

8. PLA GROUND FORCES: MOVING TOWARD A SMALLER, MORE RAPIDLY DEPLOYABLE, MODERN COMBINED ARMS FORCE

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Now more than ever, any attempt to define precisely the size, organization, and structure of the People's Liberation Army (PLA) ground forces is bound to be fraught with inaccuracies and end in frustration. The entire PLA has undergone a 500,000-man reduction and presently totals about 2.5 million, down from approximately three million in 1996. According to the Chinese Defense White Paper of 1998, the ground forces have absorbed the bulk of those reductions, amounting to about 19% of its pre-reduction numbers.⁷⁴³ This calculates out to a reduction of about 418,000 personnel, based on a 1996 figure of about 2,200,000 for the ground forces.⁷⁴⁴ At the same time, the ground forces have undergone the most significant reorganization and restructuring in over a decade. The paucity of sources for current, detailed, and accurate information has made monitoring the PLA ground forces during the simultaneous reduction and reorganization over the past three years even more difficult than usual.

The Chinese government has provided only minimal of information on the subject, primarily in its Defense White Papers. The US government, particularly the Department of Defense in a series of congressionally mandated reports since 1997, has provided the public slightly more detailed information, but no comprehensive

⁷⁴¹ The author wishes to thank Ellis Melvin for his unique support in this project.

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⁷⁴³ Information Office of the State Council, the People's Republic of China, *White Paper—China's National Defense*, 27 July 1998. A second Defense White Paper was published in October 2000 and deserves careful reading though it is limited in specific detail.

⁷⁴⁴ International Institute for Strategic Studies, *The Military Balance, 1996/97*, London: Oxford University Press, 1996, p. 179.

examination of the PLA ground forces since 1984.⁷⁴⁵ Because of the need to protect intelligence sources and methods, these recent unclassified reports contain some useful information and analytical conclusions, but omit much information and analysis that could be very helpful to the American public's understanding of Chinese military modernization.

The International Institute for Strategic Studies' annual *The Military Balance* provides generally reliable gross numbers of units and equipment, but may have some important specific inaccuracies and over-counting. The Jane's group of publications is essential for the many details it publishes though they often are reported in a piecemeal manner as new developments are uncovered. Jane's also includes a few very useful analytical articles each year. A number of websites have varying levels of up-to-date and accurate information, but must be used with caution due to their sometimes dubious pedigrees. And finally, a very important source of information to China analysts for well over a decade has been the series of *Directory of PRC Military Personalities*, prepared originally under the supervision of the former US Defense Liaison Office in Hong Kong, and recently by SEROLD Hawaii, Inc. The information found in the *Directory of PRC Military Personalities* is the result of long-time, careful reading of mainland newspapers. Though the *Directory* is used most often to identify PLA personnel, it also contains a wealth of order-of-battle information, though, especially during the reduction and reorganization, it may contain some omissions and double counting of units.

The 50th Anniversary Parade of the PRC held on October 1, 1999, and the accompanying Chinese media coverage, resulted in the best public look at, and description of, much of the PLA's Chinese-made equipment inventory since the last major military parade in 1984. The author has used a combination of all these sources along with personal experience of visiting and observing PLA units and talking with PLA personnel since 1992 as the basis for this essay. What follows will necessarily be only a partial picture of the state of the PLA ground force organization in the year 2000; more changes are certain to follow as additional units continue to reorganize and more information on this aspect of PLA modernization is revealed.

GENERAL STRUCTURE

Traditionally, the PLA ground forces have been organized into a three-tiered structure:

- Main force units, though stationed in specific locales, may be deployed anywhere throughout the country as required;

⁷⁴⁵ In November 1984, the Defense Intelligence Agency released its *Handbook of the Chinese People's Liberation Army*, which included fairly detailed organization charts. No similar extensive study has been made available to the public in over 15 years. Meanwhile, the PLA has undergone at least two major organizational reforms. The 1984 DIA *Handbook* is now useful primarily for historical reference purposes.

- Local or regional forces are primarily responsible for defense of the areas where they are stationed and consist of active and reserve PLA units, as well as People's Armed Police (PAP) units,⁷⁴⁶ which would perform as light infantry; and
- Militia units that would provide combat and logistics support to main and local force units in local defense.

This structure remains functional today. Two of the most important developments since approximately 1984 are the creation of a system of reserve units and the transfer of PLA units into the PAP, which has a secondary mission of local defense against external enemies. Though theoretically important in the defense of the mainland from foreign invasion, the size and role of the militia have diminished over the past 15 years as the PLA's operational orientation and doctrine have shifted to China's periphery.

PLA forces are also categorized according to their readiness and manning levels. Class A or Category One (*jia lei* or *jia xing*) units are at or near full manpower (above 80% of personnel) and capable of deploying without significant augmentation and training.⁷⁴⁷ Class B or Category Two (*yi lei*) units are maintained at 60-80% manning level, may not have certain units in their Table of Organization and Equipment (TO&E) or may have smaller units organic than a comparable Class A unit, and may require additional training and more time to deploy than Class A units. Previously, there were also Class C or Category Three (*bing lei*) units, which were at even lower manpower and readiness levels than Class B units. It is uncertain if any Class C units remain in the active PLA. Entire Group Armies may be categorized as Class A or B; divisions or brigades appear certain to have such classifications. There has been speculation as to exactly which units are categorized as Class A or B, but there is little Chinese-origin data to confirm these estimates.

COMMAND AND CONTROL

Command and control for PLA ground forces originates with the Central Military Commission (CMC), passes through the General Staff Department (GSD), and is exercised through a series of regional and operational headquarters.

Military Regions (*da junqu*)

China is currently divided into seven Military Regions (MR). MRs are administrative headquarters, responsible for the army, air, and naval forces located in

⁷⁴⁶ According to the 1997 PRC Law on National Defense, "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."

⁷⁴⁷ Conversation with PLA officer, May 2000.

several provinces.⁷⁴⁸ Each MR is intended to be commanded by a Lieutenant General, though some are commanded by full Generals.⁷⁴⁹ MR commanders (*siling yuan*) are assisted by several deputy commanders (*fu siling yuan*), including the regional air force commander and naval commander, if naval forces are present within the MR; a political commissar (*zhengzhi weiyuan* or *zhengwei*); and a number of deputy political commissars (*fu zhengwei*).⁷⁵⁰ MR staffs parallel, but are smaller than, the organization of the four General Departments and are overseen by an MR Chief of Staff (*canmou zhang*). Each MR has a headquarters, political department, joint logistics department, and equipment department.⁷⁵¹ The presence of a “joint logistics department” (*lian qin bu*) indicates that this element is intended to provide support to army, naval, and air forces assigned to the region.

MR ground forces consist of Group Armies; independent units that are directly subordinate to MR, Military District, or Garrison headquarters; and local forces and reserve forces under the command of the Military Districts assigned to the MR. The number and types of units under direct control of MR headquarters vary according to the geography and needs (i.e., mission) of each region. Units subordinate to MR headquarters may be divisions, brigades, groups, or regiments of the various ground service arms or branches: infantry, armor, artillery, air defense, army aviation (helicopter), special operations, reconnaissance, engineer, communications, electronic warfare, and logistics support such as motor transport and maintenance.

Under normal conditions, the order to move any but the smallest military units for operational purposes must originate in the GSD at the direction of the CMC.⁷⁵² In time of emergency, it is likely that a temporary operational headquarters (*zhanqu*) would be formed to conduct military operations. This ad hoc wartime headquarters would be formed around the structure of an MR headquarters, but could be augmented, and perhaps commanded, by officers from higher headquarters.

⁷⁴⁸ Responsibilities for the MR, MD, MSD, and PAFD headquarters described in this section are derived from “*Zhongguo wuzhuang lilian*,” [China’s Armed Forces] in *Xiandai Bingqi* [Modern Weapons], March 1994, p. 5.

⁷⁴⁹ Throughout the PLA, all duty positions have a target rank, though in practice the actual incumbent may have a rank one level higher or lower.

⁷⁵⁰ Chinese terminology for duty positions used throughout are derived from *Xiandai Jundui Zhihui* [Command of Modern Armies], Beijing: National Defense University Press, 1993, Appendix 5, pp. 518-522; and *A New English-Chinese Chinese-English Dictionary of Military Terms*, Beijing: Defense Industries Press, 1999.

⁷⁵¹ *Shijie junshi nianjian* [World Military Yearbook], Beijing: PLA Press, 1999, pp. 102.

⁷⁵² Michael Swaine, *The Military & Political Succession in China*, Santa Monica, CA: RAND, 1992, pp. 122-4.

In the 1950s 13 Military Regions were created. Two MRs were eliminated in the late 1960s, and the remaining 11 MRs were reduced to the current seven during the reduction and reorganization that began in 1985 and was completed by 1988.

MR's are named after the city in which their headquarters is located. The seven MRs that exist in 2000 are:

- Beijing MR, consisting of the Beijing and Tianjin Garrisons and the Hebei, Shanxi, and Neimenggu Military Districts
- Chengdu MR, consisting of the Chongqing Garrison and the Sichuan, Xizang (Tibet), Guizhou, and Yunnan Military Districts
- Guangzhou MR, consisting of the Hong Kong and Macao Garrisons and the Hunan, Guangdong, Guangxi, Hainan, and Hubei Military Districts
- Jinan MR, consisting of the Shandong and Henan Military Districts
- Lanzhou MR, consisting of the Shaanxi, Gansu, Qinghai, Ningxia, and Xinjiang Military Districts
- Nanjing MR, consisting of the Shanghai Garrison and the Jiangsu, Zhejiang, Anhui, Fujian, and Jiangxi Military Districts
- Shenyang MR, consisting of the Liaoning, Jilin, and Heilongjiang Military Districts

Military Districts (*sheng junqu*)

The local forces in each province and autonomous region are commanded by a Military District (MD) headquarters. MDs are named for their provinces or autonomous regions; MD commanders (*siling yuan*) are generally Major Generals.

MD commanders are responsible for the local and reserve forces in their province and for mobilization preparations. MD commanders coordinate closely with local government leaders and PAP forces in their area.

Military Subdistricts (*junfenqu*)

Each MD is divided into numerous Military Subdistricts (MSD). MSD areas of responsibility overlay the boundaries of prefectures or cities, which are the size of prefectures (subordinate counties). MSDs generally take the name of their prefecture or city. Like MR and MD commanders, MSD commanders are also known as *siling yuan*.

MSD headquarters are responsible for formulating mobilization plans, organizing conscription, guaranteeing reserve and militia training, and supervising the activities of People's Armed Forces Departments in its area.

People's Armed Forces Departments (*renmin wuzhuang bu* or *renwubu*)⁷⁵³

People's Armed Forces Departments (PAFD) are found at county, city, district, and sometimes work unit level, such as large factory. PAFD are primarily responsible for meeting local conscription quotas, as determined by their higher MSD and MD headquarters. In addition to providing manpower to the military, they also assist in obtaining local material resources for the units in their area and are involved with supporting demobilized soldiers and organizing reserve and militia training. Of necessity, they work very closely with local government and Communist Party officials. As can be seen from the responsibilities of the PAFD, their activities are prone to corruption and abuse.

For 11 years prior to 1996, PAFD were run by local government and wore different uniforms than the PLA. In 1996, PAFD officers returned to the control of the PLA and their officers once again wore PLA uniforms.⁷⁵⁴ This action was likely an attempt to combat corruption in these organizations.

Garrison Headquarters (*weishu qu* or *jingbei qu*)

According to the Chinese Defense White Paper, garrison units in large and medium-sized cities are responsible to "check, inspect and handle cases of infringements of military discipline by military personnel as well as cases of violations of relevant rules by military vehicles." In effect, the primary duty of garrison units is to guard military facilities and maintain order among the troops when they are outside of their military barracks. Soldiers performing garrison duty are often seen patrolling the streets on foot or in vehicles or setting up "military vehicle checkpoints." These soldiers have authority only over members of the PLA and are not involved in the law enforcement activities of the local public security apparatus. In the US Army, these duties are performed by Military Police units and "courtesy patrols" organized by local units.⁷⁵⁵

⁷⁵³ Because of their name "*renmin wuzhuang bu*," PAFD sometimes have been confused with the PAP whose name in Chinese is "*renmin wuzhuang jingcha*" or often shortened to "*wujing*."

⁷⁵⁴ Ting Yi, "People's Armed Forces Establishment Reportedly Returned to People's Liberation Army," in *Ming bao*, 20 March 1996, in Foreign Broadcast Information Service (FBIS) serial HK2703080796, 27 March 1996; Beijing *Xinhua Domestic Service*, "PRC: Beijing Beefs Up People's Armed Forces Departments," in FBIS-CHI-96-212, serial OW3110074296, 1 November 1996.

⁷⁵⁵ Some Chinese, including military officers, refer to the PAP as "military police." Use of this term can cause confusion because the PAP are *not* part of the PLA, though the PAP is one of the three components of the Chinese *armed forces* (with the active and reserve units of the PLA and the militia as the other two components). PLA units that perform garrison duties are more like "military police" in the US sense of the term than the PAP are. The PAP and militia are properly termed paramilitary organizations.

Garrison responsibilities are frequently assigned to operational PLA units or other headquarters units stationed in the area as an additional duty of the local commander.

The separately administered cities of Beijing, Tianjin, Shanghai, and Chongqing, as well as the Special Administrative Regions of Hong Kong and Macao, all have garrison headquarters which have defensive responsibilities beyond those of the military police-type responsibilities of other garrison units and have combat units assigned to their headquarters to provide protection from foreign attack. In border areas, garrison commands also control combat units, such as infantry or artillery divisions or brigades. Many of these units are relatively static and artillery-heavy, intended for local defense.⁷⁵⁶ Similar to other garrison units, they are not involved in the daily enforcement of domestic order; however, under emergency conditions, like other PLA forces they could be ordered to assist the local civilian authorities to maintain internal stability. It is unclear how many combat divisions, brigades or regiments are assigned to garrison headquarters throughout China. These combat units under garrison commands may be categorized as “independent” units in some order-of-battle counts.

OPERATIONAL GROUND FORCE UNITS

Most ground force combat units (infantry, armor, artillery, and air defense) are assigned to Group Armies. Group Armies also have combat service and service support units (engineer, communications, chemical defense, transportation, supply and maintenance, etc.) assigned to them. Some combat units may not be assigned to Group Armies and are considered “independent,” being assigned directly to Military Region, Military District, or Garrison headquarters. As mentioned above, MRs also may have an assortment of combat units and combat service and service support units, such as communications, engineer, bridging, and electronic warfare units. The seven helicopter units known to exist in the PLA ground forces appear to be assigned to both MR and Group Army headquarters depending on local situations. Since the early 1990s, relatively small Special Operations units have been formed in each of the MRs, and are subordinate to MR headquarters. According to Xinhua, the PLA’s first Psychological Warfare Unit was recently formed and is probably assigned to the Shenyang MR.⁷⁵⁷

Group Army (*jituan jun*)

The Group Army (GA) system is the direct lineal descendant of the numbered army corps of the post-Korean War and People’s Liberation Army periods from 1955 to 1985; the Field Army system of the early People’s Liberation Army period from 1946 to 1954;

⁷⁵⁶ Gregory K. S. Man, “Modernizing the Chinese Military,” in *China: A Nation in Transition*, Washington, DC: Congressional Quarterly, 1995, p. 276.

⁷⁵⁷, “Tidbits About China’s First Psychological Warfare Unit,” *Xinhua Hong Kong Service*, FBIS-CHI-2000-0430, 30 April 2000.

the front armies, armies, and corps of the Eighth Route Army period from 1937 to 1945; and the corps and armies of the Red Army period from 1927 to 1930.⁷⁵⁸

Group Armies are commanded by a Major General. In contrast to the appellation *siling* for MR and MD commanders, Group Army commanders are referred to as *junzhang*. This is said to be a sign of respect for the difficult task of direct command of troops.⁷⁵⁹

By 1988, the former 35 infantry corps were reduced to 24 Group Armies. The structure of Group Armies varied greatly, but basically they were corps-sized combined arms units, consisting roughly of:⁷⁶⁰

- Three infantry divisions
- A tank division or brigade
- An artillery division or brigade⁷⁶¹
- An antiaircraft artillery (AAA) division or brigade⁷⁶²
- A communications regiment
- An engineer regiment
- A reconnaissance battalion
- Possibly a pontoon bridge regiment and/or an anti-chemical regiment
- Other combat service support units, such as transportation and medical units
- In a few cases, a helicopter unit (called a group)⁷⁶³

⁷⁵⁸ See Appendix D of Swaine, *The Military & Political Succession in China*, p. 243, for a chart of the “Evolution of the Field Army System, 1927-1992,” which defines these periods and identifies the heritage of the Group Armies.

⁷⁵⁹ A PLA officer has told the author that reaching the level of GA or MD commander is very important to Chinese officers. After they attain that level, officers may retire with the benefits of salary, housing, automobile and driver, office space, etc. Below that level, officers are demobilized and do not receive similar benefits.

⁷⁶⁰ The structure for Group Armies is based on extrapolations from the series of *Directory of PRC Military Personalities*.

⁷⁶¹ Artillery divisions or brigades are likely to have anti-tank artillery or missile units assigned. One specific anti-tank missile brigade has been identified belonging to the 16 GA in the Shenyang MR.

⁷⁶² A very few ground force AAA units have received short-range, mobile surface-to-air missiles (SAM) to become mixed air defense units. The PLA Air Force (PLAAF) has the majority of SAM units found in the PLA, as well as large numbers of larger caliber AAA guns.

⁷⁶³ Some articles have said Group Armies have “airborne” units. Reconnaissance battalions and companies in the ground forces, as well as the newly formed Special Operations Forces, are likely to be trained in parachute insertion. However, the primary “airborne” unit in the PLA is the PLA Air Force’s 15th Airborne

Depending on their location, mission, and readiness category, some GAs could have had one or two additional (or fewer) divisions, no tank units, more or less artillery or AAA units, etc. Gross manpower totals for a Group Army have ranged from about 45,000 to 60,000 personnel.

The 24 Group Armies were assigned among the seven MRs. Until the late 1990s, Beijing MR had six GAs, Chengdu MR had two, Guangzhou MR had two, Jinan MR had four, Lanzhou MR had two, Nanjing MR had three, and Shenyang MR had five. The majority of the Group Armies were deployed in garrison locations along major avenues of approach into China from the former USSR and Mongolia. Nearly half of the GAs were located to protect Beijing and Manchuria from a Soviet attack. The two Group Armies in the Lanzhou MR were positioned to fight Soviet forces after they had traveled great distances fighting local forces and militia through the barren northwest. Jinan MR was considered the strategic reserve, with its four GAs capable in theory of moving to reinforce units in the north, west, or south. Only three GAs were located along the coast opposite Taiwan (two in Nanjing MR and one in Guangzhou MR). During the 500,000 man reduction from 1996 to 2000, three GA headquarters were eliminated, one each in the Beijing, Jinan, and Shenyang MRs.

Currently, the structure of Group Armies is changing. Many, if not all, have lost one or more infantry divisions through deactivation, resubordination, or downsizing. Others may gain units or equipment from deactivated headquarters. Some GAs are experimenting with transforming divisions to brigades. At the same time, new equipment is being introduced into the forces and older equipment retired, both of which could have an impact on force structure. Other changes are bound to result from the PLA's adoption of the doctrine of fighting "Local War Under Modern High Technology Conditions" in the past few years. The variable TO&Es of Group Armies of the past decade appear to be even more variable now.

Division (*shi*)

Over the past several decades the principal combat units of the PLA have been its infantry, tank, artillery, and AAA divisions. (Around 1998, the PLA began to call its tank (*tanke*) units "armored" (*zhuangjia*) units to reflect their more combined arms nature.) The traditional structure of an infantry or armored division consists roughly of:

- Three regiments (*tuan*) of the basic combat arm that defines the division, each of which are composed of three battalions (*ying*) and additional support units
- A tank regiment if the division is an infantry division or a mechanized infantry regiment if the division is an armored division (in lower readiness category divisions this unit may be battalion size or not present at all)

Army, which consists of three airborne divisions. Some writers may consider units that have organic helicopter transportation assets as "airborne," whereas in US terminology helicopter-borne operations are termed "air mobile."

- An artillery regiment with a mixture of tube artillery and multiple rocket launcher (MRL) battalions
- An AAA regiment or battalion
- A communications battalion or company (*lian*)
- An engineer battalion or company
- A reconnaissance battalion or company
- A chemical defense company
- A guard company to provide security for division leaders and the command post
- Several combat service support units, such as transportation, supply and maintenance, and medical units⁷⁶⁴

Infantry divisions compose the bulk of the ground forces and have been designated simply as “infantry” divisions⁷⁶⁵ (*bubing shi*), motorized divisions (*motuohua shi*), or mechanized divisions (*jixiehua shi*). Over the past 15 years, nearly all divisions have been equipped with enough trucks to make them road-transportable, increasing their mobility over their foot infantry days. Mechanized divisions are relatively few and are equipped with tracked or wheeled armored personnel carriers (APC) or infantry fighting vehicles. *The Military Balance 2000-2001* counts seven mechanized divisions.⁷⁶⁶ The mechanized infantry units, which are organic to armored divisions, are also equipped with tracked or wheeled armored personnel carriers so that they can keep up with the division’s tank regiments.

Artillery and AAA divisions had slightly different structures and, instead of having regiments directly subordinate to division headquarters, sometimes could be composed of brigades, which are composed of regiments or battalions, along with other

⁷⁶⁴ As an US army attaché stationed in Beijing, the author visited officially and received briefings on four different PLA infantry divisions. Usually division organization was explained by providing only the gross number of regiments, with few specifics about the complete division structure, manpower, and equipment. The information used to outline the basic division structure described above is based on those visits, recent conversations with PLA officers, and tables in the Defense Intelligence Agency, *Handbook of the Chinese People’s Liberation Army*, Washington, D.C.: Defense Intelligence Agency, 1984; and Harlan W. Jencks, *From Muskets to Missiles: Politics and Professionalism in the Chinese Army, 1945-1981*, Boulder: Westview Press, 1982.

⁷⁶⁵ Sometimes the term “infantry” is absent in a unit’s designation and its infantry structure assumed.

⁷⁶⁶ International Institute for Strategic Studies, *The Military Balance, 2000-2001*, London: Oxford University Press, 2000, p. 194. The 2000 *Directory of PRC Military Personalities* also holds seven mechanized infantry divisions: three in the 38th Group Army, two in the 39th Group Army, the 127th Light Mechanized Infantry Division in the 54th Group Army, and the 1st Amphibious Mechanized Division in the 1st Group Army. The 1st Amphibious Mechanized Division is a new designation in 2000.

support units, such as supply and maintenance units. The various types of guns, howitzers, or multiple rocket launchers that composed the artillery divisions would have an impact on the structure of an artillery division. Unlike tank and armored divisions that have artillery and AAA units as part of their organic structure, artillery and AAA divisions would not have organic infantry or tank units.

The size of full strength divisions varies according to division type and the equipment assigned to the unit. The following chart provides gross estimates of manpower assigned to divisions, regiments, and battalions in infantry, armor, artillery, and AAA units. These numbers are approximate estimates only; exact numbers will vary according to the type of unit (for example, motorized or mechanized infantry) and specific equipment assigned:⁷⁶⁷

	Division	Regiment	Battalion
Infantry	12,000-13,000	2,800	700
Armor	10,000	1,200	175
Artillery	5,000-6,000	1,100	275
AAA	5,000	1,000	250

Division commanders (*shi zhang*) are Senior Colonels; regiments are commanded by Colonels; battalions by Lieutenant Colonels; and companies by Captains. Commanders down to battalion level are assisted by deputy commanders, political commissars at regimental level or political instructors at battalion level (*zhengzhi jiaodao yuan*), and headquarters staffs. Company commanders have a deputy company commander and a political instructor (*zhengzhi zhidao yuan*) (or two), but no staff.

During the 500,000-man reduction of 1996 to 2000, several divisions were demobilized (or possibly transformed into reserve units), 14 were reassigned to the PAP,⁷⁶⁸ a few were transferred from one Group Army to another, one was transformed

⁷⁶⁷ See Defense Intelligence Agency, *Handbook of the Chinese People's Liberation Army*, Appendix C, G, J, and K; and Jencks, *From Muskets to Missiles: Politics and Professionalism in the Chinese Army, 1945-1981*, Appendix A. A PLA officer has told the author that "independent" divisions may be larger than those assigned to Group Armies.

⁷⁶⁸ See Dennis J. Blasko and John F. Corbett, Jr., "No More Tiananmens: The People's Armed Police and Stability, 1997," in *China Strategic Review*, Vol. III, Issue 1, Spring 1998, pp. 80-103, for details of the evidence supporting transfer of the 14 PLA divisions to the PAP. Though the majority of these divisions probably were infantry divisions of lower readiness category, there is some evidence that an artillery unit may also have been transferred. The new PAP units can be identified, and distinguished from PLA units and other PAP units, by the four-digit numbers, from 8610 to 8750, assigned to them.

into a second PLA Navy marine unit, and several were downsized to brigade level. Though the following figures can only be considered estimates, a comparison of *The Military Balance 1996/97* (at the beginning of the reduction) with *The Military Balance 2000-2001* (at the end of the reduction) reveals that there were 29 fewer infantry divisions in 1998 than 1996. Of these 29 divisions, 13 can be seen to have been downsized into brigades and 16 eliminated from the active duty PLA ground forces. On the other hand, it appears that two armored units, one division and one brigade, were demobilized. Because of the nature of these numbers, they should be considered indicators of the trends in the reduction and reorganization in the PLA, and not final, definitive order-of-battle figures.

Subordination/ Type Unit	Group Armies Div/Bde	Independent Div/Bde	Local Forces Div/Bde	Total Div/Bde/Total
Infantry Units, 1996	73/0	5/2	12/5	90/ 7/97
Infantry Units, 2000	44/13	5/2	12/5	61/20/81
Armored Units, 1996	11/13	1/0	0/0	12/13/25
Armored Units, 2000	10/12	1/0	0/0	11/12/23

Sources: *The Military Balance, 1996/97*, p. 179; and *The Military Balance, 2000-2001*, p. 194.⁷⁶⁹

According to the US Department of Defense Report to Congress Pursuant to the FY2000 National Defense Authorization Act, as of 1999, "China's ground forces are comprised of some 40 maneuver divisions and approximately 40 maneuver brigades."⁷⁷⁰ (Infantry and armored units are considered "maneuver" elements.) *The Military Balance's* numbers total 72 divisions and 32 brigades for a total of 104 total maneuver units, significantly larger than the Pentagon's figures, which probably are based on more current information.⁷⁷¹ Until the reduction and reorganization within the PLA is

⁷⁶⁹ *The Military Balance* also includes an additional "87 infantry regiments/battalions" as local forces. These could be border defense units or garrison units, but have not been included in the chart for their lack of specificity.

⁷⁷⁰ US Department of Defense Report to Congress Pursuant to the FY2000 National Defense Authorization Act, June 2000.

⁷⁷¹ International Institute for Strategic Studies, *The Military Balance, 2000-2001*, London: Oxford University Press, 2000, p. 194. The author's ground force order-

finished and the Chinese government provides the world with what it heretofore considered “classified information,” any attempt at such “bean counting” will likely contain significant errors.

Brigade (*lu*)

In addition to infantry, armored, artillery, and AAA divisions, for many years the PLA has also had brigades formed around these combat arms. Brigades are commanded by a Senior Colonel and could be composed of several battalions, but with significantly smaller combat service support units than found in divisions. Independent brigades are likely to have regiments as intermediate headquarters between brigade and battalion level. Brigades probably have about one-third to one-half the personnel strength of divisions of that same arm.

The recent experimental shift from divisions to brigades is intended to make PLA combat units more rapidly deployable and flexible. It is likely that divisions that have been downsized to brigades have consolidated their units to one or two centrally located bases in order for them to be able to deployed quickly and train together on a regular basis. In the past, it was not unusual for the subordinate regiments of a division to be stationed along a strip of land up to 100 kilometers long. Such great physical separation between units in the same division would make combined arms training more difficult and expensive, and therefore less likely to occur, than if the units were based more closely together.

As in the past, the exact structure of the new brigades is likely to depend on their location, mission, and readiness level. Variations in TO&E because of different equipment mix is also likely.

In December 1998, the author had the opportunity to visit the 6th Artillery Brigade in Pinggu in Beijing municipality. Previously this brigade was a division and had recently undergone transformation to a brigade structure. The brigade was commanded by a Senior Colonel and was said to be manned by about 340 officers, 220 Noncommissioned Officers (NCOs), and 1700 enlisted men. Its major subordinate units were five battalions, each with 18 guns or rocket launchers.⁷⁷² The brigade was organized as:

- 1st Battalion, 152mm towed gun-howitzers
- 2nd and 3rd Battalions, 130mm towed field guns
- 4th Battalion, 122mm self-propelled MRLs
- 5th Battalion, 120mm self-propelled anti-tank guns

of-battle listing in a following section of this essay accounts for 43 infantry divisions and 19 brigades (not including coastal defense units) and 9 armored divisions and 13 brigades for a total of 84 maneuver divisions/brigades in 2000/2001. Like any attempt to account for details of the PLA’s specific order-of-battle, the author’s numbers are not to be considered authoritative.

⁷⁷² The briefing provided at the 6th Artillery Brigade was the most detailed the author had ever received during visits to PLA units.

The 6th Artillery Brigade is one of several “show-units” in the Beijing area. At the same time, the author was told that another unit normally open to visitors, the 196th Infantry Division near Tianjin, was in the process of being downsized to a brigade and was not accepting visitors.⁷⁷³

Rapid Reaction Units or Forces (*kuaisu fanying budui*)

The creation of Rapid Reaction Units (RRUs) was a major development following the PLA’s doctrinal and organization changes of the mid and late 1980s. The PLA Air Force’s 15th Airborne Corps is the Chinese military’s primary strategic RRU.⁷⁷⁴ The army also has RRUs in each MR, assigned to the Group Armies. Some ground forces RRUs may have national-level responsibilities, but others primarily have local/regional missions.

According to *The Military Balance*, RRU are ready to mobilize in 24 to 48 hours.⁷⁷⁵ RRUs are generally considered to receive the most modern equipment as it enters the force and have greater opportunities for training than other units. The size of RRUs probably varies from battalion up to division level. According to the FY 2000 DOD Report to Congress, “Approximately 14 of [PLA ground force] divisions are designated ‘rapid reaction’ units: combined arms units capable of deploying by road or rail within China without significant train-up or reserve augmentation.”

