraft per year and become the mainstay of the early 21st century PLA Air Force.⁴⁶ However, based on the aviation industry's past experience, a production figure of 75 aircraft a year is a highly optimistic goal, and unlikely to be attained within the first decade of F-10 serial production. In any case, as demonstrated in Table 3 above, it will take many years before the F-10 outnumbers the older F-7s in the PLA Air Force's inventory.

Unless military procurement budgets are drastically increased, total fighter production will be about 100 aircraft per year after the turn of the century. Allen et al. predict a 45% drop in the numbers of the fighter force if existing production rates are continued.⁴⁷ For a point of reference, the Soviet Union at the end of the 1980s produced 575–625 fighters and fighter-bombers, mostly of the fourth-generation represented by the Su-27 and MiG-29.⁴⁸ Thus, a policy of self-reliance in military equipment production will result in a significantly smaller, if technologically improved, force. Production at such a pace can hardly be characterized as "rapid military modernization."

⁴¹Chen Bingde, "Intensify Study of Military Theory."

⁴²"Beijing Builds Su-27 Fighters from Russian Kits," *Jane's Defence Weekly*, June 10, 1998, p. 12.

⁴³John Frankenstein and Bates Gill, "Current and Future Challenges Facing Chinese Defense Industries," *The China Quarterly Special Issue: China's Military in Transition*, No. 146, June 1996, p. 413.

⁴⁴"First Flight for F-10 Paves Way for Production," *Jane's Defence Weekly*, May 27, 1998, p. 17.

⁴⁵Allen, Krumel, and Pollack, p. 165.

⁴⁶Frankenstein and Gill, p. 415.

⁴⁷Allen, Krumel, and Pollack, p. 164.

⁴⁸*Military Forces in Transition 1991*, Washington: Government Printing Office, 1991, p. 23.

A similar situation exists in all the defense industries. Modern equipment is likely to continue to be introduced only gradually to selective units in all services over the next decade or more. Contrary to the desires of the PLA leadership, most truly modern military equipment introduced into the force, with a few exceptions, will be of foreign origin well into the next decade.

The singular important exception to this condition may be strategic, fixed communications. The PLA has benefited, like the rest of China, by the opportunity to skip a generation of hard-wire telephony by moving quickly into optical fiber, mobile, and satellite communications systems. (This sector may be the best, and only(?), example of a real leapfrog in technology.) These advancements will enhance national strategic command and control, but will only improve battlefield communications on the margin. Most of these new systems have yet to be transformed into reliable, survivable, mobile, tactical communications equipment available to the lowest unit level. As the U.S. Army has discovered in its attempts to digitize its tactical operations centers (TOC), the common computer equipment that works well in an office environment requires "huge quantities of power cables and computer connector cables" to operate in the field.⁴⁹ These cables and their electric generators make the U.S. TOCs difficult to move, and unless they are mobile, they are unlikely to survive on a modern battlefield.

Some communications equipment, like beepers, mobile telephones, and hand-held commercial radios, are currently in use in the city and in administrative environments. However, not all of them are applicable for use in the field where conditions are much more harsh and a supporting infrastructure does not exist (such as relays for beepers and cell phones). Some communications systems, such as the Iridium satellite communications system, overcome these obstacles (and will be used by U.S. forces). But these foreign systems are very expensive now, and therefore will probably be only in experimental use in the PLA for the near- to mid-future.

Surprisingly, the PLA leadership appears to be ready to accept this state of affairs. A slow introduction of modern equipment allows for personnel to be trained to operate and maintain it, whenever it arrives. According to *Wide Angle*, Jiang Zemin has set the requirement, particularly for the navy, air force, and Second Artillery, that "we should let qualified personnel wait for the arrival of equipment rather than let equipment wait for qualified personnel to operate it."⁵⁰

One final point related to self-reliance is the PLA's fascination with "secret weapons." The Chinese military literature is replete with references to developing "'secret weapons' that can effectively have the enemy by the throat," as Chief of the General Staff Fu Quanyou wrote in March 1998.⁵¹ These weapons may include methods of attacking information and electronic systems, advanced physics weapons, or low-

⁴⁹Colin Clark, "Key Force XXI Systems Fail Grade," *Defense Week*, June 15, 1998, p. 1.