PLA ground force units are still relatively inexperienced in deploying using aircraft. Aircraft are used for administrative troop deployments and limited resupply into Tibet. Some units have also experimented with moving headquarters elements and troops

⁷⁷³ Other ground force units in the Beijing area open to visitors include the 6th Armored Division, headquartered at Nankou, and the Beijing 3rd Garrison Division, headquartered at Shunyi. Each MR has a certain number of “show units,” which are open to visitors. Visits to these units are highly scripted and controlled, consisting usually of a briefing, at which questions may or may not be asked, a walk through barracks and support facilities, and a series of demonstrations. The demonstrations concentrate on physical training, individual marksmanship and crew drill on various weapons, and squad or platoon level assaults. There is certainly a “Potemkin Village” quality to these units and only limited judgments about the state of PLA training can be made from such visits, though the troops are obviously are well disciplined and in excellent physical shape. The types of drills exhibited at show units are common throughout the ground forces and represent basic skill levels that may be found in other units. However, in order to make an informed assessment of PLA training at higher unit levels, i.e., company and above, it would be necessary for a knowledgeable observer to be allowed extended access to larger scale training exercises. It is worth noting that when the state of US-China relations is good, the PLA increases access to units and the scope of topics that can be discussed with the American visitors during these visits.

⁷⁷⁴ PLA Navy marine units are also designated as RRU.

⁷⁷⁵ *The Military Balance*, 1999-2000, p. 186.

by air. However, large scale air movements, including transportation of the heavy equipment organic to ground force units, have not been reported. Therefore, as the DOD report quoted above states, the most likely form of deployment for RRUs will be by road or rail.

Army Aviation Units/Groups/Regiments (*lujun hangkongbing budui/dadui*)

In the mid-1980s, the Chinese military leadership decided to develop a heliborne (air mobile) capability and formed the Army Aviation Bureau in 1986, with the first operational regiments activated in 1988.⁷⁷⁶ However, the acquisition of helicopters and their deployment into the forces have been relatively limited. Currently, *The Military Balance* assesses the PLA ground forces to have seven helicopter regiments.⁷⁷⁷ The *Directory of PRC Military Personalities* calls helicopter units subordinated to Group Armies “Groups,” and the others that are subordinated to MR headquarters “Regiments.”

The PLA has a combination of helicopters built in China and others purchased from Russia, Europe, and the United States. Estimates of the numbers of helicopters assigned to the PLA ground forces vary. *The Military Balance* counts about 212 of all types; while independent analyst Luke Colton, who has performed several detailed studies of Chinese military helicopters, accounts for approximately 223.⁷⁷⁸ No matter which estimate is used, the number of helicopters assigned to such a numerically large ground force is extremely small, which means that the number of combat units that have had the opportunity to train with helicopter units and become proficient in air mobile operations is very limited.

⁷⁷⁶ “Army Helicopters Overfly Tiananmen Square,” *Xinhua*, in English, 1 October 1999 in FBIS-CHI-1999-0930 for date of formation of the Army Aviation Bureau; and Luke G.S. Colton, “Bamboo Blades: The Rise of China’s Army Aviation,” *Rotor & Wing*, January 2000, pp. 42-47, for date of first Army Aviation regiments.

⁷⁷⁷ *The Military Balance*, 1999-2000, p. 186

⁷⁷⁸ Colton, p. 44. Colton notes that these are numbers of helicopters acquired or built. The actual number of *operational* aircraft may be considerably less, especially for the Blackhawks, which have suffered from lack of spare parts due to the U.S. embargo imposed after the Tiananmen massacre of 1989. In personal correspondence with the author (March 2001), Colton has recently modified the total number of helicopters to 227 aircraft, with some adjustments to the numbers for specific aircraft types.

Helicopter Type	Military Balance	Colton	Helicopter Type
Mi-17	24	24	Mi-17
Mi-171	30	30	Mi-171
Mi-8	30	30	Mi-8
Mi-6	3	12	Mi-6
Z-9/WZ-9 ⁷⁷⁹	73	73	Z-9/WZ-9
SA-342 (Gazelle)	8	8	SA-342 (Gazelle)
S-70 Blackhawk	20	24	S-70 Blackhawk
Z-11	20	12	Z-11
Z-8	4	4	Z-8
		6	AS-332
Total	212	223	Total

Sources: *The Military Balance, 2000-2001*, p. 194; *Rotor & Wing*, January 2000, p. 44.

The presence of the large, Russian-made heavy-lift Mi-6, reported by the Hong Kong press, is not certain, but is certainly possible. According to Colton, the six Eurocopter AS-332 Super Puma are used for VIP transport; the Chinese-manufactured Z-11 is used for training, reconnaissance, and command and control. Colton also reports that China has been developing the Z-10, a new tactical transport/utility helicopter, since 1994 or 1995.⁷⁸⁰

The helicopters listed above must perform a variety of missions: troop transport, attack, reconnaissance, command and control, medical evacuation, electronic warfare, special operations, training, and VIP support. It is likely that most helicopter units have a mix of helicopter types that perform various missions. The size of helicopter units probably varies from about 25 to 30 aircraft per unit. These aircraft must then be shared among the many army units in a particular Military Region.

During the widespread flooding of 1998, PLA helicopter units often were reported to support rescue operations conducted by the PLA, PAP, or local security personnel. This sort of operational employment is very useful for newly formed units. Units probably had to deploy to a forward operating base. The helicopter pilots and crews flew in arduous conditions, unit staffs had to prepare plans much as they would in a combat

⁷⁷⁹ The Z-9 is a licensed-manufactured version of the Eurocopter AS-365N2 Dauphin. "Z" stands for *zhishengji*, helicopter; WZ is *wuzhuang zhishengji*, armed helicopter.

⁷⁸⁰ Luke G. S. Colton, "Making Sense of a Mystery: China's Z-10 Helicopter Program," paper for the 2000 CAPS/RAND Conference, August 4-6, 2000.

situation, refueling problems had to be solved, and supply and maintenance operations had to be accomplished. The wear and tear the helicopters suffered was probably worth the training value of such a deployment.

Special Operations Forces (*tezhong zuozhan budui*)

According to the FY2000 DOD Report to Congress, "Particularly since the 1991 Persian Gulf conflict, the PLA has devoted considerable resources to the development of Special Operations Forces (SOFs). These units apparently are an integral element of ground force modernization and likely have been assigned specific missions or tasks in a variety of Taiwan contingency operations. These missions or tasks could include conducting reconnaissance and surveillance; locating or destroying C4I [command, control, communications, computers, and intelligence] assets, transport nodes, and logistics depots; capturing or destroying airfields and ports; and destroying air defense facilities." Because of China's limited satellite and long-range airborne reconnaissance capabilities, PLA SOF units, if properly trained, equipped, and deployed, could fill an important intelligence gap by performing essential strategic reconnaissance missions, such as post-strike battle damage assessment.

The *Directory of PRC Military Personalities* has identified SOF or special reconnaissance units in all MRs. According to a Chinese source, SOF units may vary in size from 100 to 1000 personnel.⁷⁸¹

Like helicopter units, PLA SOF units are relatively few and small. It is likely that SOF units train closely with helicopter units in the MRs in which they are assigned. SOF units are also likely to be trained to be inserted by parachute. The development of the PLA's special operations capability merits greater attention in the coming years.

REDUCTIONS AND REORGANIZATIONS UNDERWAY SINCE 1996

At the completion of the 500,000-man of the late 1990s, the ground forces of the PLA should number less than 1,800,000.⁷⁸²

A number of methods were used to reduce and reorganize the forces:

- Complete units were totally demobilized with their personnel released from active duty and equipment retired, put in storage, or transferred to other active, reserve, or militia units.⁷⁸³ Many demobilized soldiers are expected to have been assigned

⁷⁸¹ Author's conversation with PLA officer, May 2000.

⁷⁸² Unlike most other armies, the PLA includes its uniformed civilians (*wenzhi ganbu*) in its active duty personnel strength. China has not announced what percentage of the force is civilian, but the author has been told by a PLA civilian that perhaps 20-25% of the PLA's strength could be civilians.

⁷⁸³ When President Jiang Zemin announced the 500,000-man reduction of the PLA in September 1997, he also said the reserves and PAP would be expanded.

to the reserves. The exact number and identification of demobilized units have not been made public, nor has the number of new reserve units been announced.

- Complete units, or major portions of units, were transferred to the PAP. Fourteen PLA divisions are believed to have been transferred to the PAP since 1996. Equipment not needed in the PAP could be retired, put in storage, or transferred to the reserves or militia.
- Subordinate elements of demobilized headquarters and units were transferred to other ground forces headquarters.

At least one unit was transferred to another service in the PLA. One former PLA division in the Guangzhou MR is reported to have been transformed into a second marine brigade in the PLA Navy.⁷⁸⁴ Many divisions were downsized to brigades.

As mentioned earlier, three Group Army headquarters were disbanded during the reduction: 28th GA in Beijing MR, 67th GA in Jinan MR, and 64th GA in Shenyang MR. Though many units subordinate to these GA headquarters were demobilized or transformed into PAP and reserve units, some elements of these Group Armies remained active and were transferred to other ground force headquarters.

Group Armies do not appear to have been completely standardized. Many seem to be moving toward a structure of two infantry divisions or brigades, an armored division or brigade, and a variety of artillery and support units similar to their previous structure. The specific organization of the Group Armies will be task-organized according to location, mission, and equipment available. They also appear to be increasingly organized for combined arms operations and rapid deployment.

GROUND ORDER-OF-BATTLE SPECIFICS

Listed below are the details as best can be deduced of the major combat units assigned to each Military Region and Group Army. Units included are infantry, armored, artillery, AAA, air defense, army aviation (helicopter), special operations/reconnaissance, and electronic warfare units. Combat support and combat service support units, such as engineers, communications, chemical defense, and transportation, are not included for the sake of simplicity.

Whenever possible, unit type and designators (such as 6th Artillery Brigade), honorific designator if known (such as Red Army Division), military unit cover designators (MUCD),⁷⁸⁵ and location are listed.

The primary sources for this listing are the *Directory of PRC Military Personalities, October 1999* and *Directory of PRC Military Personalities, October 2000*,

⁷⁸⁴ Conversation with US official, May 2000.

⁷⁸⁵ MUCD (*junshi danwei daihao*) are five-digit numbers assigned to units of regimental and higher level. They are similar to unit-specific zip codes. Though there is a system for their assignment, the numerous reorganizations over the years have greatly complicated the system. In October 2000, the MUCD system that had been used for decades was changed. All MUCDs in this paper are from the old, pre-2000 system.

with adjustments made according to additional material provided by Ellis Melvin, the author's experience, and discussion with PLA officers. The Chinese website <http://cqch.com.cn/zgjs/jtj.htm> was used for a few specific unit designations not included in the *Directory*.

Because of continuing reorganizations and experimentation, and uncertainties and gaps in the database, this listing cannot be considered authoritative, but the best guess possible.

Beijing MR

Five Group Armies are located in the Beijing MR: the 24th with headquarters in Chengde, 27th in Shijiazhuang, 38th in Baoding, 63rd in Taiyuan, and 65th in Zhangjiakou.⁷⁸⁶

The 28th GA headquarters (formerly the 51361 Unit) in Datong has been disbanded, along with its AAA brigade (former 51363 Unit). The 28th's armored division (the 52875 Unit) appears to have been downsized to a brigade and may be an independent unit subordinate to MR headquarters.⁷⁸⁷ An infantry brigade, which was previously a division (51366 Unit), and artillery brigade (51379 Unit) of the 28th been resubordinated to the 63rd GA.

The Central Guard Unit (57003 Unit),⁷⁸⁸ responsible for the security of senior government, party, and military leaders, has several barracks in central Beijing and in northwest Beijing near the Western Hills. The Central Guard Unit is not subordinate to Beijing MR headquarters, but reports to the CMC through the GSD.

The Beijing Garrison and Tianjin Garrison are subordinate to Beijing MR headquarters and have more combat units than most other garrison headquarters. The Beijing Garrison has two subordinate divisions: the 1st Garrison Division that performs guard duties for the many PLA headquarters in the city and "courtesy patrol" duties to maintain order among the troops when they are out of their barracks, and the 3rd Garrison Division, which is structured for external defense and is composed of three infantry regiments, an armor regiment, an artillery regiment, and an AAA regiment. The 11th Regiment of the 3rd Garrison Division, located in Huairou northeast of Beijing, is open to foreigners. The 196th Infantry Brigade, in Yangcun near Tianjin, of the Tianjin Garrison is also open to foreigners.

The *Directory of PRC Military Personalities* lists an unidentified armored division of the 24th GA in Tangshan, which is just to the northeast of Tianjin. It likely

⁷⁸⁶ GA headquarters are in the cities identified; some GA elements, usually combat support and combat service support elements, and perhaps a maneuver division, may also be located in or near the GA headquarters city. The remaining GA elements are located in nearby cities, usually in the same province.

⁷⁸⁷ *Directory of PRC Military Personalities*, October 2000, p. 159.

⁷⁸⁸ Jencks, *From Muskets to Missiles*, p. 139. The predecessor to this organization was the 8341 Unit.

that this division is actually the 1st Armored Division, which is located east of Beijing in the northern part of Tianjin municipality near Tangshan.

The 27th GA's former 81st Division in Tianjin has been transformed into a PAP unit.⁷⁸⁹

The MR's helicopter unit is subordinate to the 38th Group Army in Baoding. The MR Special Operations unit is located in northwest Beijing.

24GA (52831 Unit), Chengde, Hebei

70 Division

71 Division (Either the 70 or 71 division is likely to be the 52824 Unit)

1 Armored Division, northern Tianjin municipality

Artillery Brigade (51403), Changli, Hebei

AAA Brigade (51404), Qinhuangdao, Hebei

27GA (51002 Unit), Shijiazhuang, Hebei

Unidentified (UI) Motorized Infantry Brigade (51014 Unit)

Armored Brigade (51409 Unit)

Artillery Brigade (51410 Unit), Handan, Hebei

AAA Brigade (51411 Unit), Shijiazhuang, Hebei

38GA Mechanized (51034 Unit), Baoding, Hebei

112 Mechanized Infantry Division (51033 Unit), Xinsheng, Hebei

113 Mechanized Infantry Division (51036 Unit), Baoding, Hebei

114 Mechanized Infantry Division, Taihangshan, Hebei

6 Armored Division (52884 Unit), Nankou, Beijing

6 Artillery Brigade (52962 Unit), Pinggu, Beijing

Air Defense Guided Missile Brigade (52966 Unit)

Helicopter Group (51356 Unit), Baoding, Hebei

63GA (52935 Unit), Taiyuan, Shanxi

188 Motorized Infantry Brigade (52941 Unit), Xinzhou, Shanxi

UI Infantry Brigade (51366 Unit) (resubordinated from 28GA)

UI Infantry Brigade (51384 Unit)

Armored Brigade, Yuncheng, Shanxi

Artillery Brigade (51379 Unit), Xiaoyi, Shanxi (resubordinated from 28GA)

AAA Brigade (probably 51296 Unit in Taiyuan, Shanxi)

65GA (51056 Unit), Zhangjiakou, Hebei

193 Division ("Red 1st Division") (51052 Unit), Xuanhua, Hebei

UI Motorized Infantry Brigade (51396 Unit)

⁷⁸⁹ *Directory of PRC Military Personalities*, August 1997, p. v.

Armored Brigade
 Artillery Division (52973 Unit), Huailai, Hebei
 AAA Brigade (52968 Unit), Zhangjiakou, Hebei

Beijing Garrison

1st Garrison Division
 3rd Garrison Division (51116 Unit), Shunyi

Tianjin Garrison

196 Infantry Brigade (52854 Unit), Yangcun, Tianjin municipality

Other Units Subordinate to MR

UI Armored Brigade
 Special Operations Dadui (51425 Unit), northwest Beijing

Chengdu MR

Two Group Armies are located in the Chengdu MR: the 13th GA in Chongqing and the 14th GA in Kunming. The units subordinate to the Chongqing Garrison have not been identified. The 1999 *Directory of PRC Military Personalities* did not explain why five border defense regiments, two artillery regiments, and an AAA regiment, which were listed in the 1998 *Directory*, were not included in the latest edition. Instead, only two brigades are listed in Tibet in 1999 and 2000.

The 14th GA's former 42 Division has been transferred to the PAP as the 8750 Unit. Although some sources include a helicopter unit subordinate the 13th GA, the *Directory of PRC Military Personalities* lists the region's helicopter unit as subordinate to the Military Region.

13GA (56005 Unit), Chongqing

37 Division (56013 Unit), Chongqing
 149 Motorized Infantry Division (56016 Unit), Emei, Sichuan
 Armored Brigade (56017 Unit), Pengzhou, Sichuan
 Artillery Brigade (56014 Unit), Chongqing
 AAA Brigade (56018 Unit), Mianyang, Sichuan

14GA (35201 Unit), Kunming

40 Division (35108 Unit), Dali, Yunnan
 49 Division (35208 Unit), Kaiyuan, Yunnan
 Armored Brigade (35221 Unit)
 Artillery Division (35304 Unit), Kunming, Yunnan
 AAA Brigade (35220 Unit), Kunming, Yunnan

Chongqing Garrison

Other Units Subordinate to MR

Army Aviation Regiment (58306 Unit)

“Cheetah” Special Operations Group (56294 Unit)
 Electronic Warfare Regiment (56106 Unit)
 UI Mountain Infantry Brigade (56021 Unit), Nyingchi, Xizang
 UI Mountain Infantry Brigade (56023 Unit), Xizang

Guangzhou MR

Two Group Armies are located in the Guangzhou MR: the 41st GA in Liuzhou and the 42nd GA in Huizhou. The former 164 Division (53508 Unit) in Zhanjiang is reported to have been transformed to become the second PLA Navy marine brigade.

The Hong Kong Garrison’s organization was well defined during the period before and after Hong Kong’s reversion to PRC sovereignty in 1997. The garrison is commanded by a Major General and is a joint force about 10,000 strong, composed of an infantry brigade, naval unit, and a PLA Air Force helicopter unit. A logistics support base for the garrison is located in Shenzhen. Only about 4,000 troops are present in Hong Kong at any one time, as elements rotate back and forth among its barracks’ locations in Hong Kong and across the border in Guangdong.

The Macao Garrison consists of about 500 personnel and is also commanded by a Major General. It is primarily an army unit, but has small contingents of PLA Air Force and Navy personnel. The unit is made up of an armored infantry (mechanized) company, motorized infantry (truck-mobile) company, a guard and reconnaissance unit, a communications unit, and other headquarters elements. On December 20, 1999, upon Macao’s reversion to PRC sovereignty, ten wheeled armored vehicles and about 60 other trucks and vehicles entered Macao. The Macao Garrison’s infantry and guards and reconnaissance units were transferred from the Hong Kong Garrison. Just as the Hong Kong Garrison as a logistics base outside of the Special Administrative Region, the Macao Garrison has a logistics support base in Zhuhai.⁷⁹⁰

In addition to the PLA Air Force helicopter unit assigned to the Hong Kong Garrison, an army helicopter unit is assigned to the Guangzhou MR.

41GA (53010 Unit), Liuzhou, Guangxi

121 Infantry Division (53013 Unit), Guilin, Guangxi
 123 Division (53023 Unit), Guigang, Guangxi
 Armored Brigade (53063 Unit), Guilin, Guangxi
 Artillery Brigade (53061 Unit)
 AAA Brigade (53062 Unit)

⁷⁹⁰ “PLA Macao Garrison, Picked Unit” *Ta kung pao*, 14 November 1999, in FBIS-CHI-1999-1206; “Chinese Troops Enter Macao to Take Up Defense Duties,” “Backgrounder”: Armored Infantry of PLA Macao Garrison,” “Backgrounder”: Macao Garrison Motorized Infantry Unit,” and “Backgrounder”: Macao Garrison Guard, Reconnaissance Unit,” *Xinhua* in English, 20 December 1999, in FBIS-CHI-1999-1220.

42GA (53200 Unit), Huizhou, Guangdong

124 Motorized Infantry Division (53203 Unit), Boluo, Guangdong
 144 Division (53503 Unit), Shantou, Guangdong
 UI Division (53806 Unit)
 Armored Brigade (53263 Unit), Huadu, Guangdong
 Artillery Division (53802 Unit), Qujiang, Guangdong
 Air Defense Brigade

Hong Kong Garrison (53300 Unit)

Logistics Base (53310 Unit), Shenzhen
 Infantry Brigade (53320 Unit)
 Naval Dadui (38081 Unit)
 Helicopter Regiment (PLAAF) (39968 Unit)

Macao Garrison**Other Units Subordinate to MR**

UI Division, Hainan
 Army Aviation Regiment (54489 Unit)
 Special Operations Dadui (54488 Unit), Guangzhou, Guangdong
 Electronic Warfare Regiment (54468 Unit)
 Technical Rapid Reaction Unit (53180 Unit)

Jinan MR

Three Group Armies are located in the Jinan MR: the 20th GA in Kaifeng, the 26th GA in Laiyang, and the 54th GA in Xinxiang. The 67th GA headquarters (54862 Unit), in Zibo, Shandong, has been disbanded. The 67th's 199 Division (54871 Unit) in Zhoucun, Shandong has been resubordinated to the 26th GA, as other former 67GA units may have been.

The *Directory of PRC Military Personalities* holds the helicopter unit in Xinxiang as possibly subordinate to the GSD; other sources list it as being subordinate to the 54th GA, whose headquarters also is located in Xinxiang. In either case, it is likely that this helicopter unit trains primarily with 54th GA units.

20GA (54631 Unit), Kaifeng, Henan

58 Motorized Infantry Brigade (54642 Unit), Xuchang, Henan
 UI Motorized Infantry Brigade (54650 Unit)
 11 Armored Brigade (54674 Unit), Zhumadian, Henan
 Artillery Brigade, Kaifeng, Henan
 AAA Brigade (54635 Unit), Shangqiu, Henan

26GA (54685 Unit), Laiyang, Shandong

137 Division
 199 Division ("Red Army Division")(54871 Unit), Zibo, Shandong
 (resubordinated from 67GA)

UI Division (54691 Unit)
 UI Motorized Infantry Brigade, Tai'an, Shandong
 Armored Division/Brigade, Laiyang, Shandong
 Artillery Division
 AAA Brigade (54762 Unit), Qingdao, Shandong

54GA (54774 Unit), Xinxiang, Henan

127 Light Mechanized Infantry Division (54784 Unit), Luoyang, Henan
 UI Motorized Infantry Division (54854 Unit), Anyang, Henan
 UI Motorized Infantry Brigade
 Armored Brigade (54771 Unit), Zhenping, Henan
 Artillery Brigade (54772 Unit), Luoyang, Henan
 AAA Brigade (54773 Unit), Zhengzhou, Henan

Units Subordinate to MR

Army Aviation Regiment, Xinxiang, Henan
 Special Operations Dadui
 Electronic Warfare Regiment

Lanzhou MR

Two Group Armies are located in the Lanzhou MR: the 21st GA in Baoji and the 47th GA in Lintong. In addition to these two Group Armies, there are several independent divisions and brigades in the vast western expanses of China.

An unidentified division in Xinjiang (the 36131 Unit) is believed to have become the PAP 8660 Unit. The 47th GA's former 139 Division also has probably been transformed into the PAP 8670 Unit.

21GA (84810 Unit), Baoji, Shaanxi

UI Division (84801 Unit), Zhangye, Gansu (possibly undergoing change in status)
 61 Division ("Red Army Division")(84802 Unit), Tianshui, Gansu
 62 Motorized Infantry Brigade (84808 Unit), Wuwei, Gansu
 12 Armored Division (84701 Unit), Jiuquan, Gansu
 Artillery Brigade (84830 Unit), Changshantou, Ningxia
 AAA Brigade (84506 Unit), Jiuquan, Gansu

47GA (84870 Unit), Lintong, Shaanxi

UI Division (84803 Unit)
 141 Division
 Armored Brigade (84850 Unit), Chengzhou, Shaanxi
 Artillery Brigade (84860 Unit), Miaobaozhen, Tongchuan, Shaanxi
 AAA Brigade (84807 Unit), Pucheng County, Shaanxi

Units Subordinate to MR

Red Army Division (36101 Unit), Xinjiang MD
 UI Highland Motorized Division (36220 Unit), Karakorum Mountains⁷⁹¹
 8 Infantry Division (36146 Unit), Qiaziwan, Shawan, Xinjiang
 UI Armored Division, Nanjiang, Xinjiang MD⁷⁹²
 UI Artillery Brigade (84504 Unit), Qinghai
 Helicopter Regiment, Xinjiang MD
 Special Operations Dadui (84835 Unit), Qingtongxia, Ningxia
 ECM Regiment (84598 Unit), Lanzhou, Gansu

Nanjing MR

Three Group Armies are located in the Nanjing MR: the 1st GA in Huzhou, 12th GA in Xuzhou, and the 31st GA in Xiamen. The 1st GA's former 2 Division (83016 Unit) probably was transferred to the PAP to become the 8690 Unit. The division from the 31st GA apparently has been redesignated the PAP 8710 Unit.

Many units in this MR are trained and equipped for amphibious warfare. An amphibious armored brigade has been identified in the 31st GA. The 2000 *Directory of PRC Military Personalities* identifies a "Hi-Tech Regiment" (32532) subordinate to the 31st GA. The 2000 *Directory of PRC Military Personalities* also identifies for the first time a helicopter unit in the MR, which is assumed to have been operational for several years.

1GA (83011 Unit), Huzhou, Zhejiang

1 Amphibious Mechanized Infantry Division (83013 Unit), Hangzhou, Zhejiang
 UI Motorized Infantry Brigade⁷⁹³
 Armored Division
 Artillery Division
 Air Defense Brigade

⁷⁹¹ The web page www.plamilitary.com/army/deployment.html provides the designator 11th for the "Highland Motorized Division." The web page also identifies the 4th, 6th, and 8th motorized infantry divisions. This source also notes two independent regiments, 10 border defense regiments, and an additional artillery and AAA brigade greater than what is listed above. This web page, however, may not have taken into account some of the recent reorganization and structural changes of the past few years.

⁷⁹² This unit was newly identified in the 2000 *Directory of PRC Military Personalities*.

⁷⁹³ This unit may be downsized from the former 181 Division (83318 Unit) in Wuxi.

12GA (83226 Unit), Xuzhou, Jiangsu

35 Division, east Anhui

36 Division (83235 Unit), north Jiangsu

179 Motorized Infantry Brigade ("Linfen Brigade")(83123 Unit), Nanjing, Jiangsu

UI Motorized Infantry Brigade⁷⁹⁴

2 Armored Division (83567 Unit), Xuzhou, Jiangsu

Artillery Brigade (83230 Unit), Xuzhou, Jiangsu

AAA Brigade (83422 Unit), north Jiangsu

31GA (32404 Unit), Xiamen, Fujian

91 Motorized Infantry Division

Amphibious Armored Brigade (32407 Unit), Changtai, Fujian

Artillery Brigade, Quanzhou, Fujian

Air Defense Brigade (32525 Unit)

Shanghai Garrison

UI Coastal Defense Brigade (83304 Unit)

UI Coastal Defense Brigade (83318 Unit)

UI Coastal Defense Brigade (83330 Unit)

Other Units Subordinate to MR

UI Division (32430 Unit), Quanzhou, Fujian

UI Coastal Defense Division (32833 Unit), Fujian MD

UI Coastal Defense Division, Fujian MD

UI Coastal Defense Brigade, Fujian MD

Helicopter Regiment (83627 Unit)

Special Operations Dadui (83423 Unit)

Shenyang MR

Four Group Armies are located in the Shenyang MR: the 16th in Changchun, 23rd in Harbin, 39th in Liaoyang, and the 40th in Jinzhou. In the mid-1990s, the 39th's headquarters was moved from Yingkou to its current location in Liaoyang.

The 64th GA headquarters (81065 Unit) in Dalian has been disbanded. Like the 39th GA, in the mid-1990s, the 64th's headquarters moved from Benxi to Dalian. The 64th's 190 Mechanized Infantry Division (81233 Unit) has been resubordinated to 39th GA, while its 191 Motorized Infantry Brigade (81242 Unit) in Dandong is still active. The status of the remaining elements of the 64th GA is unknown.

⁷⁹⁴ This unit was newly identified in the 2000 *Directory of PRC Military Personalities*.

Farther to the north, the 23rd GA's 67 Division (81134 Unit) in Mudanjiang and the 68 Division (81145 Unit) in Qiqihar may have been disbanded or transformed into brigade(s).⁷⁹⁵ The 2000 *Directory of PRC Military Personalities* notes that the 16th GA's 47 Division (81112 Unit) in Jilin City, Jilin has been transferred to the reserves.

The 40th GA's 120 Motorized Infantry Brigade (81222 Unit), Xingcheng, Liaoning was transferred to the PAP as the 8620 Unit. This PAP unit was probably involved in controlling civil unrest in the area in early 2000. The 39th GA's 117 Division also was transferred to the PAP as the 8610 Unit.

Like the 38th GA in the Beijing MR, the helicopter unit of the Shenyang MR is subordinate to a Group Army headquarters, the 39th GA. The presence of helicopter units in these GAs is an indication of the priority given these two GAs by the PLA leadership.

One source lists a second MR helicopter unit subordinate to the 23rd GA in Harbin.⁷⁹⁶ No other source confirms this location. However, the Harbin Aircraft Manufacturing Corporation is the producer of the Z-9, so the presence of helicopters in that city would not be unusual.

16GA (81021 Unit), Changchun, Jilin

32 Division (81123 Unit), Tonghua, Jilin
46 Motorized Infantry Division/Brigade (81101 Unit), Changchun, Jilin
4 Armored Division (81389 Unit), Shanchengzhen, Jilin
Artillery Division (81312 Unit), Yanbian, Jilin
AAA Division (81025 Unit), Changchun, Jilin
Anti-Tank Missile Brigade (81829 Unit), Baicheng, Jilin

23GA (81032 Unit), Harbin, Heilongjiang

69 Motorized Infantry Division/Brigade (81156 Unit), Harbin, Heilongjiang
UI Motorized Infantry Brigade
Armored Brigade (81413 Unit), Daqing, Heilongjiang
Artillery Brigade (81034 Unit), Jiaohe, Jilin
AAA Brigade (81036 Unit), Jiamusi, Heilongjiang

39GA Mechanized (81043 Unit), Liaoyang, Liaoning

115 Mechanized Infantry Division (81167 Unit), Gaixian, Liaoning
116 Mechanized Infantry Division (81178 Unit), Haicheng, Liaoning
190 Mechanized Infantry Division (81233 Unit) (resubordinated from 64GA)
3 Armored Division (81378 Unit), Siping, Jilin
Artillery Brigade (81301 Unit), Liaoyang, Liaoning

⁷⁹⁵ The 2000 *Directory of PRC Personalities* does not include either the 67 or 68 Divisions.

⁷⁹⁶ See <http://cqch.com.cn/zgjs/jtj.htm>.

AAA Brigade (81367 Unit)
Helicopter Air Group (81053 Unit)

40GA (81054 Unit), Jinzhou, Liaoning

118 Motorized Infantry Brigade (81200 Unit)
119 Motorized Infantry Brigade (81211 Unit), Chifeng Neimenggu
8 Armored Brigade (81400 Unit), Fuxin, Liaoning
Artillery Brigade (81323 Unit), Jinzhou, Liaoning
AAA Brigade (81058 Unit), Jinzhou, Liaoning

Units Subordinate to MR

191 Motorized Infantry Brigade (81242 Unit), Dandong, Liaoning MD
UI Motorized Infantry Brigade, Liaoning MD (probably a former 64th GA unit)
ECM Regiment (81865 Unit)
Special Operations Dadui
Psychological Warfare Unit

INSIGHTS GAINED FROM THE OCTOBER 1ST PARADE

The PLA has a vast inventory of equipment. It also has a wide variety of weapon types, many with several variations and modifications, deployed to the forces. For example, *The Military Balance 1999-2000* lists a total of “some 8,300” main battle tanks and identifies five separate types (some with variants) of tanks in the PLA: Type 59-I/II, Type 69 I/II, Type 69 III, Type 80, and Type 85 IIM.⁷⁹⁷ An important implication of the number of different weapons in the PLA inventory is the strain it puts on the logistics system to keep the various types of equipment operational.

Even simple estimates of the number of types of weapons within a category and gross numbers of weapons in service differ from source to source. These estimates vary because it is often difficult to determine when a variant/modification of an existing system is considered a “new” vehicle type, when new systems enter the force, and when older systems are retired. Further complicating the issue are the numerous different designations given to the same piece of equipment, which can vary among Chinese sources as well as Western sources. Compounded by the lack of authoritative information from the Chinese government, these factors result in confusion and over-counting or under-counting of weapons actually in the PLA inventory. To illustrate these problems, the three sources below identify the following numbers of different types of equipment within these categories.

⁷⁹⁷ *The Military Balance 2000-2001* lists a total of 7,060 tanks of six types (with slightly different designations from the previous year). For comparison in the US Army, *The Military Balance 1999-2000* (p. 21) lists “some 7,684” main battle tanks, of two types : 40 M-60A3 and 7,644 M-1 including M-1A1 and M1A2.

Weapon Type	Military Balance	Jane's	Federation of American Scientists
Main Battle Tank	5	7	6
Light Tank	2	2	2
Armored Personnel Carrier/Infantry Fighting Vehicle	7	12	6
Towed Artillery	12	15	12
Self-propelled Artillery	5	6	9
MRL	7	10	12
AAA	8	11	12

Sources: *The Military Balance, 1999-2000*, p. 186; Robert Karniol, "Modernising PLA Ground Forces," conference paper presented at "China's Military Modernisation: Strategic & Regional Implications" sponsored by Jane's Information Group, Washington, DC, May 4-5, 2000; Federation of American Scientists website <http://www.fas.org/nuke/guide/china/agency/pla-inventory.htm>

The military parade held in Beijing on October 1, 1999 celebrating the 50th anniversary of the founding of the PRC and its accompanying media coverage provided an insight into some of the weaponry currently deployed in the force. However, only a small number of the different types of equipment actually in the PLA were seen in the parade. Most of the weapons on display were relatively new, though some have been in the inventory for nearly two decades.

Some important equipment did not take part in the parade. For example, only equipment manufactured in China drove down Changan Jie in Beijing. Equipment purchased from Russia, such as the SA-15 surface-to-air missile systems or Mi-17 helicopters, was not on display.⁷⁹⁸ Certain types of Chinese weaponry, such as the WS-1 320mm MRL, WM-80 273mm MRL, Type 90 122mm MRL, and the Type 90 APC, were not included in the parade forces. This could indicate that these weapons, while advertised for foreign sale, have not been introduced into operational PLA units.

It is nearly impossible using publicly available sources to identify in detail which units are equipped with what specific pieces of equipment. However, in a few cases, through the descriptions in the Chinese media of the units participating in the parade, it is

⁷⁹⁸ Su-27s purchased from Russia assigned to the PLA Air Force were part of the parade ceremonies.

possible to discern what type of weapons a few specific units have and make educated guesses about a few others.

A total of 16 unit sets of ground force equipment plus five flights of helicopters took part in the parade. The units were identified by vehicle markings starting with an "A" followed by three numerals, from 001 to 018, for the first unit, "B" for the second, "C" for the third formation, and so on. Each unit was arrayed in a square of four rows (ranks) and four columns, with two vehicles in the lead, for a total of 18 vehicles per formation.

Type 80 Tank. The first formation (A0XX)⁷⁹⁹ was made up of Type 80/Type 88B tanks from "a certain armored regiment under the command of the Beijing Military Region."⁸⁰⁰ The two tank commanders for this formation, deputy regimental commander Jin Jiulong and battalion commander Zhang Wangbao, as military cadets were drivers in the last military paraded of 1984.⁸⁰¹ In the following 15 years, they have risen to their current ranks (probably major or lieutenant colonel) and duty positions. This unit is probably from the 1st Armored Division, stationed east of Beijing.

The Military Balance 1999-2000 lists 500 Type 80 tanks in the PLA inventory. This number may be a reasonable estimate. It would indicate the presence of approximately five regiments of Type 80s deployed to the forces. Each regiment is probably composed of three battalions of about 31 tanks each. Each battalion has three companies consisting of ten tanks each, with three tanks per platoon and one command tank for the company commander.⁸⁰² An armored regiment probably also has a self-propelled artillery battalion, a self-propelled or towed AAA battery, and possibly a mechanized infantry battalion or company and some engineer support.

Type 85 II Tank. The second formation (B0XX) was composed of Type 85 II/Type 88C tanks. They were identified as the "Hero Tank Battalion" subordinate to an armored division in the Jinan MR.⁸⁰³ These are relatively new additions to the PLA inventory, with the first tanks probably entering units in the mid-1990s.

⁷⁹⁹ For the parade, each vehicle in each 18-vehicle formation was marked with a letter (A through P for ground units) followed by three numbers from 001 to 018. The shorthand A00X-P00X is used in the text to assist identifying the units and equipment seen in the parade.

⁸⁰⁰ "Backgrounder on National Day Celebrations," *Zhongguo Xinwen She* in Chinese, 1 October 1999, in FBIS-CHI-1999-1002.

⁸⁰¹ *Keji zhoukan* [Science and Technology Weekly], Beijing: Science and Technology Weekly Press, p. 10.

⁸⁰² *Zhihuiyuan Junshi Zhishi Shouci* [Commander's Military Knowledge Handbook], Beijing: Academy of Military Science Press, 1985, p. 239, has several diagrams that indicate a three-tank and three-APC structure per platoon. Soviet organizational experience and tactics greatly influenced Chinese TO&E decisions.

⁸⁰³ *Keji zhoukan*, p. 12.

The Military Balance 1999-2000. Lists 800 Type 85 IIM tanks in the PLA inventory, which would equate to about eight regiments. The presence of the tank in the Jinan MR indicates that it has been deployed fairly extensively into the forces. However, the total number 800 may be somewhat high a figure for a tank that has entered the PLA inventory so recently.⁸⁰⁴

A version of this tank, the Type 85 IAP, fitted with a 125mm main gun and automatic loader was sold to Pakistan in the early 1990s and was also licensed for production in Pakistan at the Heavy Defense Industries plant at Taxila.⁸⁰⁵

Type 98 Tank. The third formation (C0XX) was noted to be a “mixed formation composed of new-type main battle tanks from a certain armored regiment...[in] the Beijing MR...[which] is involved in receiving foreign dignitaries.”⁸⁰⁶ This description indicates the unit is an element of the 6th Armored Division.

The formation was composed of ten Type 98 tanks in the command positions and first two rows, followed by two rows of Type 85 II/Type 88C (eight tanks). The presence of a mixed formation consisting of ten Type 98 tanks indicates a ten-tank company structure, but more importantly is a strong indication that the ten tanks on parade constitute the entire number of Type 98 tanks in active PLA units. Were there more than ten tanks available in the unit, then certainly they all would have been in the parade.

This Type 98-equipped company is indicative of the first experimental deployment of this tank to the forces, probably pushed down to the unit specifically for the October 1st parade. It is possible that additional small numbers Type 98 tank companies have been deployed to other units, but the total number of Type 98s in the PLA's active inventory is likely to be extremely limited, much less, for example, than the number of Type 85 II/Type 88C in the inventory.

The Type 98 appears to be of a similar design and vintage as the Russian T-72. It is also known as the WZ-123 and is a variation of what previously was called the Type 90 II or Type 90 IIM, which is being jointly developed with Pakistan. The tank is easily identified by the location of the driver in the center of the vehicle behind a prominent “V” on the glacis plate. Unlike all other Chinese tanks, it has a three-man crew. The fourth man is eliminated because of the automatic loader for the 125mm main gun. It is equipped with a computerized fire control system; the tank commander and gunner each have a stabilized independent sight. The Type 98 weighs approximately 50 tons, is powered by a 1200 horsepower diesel engine, and can be fitted with reactive armor. Significantly, it appears to be equipped with both a laser warning receiver and laser self-

⁸⁰⁴ *The Military Balance 2000-2001* revises downward the number of Type 88C to 400.

⁸⁰⁵ “Pakistan Fields Type 85 MBTs,” *Jane's Intelligence Review Pointer*, December 1994.

⁸⁰⁶ “Backgrounder on National Day Celebrations.” From hereafter, all references to unit subordination for the PLA ground force weapons on display are taken from this source.

defense weapon, based on a “laser interference device” known as the ZM-87. The prototype for the Type 98 is called the Type 96.⁸⁰⁷

The reduction of crew size from four to three will result in personnel manning, training, and maintenance changes for the unit. Obviously, a Type 98 unit will be smaller than other tank units and will result in administrative changes for the unit. The duties of crew members and the way the crew trains will be different for this tank than for older tanks in the inventory. Because of its high-technology weapons systems, it will also be more maintenance intensive than other PLA tanks. Its larger engine will probably require more fuel and impose new requirements for the unit’s supply system.

WZ-501 Infantry Fighting Vehicle. The fourth formation (D0XX) was composed of WZ-501 Infantry Fighting Vehicles from a “certain mechanized infantry regiment” in the Beijing MR.⁸⁰⁸ The WZ-501 is a copy of the Soviet BMP. This weapons system has been deployed to the PLA for some years now. *The Military Balance 1999-2000* has no listing of the number deployed, while Jane’s says that 2000 are in the forces.⁸⁰⁹ This number would appear to be high – over 20 mechanized infantry regiments. Like tank units, mechanized infantry units appear to be organized based on three-vehicle platoons, ten-vehicle companies, 31 +/- vehicle battalions, and 90+ vehicle regiments.

Type 85 Armored Personnel Carrier. The fifth formation (E0XX) was composed of Type 85 Armored Personnel Carriers also from “certain mechanized infantry regiment” in the Beijing MR. This vehicle is also known as the WZ 534 and is a relatively new weapons system. It is uncertain how many are deployed to PLA units. The Type 85 would likely be a logical replacement for the older Type 63/YW 531C series of APCs that were the most widely deployed APC in the force.

Type 92 Wheeled Armored Personnel Carrier. The sixth formation (F0XX) was composed of Type 92/WZ 551 Wheeled Armored Personnel Carriers from the Jinan MR. It is not known how many of this relatively new six-wheeled APC have been deployed to the forces. Another six-wheeled APC, the WZ 553, has been deployed to the Hong Kong Garrison, but was not part of the October 1st parade.

HJ-9C Wheeled Anti-Tank Missile Vehicle⁸¹⁰ The seventh formation (G0XX) consisted of HJ-9C Wheeled Anti-Tank Missile Vehicles subordinate to “a certain anti-tank missile regiment” in the Nanjing MR. Since the unit is identified as a “regiment,” it would likely be subordinate to an artillery division. One artillery division has been

⁸⁰⁷ James M. Warford, “The Chinese Type 98 Main Battle Tank: A New Beast from the East,” *Armor Magazine*, May-June 2000, pp. 12-14; and Christopher F. Foss, “China’s PLA fields Type 98 MBT,” *Jane’s Defense Weekly*, p. 2.

⁸⁰⁸ The “Backgrounder on National Day Celebrations” also contained details from the campaign history of this unit. It may be possible to use this description to identify this unit through comparison with published unit histories.

⁸⁰⁹ Karniol, “Modernising PLA Ground Forces.”

⁸¹⁰ This designator was identified to the author by a US government official.

identified in the Nanjing MR, and it is subordinate to the 1st GA in Huzhou, Zhejiang province.

The HJ-9C is a new weapon for the PLA and little is known publicly about it. Neither Jane's Robert Karniol nor *The Military Balance* includes it.

Type 89 SP 122mm Howitzer. The eighth formation (H0XX) was composed of Type 89 SP 122mm Howitzers. These guns were said to be part of "a certain armored regiment" of the Beijing MR. This linkage would indicate that an armored regiment, consisting of three armored (tank) battalions, would also have a self-propelled artillery battalion as an organic unit. It is likely that the battalion would consist of 18 guns, as seen in the parade.

Type 89 SP 120mm Anti-Tank Gun. The ninth formation (I0XX) was composed of Type 89 SP 120mm Anti-Tank Guns. They were identified to part of "a certain group army's artillery brigade under the Beijing MR," i.e., the 6th Artillery Brigade of the 38th GA.

This weapon was introduced into PLA units in the mid-1990s and is probably still deployed in relatively limited numbers.

Type 83 SP 152mm Howitzer. The tenth formation (J0XX) was composed of Type 83 SP 152mm Howitzers. The unit was said to be from "a certain armored division under the command of the Beijing MR," whose predecessor unit was "the first tank unit of the Chinese PLA." This description would appear to fit the 1st Armored Division.

This weapon has been in the PLA inventory for nearly two decades, though perhaps in relatively limited numbers. Jane's holds 83 Type 83s in the inventory,⁸¹¹ which would amount to a little over four 18-gun battalions. Intuitively, this number seems rather small for the number of armored divisions in the PLA. However, without a doubt, towed artillery (122mm, 152mm, and 130mm) vastly outnumbers the self-propelled weapons in the force, including the armored forces.

Type 89 SP 122mm MRL. The eleventh formation (K0XX) was composed of Type 89 SP 122mm MRLs. This unit was said to be subordinate to "the artillery regiment of a certain mechanized infantry division under command of the Beijing MR." A likely candidate meeting this description is the 112th Mechanized Infantry Division, which is stationed just outside of the southern edge of the Beijing municipality at Xincheng.

The 122mm MRL system is based on the Soviet BM-21 122mm MRL and is widely deployed to PLA, in both wheeled and tracked versions, in division artillery regiments and artillery divisions and brigades. The Type 89 is an upgrade in that it has a second load of ammunition mounted on the vehicle for rapid reload.

PGZ-95⁸¹² SP Quad 25mm AA Gun/SAM System. The twelfth formation (L0XX) was composed of PGZ-95 SP Quad 25mm AA Gun/SAM System. This unit was identified as "formed by a certain armored regiment under the command of the Jinan MR."

⁸¹¹ Karniol, "Modernising PLA Ground Forces." Other sources do not have a specific number of guns deployed into the force.

⁸¹² This designator was identified to the author by a US government official.

This weapons system is newly developed by the Chinese defense industries and deployed to the force. The parade displayed four rows (16 vehicles) of the 25mm Gun/SAM system, each with a small fire control radar, led by two command vehicles without the 25mm gun/SAM system, but easily identified by the much larger target acquisition radar. Each gun/SAM system consists of four 25mm AA guns and four short-range surface-to-air missiles (possibly the QW-1 Vanguard developed in the early-mid 1990s) mounted above the guns. The combination gun/SAM system is similar in concept to that found on the Russian SA-15/Tor-M1, 15 of which have been purchased by the PLA with another 20 on order.⁸¹³

This weapon system is designed to be employed in a unit composed of a command vehicle for command, control, and target acquisition and probably four gun/SAM systems. The terminology used in the Chinese media description of the formation, "formed by a certain armored regiment," implies that the weapon may be organic to armored regiments to provide front line short-range air defense for maneuver units. Former Soviet tank regiments had organic self-propelled AAA weapons and later SAM systems. For example, Soviet tank regiments had four to six ZSU 23/4 or ZSU-57-2 in an organic air defense element. Later the ZSU-23/4s were joined by four SA-9 SAMs. If the PLA follows the Soviet example, it is possible that an air defense battery of one command vehicle and four gun/SAM systems could be assigned to armored regiments.

It is also possible that all the command and gun/SAM systems are maintained in an air defense regiment subordinate to division headquarters and units are temporarily assigned to maneuver elements as needed (this is done through the process known as "task organization"). Opportunities for combined arms training and smooth integration in regimental planning and operations would be greater if the smaller air defense units are organic to maneuver regiments. However, maintenance and support may be easier all systems are in a single regiment under division control. Division headquarters would also have greater control of these relatively scarce assets if all are subordinate to a single regimental headquarters. It is likely that early deployments of this system and the SA-15 to the PLA will be used to experiment with these different methods of command and organization.

It is not known how many PGZ-95 have been deployed to PLA units. *Jane's Defense Weekly* reports that China is negotiating with Russia for the licensed production of "160 [SA-15] launchers which would be used to equip 10 regiments."⁸¹⁴ This description implies that each regiment would consist of 16 launchers and that, if deployed in infantry or armored units, the regiment would be subordinate to division headquarters.

In the coming years it will be interesting to watch if the PLA decides to equip its units with both the PGZ-95 and the SA-15 or if one of the two systems is selected over

⁸¹³ "China in talks with Russia to produce Tor-M1 SAM," *Jane's Defense Weekly*, 19 July 2000, p. 17.

⁸¹⁴ *Ibid.* The article also states that two groups of Chinese have received training on the SA-15 in Russia.

the other. Moreover, the way it is deployed to the forces, i.e., whether assigned in small units directly to maneuver regiments or maintained in larger quantities under division control, may also be an indicator of the progress of combined arms and maintenance/support operations in the PLA.

Type 81 Wheeled 122mm MRL. The thirteenth formation (M0XX) was composed of Type 81 Wheeled 122mm MRLs. The formation was identified as belonging to an artillery regiment in the Beijing MR. This older weapon is another variation of the 122mm MRL system that is found throughout ground forces units subordinate to divisional artillery regiments.

PLL-01 155mm Towed Gun-Howitzer. The fourteenth formation (N0XX) was composed of 155mm Towed Gun-Howitzers. This unit belongs also to an artillery regiment in the Beijing MR. The gun on display may be the 155mm WAC-21/WA-021 or a variant of that weapon. According to Jane's, only 36 WAC-21/WA-021s have entered the PLA's inventory.⁸¹⁵

Twin 35mm Towed AAA. The fifteenth formation (O0XX) was composed of towed Twin 35mm AAA guns. This formation was formed by "a certain Group Army under the Beijing MR." The formation was led by two jeeps, followed by four radars, and 12 towed guns.

Currently towed 37mm AAA gun units are found in maneuver regiments of the PLA. The wording describing the subordination of this formation implies that it could have been formed of sub-elements of a number of units within a Group Army. For example, if six AAA guns are assigned to an infantry or tank regiment, it would take the AAA assets of two regiments to make up an 12-gun formation. In any case, this new weapon provides short-range, low-level air defense for tactical PLA formations.

HQ-7/FM-80 Wheeled SAM. The sixteenth formation (P0XX) was composed of the HQ-7/FM-80 Wheeled SAM system. This formation was composed "by an antiaircraft brigade of a certain group army under the Beijing MR and a certain missile regiment of the Air Force." The formation was led by two jeeps followed by four self-propelled radar vehicles, four self-propelled launcher vehicles, and eight towed launchers. The fact that it was necessary to go to both the army and the air force to gather together 18 vehicles for the parade implies that this weapon is still relatively scarce in the PLA forces.

The FM-80 is a Chinese-manufactured derivative of the French Crotale SAM. Its naval version was also on display in the parade.

Z-9/WZ-9 Helicopters. Five formations of five Z-9/WZ-9 helicopters overflew the parade route. According to media reports, the helicopter echelon consisted of "10 helicopters and 15 attacking helicopters."⁸¹⁶

⁸¹⁵ Karniol, "Modernising PLA Ground Forces."

⁸¹⁶ Xu Zuzhi, "Grand National Day Ceremony News Background," *Zhongguo xinwen she* in Chinese, 1 October 1999, in FBIS-CHI-1999-1003.

It is likely that the WZ-9 armed helicopters are deployed to units with other unarmed helicopters that provide command and control and reconnaissance for the attack aircraft. However, the October 1st parade did not provide any other indications of the composition of helicopter units within the PLA ground forces.

CONCLUDING REMARKS

PLA ground forces have been engaged in a massive reduction and reorganization, as well as the introduction of new equipment and retirement of old, for over three years now. These structural reforms are taking place at the same time that:

- The PLA is attempting to attract more educated college graduates to become officers;
- The conscription time for ground force soldiers has been reduced from three to two years;
- The force is attempting to build an NCO corps;
- PLA doctrine is changing to fighting “Local War under Modern High Technology Conditions”;
- The professional educational system is being revamped;
- PAP and reserve forces are growing;
- PLA units were forced to give up their commercial enterprises; and
- The Taiwan contingency has been elevated to primary importance in the PLA’s planning efforts.

Any one of these changes would be disruptive to a military force. The combination of all them occurring simultaneously is bound to compound the effects of any single reform and have unexpected consequences. It is likely that many changes that looked good on paper will be modified over the years as they are implemented by the forces in the field. The past few years must have been a terribly challenging time for a conservative organization like the PLA.

On the surface, the PLA appears to have established the parameters for the type of force it would like to become: a smaller, more rapidly deployable, combined arms force equipped with weapons that increase the range from which it can strike the enemy, while retaining its traditions of stealth, deception, and flexibility. Many of the changes and new equipment described above move them in that direction. However, many questions remain. For example, will the downsizing of divisions to brigades actually improve their ability to deploy rapidly? With the creation of smaller units, are higher headquarters improving the logistics capabilities necessary to support these smaller units?

Little is known publicly of PLA improvements in their tactical communications and reconnaissance/intelligence capabilities and the tactical support units required to aid the ground forces’ mobility, survivability, and sustainability on the modern battlefield. For example, does the PLA have tactical bridging equipment that can support the heavier weights of its new tanks? These units often get less attention, and less funding, than their combat arms brethren. But they provide “combat multipliers” that allow other weapons systems to be used to their maximum capabilities.

The totality of these developments must be monitored closely as PLA modernization continues. No one system is going to transform the PLA magically into a modern force. Rather, modernization will result from a series of slow, cumulative efforts only some of which will be visible from equipment in the inventory. The way the ground forces officers, NCOs, and enlisted troops think about modern operations, their morale, level of training, and confidence all will be as important for successful modernization as which generation of tank or missile is deployed to the force.

PLA ground forces have not been engaged in combat against a foreign enemy since 1979. Though they have studied the experiences of modern combat of foreign armies, they have not themselves had experience of planning for or conducting mid- or high-intensity modern operations, nor have they felt the impact of modern forces arrayed against them. Theoretically they understand the importance of integrating weapons into systems that increase the effectiveness of each weapon if only used by itself. Practically, the integration of numerous new systems into an effective whole is not achieved quickly. Operational techniques must be attempted, practiced, and modified to meet realistic conditions in an unending iterative process. Mere acquisition of modern equipment does not guarantee a modern force.

9. PLA AIR FORCE ORGANIZATION

By Ken Allen⁸¹⁷

*The Chinese People's Liberation Army Air Force has completed a major restructuring of its operational forces that has seen the number of air divisions cut by nearly 25 percent over the past three years. This is a result of force reductions that began in 1985 and the PLAAF's immediate need to retire obsolete aircraft.*⁸¹⁸

The purpose of this paper is to examine changes in the People's Liberation Army Air Force's (PLAAF) organizational structure since 1949, including changes in four areas: leadership; strategy, doctrine, and missions; administrative structure; and operational force structure. This paper will not address changes in operational capabilities as a result of weapons systems modernization.⁸¹⁹

Although the PLAAF was not formally established until November 1949, the Chinese Communist Party (CCP) became involved in aviation as early as the 1920s.⁸²⁰ The concept for

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⁸¹⁸ Jane's Defence Weekly, 14 June 2000.

⁸¹⁹ For information on the PLAAF's modernization and equipment, see Richard D. Fisher, Jr., "Foreign Arms Acquisition and PLA Modernization," in James R. Lilley and David Shambaugh, eds., *China's Military Faces the Future*, Armonk NY: M.E. Sharpe, 1999; and Kenneth W. Allen, "PLA Air Force Operations and Modernization," in Susan M. Puska, ed., *People's Liberation Army After Next*, Carlisle, PA: U.S. Army War College, Strategic Studies Institute, August 2000.

⁸²⁰ The information on the PLAAF's early history comes from Kenneth W. Allen, *People's Republic of China's Liberation Army Air Force*, Washington D.C., Defense Intelligence

the PLAAF did not actually take shape, however, until the early 1940s at Yanan. Soviet involvement during the early 1950s in providing China with new aircraft and in helping organize the PLAAF's flying schools and operational units greatly influenced the PLAAF's organizational structure. On the positive side, the Korean War, Vietnam War, and the standoff with the Soviet Union in the late 1960s acted as catalysts to expand the Air Force's organizational structure. On the negative side, the Cultural Revolution severely impacted the PLAAF's equipment acquisition, training and operational readiness.

By 1971 the PLAAF had created fifty air divisions and thirteen air corps, and had simplified its administrative command structure from a high of eleven first-level departments in 1955 to just three.⁸²¹ Recovery from the Cultural Revolution did not begin until the 1980s, especially following the People's Liberation Army (PLA) consolidation of its military regions in 1985 and formulation of the PLAAF's five-year plan (1986-1990).⁸²² Although the PLAAF's administrative and operational structure remained fairly static during the 1990s, the Air Force has sought to adjust its doctrine, tactics, logistics support, and training due to a thirty-five percent reduction in the number of air divisions, the introduction of new weapons systems, and the emphasis on mobile operations.

Today, the administrative structure of the PLAAF consists of four major departments (headquarters, political, logistics, and equipment) that reflect the organizational structure of the four general departments (general staff, political, logistics, and armament). This structure is mirrored through the administrative and operational chain of command from Headquarters Air Force (HqAF), through the seven military region air forces (MRAF), five air corps, and six bases, all the way down to the lowest operational units. Besides the administrative elements, the core of the PLAAF consists of five branches, plus various support elements, schools, and research institutes.

Several trends in the Air Force's leadership since the mid-1980s have affected the PLAAF's status within the PLA. Prior to the early 1980s, the PLAAF's senior leadership was dominated by ground force officers, who viewed airpower as long range artillery to support the Army. As a result, the PLAAF's strategy and doctrine was primarily ground force oriented. Beginning in the mid-1980s, however, most of the PLAAF leaders had come up from within the

Agency, 1991, Section 2; Yao Jun, ed., *Zhongguo hangkong shi* [A History of China's Aviation], Zhengzhou: Dajia Publishers, September 1998; *Dangdai Zhongguo kongjun* [China Today: Air Force], Beijing: China Social Sciences Press, 1989; and from Lin Hu, editor, *Kongjun shi* [History of the Air Force], Beijing: PLA Press, PLAAF Headquarters Education and Research Office, November 1989.

⁸²¹ Yao Jun, p. 376.

⁸²² Lin Hu, pp. 218-221.

air force ranks. Another trend involves age and experience. Since ranks were re-instituted in 1988, the average age of the PLAAF's leaders at the three general officer ranks has declined by about 3-5 years. In addition, whereas almost every PLAAF leader in the 1980s had fought in the Korean War, they had all retired by the mid-1990s. These changes, along with the acquisition of various weapon systems, led to a shift during the 1990s from a purely defensive posture toward having a simultaneous offensive and defensive capability.

THE UNEVEN ROAD TO MODERNIZATION

The Early Years

In September 1924, during the first Chinese Nationalist Party (Kuomintang/KMT) and CCP united front period, Sun Yat-sen's Guangzhou Revolutionary Government established an Aviation Bureau and a military flying school in Guangzhou, where two classes (50 people) received a year of training. Following their graduation, eighteen cadets (nine KMT and nine CCP) were sent to the Soviet Union for two years of advanced flight training.⁸²³ Two of the key CCP members, Chang Qiankun and Wang Bi, helped shape the PLAAF's future.

Chang and Wang both served in the Soviet Air Force until September 1938, when they were sent to Dihua (Wulumuqi) as military instructors. In 1940, they were transferred to Yanan, where they helped found the PLAAF. Over the next decade, Chang served in several positions, including director of the Central Military Commission's (CMC) Aviation Bureau and PLAAF deputy commander, while Wang served primarily in political commissar and aircraft maintenance positions, but retired as a PLAAF deputy commander.⁸²⁴

⁸²³ The Soviet Union helped the CCP and the KMT establish the same organizational structure during the 1920s. In response to Japanese actions in China, beginning with Japan's invasion of Manchuria in 1931, the Soviets supported the Nationalists by providing arms and advisors. From late 1937 until Germany attacked the Soviet Union in June 1941, Stalin provided about \$300 million in credits to Chiang Kai-shek's regime to finance Soviet aid, including hundreds of planes, pilots to fly them, and instructors to train Chinese pilots. Soviet advisors were also attached to Nationalist army units. Schwartz, Harry, *Tsars, Mandarins, and Commissars: A History of Chinese-Russian Relations*, New York: Anchor Books, 1973, pp. 133-134.

⁸²⁴ The term Central Military Commission or CMC is actually a misnomer. The Chinese term is *Zhongguo gongchandang zhongyang junshi weiyuanhui*, which literally means Military Commission of the Central Committee of the Chinese Communist Party. The Chinese term is most commonly shortened to *zhongyang junwei* or *junwei*. Properly speaking, *zhongyang* refers to the Central Committee. While the Chinese term has not changed since its creation, the

In January 1941, the CMC decided to create an Air Force Engineering School, even though the CCP had no aircraft or airfields. The school, known as the 18th Group Army Engineering School, was formally established in March 1941 and was charged with teaching basic aviation theory and aviation armament. Wang Bi was the first commandant, and Chang Qiankun was chief instructor.