⁵⁰Kuan Cha-chia, "Military Authorities Define Reform Plan; Military Academies To Be Reduced by 30 Percent," *Kuang chiao ching*, No. 306, March 16, 1998, pp. 8-9, in FBIS-CHI-98-084, March 25, 1998.

⁵¹Fu Quanyou, "Make Active Explorations, Deepen Reform, Advance Military Work in An All-Round Way," *Qiushi*, No. 6, March 16, 1998, pp. 2-6, in FBIS-CHI-98-093, April 3, 1998.

yield tactical nuclear weapons. One problem the PLA may face with this type of weapon is keeping them secret while testing their effectiveness and perfecting methods of employment. Without testing and doctrine for employment, the final military utility of “secret weapons” is problematic.

MODERN CAPABILITIES

Of course, many in the Chinese military are not completely happy with such a strategy of equipment modernization. Instead of setting priorities, some call to do it all at the same time, especially when it comes to weapons and equipment needed for information warfare. Passages such as this in the *Liberation Army Daily* newspaper are not uncommon:

If we take the matter lightly and let the opportunity slip past, we will once again be discarded by history when developed countries have completed their work of building an information army by the middle of the 21st century. The opportunity created by the new military revolution is a chance of a lifetime. Our army enjoys many favorable conditions for informationization.⁵²

The author then goes on to say that “it is quite obvious” that in the reform of the structure of military organizations, equal attention should be paid to firepower, mobility, and the rapid flow of information.⁵³ A big order, but one that seems to cover the priorities in military capabilities the PLA has set for itself. The Chinese military has identified selected systems with the following capabilities as a focus of its equipment modernization program:

- Long-range precision attack
- Air operations
- Naval operations
- Information warfare
- Space operations.

Long-Range Precision Attack

The weapon that first comes to mind with the capability for long-range precision attack is the cruise missile. China has several types of air- and sea-launched cruise missiles, but none is capable of attacking land targets. A land-attack cruise missile must be a high priority for development or acquisition. These weapons will give the navy and air force capabilities needed for several local war scenarios. Over the next decade, new cruise missile-equipped units can be expected to be added to the PLA force structure as existing ones are upgraded with more accurate and powerful versions of weapons in the inventory.

⁵²Wang Baocun, “Talk on Deepening Reform.”

⁵³Ibid.

In the ground forces, precision guided munitions (PGM) can be expected to be distributed to existing artillery and tank units. PGMs will enhance the capabilities of the artillery by their ability to hit discrete targets. Most forms of artillery-delivered PGMs require that the target be designated by a device, such as a laser aimed by personnel on the ground or in the air. Thus, secure, reliable, and rapid tactical communications links between forward observers and firing units are essential. Precision-guided anti-tank rounds can be fired by ground troops, artillery, tanks, or helicopters. Again, communication is as important as the weapons themselves. PGMs will probably first be imported in small quantities, with the eventual goal of mass-production by the indigenous Chinese ordnance industry. Their introduction into the force will require minor structural changes to ensure that the targeting and communications requirements can be achieved.

PLA ground forces are likely to put priority on building helicopter units. Currently only extremely limited numbers of helicopters are found in the force. However, the PLA's command and control, reconnaissance, mobility, and attack capabilities could all be greatly enhanced by additional helicopter formations at lower echelons of the ground forces. A major investment here could prove to be one of the army's most important decisions in shaping the force for the 21st century.

The PLA historically has looked at its strategic missile force as an extension of its conventional artillery, hence the name Second Artillery. Battlefield and strategic missiles are incorporated routinely into battle plans. Given the Congressional investigations that began in the spring 1998 concerning alleged U.S. technology transfers which may have led to improvements in the Chinese missile force, it is unnecessary to mention that the PLA seeks to improve the accuracy of these weapons, both tactical and strategic.

Until the PLA can build a more modern and effective conventional force, the role of cruise and ballistic missiles will become increasingly more important. These two weapons are the PLA's most visible *modern, high technology* weapons and their psychological value will continue to be emphasized for deterrent purposes. It is likely that they, and possibly China's nuclear forces, will increase in numbers gradually in the first decade of the 21st century.