In May 1944 at Yanan, the CMC established an Aviation Section (*hangkongzu*) that was responsible for all aviation work under the 18th Group Army's (*jituanjun*) General Staff Department. Wang and Chang were the first director and deputy director, respectively.

In September 1945, the Aviation Section sent a 30-member team from Yanan to northeast China to begin preparations for setting up an aviation school. In May 1946, the Northeast Old Aviation School (*dongbei lao hangxiao*) was established in Mudanjiang, Jilin Province. The first class began in July with four basic trainers and a few type-99 advanced trainers. Many of the initial instructors and ground support personnel were Japanese Air Force members who remained in China after the surrender in 1945. By July 1949, the school had trained 560 people, including 125 pilots and 435 ground support personnel. In late 1949, the CMC approved a total of seven flying schools and the Soviet Union agreed to sell China 435 aircraft and to provide advisors for the schools. By then, the Chinese had also acquired 115 KMT aircraft.

In March 1949, the CMC established the CMC Aviation Bureau (*hangkongju*), with Chang as the director and Wang as the political commissar. On 11 November 1949, the CMC abolished the Aviation Bureau and formally established the PLAAF, using elements of the Fourth Field Army's 14th *bingtuan* as the core.⁸²⁵ Liu Yalou, who at the time was the 14th *bingtuan* commander, became the first PLAAF commander, and Xiao Hua, who had both command and political commissar experience, became the first political commissar. Chang Qiankun was appointed as a deputy commander and director of the Training Department, and Wang Bi was appointed as the deputy political commissar and director of the Aeronautical Engineering Department.

The PLAAF created its first flying squadron in July 1949 at Beijing Nanyuan, consisting of six P-51s, two Mosquito bombers, and two PT-19 trainers. The first aviation unit established as part of the PLAAF was designated the 4th Combined Brigade (*hunchenglu*) and consisted of two fighter regiments, one bomber regiment, and one attack regiment. In August 1950, the PLAAF wrote its first development plan for the years 1950 to 1953. The plan called for training 25,400 technical troops, establishing about 100 aviation regiments, repairing over 100 airfields, setting up eleven aircraft repair factories, and increasing the size of the PLAAF to 290,000 personnel. For the most part, these goals were reached by the end of 1953.

English translation has changed over the years. In the 1960s and 1970s, the commission was commonly referred to as the Military Affairs Commission (MAC).

⁸²⁵ See introductory chapter to this book for discussion of the *bingtuan* organization.

The bulk of the forces were concentrated in the northeast and in major cities such as Beijing, Shanghai, Nanjing, and Tianjin to protect them from Nationalist Air Force air raids. It was not until after the 1958 Taiwan Strait Crisis, however, that the PLAAF moved into Fujian and Guangdong Provinces. The PLAAF moved forces into the western regions following the "liberation" of Tibet and the 1962 border war with India. More units were deployed to the southern region during the Vietnam War and near the Soviet border after 1969, so that by the mid-1970s, the PLAAF had a permanent presence throughout China. As the PLAAF created new units, it also expanded its operational areas of command and control and reorganized its administrative structure to deal with these changes.

The Cultural Revolution

Although the PLAAF matured rapidly during its first fifteen years, it has spent the past twenty-five years recovering from the disastrous effects of the Cultural Revolution. By 1959, the PLAAF had seventeen numbered aviation schools – not all of which were for pilot training – plus several other schools.⁸²⁶ However, everything changed during the Cultural Revolution when

⁸²⁶ In 1949, the PLAAF established seven Aviation Schools: 1st in Harbin, 2nd, in Changchun, 3rd in Jinzhou, 4th in Shenyang, 5th in Jinan, 6th in Beijing, and 7th in Mudanjiang. In 1951 the 8th aviation school was formed in Shenyang for fighters; In 1952 the 9th in Changchun and 10th in Taiyuan for maintenance. In 1953 the 11th in Huxian, Shaanxi, and 12th in Linfen, Shanxi for fighters. In 1956 the 13th in Chengdu for fighters, but was abolished in 1969. In 1956 the 14th in Xinjin, Sichuan, for civil aircraft ground crew training (later turned over to civil aviation). In 1958 the 15th Aviation School (AKA Special Weapons School) was established in Baoding with responsibility for training all services on surface-to-surface, surface-to-air, and shore-to-ship missile maintenance. This school became the SAM school in 1986. Also in 1958, the 16th Aviation School was established in Huxian, Shaanxi, to train navigators. In 1986 this school became the Navigation Academy. In 1960 the 17th Aviation School was established in Jilin. In 1965, the PLAAF had the following 29 academies and schools: PLAAF College; PLAAF Engineering College; Four Advanced Technical Schools; Ten Aircrew Aviation Schools; Five Ground Crew Aviation Schools; Political School; Logistics School; AAA School; Radar School; Communications School; Health School; and Two Aviation Preparatory Schools. In 1967, the 8th, 9th, 10th, and 13th Aviation Schools were renamed the 1st, 2nd, 3rd, and 4th Aviation Maintenance Schools. The 1st and 2nd Schools later became the 1st and 2nd Maintenance Technical Training Schools. Due to requirements for increasing number of flying hours, the 8th Aviation School was re-established in 1967 in Hami, Xinjiang for fighters. In 1967, the 15th Aviation School was renamed the 9th Aviation School and dedicated to fighters. The 10th was re-established in 1968 in Qiqihar, Inner Mongolia for fighters. In February 1969, twelve PLAAF schools were closed (Command College, Er Gao Zhuan, AAA, political, 3rd and 4th maintenance,

two opposing ideas competed simultaneously. On one hand, Lin Biao and the leftists closed down non-pilot training schools, canceled all theory classes for pilots, and reduced the flight training time. On the other hand, the 1960s war in Vietnam, plus Lin Biao's paranoia about China facing an imminent large war, led to an increase in flying hours at the flying schools.

In August 1966, all non-flying schools suspended classes. This situation lasted for nearly six years, halting virtually all non-flying and ground training.⁸²⁷ In many instances, military school compounds were occupied or destroyed as well as teaching materials, books, and equipment. Instructors, researchers, and staff were often scattered throughout China. In the worst cases, they were killed or died. The expected training goal for the thirteen non-flying schools during the Cultural Revolution years was 21,900 students, but only 5,650 graduated.⁸²⁸ In matters involving flight safety, education, training, strategy, and tactics, PLAAF historians claim the Cultural Revolution actually caused atrophy.⁸²⁹ For the PLAAF, the cessation of education was more complicated than it was for society as a whole. The problems resulting from the "stop classes, make revolution" activities were disruptive but did not pose the most harmful consequences.

The major problem was Lin Biao's advocacy of an imminent war doctrine. While pilot training in the flying academies, which previously took thirty months, was reduced to twelve

17th aviation, 1st and 2nd preparatory, communications, logistics, and medical schools). The 9th and 10th schools were abolished in 1985. In 1987, the 11th school was redesignated the PLAAF Flight Test and Training Center at Cangzhou, Hebei. In July 1986, the PLAAF made several changes, including changing the name of most of the Schools/*xuexiao* to Academies/*xueyuan*. The 26 academies and schools that existed in 1989 are as follows: AAA (Guilin, Guangxi); Command College (Beijing); Communications (Xian, Shaanxi), Dalian NCO; Engineering College (Xian, Shaanxi); Logistics (Xuzhou, Jiangsu); Medical (Jilin); SAM (Sanyuan, Shaanxi); Navigation (Huxian, Shaanxi); Political (Shanghai); Radar (Wuhan, Hubei); Weather (Nanjing, Jiangsu); 1st Maintenance Tech Training School (Xinyang, Henan); 2nd Maintenance Tech Training School (Changchun, Jilin); 1st Flying Basic School (Changchun, Jilin); 2nd Flying Basic School (Baoding, Hebei); 1st Flying Academy (Harbin, Heilongjiang); 2nd Flying Academy (Jiajiangxian, Sichuan); 3rd Flying Academy (Jinzhou, Liaoning); 4th Flying Academy (Shijiazhuang, Hebei); 5th Flying Academy (Wuweixian, Gansu); 6th Flying Academy (Zhuoxian, Hebei); 7th Flying Academy (Changchun, Jilin); 8th Flying Academy (Liushuquan, Xinjiang); 12th Flying Academy (Linfen, Shaanxi); 13th Academy (Bengbu, Anhui).

⁸²⁷ Kenneth W. Allen, Glenn Krumel, and Jonathan D. Pollack, *China's Air Force Enters the 21st Century*, Santa Monica: RAND, 1995, Chapter 4. Identified as Allen, Krumel, and Pollack.

⁸²⁸ *Dangdai Zhongguo Kongjun*, p. 298.

⁸²⁹ Allen, Krumel, and Pollack, Chapter 4.

months in 1967, the number of flying hours rose dramatically: 180,000 in 1966; 260,000 in 1968; 310,000 in 1970; and 400,000 in 1972.⁸³⁰ However, the training was so haphazard that by 1968 the achievement levels of graduates were so low they could not be used in the units where they were assigned. Once cadets arrived at their units, their flight training was reduced significantly. Average flying hours for PLAAF fighter pilots averaged 122 hours in 1964, 23 hours and 45 minute in 1968, and 55 hours in 1970.⁸³¹ Naval Aviation fighter and bomber pilots averaged 26 hours from 1965-1971, with a low of 12.5 hours in 1968. In addition, maintenance was so poor that by 1969 the PLAAF's "serious accident rate" (loss of aircraft and pilot) soared to 6.0 per 100,000 hours from 2.49 in 1964.⁸³² From 1969-1978, Naval Aviation had over seventy aircraft accidents that resulted in total loss of the aircraft and sixty-two pilot deaths. The serious accident rate in Naval Aviation was 11.2 per 100,000 hours.⁸³³ Besides lack of pilot training, the accident rate was due to shoddy aircraft production.⁸³⁴

This situation began to change in the early 1970s when schools were reopened and technical and theory training was reintroduced. Since then, the PLAAF's overall organizational structure has remained fairly constant. The number of air divisions reached a peak in 1971, but has declined appreciably over the past decade as a result of personnel cuts and retiring older

⁸³⁰ *Dangdai Zhongguo Kongjun*, p. 299. At the PLAAF's Second Aviation School, authorities claimed that the elimination of aviation theory courses between 1967 and June 1970 resulted in an increase of aircraft accidents at the school and operational bases. There were similar results in 1970, when some technical courses resumed for periods of only three to eight months. See *Zhongguo Renmin Jiefangjun Kongjun Dier Hangkong Xuexiao jianshi* [Brief History of the PLAAF Second Aviation School], Chengdu: Air Force Second Aviation School, August 1982.

⁸³¹ Yao Jun, p. 376.

⁸³² Allen, Krumel, and Pollack, Chapter 4. In 1984, the PLAAF's serious aircraft accident rate was 2.04. The three categories of aircraft accidents are (1) aircraft and pilot lost; (2) aircraft lost, pilot safe; and (3) aircraft damaged, pilot safe.

⁸³³ Yao Jun, p. 377. According to the May 1999 issue of *Air Force Magazine*, the US Air Force Class-A accident rate (loss of life, permanent total disability, destroyed aircraft, or more than \$1 million in property damage) average for the ten year period of 1989-1998 was 1.4 accidents per 100,000 flying hours.

⁸³⁴ The only successful Chinese design program during the 1960s was the A-5 ground attack aircraft, derived from the MiG-19. Initial design work on the A-5 began in 1958, and following many setbacks, the first flight was conducted at Nanchang in 1965. In November 1975, the Central Military Commission ordered all of the A-5s in the inventory to be returned to the factory for overhaul because of failures in manufacturing quality control. *Dangdai Zhongguode hangkong gongye*, p. 83.

aircraft. While different administrative departments have combined and split several times and new operational commands have appeared and been abolished, their basic responsibilities have not changed appreciably.

Fifteen Years of Change

Since the late 1980s, there have been several organizational changes that have affected the PLAAF's operational capabilities. In 1993, the PLAAF began reorganizing all of its command posts as bases to meet reduction-in-force requirements and to streamline the operational control of aircraft in critical areas.⁸³⁵ In 1998, the PLAAF reorganized its headquarters to match the PLA's newly-created General Armament Department. During this period, there has been a wholesale change in leaders, so that very few, if any, of the current generation of PLAAF leaders fought in the Korean War. Therefore, the new leaders bring a different set of experiences, including travel abroad, into their command positions. As part of the move toward fostering a stronger service identity, PLAAF officers are now allowed to wear Air Force uniforms rather than Army uniforms when they fill positions in the four general departments. Concerning organizational changes that have affected operational pilot training, the PLAAF created the Flight Test and Training Center (*kongjun feixing shiyan xunlian zhongxin*) in Cangzhou, Hebei Province, in February 1987.⁸³⁶ In addition, the PLAAF formed a Blue Force aggressor unit subordinate to this Center. The PLAAF also began expanding its training base in the Gobi Desert near Dingxin, Gansu Province, where multiple PLAAF units could practice the tactics developed at Cangzhou and tested in individual units throughout the force.⁸³⁷ These changes will be discussed in detail below.

LEADERSHIP

One of the fundamental questions today is where does the PLAAF fit in the overall PLA hierarchy in terms of clout, missions, responsibilities, and autonomy? In other words, is the PLAAF in charge of its own future? Although the PLAAF has been described as "an independent service"⁸³⁸ and has received some of the newest foreign weapon systems, there are indications that the PLAAF is still viewed as an extension of, and is controlled by, the Army. Just because the PLAAF has received a visible share of new equipment from the Russians does

⁸³⁵ Ibid., p. 147.

⁸³⁶ Allen, 1997, Section 20.

⁸³⁷ *Dangdai Zhongguo Kongjun*, p. 311.

⁸³⁸ Teng Lianfu and Jiang Fusheng, editors, *Kongjun zuozhan yanjiu* [Air Force Operations Research], Beijing: National Defense University Publishers, May 1990, p. 147. See also You Ji, *The Armed Forces of China*, Australia, Allen & Unwin, 1999, p. 118.

not necessarily mean that as an institution it has increased its clout within the PLA hierarchy, which is dominated by the army. This view is supported by examining the PLAAF's leadership over the past fifty years. This does not mean, however, that the situation is not gradually changing.

When Deng Xiaoping gained control of the CCP in 1978, one of his unstated purposes in concentrating on the PLAAF was to assert his authority over what he and other senior officials regarded as a potentially dangerous service.⁸³⁹ Deng's leadership group attached special political weight to the PLAAF, because Defense Minister Lin Biao had wrested control of the Air Force through PLAAF commander Wu Faxian during the Cultural Revolution, especially at the onset of his abortive coup against Mao in 1971. As a result of these and other power struggles in the Cultural Revolution that involved the Air Force, Party leaders thereafter sought to keep a much tighter rein over the PLAAF than the other service arms. Analysis of the background for the PLAAF's commanders and deputy commanders provides some insights into the evolution of the PLAAF's role within the PLA.

Commanders: The PLAAF has had eight commanders since 1949, including four during the past ten years (See Appendix A and B).⁸⁴⁰ The first four PLAAF commanders, covering

⁸³⁹ See John Wilson Lewis and Xue Litai, "China's Search for a Modern Air Force," *International Security*, Summer 1999; William W. Whitson, *The Chinese High Command: A History of Communist Military Politics, 1927-71*, New York, Washington, London: Praeger, 1973, p. 550; Stanley Karnow, *Mao and China: A Legacy of Turmoil*, Penguin Books, New York, 1972, p. 429. *Dangdai Zhongguo Kongjun*, p. 481. Lin Biao controlled the PLAAF through Wu Faxian and the PLA Navy through Li Zuopeng, who was the Navy's political commissar and basically ran the Navy. Events surrounding the fate of Wu and Li were very confusing after Lin Biao's death in a plane crash over Mongolia in September 1971. According to *Dangdai Zhongguo Kongjun* and recent interviews with PLA officials, Wu and Li Zuopeng were tried along with the Gang of Four. Wu was sentenced to seventeen years in prison and Li to twenty years.

⁸⁴⁰ The PLAAF's eight commanders since 1949 are as follows: Liu Yalou (October 1949 - May 1965), Wu Faxian (May 1965 - September 1971), no commander (September 1971 - May 1973), Ma Ning (May 1973 - April 1977), Zhang Tingfa (April 1977 - July 1985), Wang Hai (July 1985 - November 1992), Cao Shuangming (November 1992 - November 1994), Yu Zhenwu (November 1994 - December 1996), Liu Shunyao (December 1996-Present). According to interviews in China, Wang Hai was relieved of duty in 1992 at the age of 67 for political reasons after he attended a meeting hosted by General Political Department Director and Military Commission Vice Chairman Yang Baibing without Jiang Zemin's knowledge. The following two commanders, Cao Shuangming (1982-1984) and Yu Zhenwu (1984-1986), were reportedly relieved of duty due to numerous aircraft accidents and lack of movement on certain core

1949-1985, were all ground force officers who moved into air force command positions. In 1985, Wang Hai became the first aviator to be selected as the commander.⁸⁴¹ Since then, all of the PLAAF's commanders have been career aviators. Table 9.1 below shows each commander's date of birth, age when they became commander, and the age they left office. With the exception of Liu Yalou, the age for the commanders assuming the position of commander has ranged from 50-63 years old. This shows a lack of a consistent policy, especially for Cao Shuangming and Yu Zhenwu.

Table 9.1 PLAAF Commanders' Ages

	Date of Birth	Commander	Left Office
Liu Yalou	1910	39	55 (died)
Wu Faxian	1915	50	56 (removed)
Ma Ning	1922	51	55 (replaced)
Zhang Tingfa	1918	59	67 (retired)
Wang Hai	1925	60	65 (retired)
Cao Shuangming	1929	63	65 (retired)
Yu Zhenwu	1931	63	65 (retired)
Liu Shun Yao	1939	57	Currently in position

Source: *Kongjun da cidian*, Shanghai: pp. 799-854.

Overall, the PLAAF has made a concerted effort at reducing the age of its leaders. In 1988, almost two-thirds of the 32 lieutenant generals promoted were over 60 and about two-

modernization issues. Although Wang, Cao, and Yu had each reached the mandatory retirement age when they were replaced, they could have been extended if necessary.

⁸⁴¹ According to one informed PLA official, Ma Ning flew Il-28s as a young officer, thus making him the first pilot to be selected as the PLAAF commander. However, PLAAF biographies for Ma do not indicate this to be the case. According to *Kongjun da cidian*, editor, *Kongjun da cidian* [Air Force Dictionary], Shanghai: Shanghai Dictionary Publishing House, September 1996, p. 842, Ma's biography does not make any mention of attending flight school or being a pilot. In this biography, he moved directly from being a deputy operations division director in the 12th army's headquarters department before 1949 to serving as the PLAAF's 21st air division deputy commander and commander until 1967. Even if Ma did fly Il-28s for a short period, for all practical purposes, in 1985 Wang Hai became the first full-fledged aviator to become the commander.

thirds of the major generals were over 54.⁸⁴² However, for comparison purposes, all of these generals had already held their positions or equivalent positions for 1-5 years. Today, the PLAAF has approximately 150 general officer positions, including one general, twenty-five lieutenant generals, and 125 major generals. The average age of officers assuming the same positions as those in 1988 has been reduced by about 3-5 years (lieutenant generals are about 57 and major generals about 52), thus indicating a move toward a younger force. By comparison, an analysis of current senior USAF leaders shows that they entered the Air Force between 1966-1970, and were promoted to major general at age 47-49, lieutenant general at 48-51, and general at 52-53.⁸⁴³

While the PLAAF has succeeded in reducing the overall age of its leaders, the Air Force has lost all of its leaders with any operational wartime experience.⁸⁴⁴ When Wang Hai was commander (1985-1992), three of the four Headquarters Air Force deputy commanders, three of the MRAF commanders and two deputy MRAF commanders were Korean War veterans.⁸⁴⁵ By the early 1990s, almost all of these officers had retired. Today, there are no Korean War veterans left in the PLAAF, and virtually no one left from the 1958 conflict over the Taiwan Strait. This means that the historical experience today's leaders bring with them comes primarily from the Vietnam War of the 1960s, where the PLAAF's main involvement was its antiaircraft artillery troops stationed inside Vietnam and Laos, plus a handful of air engagements along the border.⁸⁴⁶

⁸⁴² *Zhu Rongchang*, pp. 799-854.

⁸⁴³ Information on USAF generals was taken from biographies available on the USAF internet link <http://www.af.mil/lib/bio/>.

⁸⁴⁴ Although the PLAAF has some input into selecting its leaders, the senior Army leadership is responsible for promoting PLAAF officers.

⁸⁴⁵ *Ibid.*, p. 85. While Wang Hai was commander, the HqAF deputy commanders who are Korean War veterans were Lin Hu, Li Yongtai, and Liu Zhitian. The other three MRAF commanders were Liu Yudi (Beijing), Sun Jinghua (Lanzhou), and Hou Shujun (Chengdu). The MRAF deputy commanders were Yao Xian (Beijing) and Han Decai (Nanjing).

⁸⁴⁶ Allen, Krumel, and Pollack, pp. 76-78. The official PLAAF history only dedicated a few pages to the Vietnam War, covering the PLAAF's involvement from August 1965 to March 1969. According to this account, the PLAAF began deploying units to Guangxi and Yunnan for war preparations to help the North Vietnamese in August 1964 following the Gulf of Tonkin incident. From August 20, 1965 to March 14, 1969, the PLAAF sent eight groups of AAA units from seven AAA divisions, 26 AAA regiments, eight AAA battalions, nine searchlight battalions and 14 radar companies to assist Vietnam. Altogether, PLAAF AAA units were involved in 558 battles, shooting down 597 U.S. aircraft and damaging 479, losing 15 AAA pieces, 4 AAA

Political Commissars: The PLAAF has had ten political commissars since 1949.⁸⁴⁷ There is no set template or discernible trends for these leaders (see Table 9.2 below). While six of them spent their entire career in the political commissar system, two served in command positions before becoming the political commissar, and two of them had a mix of command and political commissar positions. None of them have been aviators. The first four political commissars spent their entire career in the political commissar system (Wu Faxian became PLAAF commander under Lin Biao after being the political commissar for eight years). In an apparent attempt to weed out the political commissar influence in the PLAAF following Lin Biao's death, Ma Ning became the commander and Fu Chuanzuo became the political commissar in 1973 – both officers had spent their entire career in command positions, none of which were in PLAAF headquarters. Zhang Tingfa, who was the political commissar from 1975-1977 and the commander from 1977-1985, had spent his entire career in command positions. When Zhang was commander, his political commissar, Gao Houliang, had a mixed command and political commissar background. Zhu Guang, who was the political commissar with commander Wang Hai from 1985-1992, had served in all political positions, moving back and forth between Army and Air Force billets. Zhu's replacement, Ding Wenchang, had also spent his entire career in political positions, but they had all been PLAAF positions. The current political commissar, Qiao Qingchen, has a mixed command and political commissar background, having served as the deputy political commissar in the Jinan MRAF before moving up to become the commander of the Beijing MRAF. Just prior to becoming the PLAAF political commissar, he spent fifteen months as a PLAAF deputy commander.

radars, 280 troops killed and 1166 troops wounded. From December 29, 1970 to November 14, 1973, the PLAAF also sent AAA units to Laos to support Chinese road construction. During this period, the units shot down 17 aircraft and damaged three. In addition to aircraft shot down over Vietnam, the PLAAF history identifies three U.S. Air Force (one F-4B and two A-4B's) and two Navy (one A-3B and one A-6) aircraft and 17 unmanned recce drones that it shot down over or near Chinese territory.

⁸⁴⁷ Xiao Hua (October 1949 – February 1957), Wu Faxian (February 1957 - May 1965), Yu Lijin (May 65 – September 1968), Wang Huiqiu (September 1968 - May 1973), Fu Chuanzuo (May 73 – November 1975), Zhang Tingfa (November 1975 – Apr 1977), Gao Houliang (April 1977 - July 1985), Zhu Guang (July 1985 – November 1992), Ding Wenchang (November 1992 – February 1999), Qiao Qingchen (February 1999 – present). See *Kongjun da cidian*, pp, 799-856.

Table 9.2 PLAAF Political Commissars' Ages

	Date of Birth	Political Commissar	Left Office
Xiao Hua	1916	33	34 (to GPD)
Wu Faxian	1915	32	39 (to PLAAF commander)
Yu Lijin	1913	50	53 (to CAAC)
Wang Huiqiu	1911	57	59 (to Shenyang MR PC)
Fu Chuanzuo	1914	59	61 (retired)
Zhang Tingfa	1918	57	59 (to PLAAF commander)
Gao Houliang	1915	52	60 (retired)
Zhu Guang	1922	63	70 (retired)
Ding Wenchang	1933	59	65 (retired)
Qiao Qingchen	?	?	Currently in position

Source: *Kongjun da cidian*, pp. 799-854.

Deputy Commanders: Since 1949, the PLAAF has had thirty-two deputy commanders, who collectively have been responsible for the following general areas: schools, training, maintenance, logistics, equipment, research and development, operations, air defense, and discipline.⁸⁴⁸ The first fourteen deputy commanders were ground force officers who had served in the army until the PLAAF was formed in 1949. Immediately after the PLAAF and Air Defense Force (ADF) merged in 1957, the PLAAF had seven deputy commanders, two of whom came from the ADF. These were the last two deputies with an air defense background, even though the air defense component (SAM/AAA) of the PLAAF has been instrumental in defending China's airspace, including AAA troop involvement in the Vietnam War. Although one of the deputy commanders is always responsible for the air defense role, at least one of the deputy chiefs of staff (deputy directors of the Headquarters Department) generally has an air defense background. For example, Major General Chen Huiting, who was a deputy chief of staff in the late 1980s, had served as a SAM battalion and division commander, and as the deputy commandant of the SAM academy.

It was not until 1973 that the PLA assigned a pilot (Zhang Jihui) as a deputy commander. Between 1973 and 1982, all of the other deputy commanders had their roots in the ground forces as political commissars or commanders. In 1982, Wang Hai became the second pilot to be assigned as a deputy commander. Since then, at least eight of the thirteen deputy commanders

⁸⁴⁸ The PLAAF had as many as seven deputy commanders immediately following the merger with the Air Defense Force in 1957. During the 1960s and 1970s, the average was four deputy commanders. In the mid-1980s, the PLAAF tried to reduce the number from four to three, but found that they could not manage all of their responsibilities properly. Therefore, in 1987 a fourth deputy was added. This situation remains today.

have been pilots. The current political commissar, Qiao Qingchen, spent most of his career in political assignments, but also spent eighteen months as the Beijing MRAF commander and thirteen months as a PLAAF deputy commander before moving up to the political commissar position.

The most notable exceptions to assigning aviators as deputy commanders are Jing Xueqin, who was assigned as a deputy commander in 1993, and Ma Diansheng, who replaced Jing in September 1999. Both officers spent their career in the PLAAF's 15th Airborne Army, including the commander's position before moving up to PLAAF headquarters. Jing's appointment came at the same time the PLAAF upgraded its airborne forces from brigades to divisions and the Air Force began receiving its first Il-76s to support the airborne forces.⁸⁴⁹ Adding them as deputy commanders clearly indicates the elevation of the airborne forces in the PLAAF's force planning. The question is whether this planning is for internal or external operations. Jing's appointment coincided with one of the PLAAF's most important changes in campaign strategy, as the Air Force's 15th Airborne Army began changing into a rapid-reaction force (RRF). Although PLAAF airpower discussions in the late 1980s included ideas about fist units, these discussions centered on the airborne forces and not the aviation units. While the airborne forces were clearly included in plans for the RRF, it appears that the airborne forces did not actually form any operational RRFs until around 1992.⁸⁵⁰

⁸⁴⁹ This was also about the same time the PLAAF began consistently identifying the airborne forces as a branch. Previously, the airborne forces were not always listed as a branch.

⁸⁵⁰ *Junshi jingji yanjiu* [Military Economics Studies], No. 8, 1995. According to PLAAF commander Liu Shun Yao, since the PLAAF began receiving several Russian Il-76 transports in 1992, the airborne troops now have all-terrain, all-weather, omni-directional combat capabilities. See Sun Maoqing, "Make Efforts To Build Modernized People's Air Force: Interview With Air Force Commander Lieutenant General Liu Shun Yao," Beijing *Liaowang*, 14 April 1997, No. 15, pp. 20-21. In order to adapt to various adverse operational conditions, the airborne units have conducted exercises in the snowfields of the Greater Xingan Mountains in Northeast China, the hot jungles on the Shiwan Mountains in Guangxi, and the Kunlun Plateau, located 4,600 meters above sea level where the air is thin. See "China Employs Hi-Tech Equipment in Training To Improve Air Force Fighting Capacity," Hong Kong *Sing Tao Jih Pao*, 18 July 1997. Airborne troop training over the past few years appears to have focused primarily in and around Tibet and the Qinghai Plateau. At the same time, however, some airborne training has also concentrated on a Taiwan scenario. By reporting this type of activity, the government is apparently trying to send a signal to inhabitants of Tibet, Taiwan, and Xinjiang that the airborne forces are preparing for internal contingencies, should the need arise. See "Airborne Units Conduct Training Exercise in Tibet," *Xinhua*, 29 June 1999. Reporting of these types of exercises also points out some of the airborne forces' limitations. For example, during the 1996 military exercise opposite Taiwan, the PLAAF inserted a small contingent of airborne troops onto Haitan island, but this portion of the

PLAAF's Institutional Position: The PLAAF is further hindered in its ability to promote some programs and missions due to the position of its commander and political commissar within the overall PLA hierarchy. In the chain of command, the PLAAF, as a service (*junzhong*) subordinate to the Army, is only equivalent to one of the seven military regions. As such, the PLAAF commander and political commissar have an "army equivalent position" (*zhiwu dengji*) or "grade" that is only equal to a military region commander.⁸⁵¹ Even the current commander's position appears to have been downgraded over the past couple of years.

In May 1985, Wang Hai became the PLAAF commander and Zhu Guang became the political commissar. When ranks were reintroduced in October 1988, Wang and Zhu received the rank of general and lieutenant general, respectively.⁸⁵² Of the seventeen full generals, Wang was ranked last in protocol order. Zhu was still a lieutenant general when they both retired in November 1992.

exercise was scaled down due to inclement weather, again calling the reliability of Liu's statement into question. See "Chinese Exercise Strait 961: 8-25 March 1996," briefing presented by the US Office of Naval Intelligence at a conference on the PRC's military modernization sponsored by the Alexis de Tocqueville Institute, 11 March 1997. Although Commander Liu has touted the airborne army's all-weather capabilities, they are limited by the plane's capabilities to get them there.

⁸⁵¹ See the book's introduction for an explanation of the grade structure. In the US military, the terms "rank" and "grade" are effectively synonymous. In the PLA, however, they are quite distinct. Military ranks (*junxian*) were first instituted in 1955, then abolished in 1965. They were not reintroduced until 1988. Most importantly, all officers, regardless of service, are assigned a grade (*zhiwu dengji*), which is equivalent to an army command position or army equivalent position (AEP). Within the PLA, the AEP is a more accurate reflection than rank of authority and responsibility across service, branch, and organizational lines. Thus, while rank is a key indicator of position within the hierarchy for foreigners, AEP is still the key indicator within the PLA. Most importantly, an officer's grade equates to the amount of political and organizational clout he has within his service and within the PLA in general. This is confusing to foreigners, since commanders and political commissars are equals and hold the same grade, but sometimes they do not assume the same rank equivalent of their position (general/3-star for the PLAAF commander/political commissar) for several years. As a result, either the commander or the political commissar may have a higher rank than the other one. Regulations regarding retirement ages refer to AEP, not rank. Military pay is calculated on the basis of rank, AEP (grade), and time in service.

⁸⁵² Ranks were first established in 1955, but were abolished in 1965. See Srikanth Kondapalli, *China's Military: The PLA in Transition*, Delhi: Knowledge World, April 1999, Chapter 2, for an excellent discussion of the rank system.

Wang's replacement, Cao Shuangming, was promoted to general seven months later (May 1993). Cao's replacement in November 1994, Yu Zhenwu, was not promoted to general for thirteen months (January 1996) after assuming the position. Cao and Yu had both received the rank of lieutenant general when ranks were reinstituted in 1988. Zhu Guang's successor in November 1992, Ding Wenchang, was promoted to general four years later (November 1996). The current political commissar Qiao Qingchen, replaced Ding Wenchang in February 1999 and is still a lieutenant general.⁸⁵³ The current commander, Liu Shun Yao, replaced Yu Zhenwu in December 1996 and was not promoted to general for three and one-half years (June 2000).⁸⁵⁴ Unlike the US military, the rank is not automatically conferred when a person takes over a particular command position. According to PLA officials, the current rules for promotion include time in grade as a lieutenant general (at least four years), time in service, and position.

Liu Shun Yao assumed command at the age of 57 and theoretically will serve until he turns 65 in December 2004. Although Liu filled all of the necessary command squares (regiment, division, air corps, MRAF commander, and PLAAF deputy commander), interviews with PLA officials in China indicate that Liu is not necessarily a strong leader who will push for Air Force programs and changes in doctrine and strategy at the expense of the Army.

The stature of each organization within the PLA also depends upon the relationship of the leader with other military and political leaders and organizations. As can be seen from Tables 9.4 and 9.5 below,⁸⁵⁵ not all of the PLAAF commanders and political commissars have been

⁸⁵³ As of October 1999, the commander for two of the MRs (Beijing and Guangzhou) were full generals while the remaining five MR commanders were lieutenant generals.

⁸⁵⁴ According to PLA officials, promotion to full general is based on time-in-grade as a lieutenant general (at least four years), plus age, plus seniority, plus the position. This is why Liu and his immediate predecessors were not promoted to full general immediately upon assuming the commander's position.

⁸⁵⁵ *Kongjun da cidian*, 799-856. The PRC has had nine National People's Congresses: First - September 1954; Second - April 1959; Third - December 1964; Fourth - January 1975; Fifth - February 1978; Sixth - June 1983; Seventh - October 1987; Eighth - March 1993; Ninth - March 1998. The CCP has had fifteen Party Congresses: First - July 1921 (Shanghai); Second - July 1922 (Shanghai); Third - June 1923 (Guangzhou); Fourth - January 1925 (Shanghai); Fifth - April 1927 (Wuhan); Sixth - June 1928 (Moscow); Seventh - April 1945 (Yanan); Eighth - September 1956 (Beijing); Ninth - April 1969 (Beijing); Tenth - August 1973 (Beijing); Eleventh - August 1977 (Beijing); Twelfth - September 1982 (Beijing); Thirteenth - November 1987 (Beijing); Fourteenth - October 1992 (Beijing); Fifteenth - September 1997 (Beijing). Sources: Robert L. Worden, Andrea Matles Savada, and Ronald E. Dolan, ed., *China: A Country Study*, Washington, D.C.: Library of Congress, Foreign Research Division, 1988, pp. 619-625; and *People's Republic of China Year-Book 1984*, Beijing: Xinhua Publishing House, p. 140.

representatives at the National People's Congress (NPC). All of the commanders and political commissars have been members of the Party Congresses, and some of them have been members or alternate members of the Party Congress Central Committee. Besides Liu Yalou and Wu Faxian, the leader with the highest political standing was Zhang Tingfa, who was a member of the Politburo and the CMC. In addition, political commissar Gao Houliang was a member of the CMC at the same time as Zhang. They were the last two PLAAF members of the CMC.

Table 9.3 PLAAF Commander Political Appointments

	Liu Yalou (49-65)	*Wu Faxian (65-71)	Ma Ning (73-77)	*Zhang Tingfa (77-85)	Wang Hai (85-92)	Cao Shuangming (92-94)	Yu Zhenwu (94-96)	Liu Shunya (96-Pres)
NPC	1	2,3	4	5	3,5	6,7		
Party Congress	8	9	10	10,11,12	12,13,14	12,14	13, 14	
Central Committee	8	9		10,11,12	12,13,14	14	Alt 12, Alt 13	13
Politburo		Yes		Yes				
CMC	Yes			Yes				

* Wu Faxian and Zhang Tingfa also served as the political commissar before becoming the commander

Table 9.4 PLAAF Political Commissar Political Appointments

* See chart above for Wu Faxian and Zhang Tingfa

	Xiao Hua (49-57)	Yu Lijin *(57-65)	Wang Huiqiu (68-73)	Fu Chuanzuo (73-75)	Gao Houliang (77-85)	Zhu Guang (85-92)	Ding Wenchang (92-99)	Qiao Qingchen (99-Pres)
NPC		4,5			4, 5	8	7	?
Party Congress	8	8,11	Alt 7, 9	10	11, 12	12, 14	14	?
Central Committee	8, 11, 12			Alt 9, 10	Alt 12		14	?
Politburo								
CMC					Yes			

Based on a review of information in the annual *Directory of PRC Military Personalities* and interviews with US and Chinese military officials, it does not appear that there is a single

PLAAF general officer assigned as a deputy commander or second-level department director in any of the four general departments. Nor does it appear that there are any PLAAF general officers in the prestigious Academy of Military Science, where the PLA's strategy and doctrine is formulated. There is at least one PLAAF major general in the Political Department at the National Defense University (NDU). While there is only one PLAAF general officer in these organizations, there are Air Force senior colonel and colonel staff officers, instructors, and researchers.

While the PLAAF has implemented certain personnel reforms internally, the PLAAF's lack of status that permeates throughout the PLA has had incremental changes. Prior to the late-1990s, all PLAAF officers working in the four general departments (General Staff/GSD, General Political/GPD, General Logistics/GLD, and General Armament/GAD) had to wear an Army uniform regardless of their job. It was not until the late-1980s that a formal system was instituted to integrate all of the military region air force (MRAF/*junqu kongjun*) commanders into the military region command staff as deputy military region (MR/*junqu*) commanders. However, this command relationship was not entirely new to the PLAAF. During the mid-1950s, two PLAAF lieutenant generals, Luo Yuanfa and Wu Fushan, simultaneously served as MR deputy commanders and MRAF commanders in the Beijing and Guangzhou MRs, respectively.⁸⁵⁶ Both officers later became PLAAF deputy commanders (Luo in 1969 and Wu in 1975).

Foreign Relations: Since China began opening its doors in the late 1970s, the PLAAF's five commanders have emphasized direct contact with foreign air forces by leading an average of one delegation abroad per year and hosting visits to China by an average of two to four foreign air force commanders annually (See Appendix C).⁸⁵⁷ In addition, Zhu Guang became the first PLAAF political commissar to travel abroad when he visited the United States in 1988, and his successor, Ding Wenchang, led delegations to Cuba in 1996 and Portugal and Turkey in 1998. Based on an analysis of incomplete data, it appears that the PLAAF commanders and political commissars have visited at least twenty-five separate countries and hosted commanders from at least twenty-three countries worldwide.

⁸⁵⁶ *Kongjun da cidian*, pp. 801, 807.

⁸⁵⁷ Kenneth Allen and Eric McVadon, *China's Foreign Military Relations*, Washington, D.C.: The Henry L. Stimson Center, October 1999, pp. 53-55. Based on information available concerning the 23 PLAAF visits abroad, ten included just one country, six included two countries, and seven included three countries. The most involved high-level exchange programs (three or more visits) have been with Australia, Bangladesh, Egypt, Pakistan, Portugal, Russia, Thailand, Turkey, the United States, and Zimbabwe.

STRATEGY, DOCTRINE, AND MISSIONS

Strategy and Doctrine

The PLAAF's development of operational capabilities is tied to the evolution of the PLA's overall doctrine and strategy. Dr. Paul Godwin states,

The PLA has been shifting over the past twenty years from continental defense in depth to peripheral defense and maritime force projection, and from a ground-force dominated approach to war, to a multi-service joint operations doctrine. In conceptualizing the battlefield, the PLA has shifted from a two dimensional concept, where the ground war was the central focus, to a multidimensional battlespace, where space and cyberspace play roles as important as the traditional air-land-sea dimensions. The PLA has faced the major difficulty of the absence of any period of stability in which it could complete the organizational, training, and logistics changes required to implement a revised strategy and operational doctrine.⁸⁵⁸

The PLAAF's doctrine has progressed through several steps since 1949, but has not been able to move out from under the Army's umbrella.⁸⁵⁹ From the very beginning, the Army made it absolutely clear that the Air Force would remain subordinate to the Army. When the PLAAF was established in November 1949, a total of 5453 people were assigned, of which only twenty-nine had any aviation background. Of the remainder, 2938 had some type of technical background and 2515 came straight from the Army. In February 1951, the PLAAF's Party Committee officially confirmed that the "Air Force was formed on the basis of the Army."⁸⁶⁰ Later that year, PLAAF commander Liu Yalou wrote in *People's Air Force*, "The PLAAF must

⁸⁵⁸ Paul H.B. Godwin, "Compensating for Deficiencies: Doctrinal Evolution in the Chinese People's Liberation Army: 1978-1999," *Seeking Truth from Facts: A Retrospective on Chinese Military Studies in the Post-Mao Era*, Santa Monica, CA: RAND, 2001, pp. 91-92.

⁸⁵⁹ Hua Renjie, Cao Yifeng, and Chen Huixiu, editors, *Kongjun xueshu sixiang shi* [History of Air Force Theory], Beijing: Jiefangjun Publishers, 1991, pp. 294-331. This majority of this book discusses the history US and Soviet air force theory before discussing the history of the PLAAF's theory. One of the difficulties discussing the PLAAF's theory is the problem of translating certain terms. For example, the *Kongjun da cidian* [Air Force Dictionary] translates *zhanyi* as both operations and campaign, yet translates *zuozhan zhanyi* as operational campaign. The *Da cidian* does not even have a Chinese word for doctrine. The PLAAF also often uses the word *tiaoling* in the sense of doctrine rather than the literal translation of regulations.

⁸⁶⁰ *Zai lujun jichu shang jianshe kongjun*.

oppose two erroneous tendencies. The first tendency is to believe that the PLAAF is a new service that can disregard the legacy of the Army. The second tendency is to be complacent with just some of the Army's experience. Both of these tendencies are wrong and will impede the PLAAF's development."

At the same time that the Air Force Party Committee confirmed the Army as the PLAAF's base, the PLAAF was also stressing self-reliance. However, since the PLAAF did not have any experience in developing aviation doctrine, the Party Committee also confirmed that the Soviet Air Force would be the model for building the PLAAF. Therefore, the PLAAF invited the Soviet Air Force to send advisors to China to help develop the PLAAF's doctrine. It was not until 1957 that the PLAAF began to develop and teach its own doctrine and make changes to Soviet doctrine, based on the PLAAF's experience in the Korean War and operations against the Nationalists on the islands off of Zhejiang, Province.

In 1959, the Air Force created the PLAAF Regulation Editing Committee (*kongjun tiaoling bianshen weiyuanhui*).⁸⁶¹ From 1959-1966, the Committee wrote 306 regulations and teaching documents that were divided into six categories: national, military general, air force, military branches (sometimes referred to as service arms), weapons, and specialized material. These categories were further divided into four functional systems: military general, political, maintenance, and logistics. Materials were also written for thirty-four additional functional and specialty areas, including operations, training, intelligence, communications, and navigation.

Prior to and after the PLAAF's merger with the Air Defense Force in 1957, the PLAAF's primary mission was air defense, so all weapons were acquired to fulfill this role.⁸⁶² For example, during the early years, seventy percent of the aviation force consisted of fighters. Even the aviation force's bombers and ground attack aircraft, combined with the airborne forces, equaled a smaller percentage of the total force than the SAM, AAA, and radar troops.

In July 1988, the General Staff Department's Training Department finally published *Air Force Operational Art* (*Kongjun zhanyi xue*) that explained the characteristics of operational/campaign art, the development of operations/campaign theory (*zhanyi lilun*), and the mission of the PLAAF's corps and regiments as these three parts pertain to a unified command organization.⁸⁶³ The document also discussed the special characteristics of PLAAF's operations in an electronic countermeasure (ECM), nuclear, chemical, and biological combat environment. The Air Force's focus on "offensive" (*jingong*) operations in a combined arms operation includes the use of aviation troops for air cover (*kongzhong yanhui*), deep strikes (*zongshen kongzhong tui*), close air support (*jinju huoli zhiyuan*), airborne reconnaissance (*hangkong zhencha*), air transport (*kongzhong yunshu*), air rescue (*kongzhong jiu*). It also includes the use of the

⁸⁶¹ Hua, Cao, and Chen, p. 310.

⁸⁶² Ibid, p. 311.

⁸⁶³ Ibid., p. 312-313.

paratroops for seizing and controlling key points, attacking rear areas, destroying and/or controlling landing areas such as airfields.

Although PLAAF writings mention the broader PLA doctrine and strategic concepts of people's war, people's war under modern conditions, and people's war under modern high-tech conditions, the Air Force tends to focus more on campaign strategy, campaign tactics, and tactical training. During the late 1950s and 1960s, the PLAAF compiled teaching materials on tactics, but it wasn't until the 1980s that the PLAAF published several documents on tactics theory (*zhanshu lilun*) for each of its aviation troop components and airborne troops.⁸⁶⁴

As an arm of the PLA, the PLAAF has traditionally conducted its combat operations as a series of subordinate campaigns within the PLA's overall campaign. The PLAAF describes a campaign as "using from one to many aviation, air defense, or airborne units to carry out a series of combined battles according to a general battle plan to achieve a specified strategic or campaign objective in a specified time."⁸⁶⁵ During 1997, commander Liu stated, "The PLAAF must improve its capabilities in actual combat by highlighting campaign and tactical training. He emphasized that campaign training involves air deterrence, air interdiction, air strikes, and participation in joint exercises."⁸⁶⁶ In February 1998, Liu stated, "The PLAAF must adhere to reform and innovation and strive for new progress in improving capabilities in actual combat. For some time to come, all PLAAF units shall further highlight campaign training, which mainly involves air deterrence, air interdiction, air strikes, and participation in the joint combat exercises of the three services. Tactical training shall mainly highlight combat training in electronic warfare, over-the-horizon air combat, night combat, and combat involving multiple arms and aircraft types, so that the training of air force units is more relevant to actual combat."⁸⁶⁷

While the PLA has always had an active defense (*jiji fangyu*) strategy, it was not until PLAAF commander Wang Hai laid out a program in 1987 that the Air Force formally stressed having a simultaneous offensive and defensive capability (*gongfang jianbei*).⁸⁶⁸ Wang

⁸⁶⁴ Ibid., p. 313.

⁸⁶⁵ Ibid., pp. 312-331. Teng and Jiang, p. 152.

⁸⁶⁶ Sun Maoqing, "Make Efforts To Build Modernized People's Air Force: Interview With Air Force Commander Lieutenant General Liu Shunyao," *Liaowang*, 14 April 1997, No. 15, pp. 20-21.

⁸⁶⁷ Kuan Cha-chia, "Commander Jiang Speeds Up Army Reform, Structure of Three Armed Services To Be Adjusted," *Kuang chiao ching*, No 305. 16 February 1998, pp. 14-18, in FBIS-CHI-98-065, 16 February 1998.

⁸⁶⁸ Hua, Cao, and Chen, p. 312. Wang Hai called for *jianli gongfang jianbeixing kongjun*.

emphasized that the combined arms combat environment of the 1980s required a force that could move quickly over long distances and fight in an electronic environment, needed to have the capability to attack an enemy, and need to keep the PLAAF from sustaining complete or at least only minor damage from an enemy air attack. Starting in 1996, Chinese leaders, including CMC Chairman Jiang Zemin and PLAAF commander Liu Shun Yao, began to re-emphasize publicly the PLAAF's capability to fight offensive battles.⁸⁶⁹ In 1997, General Liu stated,

The Chinese Air Force plans to build up state-of-the-art weapons systems by early next century, including early warning planes, electronic warfare warplanes, and surface-to-air missiles. The PLA Air Force is now able to fight both defense and offense battles under high-tech conditions. The Air Force is now capable of waging high-level long-distance combat, rapid maneuverability, and air defense, and is able to provide assistance to navy and ground forces. The Air Force now sources most of its equipment domestically, fielding a large number of Chinese-designed and produced high-quality fighters, attackers, bombers, reconnaissance aircraft, and special purpose planes. Over the next few years, the Chinese Air Force will enhance its deterrent force in the air, its ability to impose air blockades, and its ability to launch air strikes, as well as its ability to conduct joint operations with the ground forces and navy.⁸⁷⁰

One of the most important strategic changes for the PLAAF took place in the late 1980s when the PLA began forming a rapid-reaction force consisting of "fist" (*quantou*) units. The rapid-reaction strategy is based on the premise that China will only be engaged in local wars for the foreseeable future, that the PLA must strike to end the war quickly and meet the political objectives, and that cost is a big factor as equipment becomes more expensive to use and

⁸⁶⁹ Oliver Chou, "President Calls for Hi-Tech Push by Air Force," *South China Morning Post*, 3 March 1999. The timing of the first comments on an offensive capability came from Liu Shun Yao as he took over the commanders position in December 1996 and as Taiwan began final preparations to receive the first squadron of 150 F-16s in April 1997.

⁸⁷⁰ See Sun Maoqing, "PLA Commander on Modernizing Air Force," *Liaowang*, 14 April 1997, No. 15, pp. 20-21; and Hua Chun, Chang Tun-Hua, Kuo Kai, "Air Force Trains Crack Units Troops for Offensive, Defensive Operations Interviewing Lieutenant General Liu Shun Yao, PLA Air Force Commander, Hong Kong *Ming Pao*, 2 August 1997, in FBIS-CHI-97-226, 2 August 1997; and speech by Liu Shun Yao, "Comprehensively Push Forward PLA Modernization Building," *Jiefangjun bao*, 24 December 1998.

replace.⁸⁷¹ China would conduct any future wars as part of its active defense strategy, which consists of three phases: strategic defense, strategic stalemate, and strategic counterattack. Based on this strategy, some Air Force leaders firmly believe that their intelligence, mobility, and attack capabilities will be sufficient to allow them to react appropriately to any situation, including gaining air superiority, supporting the ground forces, and conducting counterattacks against targets inside the enemy's borders.⁸⁷²

Missions

Over the past fifty years, the basic missions of the PLAAF have not changed appreciably. The first mission the CMC assigned to the fledgling PLAAF in 1949 was the air defense of Beijing and Shanghai against Nationalist air raids. This mission expanded to include northeast China during the Korean War and to the southeast provinces during the 1958 Taiwan Strait crisis. Today, the PLAAF still describes its primary mission as defending China's national airspace, supporting the ground and naval forces, attacking enemy rear echelon positions, and carrying out aerial transport and airborne reconnaissance.⁸⁷³ However, this can best be described as defending China's major cities and industrial areas, which can clearly be seen by looking at the location of the PLAAF's airfields, combat aircraft, surface-to-air missiles (SAMs), and antiaircraft artillery (AAA). The major difference today is that the PLAAF's aircraft have longer

⁸⁷¹ Nan Li, "The PLA's Evolving Warfighting Doctrine, Strategy, and Tactics, 1985-95: A Chinese View," and Paul H.B. Godwin, "From Continent to Periphery: PLA Doctrine, Strategy, and Capabilities Toward 2000," both in David S. Shambaugh and Richard H. Yang, eds. *China's Military in Transition*, Oxford: Clarendon Press, 1997, pp. 284-312. See also James Harris, et al, "Chinese Defense Policy and Military Strategy in the 1990s, in *China's Economic Dilemmas in the 1990s: The Problems of Reforms, Modernization, and Interdependence*, Washington DC: Joint Economic Committee, Congress of the United States, April 1991, pp. 648-649. The concept of active defense means taking tactically offensive action within a basically defensive strategy. The defending forces undertake offensive operations to wear down the adversary while he is strategically on the offensive and attacking. It is the opposite of passive defense, which means the defending forces simply resist without attempting to weaken the adversary as he prepares to attack or is actually on the offensive.

⁸⁷² Allen, Krumel, and Pollack, p. 111.

⁸⁷³ *Shijie junshi nianjian* [World Military Yearbook], published by PLA Press, in 1985, 1987, 1989, 1990, 1991, 1992, 1993-94, 1995-96, 1997, 1998, 1999. *Kongjun da cidian*, p. 8, 313. The PLAAF's primary missions are national air defense (*guotu fangkong*), support ground and naval operations (*zhiyuan lu, haijun zuozhan*), attack enemy rear echelon positions (*dui di houfang shishi kongxi*), and carry out aerial transport (*kongyun*) and airborne reconnaissance (*hangkong zhencha*).

legs and the introduction of the S-300 SAM provides a larger defensive envelope. Published PLAAF sources also refer to informal, tertiary missions, such as assisting socialist construction, providing air services for disaster relief and air rescues, and artificial rainmaking support for farmers.⁸⁷⁴ During 1998, the PLAAF's transport division in the Guangzhou MRAF provided support during massive flooding in southern China.

While the PLAAF states that its secondary mission is supporting ground and naval forces, it has never successfully carried out direct support (*zhijie zhiyuan*) to the ground troops and officially states, "In weighing the advantages and disadvantages of the two types of support for ground forces in future wars, indirect support (*jianjia zhiyuan*) should be the primary type of support and direct support should be the secondary method."⁸⁷⁵ Since the PLA as a whole is just beginning to seriously address joint operations and logistics, the Air Force's ability to support the ground forces well is still questionable. Very little information is available in open

⁸⁷⁴ The 1985-1999 Yearbooks provide progressively greater detail about the PLA's organizational structure. In addition, *Zhongguo Kongjun* magazine has carried numerous articles detailing this type of support.

⁸⁷⁵ Teng and Jiang, pp. 222-223. According to Teng and Jiang, direct support is attacking enemy targets close to the front positions of the ground forces or enemy targets directly threatening to influence the ground forces. Indirect support is attacking targets that are relatively far from the ground forces. There are four aspects of direct support that are detrimental. First, air and ground fire power is interactive (*huxiang zhiyue*). When air and ground forces are carrying out combat missions in the same area, aviation troop activity and all types of ground force artillery shell trajectories are interactive, and realistically restrict each service's and branch's full capabilities. Second, airborne identification of ground targets is difficult. When aircraft are flying low at high speeds, there are only a few tens of seconds between discovering a target and correcting the flight path and from aiming to firing, so there is not enough time to distinguish between the enemy and friendly forces, even when using modern electronic IFF systems and guided munitions. Third, air and ground coordination is difficult. Since there are many services and branches involved in a war, and the weapons used are of all types, air and ground combat is intertwined, especially where the battle is constantly changing, and the air and ground mission is constantly changing, coordination between the air force and ground forces is extremely difficult. Fourth, it is difficult to make full use of one's forces because of the above limitations, plus terrain limitations, so generally only tactical support is suitable and cannot implement the full use of military force. The air force can avoid these problems by providing indirect support. Since attacks on targets in indirect support are far from the ground forces, they must have some effect in terms of time and process in order to help the ground forces. There are four methods of operational coordination the AF and ground forces must pay particular attention to: area (*quyu*), time (*shijian*), target (*mubiao*), and altitude (*gaodu*) coordination. Area coordination is mostly used for indirect coordination.

source material about PLAAF support for the Navy, but PLAAF fighters have reportedly begun routinely flying over water beyond the coastline – something not ordinarily done in the 1980s.⁸⁷⁶

Since the early 1950s, one of the PLAAF's primary tasks has been to gain air superiority (*duoqu zhikongquan*) over the battlefield.⁸⁷⁷ The PLAAF divides air superiority into two types: strategic (*zhanlue*) and tactical (*zhanyi zhanshu*). Strategic air superiority is defined as the ability to influence a war by conducting air superiority for the entire the war or a specific period of time at a particular location or locations over a sustained period of time. Tactical air superiority is defined as the ability to influence a battle by conducting air superiority over a critical or limited area for a short period of time.

In order to carry out these evolving missions, the PLAAF has adjusted its administrative and operational structure several times.

ADMINISTRATIVE STRUCTURE

The PLAAF's organizational system (*tizhi*) includes the administrative structure (*lingdao zhihui jiguan*), five operational branches/service arms (*bingzhong*), specialized support units (*zhuanYe baozhang budui*), and logistics and maintenance support units (*houqin jishu baozhang budui*),⁸⁷⁸ plus academies/schools (*xueyuan/xuexiao*), and research institutes (*yanjiusuo*).⁸⁷⁹ There are also maintenance and logistics support units such as repair facilities (*xiulichang*), hospitals (*yi yuan*), and sanitoriums (*liaoyangyuan*). In addition, there are various types of training regiments (*xunlian tuan*) and training groups (*xunlian dadui*) that are directly subordinate to either Headquarters Air Force or to the seven Military Region Air Force Headquarters.

Since its founding, the PLAAF's chain-of-command has basically been organized into four administrative and operational levels: Headquarters Air Force (HqAF/*kongjun*); military region air forces (MRAF/*junqu kongjun*); air corps (*jun*), command posts (*zhihuisuo*), and bases (*jidi*); and operational units (*budui*). Depending on the type of unit, operational units are organized into divisions (*shi*), brigades (*li*), regiments (*tuan*), groups (*dadui*), squadrons (*zhongdui*), battalions (*ying*), companies (*lian*), platoons (*pai*), squads (*ban*), and flights (*fendui*). Operational units can

⁸⁷⁶ Interviews with government officials in the United States, Taiwan, and Japan.

⁸⁷⁷ Hua, Cao, and Chen, p. 316.

⁸⁷⁸ The PLAAF identifies the following as specialized support units: radar, communications, chemical defense, reconnaissance, and electronic countermeasures troops. Xin Ming, editor, *Zhongguo Renmin Jiefangjun Kongjun shouce* [People's Liberation Army Air Force Handbook], Qingdao: Qingdao Publishers, June 1991, p. 97.

⁸⁷⁹ See *Kongjun da cidian*, pp. 142-143; and Xin Ming, pp. 97-98. See Appendix H for the history of the PLAAF's research institutes.

be directly subordinate to HqAF, the MRAF headquarters, an air corps, a command post, or a base.⁸⁸⁰ The seven MRAFs, in protocol order, are Shenyang (*Shenkong*), Beijing (*Beikong*), Lanzhou (*Lankong*), Nanjing (*Nankong*), Guangzhou (*Guangkong*), Jinan (*Jikong*), and Chengdu (*Chengkong*).⁸⁸¹

Over the past fifty years, the overall administrative organization at PLAAF headquarters can be compared to a deck of cards that occasionally gets reshuffled.⁸⁸² Almost no new cards have been added and the existing cards have merely been moved to a different location in the deck, where the offices still retain the same responsibilities (See Appendix D and E). Headquarters Air Force, located in Beijing, is equivalent to the US Air Force's Air Staff and is organized into four first-level (*yiji*) or major (*da*) administrative departments (*bu*) – Headquarters Department (*silingbu/kongsi*), Political Department (*zhengzhibu/kongzheng*), Logistics Department (*houqinbu/konghou*), and Equipment Department (*zhuangbeibu/kongzhuang*) – and their subordinate second-level (*erji*) functional (*yewu*) departments (*bu*), bureaus (*ju*), divisions

⁸⁸⁰ In the PLAAF, aviation units are organized into air divisions, regiments, groups, and squadrons, and aviation maintenance units are organized into groups, squadrons, and flights. The air defense and support units are organized into divisions, brigades, regiments, battalions, companies, platoons, and squads. A command post/base is slightly lower than an air corps (the commander is equal to a deputy corps commander); a brigade is slightly lower than a division (the brigade commander is equal to a deputy division commander); a battalion and aviation group are equal; a company and aviation squadron are equal; and a platoon and flight are equal. See Xin Ming, pp. 97-98.

⁸⁸¹ Protocol order plays an important role in the PLA's organizational structure. For example, the army, air force, and navy are always listed in the same order (*lu hai kong*) because of the dates they were established. The four general departments are always listed as GSD, GPD, GLD, and GAD, and the PLAAF's counterparts are always listed as the Headquarters Department, Political Department, Logistics Department, and Equipment-Technical Department. Within the PLAAF, the seven MRAFs are virtually always listed in the order of Shenyang, Beijing, Lanzhou, Nanjing, Guangzhou, Jinan, and Chengdu, based on the dates they were established (for example, see Wang Hai, *Wang Hai Shangjiang: wode zhandou shengya* [General Wang Hai: My Combat Career], Beijing: Zhongyang wenxian chubanshe [Central Literature Publishers], February 2000, p. 300. For the most part, the PLA lists the military regions as Shenyang, Beijing, Lanzhou, Jinan, Nanjing, Guangzhou, and Chengdu. The reason the MRs and MRAFs are in a different protocol order is because the MRs were established in a different order than the MRAFs.

⁸⁸² For example, over the years, the training department and schools department have been first level departments, have merged, and have been separated several times, but their functions have not changed.

(*chu*), offices (*ke*), sections (*zu*), and branches (*gu*).⁸⁸³ Historically, the Headquarters, Political, and Logistics Departments have always existed as first-level departments, while other departments have moved between being first-level and second-level departments. These three departments are virtual mirror images of the PLA's three general departments (GSD, GPD, and GLD).