Alastair Iain Johnston writes that some Chinese military strategists may have determined that China ought to upgrade its nuclear force from its current minimal deterrent capability to one capable of "limited deterrence."⁵⁴ To the Chinese, their existing minimal deterrence force requires only the ability to carry out a simple, undifferentiated countervalue second strike. Very few warheads are needed to accomplish this task, and the small number of weapons leaves the force vulnerable to an opponent's first strike.⁵⁵ These analysts advocate that China should instead build a limited deterrence force, capable of limited counterforce warfighting. One Chinese study determined that such a force would be required to:

⁵⁴ Alastair Iain Johnston, "China's New 'Old Thinking'," *International Security*, Vol. 20, No. 3, Winter 1995/96, p. 5.

⁵⁵ *Ibid.* p. 18.

- Strike enemy strategic missile bases and weapons stockpiles, major naval and air bases, heavy troop concentrations, and strategic reserve forces, thus destroying the enemy's strategic attack capabilities;
- Strike at the enemy's theater through strategic political and military command centers and communications hubs, thereby weakening its administrative and command capabilities;
- Strike at the enemy's strategic warning and defense systems;
- Strike the enemy's rail hubs, bridges, and other important targets in its transportation networks;
- Strike basic industrial and military industrial targets;
- Strike selectively at several political and economic centers so as to create social chaos; and
- Launch warning strikes in order to undermine the enemy's will to launch nuclear strikes, and thereby contain nuclear escalation.⁵⁶

A limited deterrence force would be able to respond to any level of attack—from tactical to strategic—with an option appropriate to the scope of the initial attack. One set of Chinese strategists argues that such a force would require:

- A greater number of smaller, more accurate, survivable and penetrable ICBMs;
- SLBMs as countervalue retaliatory forces;
- Tactical and theater nuclear weapons to hit battlefield and theater military targets and to suppress escalation;
- Ballistic missile defenses to improve the survivability of the limited deterrent;
- Space-based early warning and command and control systems; and
- Anti-satellite weapons to hit enemy military satellites.⁵⁷

Johnston concludes that China does not now have the operational capabilities to implement this vision. Rather, this proposal appears to establish a wish list of capabilities from which Beijing must choose within the economic, technological, and arms control constraints the nuclear modernization program faces.⁵⁸ If Beijing made the decision to do so, Johnston assesses *China has the technical capacity to increase the size of its nuclear forces by about two to three times* and to improve its operational flexibility to be better able to execute a doctrine of limited deterrence.⁵⁹

⁵⁶Ibid. p. 20.

⁵⁷Ibid.

⁵⁸Ibid. p. 6.

⁵⁹Alastair Iain Johnston, "Prospects for Chinese Nuclear Force Modernization: Limited Deterrence Versus Multilateral Arms Control," *The China Quarterly*, No. 146, June 1996, p. 548.

However, there is no authoritative evidence to confirm that the senior Chinese leadership has made the political decision to adopt a limited deterrence doctrine or that such a doctrine is being translated into military plans.⁶⁰ The Chinese writings cited above may only be that part of the debate accessible to outsiders. Foreigners simply do not know which theorists have the greatest influence on Chinese decisionmakers and what nuclear doctrine or force structure has been adopted by Chinese warfighters for the 21st century. The move to a limited deterrence force would emphasize the need for a wide array of precision attack weapons and the command, control, communications, computer, and intelligence (C4I) systems necessary to acquire and target long-range weapons.

Air Operations

The primary trend in the development of the PLA Air Force force structure was summed up by its commander Liu Shun Yao as a “switchover of the air force from air defense to combined offensive and defense.”⁶¹ The principal role of the vast majority of the aircraft in the forces has historically been local defense of the Chinese mainland. That is the mission most pilots have trained for, and command and control systems have been designed to support. However, as can be seen from the purchase of Su-27s and the efforts to develop in-flight refueling and airborne command and control capabilities, the emphasis in the past decade has switched to acquiring an offensive-oriented force projection capability. Newer air-to-air missiles and air-launched cruise missiles will be an essential element of this aspect of modernization. The ground-based, logistics support for newer, more offensive-oriented units will grow as weapons systems become more sophisticated. More civilian technicians will probably be needed to keep the modern systems operational. The trend toward larger logistics units also will be found in the other services as the number of high technology systems increase throughout the PLA.

The number of long-range transport units in the force is also scheduled to increase as units dedicated solely to air defense decrease. A larger, long-range air transportation capability is essential as the PLA seeks to improve its strategic mobility. Long-range transport will be necessary to support not only the air force’s operations in various parts of the country, but also ground and naval operations. Because of their cost, these larger aircraft will probably be added to the force incrementally. However, as China’s strategic airlift expands, Beijing must be prepared to explain this, and other modifications in the force structure, to its regional neighbors or risk the inference that these developments threaten China’s neighbors and are destabilizing to the region.

⁶⁰Personal correspondence with Dr. Johnston, May 1998.

⁶¹Kuan Cha-chia, “Military Regional Commanders Express Support for Jiang Zemin.”

Naval Operations

The \$64,000 question is when will the PLA Navy deploy an aircraft carrier? According to the June 3, 1998 issue of *Jane's Defence Weekly*, the answer is "China is prepared to wait until 2020 to have a fully functioning aircraft carrier at sea."⁶² China believes it needs a carrier to complete its naval modernization plans. Currently, it appears that the decision has been made to build one in China rather than buy one from abroad. *Jane's* reports that the Central Military Commission is prepared to wait until the year 2000 to begin a two-year feasibility study on the project, which is then estimated to take 18 years to complete construction, fitting out, sea trials, and training. Funding of \$500 million for the program has not yet been secured.⁶³

If this is the case, then the PLA Navy has more time to incorporate the capabilities that will allow an aircraft carrier at sea to survive beyond the first seconds of a high-intensity exchange. The PLA Navy's shortfalls in air defense and anti-submarine capabilities are well documented, not to mention its shortcomings in logistical support at sea. A decision to delay the introduction of a carrier will allow the PLA Navy time to build the capabilities, train the personnel, and form a battle group to protect a carrier. As a result, additional modern destroyers, frigates, logistics support ships, and submarines are likely to be added to the force before the one high-value, high-profile carrier becomes a reality.

Another PLA Navy deficiency, modern amphibious ships and craft, also can be expected to be a focus of acquisition efforts. These vessels will be particularly important if the decision is made to expand the size of the marine force.

Information Warfare

The precise manner in which information warfare (IW) will affect the PLA force structure is difficult to predict. As *China Electronic News* points out, information warfare is "a style of warfare; it is not a category of war . . . IW has to do with the substance of warfare . . ."⁶⁴ The article divides IW weapons into three types:

1. Weapons that destroy information infrastructure, such as telecommunications systems, electrical power systems, transportation systems, etc.
2. Weapons that use procedures to induce powerful psychological reactions in personnel and control their actions.
3. Weapons that use wireless suppression methods to defeat the enemy's electrical, sonar, or infrared equipment.⁶⁵

⁶²Paul Beaver, "China Will Delay Aircraft Carrier," *Jane's Defence Weekly*, June 3, 1998, p. 26.

⁶³Ibid.

⁶⁴Liang Zhenxing, "China: New Military Revolution, Information Warfare," *Zhongguo dianzi bao*, October 24, 1997, p. 8, in FBIS-CHI-98-012, January 12, 1998.

⁶⁵Ibid.

The Chinese military literature is full of discussions about IW and this article was chosen as only an example. However, it implies that IW capabilities will be added onto, and incorporated into, existing and future forces. It is unlikely that large organizations will be designated specifically as IW units; however, most, if not all, units will have IW missions.