In May 1976, the Aeronautical Engineering Department (*hangkong gongchengbu/konggong*), which had been downgraded to a second-level department in 1969, was re-established as the fourth first-level department, and changed its name to the Equipment-Technical Department (*kongjun zhuangbei jishubu*) in November 1992.⁸⁸⁴ Following the April 1998 creation of the General Armament Department, the PLAAF changed the name of the Equipment-Technical Department to the Equipment Department (*kongjun zhuangbeibu/kongzhuang*).⁸⁸⁵

A note here on terminology. When the term *kongjun* is used by itself, it generally means the PLAAF as a whole or just Headquarters Air Force (HqAF) – this is easily determined by the context. When the term *kongjun silingbu* is used, it refers to the Headquarters Department within HqAF – it does not mean Headquarters Air Force. The meaning of the terms *jiguan* or *lingdao jiguan* generally refer to HqAF as an entity or the HqAF command staff. However, if the terms are used in an article written at a lower level such as at a regiment, they can also refer to the headquarters and command staff at that level or any higher level (division, air corps, MRAF, etc.), but the meaning is usually clear from the context of the article. The command staff at each level specifically refers to the unit's Party Committee Standing Committee (*dangwei changwei*), which includes the commander, political commissar, deputy commanders, deputy political commissars, the chief of staff (director of the Headquarters Department), deputy chiefs of staff, and the three other first-level department directors. While the chief of staff and director of the political department have always been co-equals, the directors of the other two first-level departments (logistics and aeronautical engineering/equipment) have always been slightly lower in the hierarchy. For example, whereas the chief of staff and director of the political departments

⁸⁸³ The four first-level departments, commonly referred to as the *si da bu*, are Headquarters (*silingbu/kongsi*), Political (*zhengzhibu/kongzheng*), Logistics (*houqinbu/konghou*), and Equipment-Technical (*zhuangbeijishubu/kongzhuang*). In most cases in the PLAAF, the term *jishu*, normally translated as “technical” refers to maintenance, but the meaning is generally clear from the context. For example, the PLAAF's *jishu budui* are maintenance troops for equipment and weapons systems other than aircraft. *Kongjun da cidian*, 148, calls the administrative elements below HqAF's first-level departments vocational (functional) branches (*yewu bumen*).

⁸⁸⁴ Ibid., p. 146.

⁸⁸⁵ 1999 Yearbook, p. 103.

have the grade of a military region deputy leader (*junqu fuzhi*), the grade for the logistics and equipment department directors are only that of an army leader (*zheng jun*).

As discussed in Chapter 1, the PLA has six administrative levels (*zongbu*/general office, *zhanqu*/theater of war, *juntuan*, *bingtuan*, *budui*, and *fendui*), which are classified as operational (*zhanyi*) or tactical (*zhanshu*) functional organizations. Within the Air Force, MRAFs are classified as operational (*zhanyi*) organizations at the *juntuan* level under the dual command of Headquarters Air Force and the MR.⁸⁸⁶ The MRAF's primary responsibilities are to provide air defense for strategic areas, to provide support the ground and naval forces, and to provide leadership management for logistics and maintenance support for subordinate units. Air corps are operational and tactical (*zhanshu*) organizations at the *bingtuan* level, that are subordinate to the MRAFs. Air corps have subordinate aviation, AAA, SAM, and radar units, which are responsible for air defense in a particular area and for providing support to ground and naval forces. Air divisions are tactical organizations at the *bingtuan* level, air regiments as tactical organizations at the unit (*budui*) level, and flying groups and squadrons are tactical organizations at the flight (*fendui*) level.

PLAAF Branches

The PLAAF consists of five branches/service arms (*bingzhong*): aviation (*hangkongbing*), AAA (*gaoshepaobing*), SAM (*dikong daodanbing*), radar (*leidabing*), and airborne (*kongjiangbing*).⁸⁸⁷ During the 1980s, the PLAAF identified its communication troops (*tongxinbing*) as a branch, and oftentimes did not list the airborne troops as a branch. However, all PLAAF publications during the 1990s have identified the airborne troops as a branch and identified the communication troops as a specialized support unit, not a branch. Further information on the five branches is discussed in Appendix F.

The PLAAF also makes a clear distinction in its writings between aviation (*hangkongbing*), meaning aircraft, and air defense (*dimian fangkongbing*), which includes AAA, SAM, and radar troops. This practice is a legacy held over from the merger of the PLAAF and PLA Air Defense Force in 1957. This preference for aircraft is also shown in the PLAAF's description of the aviation force as the main arm, even though the PLAAF's AAA and SAMs have shot down more aircraft over the years than the combat aircraft.⁸⁸⁸

⁸⁸⁶ Xin Ming, pp. 98-99.

⁸⁸⁷ The PLAAF's protocol order for its branches are aviation, AAA, SAM, radar, and airborne. AAA troops are sometimes referred to as *yipao* and SAM troops as *erpao*, which often causes confusion with the PLA's Second Artillery Corps (*dierpaobing/erpao*).

⁸⁸⁸ According to the PLAAF's official history, the Air Force has shot down 1,474 and damaged 2,344 aircraft of all types since 1949, including involvement in "liberating Tibet," in the "War to Resist America and Aid Korea," in numerous engagements with Nationalist and U.S.

Aviation. The aviation branch is described as the primary branch and consists of fighter (*qianjiji hangkongbing*), ground attack (*qiangjiji hangkongbing*), bombers (*hongzhaji hangkongbing*), transports (*yunshuji hangkongbing*), and reconnaissance (*zhenchaji hangkongbing*) troops/units. Aviation divisions are described as tactical organizations that carry out operational missions for the MRAF or air corps, or they can carry out independent missions.⁸⁸⁹ The administrative structure of an aviation division includes a Headquarters Department, Political Department, Field Station (*changzhan*) for logistics support, and a Maintenance Division (*jiwuchu/gongcheng jiwuchu*). Aviation regiments are tactical units composed of varying weapon systems and equipment that carry out operational missions for higher authorities, or they can carry out independent missions. An aviation regiment's administrative organization has a Headquarters Department, Political Department (*zhengzhibu*), and Maintenance Division (*jiwuchu*). The division-level Field Station provides logistics support for the regiment. Air regiments have subordinate flying and maintenance groups (*dadui*). A flying group (*feixing dadui*) is the basic unit for carrying out the regiment's operational missions and political work. A flying squadron (*feixing zhongdui*) normally consists of three bombers or four fighters, ground attack aircraft, or reconnaissance aircraft and carries out the group's mission or independent missions.

Ground-Based Units. Over the past fifteen years, the PLAAF has tried various organizational structures for its ground-based (*dimian budui*) AAA, SAM, and airborne branches, which are considered tactical units,⁸⁹⁰ as well as for its radar units. The administrative structure for ground-based divisions and brigades includes a Headquarters Department, Political Department, Logistics Department, and Maintenance Department (*jishubu*). However, it appears that the PLAAF may have changed the Maintenance Department to an Equipment Department (*zhuangbeibu*).⁸⁹¹ Ground-based divisions normally have subordinate regiments, battalions, companies, platoons, and squads. Ground-based brigades normally have subordinate battalions, companies, platoons, and squads. While regiments generally have subordinate battalions, they oftentimes skip the battalion level and have directly subordinate companies. The administrative structure for ground-based regiments includes a Headquarters Department, Political Division

aircraft over the Taiwan Strait, in the "War to Aid Vietnam and Resist U.S. Aggression," and in the 1979 "self-defensive counterattack" against Vietnam. These figures include air-to-air combat (less than 200 aircraft) and aircraft shot down by the PLAAF's AAA and SAMs (over 3,500 aircraft). See *Dangdai Zhongguo Kongjun*, Forward; and Kong Zhengxuan, "Building an Air Force with Offensive and Defensive Capabilities," *Jiefangjun bao*, 7 November 1999.

⁸⁸⁹ *Kongjun da cidian*, p. 149. Xin Ming, p. 98-102.

⁸⁹⁰ Ibid.

⁸⁹¹ A 14 January 2000 *Jiefangjun bao* article identifies a radar brigade Equipment Department in the Beijing MRAF.

(*zhengzhichu*), Logistics Division (*houqinchu*), and Maintenance Division (*jiwuchu*). Ground-based divisions, brigades, and regiments can be directly subordinate to Headquarters Air Force, an MRAF, or an air corps.

SAM and AAA. Prior to 1985, SAM and AAA units were structured as separate organizations. In most cases, they were organized into divisions, with their subordinate regiments. In other cases, the regiment or brigade was the highest level structure. In 1985, the PLAAF began restructuring some of its AAA and SAM regiments into combined brigades (*hunchenglu*),⁸⁹² with the goal of eventually combining as many SAM and AAA units as possible. The process involved turning over most of the AAA to the army, and combining some of the remaining AAA regiments with SAM regiments into combined brigades. By the end of the 1980s, all of the SAM and AAA divisions had apparently been abolished, but some individual SAM and AAA regiments and brigades still existed.⁸⁹³ By the end of the 1990s, the PLAAF had re-instituted the division level, at least for SAMs, and had apparently raised at least some, if not all, of the combined brigades to a combined division (*hunchengshi*) level.⁸⁹⁴ This change probably reflects the PLAAF's acquisition of the S-300s from Russia, and an increased number of SAMs overall, plus the view that the combined brigades may not be the best solution to accomplishing the air defense mission.

Airborne. The airborne forces have also gone full circle. The PLAAF's airborne forces began in the early 1950s as a single brigade and then expanded to become a division.⁸⁹⁵ In 1961, the CMC redesignated the PLA's 15th Army as the PLAAF 15th Airborne Army (*kongjun kongjiangbing 15 jun*) and subordinated the original airborne division to this new organization. By the mid-1970s, the army had three airborne divisions.⁸⁹⁶ Sometime after 1984, the three

⁸⁹² 1991 Yearbook, p. 65.

⁸⁹³ Allen, 1991, Section 17. An interview with a senior PLAAF officer in April 1989 indicated that the PLAAF was not pleased with the process of combining all of the AAA and SAMs into combined brigades and was considering various options.

⁸⁹⁴ Yan Jin, "Chen Shikun, beikong daodan mou shi kaizhan 'xuexi gao Keji renren dong junshi' huodong," *Jiefangjun Bao*, 27 May 1999; Zhang Jinyu, "Beikong huncheng lu mou shi yindao guanbing fayang gan daying pin jingsheng gongke xunlian nan ti," *Jiefangjun bao*, 20 May 1999; Wang Jiqing, Yao Jian, "Beikong daodan mou shi qufen cengci peiyang xin zhuangbei qushou," *Jiefangjun bao*, 23 September 1998.

⁸⁹⁵ Allen, Section 17.

⁸⁹⁶ *Handbook on the Chinese Armed Forces*, Washington, D.C.: Defense Intelligence Agency, DDI-2680-32-76, July 1976, pp. 4-47.

divisions were reduced to brigades,⁸⁹⁷ but were again enlarged to divisions in 1993,⁸⁹⁸ each with about 10,000 troops.⁸⁹⁹

Radar. During the 1980s and early 1990s, the basic radar unit was the regiment,⁹⁰⁰ but radar brigades were noted in the Beijing and Guangzhou MRAF's in 1999-2000.⁹⁰¹ This indicates that the number of radar units in each military region has grown considerably, thus necessitating higher level headquarters to maintain a proper span of control. Surprisingly, the Chengdu MRAF still appears to be based on a regiment level, even though their radar stations span the border from half way through Vietnam to Pakistan.

Communications. Communications troops (*tongxinbing*) are organized into communications, navigation systems, and postal units. It appears that each MRAF has at least one central communications station (*tongxin zongzhan*), which is probably at the regiment level, and is most likely located near the MRAF headquarters. Within the MRAFs there are communications battalions, stations (*zhan*), companies, and teams (*dui*) that are assigned to the various PLAAF units. On an airbase, the communications unit is responsible for all of the flight navigation aids, such as the runway beacon transponders.

Early Administrative Structure

In March 1949, the CMC established a subordinate Aviation Bureau (*hangkongju*) in Beijing, with Chang Qiankun as the director and Wang Bi as the political commissar and sixty-four staff members.⁹⁰² Between April 1949 and February 1950, the Aviation Bureau formed an Aviation Division (*hangkongchu*) in each of the six MRs (Dongbei, Huabei, Xibei, Huadong, Zhongnan, and Xinan). The Bureau also set up subordinate Aviation Offices (*hangkong bangongshi*) in Beijing, Jinan, Nanchang, Changsha, Wuhan, and Shanghai, and Aviation Stations (*hangkongzhan*) in Tianjin, Xuzhou, Qingdao, Hangzhou, Taiyuan, and Zhangjiakou. The Aviation Bureau was organized administratively as follows:

⁸⁹⁷ *Handbook of the Chinese People's Liberation Army*, Washington, D.C.: Defense Intelligence Agency, DDB-2680-32-84, November 1984.

⁸⁹⁸ "PLA Airborne Brigades Become Divisions" *Jane's Defence Weekly*, Vol. 20, No. 14, 2 October 1993, p. 12.

⁸⁹⁹ Department of Defense, "The Security Situation in the Taiwan Strait." Report submitted by Secretary of Defense William Cohen to the US Senate as directed by the FY99 Appropriations Bill, 17 February 1999.

⁹⁰⁰ Xin Ming, pp. 111-112.

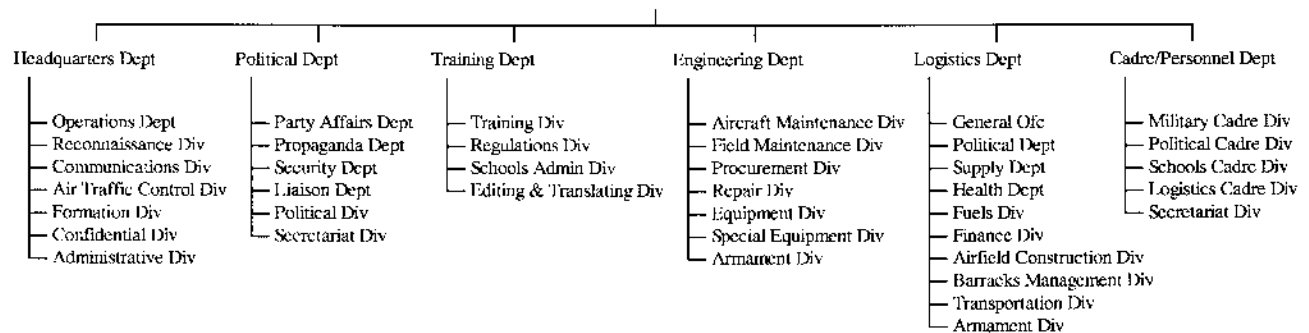
⁹⁰¹ *Jiefangjun bao* articles on 26 May 1999, 21 October 1999, 23 November 1999, and 14 January 2000 noted radar brigades in the Beijing and Guangzhou MRAFs.

⁹⁰² Lin Hu, pp. 26-27.

- Operations and Education Division (*zuozhan jiaoyuchu*)
- Aeronautical Engineering Division (*hangkong gongchengchu*)
- Civil Aviation Division (*minhangchu*)
- Intelligence Office (*qingbaoke*)
- Supply Office (*gongyingke*)

On 11 November 1949, the CMC abolished the Aviation Bureau and formally established the PLAAF, using the Fourth Field Army's 14th *bingtuan* as its core.⁹⁰³ The first commander was Liu Yalou, and the first political commissar was Xiao Hua. Initially, HqAF only had three first-level administrative departments – Headquarters, Political, and Logistics. By the end of the first year, however, HqAF expanded to six first-level administrative departments – headquarters, political, training, engineering, logistics, and cadre/personnel.

Figure 9.1 PLAAF Headquarters, November 1949 – May 1953



The PLAAF Party Committee was established in July 1950. The HqAF organization from November 1949 - May 1953 is shown in Figure 9.1 above:⁹⁰⁴

⁹⁰³ Ibid. pp. 26-27.

⁹⁰⁴

In May 1955, the PLA and PLAAF restructured the existing military regions, as discussed in the books' introduction. In addition to realigning the MRAFs, the HqAF organization was restructured to include eleven first-level departments plus a Military Law Division as shown in Figure 9.2 below:⁹⁰⁵

Headquarters Department (*silingbu*): Operations Department (*zuozhanbu*); Recce Division (*zhenchachu*); Communications Division (*tongxinchu*); Air Traffic Control Division (*hangxingchu*); Formation Division (*duiliechu*); Confidential Division (*jiyaochu*); Administrative Division (*guanlichu*).

Political Department (*zhengzhibu*): Party Affairs Department (*zuzhibu*); Propaganda Department (*xuanchuanbu*); Security Department (*baoweibu*); Liaison Department (*lianluobu*); Directly Subordinate Political Division (*zhizhengchu*); Secretariat Division (*mishuchu*).

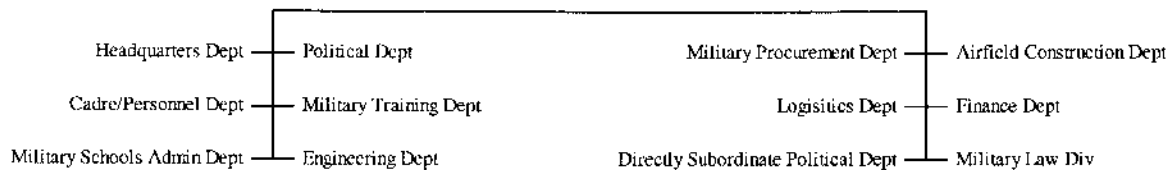
Training Department (*xunlianbu*): Training Division (*xunlianchu*); Regulations Division (*tiaolingchu*); Schools Administrative Division (*xuexiao guanlichu*); Editing & Translation Division (*bianyichu*).

Engineering Department (*gongchengbu*): Aircraft Maintenance Division (*jiwuchu*); Field Maintenance Division (*waichangchu*); Procurement Division (*dinghuochu*); Repair Division (*xiulichu*); Equipment Division (*qicaichu*); Special Equipment Division (*teshechu*); Armament Division (*junxiechu*).

Logistics Department (*houqinbu*): General Office (*bangongshi*); Political Department (*zhengzhibu*); Supply Department (*gongyingbu*); Health Department (*weishengbu*); Fuels Division (*youliao chu*); Finance Division (*caiwuchu*); Airfield Construction Division (*jichang jianshechu*); Barracks Management Division (*yingfang guanlichu*); Transportation Division (*yunshuchu*); Armament Division (*junxiechu*).

Cadre/Personnel Department (*ganbubu*): Military Cadre Division (*junshi ganbuchu*); Political Cadre Division (*zhengzhi ganbuchu*); School Cadre Division (*xuexiao ganbuchu*); Logistics Cadre Division (*houqin ganbuchu*); Secretariat Division (*mishuchu*).

⁹⁰⁵ Headquarters Department (*silingbu*); Political Department (*zhengzhibu*); Cadre/Personnel Department (*ganbubu*); Military Training Department (*junshi xunlianbu*); Military Schools Administrative Department (*junshi xuexiao guanlibu*); Engineering Department (*gongchengbu*); Military Procurement Department (*junshi dinghuobu*); Airfield Construction Department (*xiujianbu*); Logistics Department (*houqinbu*); Finance Department (*caiwubu*); Directly Subordinate Political Department (*zhishu zhengzhibu*); Military Law Division (*junfachu*).

Figure 9.2 PLAAF Headquarters, May 1955 - 1965

PLA Air Defense Force: 1949 – 1957. Between April 1949 and October 1950, the CMC began organizing the Army's AAA, searchlight, and radar battalions and regiments into an air defense structure that could protect China's major cities from Nationalist air bombardments. Garrison and air defense headquarters were created in Beijing, Shanghai, and Nanjing.⁹⁰⁶ As more cities were liberated, the PLA's eight AAA regiments became responsible for the air defense mission of these cities. By the end of 1949, there were sixteen AAA regiments, located in Shenyang, Anshan, Fushun, Beijing, Shanghai, Nanjing, Qishuyan, Wuhan, and Changsha.

On 23 October 1950, the PLA Air Defense Headquarters (*fangkong silingbu*) was formally established with Zhou Shidi as the commander and Zhong Chibing as the political commissar. At that time, there were two AAA divisions, sixteen AAA regiments, one searchlight regiment, two radar battalions, and one aircraft observation battalion (*duikong jianshi ying*). Shortly thereafter, there were four MR air defense headquarters (Huadong, Huabei, Dongbei, and Zhongnan). In addition, command organizations for the Xinan MR Air Defense Division (*fangkongchu*), the Andong and Xiaofengman Air Defense Headquarters, the Zhejiang and Fujian Air Defense Divisions, and the Nanjing, Tianjin, Wuhan, and Nanchang Air Defense Command Posts (*fangkong zhihuisuo*) were formed.

In March 1955, Yang Chengwu became the Air Defense Troops (*fangkong budui*) commander. In August 1955, the PLA Air Defense Troops became the PLA Air Defense Force (ADF/ *fangkongjun*) and was designated a service (*junzhong*) equivalent to the Air Force and Navy. In May 1957, the ADF and PLAAF merged under the Air Force's leadership. Following their merger, the new PLAAF leadership incorporated members of the PLAAF and ADF as follows:

- The command organization and troops of the original ADF's AAA troops, searchlight troops, and aircraft reporting/intelligence troops were kept in tact; and
- All PLAAF and ADF Command Posts were merged into a unified Air Defense Operations Command Post (*fangkong zuozhan zhihuisuo*).

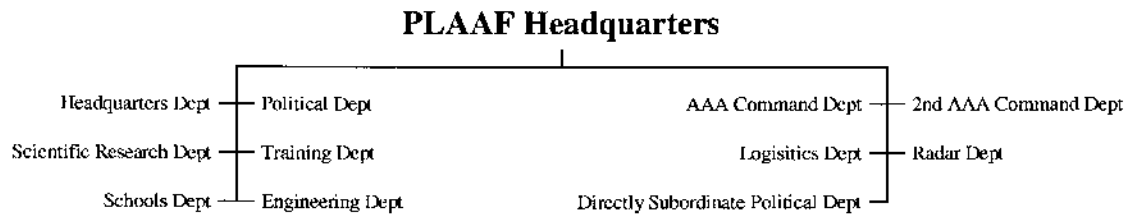
⁹⁰⁶ The information on the PLA Air Defense Force is taken from Allen, 1991, Section 2.

Upon merging, the new PLAAF leadership incorporated members of the PLAAF and ADF. The commander (Liu Yalou), political commissar (Wu Faxian), and five of the seven deputy commanders came from the PLAAF. The remaining two deputy commanders (Cheng Jun and Tan Jiashu) came from the Air Defense Force.

Administrative Organization after May 1957. The May 1955 HqAF reorganization creating eleven first-level administrative departments reflected the three general departments' (GSD, GPD, and GLD) requirements. Over the next decade, several new first-level departments were added, merged, or downgraded. When the PLAAF and ADF merged, the AAA Command Department (*gaoshepaobing zhihuibu*), the Radar Department (*leidabingbu*), and the Searchlight Department (*tanzhaodengbingbu*) were added. In June 1957, the Finance Department (*caiwubu*) was incorporated into the Logistics Department, and in September 1957, the Headquarters Department's Communications Division (*tongxinchu*) became a first-level communications department (*tongxinbu*). From 1958-1965, two first-level departments were added and five merged.⁹⁰⁷ As a result of these changes from 1955-1965, HqAF had the following eleven first-level administrative departments during the height of the Cultural Revolution, as shown in Figure 9.3:⁹⁰⁸

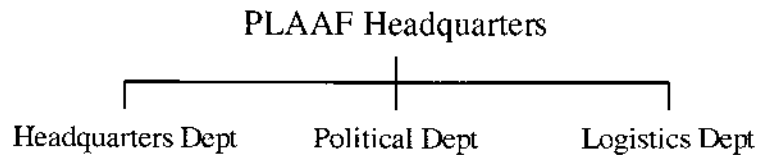
⁹⁰⁷ The five first-level departments that merged were as follows: the Procurement Department merged into the Engineering Department; the Airfield Construction Department merged into the Logistics Department; the Searchlight Department merged into the AAA Command Department; the Cadre/Personnel Department merged into the Political Department; and the Communications Department merged into the Headquarters Department. The first one added was the Military Scientific Research Department (*junshi kexue yanjiubu/keyanbu*). The Technical Department (*jishubu*) was added to take care of SAMs, but this department was later merged with the AAA Command Department. In June 1966, they again split, and the 2nd AAA Command Department (*dier gaoshepaobing zhihuibu*) was established.

⁹⁰⁸ Headquarters Department (*silingbu*); Political Department (*zhengzhibu*); Logistics Department (*houqinbu*); Engineering Department (*gongchengbu*); Training Department (*junxunbu*); Schools Department (*junxiaobu*); Scientific Research Department (*keyanbu*); AAA Command Department (*gaoshepaobing zhihuibu*); 2nd AAA Command Department (*dier gaoshepaobing zhihuibu*); Radar Department (*leidabingbu*); Directly Subordinate Political Department (*zhishu zhengzhibu*).

Figure 9.3 PLAAF Headquarters, 1965 - 1969

When the PLA carried out a reduction in force in 1969, HqAF followed suit and reduced its organization to the three core first-level departments shown in Figure 9.4 below.

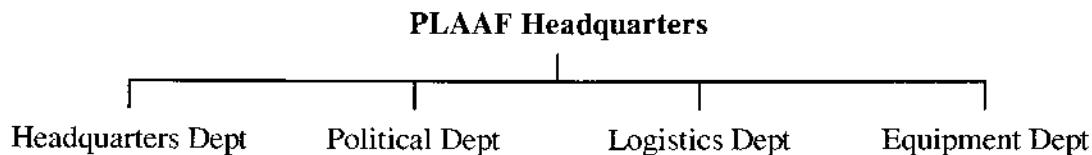
As a result of this consolidation, the PLAAF changed the status of the following departments:

Figure 9.4 PLAAF Headquarters, 1969 - 1976

- The Training and Schools Departments were merged into the Training Department and placed under the Headquarters Department;
- The AAA Command Department, 2nd AAA Command Department, Radar Department, and Scientific Research Department were reduced in size and subordinated to the Headquarters Department;
- The Engineering Department and Directly Subordinate Political Department were abolished;
- The Engineering Department's administrative and field maintenance work became the Headquarters Department's responsibility; and
- The Engineering Department's repair and procurement work became the Logistics Department's responsibility.

Abolishing the Engineering Department created problems for maintenance support, so the Engineering Department was reactivated as the Aeronautical Engineering Department (*hangkong gongchengbu*) in May 1976 as the fourth first-level administrative department. With the exception of changing the Aeronautical Engineering Department to the Equipment-Technical Department in November 1992 and moving some of the second-level departments from within the Headquarters and Logistics Departments to the successor Equipment Department in 1998 to conform with the newly-established General Armament Department (GAD), the administrative organizational structure, as shown in Figure 9.5, has remained fairly stable since 1976.

Figure 9.5 PLAAF Headquarters, 1976 -



One significant change was the creation sometime during the 1990s of the Electronics Countermeasures Department (*dianzi duikangbu*) as a second-level department under the Headquarters Department to manage electronic countermeasures and information warfare. The organizational history for the MRAFs, air corps, command posts, bases, air divisions, and independent aviation regiments is discussed below.

HEADQUARTERS PLAAF TODAY

Headquarters Air Force is the highest command authority and is responsible for policy, training, and equipping the PLAAF.⁹⁰⁹ Operational command is delegated to the MR and MRAF headquarters, where the MR commander is responsible for combined operations, and the MRAF commander, who is also an MR deputy commander, is responsible for flight operations within the MR.⁹¹⁰ In terms of responsibility, the PLAAF makes a distinction between functional (*yewu*) and administrative (*xingzheng*) control. For example, HqAF maintains functional control

⁹⁰⁹ The information concerning the responsibilities of HqAF's Headquarters, Logistics, and Equipment Departments is taken from *Ibid.*, pp. 145-147.

⁹¹⁰ The seven MRAF headquarters are not co-located with the MR headquarters, and in most cases the Logistic Department is not in the same location as the Headquarters, Political, and Equipment-Technical Department, which are generally co-located.

for the planning, budgeting, and requirements for schools and academies, while the MRAF's provide the facilities and have administrative responsibilities for running them.

Key command personnel at HqAF include a commander (*silingyuan*), political commissar (*zhengwei*), four deputy commanders (*fusilingyuan*), two deputy political commissars (*fuzhengwei*), and directors for the Political, Logistics, and Equipment Departments. Even though the four first-level departments are shown as equivalents on an organizational chart, the Headquarters and Political Departments are considered to be slightly higher than the Logistics and Equipment Departments in the protocol hierarchy.

HqAF first-level department directors are equivalent to PLA army commanders (*junzhang*) and the deputy directors are equivalent to deputy army commanders.⁹¹¹ HqAF second-level department/bureau directors are equivalent to PLA division commanders (*shizhang*). HqAF division (*chu*) directors are equivalent to PLA regiment commanders (*tuanzhang*). At the MRAF-level, first-level department directors are equivalent to deputy army commanders, second-level divisions directors are equivalent to deputy division commanders (*fushizhang*), and their subordinate office directors are equivalent to deputy regiment commanders (*futuanzhang*).

HqAF's Headquarters Department is similar to the General Staff Department and is responsible for the following:⁹¹²

- Manage the organizational structure, plans, deployment, transfer, battlefield development, and operational control of the PLAAF operational and support troops;
- Establish departments for and manage operations, intelligence, communications, training, radar, research, and weather support.

HqAF's Political Department is similar to the General Political Department and is responsible for the PLAAF's political work. The PLAAF has three organizations that accomplish political work: Party Committees (*dang weiyuanhui/dangwei*), political commissars (*zhengwei*), and political departments (*zhengzhibu*). Political work includes political education, personnel issues, and public affairs (propaganda).⁹¹³ The PLAAF's Discipline Inspection Commission (*jilu jiancha weiyuanhui*), which the senior deputy political commissar chairs,

⁹¹¹ The term *jun* is translated as army for the ground forces and as an air corps for the PLAAF. The only exception is the PLAAF's 15th Airborne Army (*kong 15 jun*).

⁹¹² The information concerning the responsibilities of HqAF's Headquarters, Logistics, and Equipment-Technical Departments is taken from *Kongjun da cidian*, pp. 145-147.