The Chinese often look to “secret weapons” under development by their defense industries to be applicable to IW. According to Chinese theory, these future weapons expand the three dimensional concept of military operations of air, land, and sea to include the additional operational dimensions of electromagnetism and space. A significant portion of research and development efforts has been focused on what are known as “advanced physics weapons,” some of which may have nuclear components. An article in *Contemporary Military Affairs* noted that:

the weapons systems produced by the third military revolution mainly use sound, electromagnetism, radiation, and other destructive means. Operational actions in which armed forces use radiation-damaging energy to strike at the enemy’s electronic equipment, weapons systems, military equipment and personnel, and other military targets are called “radiation combat.” The main radiation weapons are laser weapons, microwave weapons, particle beam weapons, and subsonic wave weapons; they possess enormous military potential.⁶⁶

Significantly, but left unstated in the Chinese article, some weapons used to conduct “radiation combat” may have a nuclear device as an integral component of the weapon. The enhanced radiation warhead (i.e., “neutron bomb”) is the most obvious example. Other weapons, such as electromagnetic pulse (EMP) weapons, may use small nuclear reactions to initiate a powerful secondary effect, such as the local disabling of electromagnetic systems like computers. If such a weapon were to be used, the threshold for the employment of other, more traditional nuclear weapons would become less distinct than it is today. The lowering of the nuclear threshold may be an important unintended consequence of the pursuit of advanced weapons to conduct information warfare in the future.

Space Operations

The Chinese have accepted that space will be an integral dimension of warfare in the 21st century. Generally, operations in space fall into two categories: 1) weapons, including missiles traveling through space or space-based systems that can be used against missiles, satellites, or targets on the surface of the earth, or 2) support to operations, such as communications, global positioning, intelligence collection, and weather systems. Though the criticality of space systems is not disputed, the cost, technical feasibility, and suitability of the whole array of space systems are a matter of debate.

⁶⁶Chen Huan, “The Third Military Revolution,” in Michael Pillsbury (ed.), *Chinese Views of Future Warfare*, p. 396.

Officially, Chinese policy advocates a complete ban on weapons of any kind in outer space.⁶⁷ Based on this policy, the relatively low national priority given to military modernization, and the limited resources likely to be available to the PLA and defense industries, it appears that the most likely course to be pursued will be one concentrating on space-based support operations. Two officers from COSTIND's Command Technical Academy writing in *China Military Science* concluded:

Economically, the development of a space force consisting mostly of information support might is now most economical . . . in the current stage, the technology is advanced and mature enough for building a space force consisting mostly of information support might . . . But building a large-scale space attack force would be very risky technically, as well as exceeding the economic limits of national might.⁶⁸

Space-based systems, as well as the other capabilities discussed above, will all contribute to the PLA's ability to deploy rapidly and conduct joint and combined arms operations. The Chinese military literature and developing doctrine have fully embraced these concepts. To implement them, however, changes will have to be made in existing basing arrangements and command and control structures.

ADJUSTMENTS IN THE COMMAND AND CONTROL STRUCTURE

As long as the PLA is "subject to the leadership of the Communist Party of China,"⁶⁹ one of its military objectives will be to protect the Party. To do so, there will be a need to continue the political commissar system that parallels the operational chain-of-command. At the top of the hierarchical order will be the Central Military Commission (CMC). There is no indication that any major changes to the existing political structure are being contemplated, though some of its manpower may be reduced slightly.

On the other hand, there has been discussion about strengthening the office of the Ministry of National Defense (MND) so that the Defense Minister has institutional power, in addition to his personal power and influence derived mostly from his position on the CMC. One controversial way for this to occur would be to appoint a civilian to be Defense Minister.⁷⁰ Such a decision could be interpreted positively by the international community as a further separation of the PLA from involvement in national politics. It would also resemble the civilian command of the military found throughout much of the world. A civilian Defense Minister would probably focus mostly on the larger issues of national military-political strategy. To do so would require a staff, some of which may be civilian deputies or assistants. The establishment of such a system could assist the Chinese military's foreign diplomacy by creating Chinese counterparts for civilians often found in other nations' defense

⁶⁷ *China's National Defense*, July 1998.

⁶⁸ Ping Fan and Li Qi, "A Theoretical Discussion of Several Matters Involved in the Development of Space Forces," *Zhongguo junshi kexue*, May 20, 1997, pp. 127-131, in FBIS-CHI-97-302, October 29, 1997.

⁶⁹ Article 19, National Defense Law.

⁷⁰ See Willy Wo-Lap Lam, "Proposal to Give Civilian Top PLA Job," *South China Morning Post*, June 1, 1998, Internet Edition.

establishments. The initial difficulty of this proposal would be finding candidates with appropriate experience with defense issues. For the purpose of this analysis, the civilianization of the Defense Ministry will be assumed as well as inserting the MND in the chain-of-command between the CMC and the General Departments.⁷¹

However, the most important changes in the PLA's structure that affect its operational capabilities will be found at the levels of command one and two levels below the General Departments and within the forces themselves. As Chen Bingde has written:

Our Army's command system is still far from meeting the requirements to organize and direct local warfare under the conditions of high technology . . . Our methods in conducting military operations are relatively backward, and our command system remains inefficient. Our reconnaissance, early warning, command and control, and electronics countermeasures capabilities are still relatively weak.⁷²

One method of improving the command system that apparently has been proposed is the reduction of Military Regions from seven to five.⁷³ There appears to be debate about what the five new headquarters will be called—possibly “theaters,” “war zones,” or no change in name. Five “theaters” (used for lack of a better term) could be drawn to logically divide the major strategic directions China must defend:

- The Northeast, oriented toward Russia, Korea, and Japan;
- The Northwest, oriented toward Central Asia and Russia;
- The East, oriented toward Taiwan and Japan;
- The South, oriented toward the South China Sea, Indochina and India; and
- The Central Reserve and Capital Region, primarily used as a holding area from which additional troops can be dispatched to China's four corners, as well as protection of Beijing.

These headquarters are likely to be smaller in size than existing Military Region headquarters, with some current local functions assumed by Beijing. Nan Li writes that these new joint commands will give prominence to the command departments and the battlefield functions of intelligence, decision control, communications and electronic warfare, and fire control and coordination.⁷⁴ As the PLA gets smaller, it may actually be easier to exercise central control and standardization than it has been with larger forces. A true indicator of the PLA's commitment to joint operations would be for the commander of the Eastern or Southern Theaters to be a naval officer or the Central Reserve/Capital Region commander to be an air force officer.

⁷¹However, there was not one reference to the Ministry of National Defense or the Minister of Defense in the 1998 Defense White Paper. Therefore, this assumption may prove to be premature.

⁷²Chen Bingde, “Intensify Study of Military Theory.”

⁷³Hsiao Peng, “Seven Major Military Regions To Be Changed Into Five Major Theaters—A Great Change in PLA Commanding System Is Under Deliberation,” *Sing tao jih pao*, April 15, 1998, p. A4, in FBIS-CHI-98-105, April 15, 1998; and Willy Wo-Lap Lam, “PLA Faces Streamlining of Regions,” *South China Morning Post*, April 16, 1998.

⁷⁴See Nan Li's chapter in this volume.

One way to give the ground force more clout as it suffers the bulk of manpower reductions would be to form an “Army Headquarters” subordinate to the General Staff Department, equal in status to the headquarters of the navy and air force. Army headquarters would be responsible for training, manning, doctrine, and equipment policy for the entire ground force. The General Departments would then be responsible for coordinating the policies and efforts of all the services. If such decisions were taken, then the PLA would appear to be adopting a U.S.-style Joint Staff system. However, the Chief of the General Staff would probably be first among equals at the General Department level, and no position of “Chairman” created. Those chairman duties would be reserved for the CMC.

As mentioned earlier, the PLA during the 500,000-man reduction will experiment with organizational structures. Some headquarters elements will be eliminated. Reportedly, up to 30% of PLA academies may be disbanded.⁷⁵ Within the ground forces, two things will probably occur to accommodate the reduction: 1) Many group armies will lose a division, usually an infantry division, as units are demobilized or transferred en masse to the PAP; and 2) several group armies, perhaps five or six in all, will be eliminated.⁷⁶ The group army headquarters to be disbanded will most likely come from the Shenyang, Beijing, and Jinan Military Regions, where there is a higher density of ground forces than in other parts of the country. In the process of the 500,000-man reduction, some units that survive the elimination of their higher headquarters will be reassigned to other remaining headquarters.