⁹¹³ Information about the PLAAF's political system was generated from a briefing for the author provided by the PLAAF Political Department in 1988 prior to then-political commissar Zhu Guang's visit to the United States. The author also escorted General Zhu on the visit.

works directly for the PLAAF's Party Committee and the CMC's Discipline Inspection Commission. This commission is responsible for major disciplinary problems. In 1989, the PLAAF's political system had about 30,000 people engaged in political work, equating to approximately six percent of the total force.

Major decisions affecting an Air Force unit require the coordination of the unit's Party Committee, which is the nucleus of unified leadership. At HqAF, the political commissar is the secretary of the Air Force Party Committee and the commander is the deputy secretary. All four deputy commanders, the two deputy political commissars, the chief of staff, four deputy chiefs of staff, and the three other first-level department directors serve as members of the Air Force Party Committee Standing Committee (*dangwei changwei*).

The Logistics Department is similar to the General Logistics Department and, as the PLAAF's largest department, is responsible for the following:

- Organize rear echelon bases;
- Manage the budget;
- Manage the PLAAF's quartermaster work, health, airfield and barracks construction, air materiel, fuel, and transportation; and
- Organize logistics training and research.

The Equipment Department is responsible for managing the following:

- Engineering support and maintenance for air force aviation equipment;
- Repair and overhaul depots for aviation equipment;
- Procurement of aviation equipment from domestic and foreign sources;
- PLAAF representatives at defense factories;
- The R&D, testing, and finalization of equipment;
- The plans, distribution, funds allocation, and maintenance for weapons and equipment; and
- Maintenance training and research.

Operational Structure

PLAAF Operational Areas. Since the PLA was formally established from the components of the Red Army in the late 1940s, China has been divided into various operational areas to control the ground, air, and naval components of the armed forces. Over the past fifty years, some PLAAF command organizations (MRAF, air corps, command posts, and bases) have been downgraded, upgraded, or abolished as the PLAAF consolidated and reorganized its regional control capabilities.

Although the PLAAF is subordinate to the PLA, the uneven growth of the Air Force led to operational areas that were sometimes different than the ground forces' operational areas

described in the introduction to this book. This situation lasted until the 1985 military region consolidation, when the PLAAF operational boundaries finally matched those of the ground forces. While most of the PLAAF's aviation and air defense units are subordinate to an MRAF, air corps, command post, or base, some of the PLAAF's aviation and air defense units are directly subordinate (*zhishu budui*) to PLAAF Headquarters.

Between August 1950 and May 1952, the six PLAAF Aviation Divisions that had been created in the ground force MRs became MRAF headquarters.⁹¹⁴ The list below shows the name and location of the MRAF headquarters once they were established.⁹¹⁵

- Dongbei – Shenyang
- Huabei – Beijing
- Xibei – Lanzhou
- Huadong – Nanjing
- Zhongnan – Wuhan (moved to Guangzhou in May 1955)
- Xinan – Chongqing (moved to Chengdu in 1950 and Wuhan in May 1955)

Although the CMC realigned the ground force operational boundaries into twelve MRs in February 1955, the PLAAF did not follow suit. In May 1955, the six MRAFs were renamed. While four of the MRAF headquarters remained in the same location, two of them moved. The Zhongnan MRAF in Wuhan moved to Guangzhou as the Guangzhou MRAF, and the Xinan MRAF in Chengdu moved to Wuhan to become the Wuhan MRAF. The MRAF headquarters changes are shown below:

- Dongbei MRAF became the Shenyang MRAF
- Huabei MRAF became the Beijing MRAF
- Xibei MRAF became the Lanzhou MRAF
- Huadong MRAF became the Nanjing MRAF
- Zhongnan MRAF became the Guangzhou MRAF
- Xinan MRAF became the Wuhan MRAF

During the 1950s and 1960s, the PLAAF created thirteen air corps and several command posts to control aviation and air defense units within geographical areas that may or may not have been within an existing MRAF. During the Cultural Revolution, many PLAAF command organizations ceased to exist and were reestablished during the late 1970s. In addition, as the

⁹¹⁴ Lin Hu, pp. 26-27.

⁹¹⁵ See Yao Jun, p. 656; and Lin Hu, pp. 26-27.

PLAAF expanded and realigned its operational areas with those of the ground forces, several of the air corps replaced MRAF headquarters, were abolished, or were downgraded to a command post. The key point is that these command organizations are composed of staff members only. When they moved, they did not necessarily have organic aviation and air defense units that moved with them. As these command organizations were moved around to replace existing organizations or establish new command organizations, they then took control of aviation and air defense units that already existed in the command area. Today, only five air corps remain active – 1st/Changchun, 7th/Nanning, 8th/Fuzhou, 9th/Wulumuqi, 10th/Datong. Beginning in 1993, the PLAAF also changed the names of six of its seven existing command posts to bases – Dalian, Tangshan, Xian, Shanghai, Wuhan, and Kunming. Apparently the Lhasa Command Post did not convert to a base.⁹¹⁶

Trying to track individual command elements is not always easy. There are several instances where some air corps were formed, moved to another location to form the basis for an MRAF headquarters, abolished, downgraded to a command post, or reestablished later in a new location. The following two tables and explanation discuss PLAAF operational organizational changes that have taken place within the Military Regions since 1949.⁹¹⁷ Table 9.5 shows when each of the MRAFs, air corps, command posts, and air divisions were established (See Appendix G for the history of each organization), and shows the current status of the MRAFs, air corps, command posts, and bases. An open source list of current air divisions and their locations is not available.

Table 9.5 PLAAF Command Organization and Operational Unit History

MRAFs	Air Corps	Command Posts	Air Divisions
1955: Beijing	1951: 1 st	1955: Wuhan	1950: 7 (2 nd – 9 th)
Nanjing	1951: 2 nd	1960: Fuzhou	1951: 16 (10 th – 25 th)
Lanzhou	1951: 3 rd	1962: Lhasa, Hetian	1952: 3 (26 th – 28 th)
Wuhan	1952: 4 th	1965: Chengdu	1954: 1 (29 th)
Shenyang	1952: 5 th	1976: Tangshan	1960: 4 (30 th to 33 rd)
Guangzhou	1956: 6 th	1978: Kunming, Zhangzhou	1963: 1 (34 th)
1958: Fuzhou	1962: 7 th	1979 Wulumuqi	1965: 2 (35 th – 36 th)
1965: Jinan	1962: 8 th	1985: Xian, Dalian,	1966: 1 (37 th)

⁹¹⁶ Directory of PRC Military Personalities, October 1999, pp. 46.

⁹¹⁷ Unless specified, the information in this section is taken from Allen; *Dangdai Zhongguo Kongjun*; and Lin Hu.

MRAFs	Air Corps	Command Posts	Air Divisions
		Shanghai	
1985: Chengdu	1962: 8 th		1967: 2 (38 th to 3
	1964: 9 th		1969: 7 (40 th – 46 th)
	1969: 11 th		1970: 1 (47 th)
	1969: 12 th		1971: 3 (48 th – 50 th)
	1970: 13 th		

Air Divisions and Independent Regiments. From October 1950 to early 1954, the PLAAF deployed a total of 3,000 aircraft in twenty-eight new air divisions composed of seventy regiments, plus five independent regiments (three reconnaissance, one bomber, and one transport). The air divisions consisted of fighters, bombers, transports, ground attack, and reconnaissance aircraft.⁹¹⁸ Prior to 1953, all of the divisions only had two regiments. Beginning in 1953, however, the PLAAF started adding a third regiment to each of the previous divisions.

The PLAAF arranged these deployments into seven groups of air divisions and independent regiments. Based on an agreement between China and the Soviet Union, a Soviet Air Force air division arrived in northeast China in August 1950 to assist with China's air defense. Between October and December 1950, the Soviet military ferried new aircraft to China for the PLAAF and deployed thirteen Soviet air divisions (ten fighter, two ground attack, and one bomber) to four of China's military regions – Dongbei, Huabei, Huadong, and Zhongnan – to

⁹¹⁸ Yao Jun, pp. 163-164. The first batch of aircraft was a hodge podge of existing aircraft. The second batch was delivered in November 1950 and created the 2nd, 3rd, and 4th brigades, which were then upgraded to divisions. The third batch of aircraft were delivered between November and December 1950 and created the 5th ground attack, 6th, 7th, 8th, and 9th fighter and 8th bomber divisions. The fourth batch of aircraft were delivered between December 1950 and May 1951 and created the 10th bomber, 11th ground attack, 13th transport, and 12th, 14th, 15th, 16th, 17th, and 18th fighter divisions. The fifth batch of aircraft were delivered between November 1951 and May 1952 and created the 19th, 21st, and 24th fighter, 20th, 23rd, and 25th bomber, and 22nd ground attack divisions and the 1st and 2nd independent reconnaissance regiments. The sixth batch of aircraft were delivered between December 1952 and March 1953 and created the 26th and 27th fighter and 28th ground attack divisions and the 3rd independent transport and 4th independent bomber regiments. The seventh batch of aircraft were delivered between the end of 1953 and early 1954 and created the 29th fighter division and the 5th independent reconnaissance regiment. Naval Aviation created six air divisions and five independent regiments between 1952-1955 and added three more air divisions during the 1960s. Today, Naval Aviation has eight air divisions and twenty-seven regiments divided among twenty-five airfields in the three fleets.

provide an air defense role and assist with the PLAAF's training. In addition, a Soviet combined aviation group arrived in Shanghai, Nanjing, and Xuzhou in February 1950 to help with China's air defense. The Soviets began returning home in July 1951.⁹¹⁹ It is not clear when the last Soviet forces left China.

From January 1954 to 1971, the PLAAF created an additional twenty-two air divisions throughout China. The introduction of new aircraft such as the A-5 ground attack aircraft and the B-5 and B-6 bombers also influenced the formation of new combat units.⁹²⁰ While some units merely upgraded to the new aircraft, other units were formed using the new aircraft as their basis. The formation of these fifty divisions and five independent regiments is shown in Appendix G.⁹²¹ Although these divisions were originally established at one location, many of the early divisions relocated several times as the PLAAF expanded to meet operational needs, especially during the late 1950s opposite Taiwan and the 1960s during the Vietnam War.

Since the 1950s, the standard table of organization and equipment (TOE) for a fighter division has been eighty aircraft (including eight trainers) and 120 pilots – a 1:1.5 ratio – with each fighter regiment having twenty-four aircraft and forty pilots.⁹²² The TOE for a bomber division is fifty-four aircraft and ninety crews (*jizu*) – a 1:1.7 ratio – with each regiment having eighteen aircraft and thirty crews. When the PLAAF began forming its first air divisions, most divisions had two regiments, but a few divisions had three regiments, stationed at 1-2 airfields. By 1953, the PLAAF began upgrading all of its divisions to three regiments. Each regiment has 3-4 subordinate groups, which, in turn, are divided into 3-4 squadrons. One confusing event that occurred between 1964 and 1970, was that the PLAAF changed the name of each regiment to a group without changing the organizational structure. Thus, the 24th air division's 70th air regiment in 1963 was renamed the 70th group in 1964.⁹²³ In 1970, the regiment name was re-instituted.

⁹¹⁹ Yao Jun, p. 650, and *Dangdai Zhongguo Kongjun*, p. 652.

⁹²⁰ The PLAAF began receiving the A-5 in December 1969, the B-5 in 1967 (even though other PLAAF units had received Soviet-built IL-28s earlier), and the B-6 in 1976. See Yao Jun, pp. 260, 413, 415, 664.

⁹²¹ The PLAAF histories provide lots of detail about the formation of the first 28 divisions, but give virtually no information about the remaining 22 divisions. Information in these tables is compiled from Yao Jun, *Dangdai Zhongguo Kongjun*; and Lin Hu.

⁹²² Yao Jun, p. 293.

⁹²³ The Air Force uses the "rule of three" to designate its air divisions and regiments. In order to determine a division's subordinate regiments, multiply the division designator times three, then subtract one and two. For example, the 10th air division has the 30th (10 x 3) regiment, 29th (10 x 3 - 1) regiment, and 28th (10 x 30 - 2 = 28) regiment. Each regiment has three

According to a 1999 Department of Defense report, the PLAAF's combat aircraft are currently organized into some thirty air divisions, plus about 150 transport aircraft organized in two air divisions, compared to the fifty total air divisions that existed into the late 1980s.⁹²⁴ A 14 June 2000 *Jane's Defence Weekly* report stated that the PLAAF currently consists of thirty-three divisions, including twenty-seven fighter, four bomber, and two transport divisions.⁹²⁵ In

groups numbered the 1st, 2nd, and 3rd. In addition, the PLA uses five-digit cover designators (*budui daihao*) to protect the identify of its units. These cover designators are used on stationery letterhead, in newspaper articles, and on signs at the entrance to military facilities. These designators are commonly called military unit cover designators (MUCD) in the West. The PLAAF's MUCDs are in the 39XXX, 86XXX, and 87XXX blocks. *Kongjun da cidian*, pp. 145.

⁹²⁴ "The Security Situation in the Taiwan Strait," Report submitted by Secretary of Defense William Cohen to the US Senate as directed by the FY99 Appropriations Bill, 17 February 1999. Discussions with PLAAF officials indicate that this number (32 divisions) is too low, but they did not specify the total number. In addition, the number of 4500 aircraft is probably too high. According to a March 1997 Hong Kong report, US reconnaissance satellites discovered in June 1993 that China had gathered over 1,000 combat aircraft at an airfield (Rugao) in central China, which turned out to be an exceptionally large aircraft depot to accommodate retired planes. Japan's Research for Peace and Security (RIPS), *Asian Security: 1998-1999* (page 108) provides a figure of 3,740 combat aircraft, which is a reduction of 1,230 from 1997. Based on the author's analysis, the majority of the aircraft taken out of the inventory are the older F-6s, which were last produced in 1979. The actual figure is probably somewhere around 3,500 aircraft in the active inventory today. An air division can have one or more air regiments per airfield, with each airfield assigned a field station for logistics support. Although a division can have more than one type of aircraft (i.e., F-7s and F-8s), each regiment typically has the same type of aircraft. The table of organization and equipment (TO&E) for a typical air regiment consists of from 25-32 aircraft, but may actually have more or less assigned. The regiment is the basic organization for training and operations. Each regiment has three flying groups and one aircraft maintenance group. Each flying group is further divided into three squadrons. The division has about 1.5-2.0 pilots per aircraft. Although the pilots are assigned to squadrons, each with three to five pilots, the aircraft are assigned to the regiment as a whole, not just to the squadrons. Each pilot, however, normally only flies one to three airframes, so they become familiar with each aircraft's handling capabilities. The PLA established age limits for pilots in the 1980s: fighter and ground-attack pilots, 43-45 years; bomber pilots, 48-50 years; transport pilots, 55 years; helicopter pilots, 47-50 years.

⁹²⁵ Robert Sae-Liu, "PLAAF Fixed-Wing Fleet Cut In Major Restructuring," *Jane's Defence Weekly*, 14 June 2000, p. 41. The article says the PLAAF had 43 divisions in 1997 when Jiang Zemin announced a force reduction. In 1998, there were 39 divisions, including 31 fighter, five bomber, and two transport divisions. It is not sure whether the 38th bomber division

June 2000, the Department of Defense reported that the PLAAF and Naval Aviation combined number over 400,000 personnel, 4,300 tactical fighters, 1,000 bomber and close air support aircraft, and 650 transport aircraft.⁹²⁶

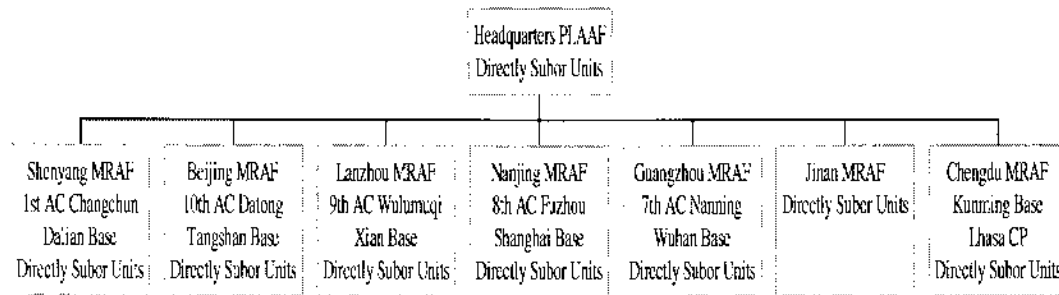
Controlling the New Units. As the PLAAF rapidly increased the number of its air divisions and independent regiments, it also created command organizations to control the aircraft. Besides establishing MRAFs to control large geographic areas that were somewhat aligned with the ground force regions, the PLAAF also established thirteen air corps to control one or more air divisions within the MRAFs, and several command posts to control aircraft and air defense assets deployed to or operating in a specific area. As the PLAAF created its first twenty-eight air divisions between 1950 and 1954 to deal primarily with the Korean War, it also established five air corps to control those assets. One more air corps was created opposite Taiwan in the mid-1950s.

While the PLAAF deployed sixteen new air divisions during the 1960s in response to the Sino-Indian border conflict, the Vietnam War, and the new Soviet threat, it also formed six air corps, and two command posts. During the 1970s, the PLAAF added only three new air divisions and one air corps. As the PLA reorganized during the 1980s, all but five of the air corps were either abolished or downgraded to command posts. One of the primary reasons command posts replaced air corps was to eliminate unnecessary administrative functions and to make the command post an operational (not an administrative) organization. As a result, the Political Department, Logistics Department, and Aeronautical Engineering Departments were all reduced to a Political Division, Logistics Division, and Maintenance Division, and placed directly under the Headquarters Department. Some command posts, such as Xian and Wuhan, did not have any directly subordinate aviation units, so they did not have a Maintenance Division. In addition, some of the administrative divisions (*chu*) present at the air corps or MRAF headquarters were eliminated at the command post. The appropriate MRAF headquarters took over responsibility for these administrative functions. Beginning in 1993, all of the command posts, with the exception of Lhasa, were further reorganized as bases, as seen in Figure 9.6.⁹²⁷ For all practical purposes, a command post and base are identical, except that a command post is equal to an air corps, while a base is slightly lower (the commander is equal to a deputy air corp commander).

at Laiyang, Guangzhou MRAF, is still active or not. If so, that would make 34 active divisions today. The article says the PLAAF has 16 active air defense (AAA/SAM) divisions.

⁹²⁶ Secretary of Defense, "Report on the Current and Future Military Strategy of the People's Republic of China," Report to Congress Pursuant to the FY2000 National Defense Authorization Act, 23 June 2000.

⁹²⁷ *Kongjun da cidian*, p. 147.

Figure 9.7 Current PLAAF Command Organization Status by MRAF

Organizational Changes Affecting Pilot Training

Since the late 1980s, the PLAAF has been involved in two complementary organizational changes that have resulted in more realistic flight training. First, in 1987 the PLAAF established a Flight Test and Training Center at Cangzhou airfield near Tianjin. This center has three primary missions: to test new aircraft under development by the aviation ministry; to train the initial cadre of pilots in new type aircraft before the aircraft are deployed to an operational base for the first time; and to devise new air combat tactics.⁹²⁸

According to a 2 April 1997 *Liberation Army Daily* articles, the Center has obtained some initial results in important combat study areas, such as maneuverable combat, air attack, fighting for air supremacy, and night attack and defense.⁹²⁹ As a result of these studies, the PLAAF has adopted a new training syllabus characterized by adaptability to combat situations under future high-tech conditions.

⁹²⁸ The author visited the Test and Training Center in 1989.

⁹²⁹ Sun Maoqing, "PLA Commander on Modernizing Air Force," *Beijing Liaowang*, 14 April 1997, in FBIS-CHI-97-099, 14 April 1997; and Zhang Nongke and Zhang Jinyu, "'Grindstone' Confronts 'Iron Wings' in Blue Sky: Air Force Forms Unified 'Blue Army' Unit for First Time To Confront Airmen Units in Rotation," *Jiefangjun bao*, 28 April 1997, in FBIS-CHI-97-102, 28 April 1998.

The Training Center also established a “Blue Army” aggressor unit located nearby to simulate offensive and defensive operations against the “Red Army.”⁹³⁰ The aggressor aircraft, mostly F-7s and F-8s, engage in exercises with local units, employing dissimilar aircraft air intercepts utilizing evasive maneuvers.⁹³¹ The tactics developed at the training base and through the “Blue Army” are now being moved to the unit-level, where several units have begun to turn these new combat theories and concepts into live-ammunition exercises.

Second, in 1958 the PLAAF built a large center for testing its AAMs and SAMs in the Gobi Desert near Dingxin, Gansu Province.⁹³² During the mid-1990s, the PLAAF began

⁹³⁰ In February 1987, the PLAAF Flight Test and Training Center (*kongjun feixing shiyan xunlian zhongxin*) was established in Cangzhou (AKA Cangxian), Hebei Province, replacing the 11th Aviation School. During the 1980s, the PLAAF did not believe that it was receiving timely and accurate testing data from the aviation ministry during the ministry’s development and testing of new aircraft at the Xian Yanliang flight test center. Therefore, one of the Center’s mission was to conduct independent testing. There is very little open source information on this mission, though.

⁹³¹ Interviews with PLA and US government officials.

⁹³² In 1958, the CMC authorized construction of the Northwest Comprehensive Missile Test Base (NCMTB) at Shuangchengzi, Gansu Province, to conduct testing of surface-to-surface, surface-to-air, and air-to-air missiles. NDSTC was the controlling authority. When construction was completed in 1960, the NCMTB apparently consisted of four basic entities – the base with control organizations for SSMs, SAMs, and AAMs, and three separate test ranges. Between the mid-1960s and summer of 1970, a new launch site was constructed for the preliminary stage tests of medium and intermediate range surface-to-surface missiles and launch tests for intercontinental ballistic missiles. In July 1970, the AAM and the SAM test organizations (departments) were separated from the SSM organizational structure and placed separately under the PLAAF to form two independent SAM test bases, leaving the NCMTB as a specialized SSM facility only. Apparently, these two organizations moved from Shuangchengzi to nearby Dingxin airfield. The director for the SAM organization and test range was Zhou Shuren and Song Dece was the political commissar. The AAM organization and range were placed under Hu Jia as the director and Cai Jianqiao as the political commissar. Over the succeeding thirty years, the AAM and SAM ranges received advanced tracking and control equipment. At some point in the late 1980s or early 1990s, the PLAAF upgraded the facilities at Dingxin to accommodate a Tactical Training Center associated with the Flight Training Center at Cangzhou, which was established in 1987. From the descriptions given of the facilities at Dingxin, it appears that a separate range was also created for this activity. NDSTC retained authority for SSM tests at Shuangchengzi, which was used as the primary launch site for ballistic missiles from the early 1960s. In 1980, the Shuangchengzi facility changed its name to the Jiuquan Space Center and is one of the major

expanding this base to include a large tactics training center, where multiple PLAAF units could practice the tactics developed at Cangzhou and tested in individual units throughout the force. The training base has a sophisticated command and control center, air and ground tactical training ranges, simulated runways built to scale, a SAM base, AAA positions, radars, radar support vehicles, simulated enemy command posts, ammunition depots, and oil depots, which look real. A large number of simulated tanks are also deployed in combat positions.⁹³³ In addition, the training center includes a mock up of Chingchuankang (CCK) airbase in central Taiwan.⁹³⁴

SUMMARY

With the exception of downgrading the command posts to bases in 1993, the PLAAF's operational command structure has remained fairly constant since 1985. While the re-subordination of the Equipment and Scientific Research Departments under the Equipment Department in 1998 was significant on paper, the officers merely changed the nameplate on their office door in the same building. They are still performing the same tasks as before, just under a different first-level department.

The reduction in force from fifty to thirty-three air divisions over the past decade is significant in that the PLAAF has been able to retire many of its F-6s, all of which were built more than twenty years ago. This consolidation has saved the PLAAF money on maintenance costs and has allowed it to focus on other reforms, including logistics for a smaller and more mobile force. As the PLAAF acquires new weapons systems (Su-27/J-11, Su-30s, Il-76s, J-10, and S-300 SAMs), there will be further changes in doctrine and the way the PLAAF supports a more mobile force.

launch sites for ballistic missiles and space launch vehicles, including military reconnaissance satellites. Sources: *China Today: Defence Science and Technology*, National Defence Industry Press, Beijing, 1993, Volumes I & II, pp. 38-39, 281-288, 459-461, 492-493; Robert S. Norris, Andrew S. Burrow, and Richard W. Fieldhouse, *Nuclear Weapons Databook: British, French, and Chinese Nuclear Weapons*, Boulder, Westview Press, 1994, Volume V, pp. 338-341; "Gobi Air Force Missile Base Revealed," *Kuang chiao ching*, 16 November 1998, pp. 80-91, in FBIS-CHI-98-341, 7 December 1998; Zhang Nongke and Zhang Jinyu, "Air Force Builds Modern, Comprehensive Tactical Training Base," *Jiefangjun bao*, 28 October 1996, in FBIS-CHI-96-228, 26 November 1996; "Gobi Air Force Missile Base Revealed," *Kuang chiao ching*, 16 November 1998 pp. 80-91, in FBIS-CHI-98-341, 7 December 1998; and *Dangdai Zhongguo Kongjun*, p. 311.

⁹³³ Zhang Nongke and Zhang Jinyu, "Air Force Builds Modern, Comprehensive Tactical Training Base," *Jiefangjun bao*, 28 October 1996, in FBIS-CHI-96-228, 26 November 1996.

⁹³⁴ "China Builds Airport Copy," *Associated Press*, 28 April 1999.

Any future significant administrative and command organization changes will come from the PLAAF's relationship with the Army, such as promoting PLAAF officers into senior positions within the four general departments, and from unit-level changes and joint-training that lead to a better capability to conduct combat operations. While PLAAF officers are not likely to be moved into higher command positions in the near future, the unit-level changes are already taking place.

APPENDIX A. AIR FORCE LEADERS: 1949-2000

Commander

Liu Yalou
 Wu Faxian
 Ma Ning
 Zhang Tingfa
 Wang Hai
 Cao Shuangming
 Yu Zhenwu
 *Liu Shun Yao

Deputy Commanders

Chang Qiankun
 Wang Bi
 Wang Bingzhang
 Liu Zhen
 Xu Shenji
 Cao Lihuai
 Cheng Jun
 Tan Jiashu
 Xue Shaoqing
 Zhang Tingfa
 Kuang Rennong
 Luo Yuanfa
 Zeng Guohua
 Zou Yan
 Zhang Jihui
 Wu Fushan
 He Tingyi
 Wang Dinglie
 Wang Hai
 Li Yongtai
 Yu Zhenwu
 Lin Hu
 Liu Zhitian
 Yang Zhenyu
 Jing Xuele

Liu Shun Yao
 *Wu Guangyu
 Xin Dianfeng
 *Wang Liangwang
 Qiao Qingchen
 *Li Yongde
 *Ma Diansheng

*Xu Chengdong
 *Lin Wanhai

Political Commissar

Xiao Hua
 Wu Faxian
 Yu Lijin
 Wang Huiqiu
 Fu Chuanzuo
 Zhang Tingfa
 Gao Houliang
 Zhu Guang
 Ding Wenchang
 *Qiao Qingchen

**Deputy Political
Commissars**

Wang Bi
 Wu Faxian
 Yu Lijin
 Wang Huiqiu
 Gao Houliang
 Du Yufu
 Huang Liqing
 Kuang Fuzhao
 Liu Shichang
 Liu Zhao
 Gao Xingmin
 Xu Lefu
 Yang Yingchang
 Chen Qian

**Chief of Staff (Director,
Headquarters
Department)**

Wang Bingzhang
Zhang Tingfa
Liang Pu
Wang Dinglie
Ma Zhanmin
Yu Zemin
Xin Dianfeng
Xu Qiliang
*Zheng Shenxia

Source: *Zhongguo Kongjun* p. 34.
* Current position holder.

**Director, Political
Department**

Xiao Hua
Wu Faxian
Wang Huiqiu
Huang Yukun
Gao Houliang
Liu Shichang
Ye Songsheng
Bi Hao
Gao Xingmin
Ding Wenchang
Zhang Hanping
Xu Chengdong
*Deng Changyou

APPENDIX B. PLAAF COMMANDER BIOGRAPHIES

Liu Yalou (October 1949 - May 1965)

Liu Yalou was born in 1910 in Fujian province and died in 1965. He joined the Communist Party and the Red Army in 1929. He participated in the Long March and held successive political commissar and commander positions. He went to the Soviet Union in 1939 and studied until 1942. He fought with the Soviet Army against Germany until he returned to China in August 1945 and served in command positions in the northeast. In 1947, he became the commandant of the Northeast Flying School. In April 1949, he became commander of 4th Field Army's 14th *bingtuan*, which formed the basis of the PLAAF when it was formally founded in November 1949.

Wu Faxian (May 1965 - September 1971)

Wu Faxian was born in 1915 in Jiangxi province. He joined the Communist Party in 1930 and became part of the Red Army, serving primarily in political commissar positions. He participated in the Long March and served in the 8th Route Army. After switching from the Army to the Air Force in 1950, he held positions as director of the political department and concurrently deputy political commissar (1950-1957), political commissar (1957-1965), and commander (1965-1971). While serving as PLAAF commander, he simultaneously held the position of deputy chief of the general staff. He was a representative at the 2nd and 3rd National People's Congress, and was a member of the 9th Party Central Committee and member of the Politburo. During the Cultural Revolution, he was a key member of Minister of Defense Lin Biao's group. Wu was arrested immediately after Lin Biao's death in September 1971 and was finally sentenced in 1976 seventeen years imprisonment. Because of deep suspicions among other senior military and civilian leaders about the PLAAF's loyalties, the Air Force was immediately put in a stand-down for three months after Lin's death. These suspicions continued long after the stand-down ceased and are illustrated by the fact that the Air Force did not have a new commander until May 1971 and that none of the official PLAAF histories list any events for the intervening period.

No Commander (September 1971 - May 1973)

Ma Ning (May 1973 - April 1977)

Ma Ning was born in Henan province in 1922, joined the Communist Party in 1935, and served in successive command positions in the 8th Route Army and 2nd Field Army. He transferred from the Army to the PLAAF in 1949, and served as a bomber pilot before becoming deputy commander and commander of the 21st Air Division (Shanghai) until 1967, then became the deputy commander and commander of the 1st Air Corps in Changchun. He was apparently politically adroit during the Cultural Revolution. In 1968 he was on the Jilin Provincial Revolutionary Committee standing committee. From Changchun, he became deputy commander

of the Lanzhou Military Region Air Force. In May 1973, he became commander of the PLAAF. Ma's political savvy allowed him to become PLAAF commander before Zhang Tingfa, who had been a deputy commander before the Cultural Revolution. Ma was a representative at the 10th Party Congress, a member of the 10th Party Central Committee, and a representative at the 4th National People's Congress.