In the past, though group armies have appeared to be under the command of the Military Regions in which they are stationed, local commanders in reality have had only extremely limited authority to move troops. Any unit movement larger than a battalion or any movement outside a regional boundary has to be ordered by the CMC working through the General Staff Department.⁷⁷ Even as ground force units become fewer and more mobile, this rigid control system is unlikely to change.

An important indicator to watch will be whether larger ground force units consolidate their subordinate organic elements closer together to facilitate rapid deployment and combined arms training as units reorganize themselves. Presently, many group armies and divisions are spread over wide areas, with individual regiments often in isolated locations, which slows the time it takes for these units to marshal for deployment and makes routine combined arms training that much harder because of the distance units must travel to operate together. Therefore, it would seem logical that some of the smaller, reorganized combat units will consolidate at railheads or near airfields to improve their rapid response capabilities.

As the number of existing Military Regions is reduced, it will be necessary for naval and air force headquarters to follow suit. Thus, the air force could ultimately end up with five regional air forces corresponding to the “theaters” and the navy possibly could eliminate one fleet headquarters, probably the Northern Fleet, as it basically

⁷⁵Kuan Cha-chia, “Military Authorities Define Reform Plan.”

⁷⁶“Rapid Deployment Key to PLA Modernization,” *Jane's Defence Weekly*, April 15, 1998, p. 32.

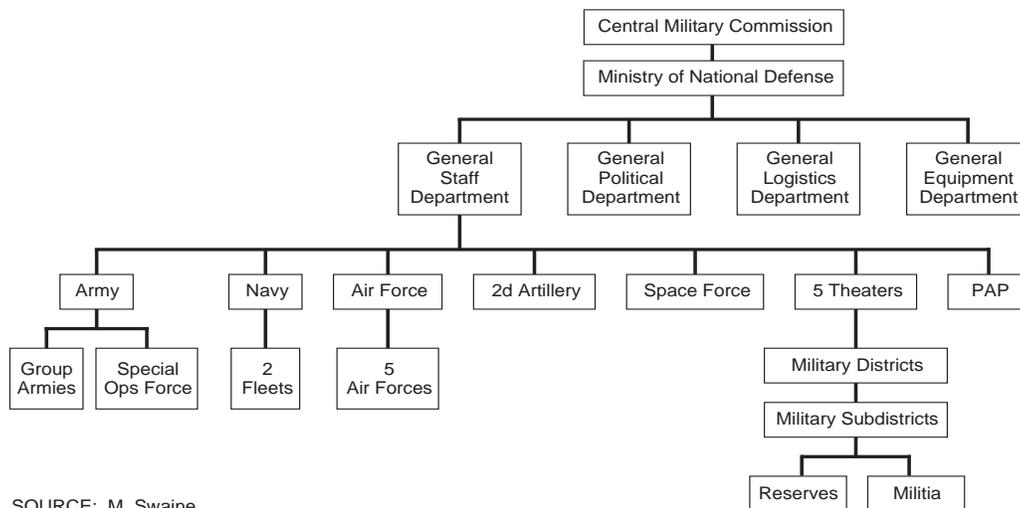
⁷⁷Swaine, *The Military & Political Succession in China*, pp. 122–124.

shifts to an eastward and southern orientation. Elimination of these headquarters will free up personnel slots for reallocation to technical support roles needed to sustain the new equipment entering the forces.

For new capabilities to be properly allotted throughout the forces, contrary to the general trend to reduce headquarters, two new smaller national-level headquarters may be formed: Space Forces and Special Operations Forces. As the PLA's capabilities in these two very specialized functions expand, their operations may become too complex for simple inclusion in existing headquarters. Moreover, these two functions will be involved in any future military scenario, so it seems reasonable for them to be controlled by central headquarters.

The Space Force Command would probably have the status of the other services and rank behind the Second Artillery in order of precedence. It would serve as a centralized location for the integration of communications and intelligence systems that will be essential for the conduct of any military operation. All theater commands will have access to the capabilities of this organization in routine planning and in times of emergency. It will be able to augment the theater headquarters as required.

The Special Operations Forces will be relatively small, composed primarily of ground troops, and could reasonably be subordinated to the new Army Headquarters as long as this headquarters retained the ability to go to the air force and navy for direct support as necessary. These troops can be expected to be the best of the ground forces, tasked with *strategic* long-range reconnaissance and surveillance missions, as well as precision strike at important enemy targets. These units will be separate from, but related to, tactical reconnaissance units found at lower organizational levels. Because of their strategic orientation, political sensitivity, and specialized training requirements, special operations units would best be consolidated at a



SOURCE: M. Swaine

Figure 2—Postulated PLA Command Structure

national level headquarters. The concept of dedicated special operations forces in the PLA is still in its infancy and its development will take time and significant resources.

SUMMARY AND CONCLUSIONS

The Chinese force structure developments speculated in this essay have been based on a straight-line projection of international and domestic security conditions. Major changes in the international or China's internal security situations could result in unforeseen modifications to the PLA to cope better with the new reality at hand.

In summary, these are the major trends foreseen:

- The PLA will be reduced in size to perhaps 1.5 million strong.
 - The percentages of naval and air forces will increase as ground forces decrease.
 - PLA civilians and business operations may be stripped from the active duty rolls.
- The numbers of reserves and People's Armed Police will increase.
- For the foreseeable future, units will have a mix of high-, medium-, and low-technology weapons and equipment and will strive to find ways to maximize the use of their existing equipment to defeat a high-technology enemy.
- The numbers and types of logistics and technical units will increase throughout the force to maintain and support the PLA's modern equipment.
- The Chinese defense industries will be able to produce limited amounts of modern weapons for the PLA, but most truly advanced weapons will be of foreign origin and relatively few in number.
- Rapid deployment of conventional forces will be enhanced through acquisition of transport ships and aircraft as well as by unit consolidation near points of embarkation.
- Naval and air forces will acquire more offensive capabilities and the ability to operate farther from the Chinese land mass, but an operational aircraft carrier capability will not enter the force until at least the end of the second decade of the 21st century.
- Cruise missile, ballistic missile, and nuclear forces will be improved gradually and incrementally and will remain the key to China's deterrent force.
- Changes in the command and control structure will contribute to better integration of forces and capabilities.
 - Several regional headquarters will be eliminated, resulting in five "theater-like" headquarters.
 - A few smaller headquarters will be formed for the Army, Special Operations Forces, and Space Forces.

- Tactical units will be restructured during a period of experimentation.

During the period of reorganization, it is likely that some units will suffer a decrease in effectiveness until all the kinks of the new structure are worked out. Eventually, as modern systems are linked together, the PLA will realize an improvement in overall capabilities. However, they will not be transformed into a force capable of long-range, sustained force projection for several decades to come. Integrating the pockets of modernity into integrated systems will probably be the PLA's biggest challenge. Force structure changes will not solve these problems by themselves. Training, doctrine, and attitudes are the key to systems integration.

Beijing must also contend with problem of how to explain its military modernization to its neighbors and the rest of the world. There are already many misperceptions about the pace and scope of China's military modernization that Beijing has not adequately addressed. For China to achieve its goals by the mid-21st century, it must find a way to inform the world in a credible manner about its national intentions. Any visible improvement in Chinese military capabilities will raise questions, particularly among China's Asian neighbors. The "Defense White Paper" is only part of the answer. Greater Chinese willingness to allow foreigners to observe and understand their forces is essential. When asked, the Chinese must be willing to answer questions, not simply respond with a dismissal of uncomfortable inquiries. Certainly, many details need remain secret, but a greater openness that can be verified through observation would contribute significantly to the perceptions of China's neighbors and other concerned observers.

No nation knows what its military will look like in 2010. This paper is based on no "inside" information and is, at best, only partially informed speculation. Changes in the international or domestic security situations could have major impacts on the future force structure. For example, China may feel compelled to more rapidly expand and modernize its strategic missile force if India builds a nuclear arsenal or if a Theater Missile Defense system is deployed in Japan or near Taiwan. Likewise, extended domestic unrest caused by economic and social change underway in China could force the PLA to reemphasize its secondary mission of ensuring domestic stability. Given these uncertainties, it is essential to monitor the trends identified above to determine how the PLA interprets its environment and translates its perceptions into a concrete force structure capable of achieving its national military objectives in the 21st century.