Zhang Tingfa (April 1977 - May 1985)

Zhang Tingfa was born in 1918 in Fujian province and joined the Communist Party in 1933. He served in successive Army positions, including the 8th Route Army, and participated in the Long March. In 1949, he served as a deputy Army corps commander, then as a PLAAF deputy chief of staff, chief of staff, deputy commander, and political commissar. He became PLAAF commander in April 1977. He was a representative at the 10th, 11th, 12th Party Congress, a member of the 10th, 11th, and 12th Party Central Committee and Politburo, and a representative at the 5th National People's Congress. As PLAAF commander, he was a member of the Central Military Commission and a member of the Standing Committee of the Party Central Committee's Politburo. He was replaced in May 1985 at the age of 67. Zhang was the last PLAAF representative to be on the Politburo.

Wang Hai (May 1985 - November 1992)

Wang Hai was born in Shandong province in 1925 and joined the anti-Japanese youth corps in 1944. He joined the Communist Party in 1945. After completing flight school in 1949, he served as a pilot at a flight training school, and a combined aviation brigade squadron commander. Beginning in 1951, he fought in the Korean War as a group commander, deputy regiment commander, and regiment commander in the 3rd Air Division. During the war, he shot down four aircraft and damaged five. After the war, he served at various times as a deputy division commander, division commander, deputy air corps commander, deputy department chief in Headquarters Air Force Training Department, commander of the Guangzhou Military Region Air Force, deputy commander and commander of the PLAAF. He was a representative at the CPC 12th, 13th, and 14th Party Congress, a member of the 12th, 13th, and 14th Party Central Committee, and a member of the 5th Plenum of the 3rd National People's Congress. When ranks were reintroduced into the PLA in 1988, Wang was the only PLAAF officer to receive the rank of general. He retired at age 65 in November 1992.

Cao Shuangming (November 1992 - November 1994)

Cao Shuangming was born in 1929 in Hebei province and joined the PLA in 1946. Having served in the 2nd Field Army, he was later sent to pilot training, which he completed in 1952. In 1953, he joined the "People's Volunteer Air Force" and participated in the Korean War as a deputy squadron commander (each squadron only has two to three aircraft). During the 1958 Taiwan Strait crisis, Cao was deputy commander of the 16th Air Division's MiG-17-equipped 48th Regiment and shot down one aircraft. He later served as a regiment commander, division commander, deputy air corps commander, and deputy commander and commander of the

Shenyang Military Region Air Force. Without having served at HqAF, Cao became PLAAF commander in November 1992. When ranks were re-instituted in 1988, Cao received the rank of lieutenant general. He was promoted to general in May 1993. Cao was a representative at the 12th and 14th Party Congress, was a member of the 14th Party Central Committee, and was a representative at the 6th and 7th National People's Congress. Besides reaching the mandatory retirement age of 65, Cao was reportedly fired in 1992 because of numerous aircraft accidents during his two-year tenure. Under Cao, almost all of the remaining Korean War-era PLAAF leaders were retired.

Yu Zhenwu (November 1994 - December 1996)

Yu Zhenwu was born in 1931 in Liaoning province and joined the Army in 1947. Upon graduating from flight school in 1951, he served in various regimental positions. In 1953, Yu was briefly assigned to Korea in the waning months of the war. After the war, he became one of the PLAAF's first test pilots and conducted the first flight of China's indigenously developed, but never produced, FT-1 trainer in July 1958. He also served as a group commander, division flight inspector, corp training director, regiment commander, deputy division commander, deputy director and director of training at PLAAF headquarters, and corps commander. In May 1983, he succeeded Wang Hai as commander of the Guangzhou Military Region Air Force. When Wang Hai became PLAAF commander in May 1985, Yu moved up to be a PLAAF deputy commander. As the deputy commander, he was responsible for schools, training, and engineering (maintenance). He became commander in November 1994 and reached retirement age in December 1996. When ranks were re-instituted in 1988, Yu received the rank of lieutenant general. He was promoted to general in January 1996. Yu was a representative at the 12th and 14th Party Congress, and was an alternate member of the 13th Party Congress Central Committee. Yu retired at the age of 65 in December 1996.

Liu Shunyao (December 1996-Present)

General Liu Shunyao was born in Shandong province in December 1939. He joined the PLA in 1958 and graduated from the PLA Air Force Flight School in 1964. After graduation, Liu served as deputy squadron commander, group commander, and deputy regiment commander in an air division. He began studies at the PLA Air Force Command Academy in 1977. After graduating, he served as a regiment commander, deputy division commander, division commander, deputy director and commander in 1986 of the Lanzhou Military Region Air Force's Wulumuqi Command Post (an air corps-equivalent organization). In 1990, he attended the PLA's National Defense University. In July 1990, he was assigned as deputy commander and then commander of the Lanzhou Military Region Air Force. In October 1994, he became a PLAAF deputy commander before finally taking over as commander in December 1996. In July 1995, he was conferred the rank of lieutenant general. Liu was promoted to general in July 2000. He was a member of the 13th Party Congress Central Committee.

APPENDIX C. PLAAF FOREIGN RELATIONS

The PLA Air Force began sending delegations abroad as early as August 1949, when the Air Force's first commander, Liu Yalou, led a delegation to Russia to purchase aircraft and equipment.⁹³⁵ From then until he died in 1965, he led two more delegations to Russia (1956 and 1961), as well as visiting Cuba (1963) and Pakistan (1964). Because of the PLAAF's decline during the Cultural Revolution, no further commander-led visits were taken until Commander Zhang Tingfa visited Pakistan in March 1979. Zhang's visit, which came as a result of China's economic opening, reinvigorated the PLAAF's program to familiarize itself with foreign air forces and to try to acquire foreign equipment and technology by sending delegations abroad and by inviting foreign air force delegations to visit China.

Since 1979, Zhang and his successors, Wang Hai, Cao Shuangming, Yu Zhenwu and Liu Shun Yao, have emphasized direct contact with foreign air forces by leading an average of one delegation abroad per year and hosting visits to China by two to four foreign air force commanders annually.⁹³⁶ In addition, Zhu Guang became the first PLAAF political commissar to travel abroad when he visited the United States in 1988, and his successor, Ding Wenchang, led delegations to Cuba in 1996 and Portugal and Turkey in 1998. Based on an analysis of incomplete data, it appears that the PLAAF commanders and political commissars have visited at least twenty-three separate countries and hosted commanders from over twenty countries worldwide. The PLAAF has been most involved (three or more visits) with Australia, Bangladesh, Egypt, Pakistan, Portugal, Russia, Thailand, Turkey, the United States, and Zimbabwe.

Analysis shows that each of the PLAAF delegations led by the commander or political commissar have included directors from key headquarters departments, regional commanders, and/or personnel from air force research institutes and academies. In addition, most of the PLAAF deputy commanders and deputy political commissars have visited abroad as part of a delegations led by senior PLAAF or PLA officers. These types of visits also help indicate who the PLAAF is grooming for future leadership positions. As a deputy PLAAF commander, Liu Shun Yao accompanied Defense Minister Chi Haotian to the United States in November 1996 and became the commander the next month. In September 1998, Deputy Political Commissar Qiao Qingchen accompanied Zhang Wannian to the United States and became the political commissar three months later.

There are several limitations to the future growth of the PLAAF's foreign relations program. The first limitation is the small size of the PLAAF's Foreign Affairs Division, which

⁹³⁵ Information on the PLAAF's foreign military relations comes from Allen and McVadon.

⁹³⁶ Based on information available concerning the 23 PLAAF visits abroad, ten included just one country, six included two countries, and seven included three countries.

only has about five full time officers and has not grown appreciably over the past fifteen years. These officers must plan the itinerary for and escort all foreign and PLAAF delegations. Second, as discussed previously, each commander is authorized only one visit abroad under ordinary circumstances and the number of foreign air force leaders accepted for visits to China is guided by the overall PLA visitors plan. Besides meeting with foreign commanders, the PLAAF also hosts or sends out an average of five to ten functional exchange delegations per year (about one per month). Third, the PLAAF must pay for all in-country expenses for visiting delegations and all international travel expenses for PLAAF delegations. Fourth, the PLAAF only has military attachés posted in three locations—Washington, London, and Moscow—and there are only about ten countries with air force attachés assigned to Beijing. This limits the day-to-day interaction between the PLAAF and foreign air forces.

APPENDIX D. HEADQUARTERS AIR FORCE COMMAND ORGANIZATION

The Headquarters Air Force (HqAF/*kongjun/kongjun zongsilingbu*) command staff consists of a commander, political commissar, four deputy commanders, two deputy political commissars, a chief of staff, and four deputy chiefs of staff.⁹³⁷ The PLAAF has a Party Committee (*dangwei*) and Party Standing Committee (*changwei*). The political commissar is the secretary and the commander is the deputy secretary of each committee. The deputy commanders, deputy political commissars, chief of staff, deputy chiefs of staff, and the three other first-level department directors make up the rest of the Standing Committee.

HqAF also has several specialized commissions, some of which are listed below:

- The Aviation Military Products Design Finalization Commission (*hangkong jungong chanpin dingxing weiyuanhui/hangdingwei*) was established in Beijing in January 1962, and was composed of members from the Ministry of Aviation and the PLAAF. Although it ceased working during the Cultural Revolution, it was revived in 1973. The commission is chaired by the deputy commander in charge of equipment and R&D;
- The PLAAF Science and Research Commission (*kongjun xueshu yanjiu weiyuanhui*) was established in Beijing in September 1983;
- The PLAAF Flight Safety Guidance Commission (*kongjun feixing anquan zhidao weiyuanhui*) was established in Beijing in October 1984. It is composed mostly of retired senior officers; and
- The Discipline Inspection Commission (*jilu jiancha weiyuanhui*) is chaired by the senior deputy political commissar.

Headquarters Air Force consists of four first-level departments – Headquarters, Political, Logistics, and Equipment – each of which have several second-level departments, bureaus, and offices. In turn, each of these sub-elements have subordinate elements. Although, this paper lists only those subordinate elements that have been identified in open source reporting, there are many elements that have not been noted. While not every second-level organization has the same subordinate elements, each second-level organization most likely has someone who is responsible for plans (*jihua*), finance (*caiwu*), training (*xunlian*), and administration (*guanli*). The remainder of this appendix provides information about the four first-level departments.

⁹³⁷ Unless specified, the information in this appendix was taken from Allen, 1991. Information about the second-level departments and the general responsibilities for each department are also found in *Kongjun da cidian*. See also Yao Jun and Xin Ming.

Headquarters Air Force, Headquarters Department

The Headquarters Department (*kongjun silingbu/kongsi*) is responsible for the PLAAF's organizational structure, policy, operations and intelligence planning, recruiting, and training. The chief of staff serves as the director of the Headquarters Department. There are four deputy chiefs of staff (DCS). Unlike the USAF, these deputy chiefs of staff are not the directors of the four first-level administrative departments. Each DCS has a broad range of responsibilities, which may cross one or more of the Headquarters Department's second-level departments/bureaus. The DCSs do not necessarily have the same corresponding responsibilities as the four deputy commanders. There are at least eighteen second-level departments/bureaus/offices, whose director is a senior colonel or colonel.

Although there are separate second-level departments which are responsible for the radar, communications, and AAA/SAM branches, there are no separate departments for airborne or aviation troops. The Operations Department and Training Department have primary responsibility for airborne troops. The reason there is not a separate aviation department today is that originally all of the existing departments supported the aviation troops. After the PLAAF and Air Defense Force merged in 1957, the air defense forces (AAA, SAM, and radar) became PLAAF branches and required separate, specialized administrative departments to handle their affairs.

The Headquarters Department has at least eighteen second-level elements discussed below. When the General Armament Department (GAD) was created in 1998, the PLAAF moved the second-level Equipment Department and Scientific Research Department to the first-level Equipment Department.⁹³⁸ It is not clear whether other elements of the Headquarters Department also moved over.

The *General Office* (*bangongshi*) is responsible for reviewing all paperwork from the Headquarters Department going to the command staff. The General Office has a director (*zhuren*) and three deputy directors (*fuzhuren*). One deputy director is responsible for foreign affairs, one for political work, and one for all other matters. Assistants for the political commissar/deputy political commissars also work in the Headquarters Department's General Office, not in the Political Department. The General Office has at least five subordinate divisions.

- Secretariat Division (*mishuchu*)
- Documents Division (*guan dang'anchu*)
- Foreign Affairs Division (*waishichu*)
- The Translation Unit (*fanyidui*) has a pool of trained translators who can be used as needed throughout the Air Force

⁹³⁸ Interview with PLA officials.

- The First Division (*yichu*) has staff officers who serve retired senior officers, such as commanders, deputy commanders, chiefs of staff, and deputy chiefs of staff
- The Second Division (*erchu*) has staff officers who serve retired senior political officers

The **Political Department** (*zhengzhibu*) is responsible for political affairs within the Headquarters Department. It has at least three divisions.

- The Cadre/Personnel Division (*ganbuchu*) is responsible for all personnel matters within the Headquarters Department
- Party Affairs Division (*zuzhichu*)
- Propaganda Division (*xuanchuanchu*)

The **Operations Department** (*zuozhanbu*) is responsible for all operational matters, including airborne and SAM/AAA operations. Although there is a AAA department, there is no separate airborne department. Whereas the operations department is responsible for operational matters, the other departments (i.e. radar, communications, etc.) are responsible for the technical matters. The operations department has a political commissar and four subordinate divisions, which are not further divided into offices.

- The First Division (*yichu*) is responsible for daily operations. Action officers are responsible for each of the major operational elements, such as radars, communications, fighters, bombers, AAA, SAM, etc.
- The Second Division (*erchu*) is responsible for operations plans, and, like the first division, has individuals from each functional area.
- The Command Division (*zhihuichu*) is responsible for issuing the orders to lower units and receiving messages from them.
- The Airfield Management Division (*guanchangchu*) is responsible for overall airfield operations.

The **Intelligence Department** (*qingbaobu*) is organized into four divisions along functional lines. It has at least one division.

- The Aerial Reconnaissance Division (*hangkong zhenchachu*) is responsible for all aspects of aerial reconnaissance, including photo interpretation.

The **Communications Department** (*tongxinbu/tongxinbingbu*) is responsible for all communications policy and technical matters. There are at least four divisions.

- Radio Division (*wuxiandianchu*)
- Telephone Division (*dianhuachu*)

- Command, control, and communications (C³) Division (*zhihui zidonghuachu*)
- The Technical Support Division (*jishu qinwuchu/jiqinchu*)

The **Training Department** (*junxunbu*) is responsible for overseeing all training at the unit-level, the flying academies, and the flight training portion of the Test Flight and Flying Training Center at Cangzhou Airfield. It is not responsible for training at other schools. The Training Department's Tactics Development Center, which is located at the PLAAF Command College in Beijing, is responsible for developing campaign tactics, not individual fighter tactics. Individual tactics development is the responsibility of the Training Study Center at Cangzhou. The Training Department is also responsible for the Test Flight Regiment (*shifei tuan*) at Xian Yanliang airfield and its subordinate Test Flight Groups (*shifei dadui*) which are assigned to each aircraft factory. For example, the 1st Test Flight Group is at the Shenyang Aircraft Corporation, and the 6th Test Flight Group is at the Shaanxi Aircraft Corporation. Throughout the PLAAF's history, the Training Department and School Department have been combined into a single department and then split into separate departments several times. Within the Training Department, there are at least four divisions/offices.

- The Training Equipment Research Office (*junxun qicai yanjiushi*)
- Flight Safety Division (*feixing anquanchu*)
- Plans Division (*jihuachu*)
- Airborne Troops Division (*kongjiangbingchu*)

The **Schools Department** (*junxiaobu*) is responsible for the planning, budget, regulations, facilities, administration, students, and staff to perform a particular type of training at the PLAAF's schools/academies. The other departments help determine the curriculum and provide the instructors to the Schools Department. PLAAF academies, except for flying academies, are responsible for recruiting students the same way civilian universities do. Prospective students must pass the national entrance examination before they are considered for the academies. There are at least three divisions.

- Plans Division (*jihuachu*)
- Ground Schools Division (*dimian xuexiaochu*)
- Flying Academies Division (*feixing xueyuanchu*)

The **Military Affairs Department** (*junwubu*) manages general Air Force affairs, organizational structure, and pilot and enlisted recruiting. Actual Air Force recruiting, however, is handled by the provincial military commands. Except for the aviation academies, all officer academies are responsible for recruiting their own cadets. There are at least two divisions/offices.

- Pilots Division (*feixingyuanchu*).
- The Pilot Recruiting Office (*zhaofeiban/zhaoshou feixingyuan bangongshi*) is responsible for setting the requirements and issuing the call for flying academy cadets.

The **Radar Department** (*leidabu/leidabingbu*) is responsible for writing the regulations and determining the organization and deployment of the radar troops. It is also responsible for all technical matters pertaining to radars. The Operations Department is responsible for radar employment. There is at least one division.

- The Technical Support Division (*jishu qinwuchu/jiqinchu*) is responsible for radar technical matters.

The **Antiaircraft Artillery Department** (*gaopaobu*) is responsible for antiaircraft artillery (AAA) and surface-to-air missile (SAM) administrative and maintenance matters. The Operations Department is responsible for operational matters. There are at least three divisions.

- Antiaircraft Artillery Division (*gaopaochu*)
- Surface-to-Air Missile Division (*dikong daodanchu*)
- The Technical Support Division (*jishu qinwuchu/jiqinchu*) is responsible for all AAA and SAM technical matters.

The **Electronic Countermeasures Department** (*dianzi duikangbu*) is responsible for ECM and information warfare plans and policy. This department most likely existed during the 1980s, but appears have been elevated to a second-level status, perhaps as early as 1988 when the GSD established the Electronic Countermeasures and Radar Department (*dianzi duikang leidabu*) as a second-level department. The GSD dropped the term radar from the title around 1990.

The **Administrative Bureau** (*xingzheng guanliju*) is in charge of housing, food, and transportation support (basically all logistics support) for HqAF. The Logistics Department handles these affairs for the rest of the Air Force. The Administrative Bureau also runs the PLAAF hotel in Beijing. In addition, the *guanliju* is responsible for providing the personnel to the Political Department as security forces for HqAF. The security forces, such as gate guards and those who deal with vehicle accidents, are organized into a company (*lianduī*). There is no security police (*kongjun jingcha*) organization like in the USAF. At the base-level, the gate guards belong to the base security unit (*jingwei buduī*), which in turn belongs to the Political Department. For example, at an airfield the Security Guard Flight (*fenduī*) is divided into inner (*neichang*) and outer (*waichang*) security guards. The inner guards are responsible for barracks areas and barracks doors, while the outer guards are responsible for aircraft, airfield equipment security and maintaining airfield order. There are at least two divisions.

- Finance Division (*caiwuchu*)
- The Retired Cadre Division (*laoganbuchu*) is responsible for running the Headquarters Department's sanitoriums and is now manned by civil service personnel.

The original basis for air traffic control was the need to maintain air procedures (*kongzhong zhixu*) and to support flight safety. In the beginning, an Air Traffic Control Division (*hangxingchu*) and an Aircraft Dispatch Office (*hangxing diaodushi*) were set up within the HqAF Headquarters Department, as well as at each MRAF and air corps headquarters. An Aircraft Dispatch Office was also set up at each aviation unit and flying school airfield. The HqAF Air Traffic Control Division became the Air Traffic Control Bureau (*hangxingju*) in 1963. Today, the **Air Traffic Control Bureau** is responsible for all aircraft matters from take-off to landing, including flight routes. The bureau does not control anything that has to do with ground support. There are at least three divisions/offices.

- Flight Control Office (*feixing guanzhishi*)
- Air Traffic Control Division (*hangxingchu*)
- Technical Division (*jishuchu*)

The **Navigation Department** (*linghangbu*) originated during the early days of the PLAAF, when transports each had two navigators. This department was responsible for all navigator-related matters, such as writing the regulations and policies, and working with the Air Traffic Control Bureau to design flight routes. At the aviation unit-level, the Navigation Office is responsible for items such as notice to airmen (NOTAMs) and for filing and checking flight plans. The primary missions of the navigation system is to organize and implement air navigation, bombing, and ground controlled intercept (*dimian zhihui yindao*). PLAAF aviation units have specialized navigation personnel as follows:

- Bomber and transport divisions, regiments, and groups have a navigation director (*linghang zhuren*)
- Bomber and transport squadrons have a navigation chief (*linghang zhang*)
- Bomber and transport flight crews have navigators (*linghang yuan*)
- Fighter and ground attack units only have a division and regiment navigation director

The Navigation Department also works closely with the Schools Department to administer the Navigation Academy, which was established in 1958 as the 16th Aviation School in Huxian, Shaanxi Province. This academy trains navigators, air traffic controllers, and weapons controllers. The Navigation Department has at least two subordinate divisions:

- Navigation Division (*linghangchu*)
- Weapons Controller Division (*yindaochu*)

- The Weather Bureau (*qixiangju*) has weather centers located throughout China, including one at Xijiao airfield. This bureau is responsible for writing all the regulations pertaining to weather support and for organizing the weather support network.

The **Weather Bureau** (*qixiangju*) has weather centers located throughout China, including one at Xijiao airfield. This bureau is responsible for writing all the regulations pertaining to weather support and for organizing the weather support network.

The **Confidential Bureau** (*jiyaoju*) is responsible for encoding and decoding messages for electrical transmission.

The **Directly Subordinate Supply Department** (*zhishu gongyingbu/ zhigongbu*) is responsible for food services and support to the Headquarters Department, and possibly to the Political and Equipment Departments (the Logistics Department is located in a separate compound).

Headquarters Air Force, Political Department

HqAF's Political Department (*zhengzhibu/kongzheng*) is responsible for ideology and political work, MWR (morale, welfare, and recreation), Party affairs, cultural education, mass work, and teaching patriotism, as well as being responsible for officer appointments, promotions, and removal. There is a director (*zhuren*), two deputy directors (*fuzhuren*) and at least thirteen second-level departments/offices.

The **General Office** (*bangongshi*) performs the same duties as a Headquarters Department. All paperwork going to the director and deputy directors must be processed and approved through the General Office. It has four divisions/offices.

- The Secretariat Division (*mishuchu*) is responsible for screening all paperwork going to the director and deputy directors.
- The Administrative Division (*guanlichu*) is responsible for services, the budget, and logistics support to the Political Department.
- The Letters of Inquiry Division (*xinfangchu*) is responsible for receiving and responding to letters of complaint and inquiry, much the same as a USAF Inspector General's Office does.
- The Political Research Office (*zhengzhi yanjiushi/zhengyanshi*) is responsible for studying problems and writing up the necessary reports.

The **Party Affairs Department** (*zuzhibu*) has three subordinate divisions.

- The Party Committee Division (*dangweichu*) is responsible for the daily affairs of the PLAAF Party Committee.
- The Youth Division (*nianqingchu*) is responsible for all youth activities.

- The Party Affairs Division (*zuzhichu*) is responsible for statistics, awards, survivor benefits, women's affairs, and outstanding officer recognition.

The **Cadre/Personnel Department** (*ganbubu*) manages appointments, promotions, demotions, and all personnel matters. It has four divisions.

- The Appointment and Removal Division (*renmianchu*) is responsible for appointment, removal, and promotions.
- The Ranks Division (*junxianchu*) was established to work on the 1988 introduction of ranks in the PLAAF. This division may be abolished later.
- The Transfer Division (*tiaopeichu*) is responsible for selection, assignments, and transfers.
- The Science and Technology Division (*kejichu*) is responsible for schools, health, and technical matters. It works with the Schools Division (*yuanxiaochu*) in the General Political Department's Cadre/Personnel Department (*ganbubu*).

The **Propaganda Department** (*xuanchuanbu*) is in charge of propaganda, ideology, and mobilization, as well as internal PLAAF information and publications. It has three divisions.

- The Propaganda Division (*xuanchuanchu*) writes news articles.
- The Education Division (*jiaoyuchu*) is responsible for ideology and education. It has at least one group.
- Audio-Visual Education Group (*dianhua jiaoyuzu*).
- The Cultural Education Division (*wenhua jiaoyuchu*) is responsible for Cultural Education.

The **Security Department** (*baoweibu*) manages all security matters, including security for VIPs. At the base-level, it is called the Security Office (*jingweike*), and is responsible for base security. There are three Divisions.

- The Security Division (*baoweichu*) is responsible for ground security at PLAAF units. Personnel at HqAF who man the gates are from the Headquarters Department's Administrative Bureau, but they are responsible to the Security Division. The Security Division has a Prisoner Guard Unit (*kanshousuo*) which has a martial arts (*wushu*) team that competes throughout China.
- The Pilot Support Division (*kongqinchu*) is responsible for pilot security.
- The VIP Security Division (*jingweichu*) is responsible for PLAAF and foreign VIPs.

The **Cultural Department** (*wenhuabu*) is in charge of cultural education and recreational affairs. It has three subordinate elements.

- The PLAAF Political Works Troupe (*kongzheng wengongtuan*), which is also known as the Song & Dance Troupe (*kongjun gewutuan*), is a directly subordinate unit (*zhishu budui*). The troupe performs throughout China and sent a 50-member group to the United States to perform at the USAF MAJCOMs in 1986.
- The HqAF Women's Basketball Team (*nuzi lanqiudui*) is a directly subordinate unit. They competed in North Korea in October 1988.
- The HqAF Men's Basketball Team (*nanzi lanqiudui*) is a directly subordinate unit.

The **Liaison Department** (*lianluobu*) is responsible for studying relations with Taiwan, and for enemy propaganda and interrogation. There are no Divisions.

The **Mass Works Department** (*qungongbu*) has one subordinate Division.

- The Mass Works Division (*qungongchu*) is responsible for PLAAF relations with the government and local people. It helps resolve issues such as land disputes and incidents between the local populace and PLAAF members.

The **Retired Cadre Bureau** (*laoganbujü*) was created in the late 1980s and is responsible for all retired officer's affairs. With the demobilization and retirement programs that began in 1985, this department has the responsibility of finding jobs and housing for some of these people, especially those who joined the PLA prior to 1949. There are two retired divisions, based upon the date the PLAAF member joined the military.

- The Retired Division (*lixichu*) is responsible for cadres who joined the military prior to 1 October 1949. These cadres receive 100 percent of their active duty salary and are entitled to live in a retired cadre sanatorium (*ganxiusuo*).
- The Retired Division (*tuixichu*) is responsible for cadres who joined the military after 1 October 1949. They receive 80-90 percent of their active duty salary but are not entitled to live in a *ganxiusuo*. This division helps them find housing and possibly another job.

The **Air Force Newspaper Office** (*kongjun baoshe*) is responsible for the *Air Force Newspaper* (*kongjun bao*) which is published three times per week. There is an Editorial Office (*bianjibu*). Some people also work on *Air Force* (*zhongguo kongjun*) magazine.

The **Editing Office** (*bianshenshi*) helps older cadres write their biographies.

The **Procuratorate** (*jianchayuan*) investigates matters requiring disciplinary action. This office works closely with the PLAAF's Discipline Inspection Commission (*jilu jiancha weiyuanhui*), which is chaired by the senior deputy political commissar.

The **Court** (*fayuan*) tries offenders who have been accused of a crime or wrong doing. This office works closely with the Procuratorate and Discipline Inspection Commission.

Headquarters Air Force, Logistics Department

The Logistics Department (*houqinbu/konghou*) was established in November 1949 from within the Fourth Field Army. It is responsible for supply, as well as support for operations, training, and living. The department's command staff includes a director, political commissar, two deputy directors, a chief of staff, and two deputy chiefs of staff. The headquarters for the Logistics Department is the only one of the four first-level departments which has its own separate compound and is not located at HqAF. This is also true for most, if not all, of the MRAF Logistics Departments.

Within the Logistics and Equipment Departments, all desk officers are referred to as assistants (*zhuli*), but in the Headquarters and Political Departments, they are referred to as staff officers (*canmou*) or secretaries (*mishu*). The Logistics Department has at least sixteen second-level departments/bureaus. It is also responsible for various research institutes and units, the Air Force general hospital and subordinate hospitals, the four stations equipment repair factories, and all air materiel depots. It is not clear, but the Materials Department and Air Materiel Department may have moved to the Equipment Department in 1998.

The Logistics Department's basic mission is to provide supplies for PLAAF construction, operations, training, and daily life. It carries out this primary mission in the following ways:

- Deploys logistics forces
- Handles logistics mobilization work
- Provides procurement, allocation, acceptance testing, storage and care, maintenance and repair, transportation, and supply of AAA, SAM's, ammunition, radars, vehicles, and boats
- Provides logistics training and education
- Provides logistics management work
- Manages logistics equipment

The Logistics Department's responsibilities for depot management include the following:

- Improve storage techniques
- Implement moistureproof measures
- Implement safe protection and disposal measures
- Formulate regulations for receipt and issue and for warehouse personnel
- Select warehouse personnel for school
- Conduct OJT training at the depot
- Enhance mechanization and automation
- Purchase complete sets of some machinery

- Allocate microcomputers for management
- Build some automated management warehouses that are equipped with elevated cubes

Logistics funds are arranged by balancing income and expenditures, proceeding with authority, ensuring that the focal points in the five year plan are met, and abiding by general principles. Basically, the GLD allocates two types of money to the PLAAF annually. One type is allocated to the Headquarters Department's Equipment Department for equipment purchases. The second type is allocated to the Aeronautical Engineering Department and Logistics Department for maintenance and spare parts, respectively.

There are three types of materials (*wuzi*) as follows:

- PLAAF units' common use material (*tongyong wuzi*) is based on the GLD's unified plan, procurement, and supply. The GLD allocates a fixed amount of money to the PLAAF Logistics Department which can only be used to purchase a specified amount and type of common use material.
- PLAAF Hq organizes the procurement and supply of specialized material (*zhuanrong wuzi*) for PLAAF units. The GLD allocates some money to the PLAAF Logistics Department for this specialized material, and the PLAAF can decide itself how to use this money to buy material from within the PLAAF.
- Local materials needed by units can be purchased directly from the market from unit funds.

Officers are trained on three levels – basic (*chujī*), intermediate (*zhongjī*), and advanced (*gaojī*). Beginning in the 1950s, two schools and fifteen logistics specialty training regiments/units were created, but these were severely affected during the Cultural Revolution. Today, basic training is conducted at the PLAAF Logistics Academy (*kongjun qinwu xueyuan*) in Xuzhou, Jiangsu Province, for each of the specialties except medical. The PLAAF has its own Medical School (*kongjun yixue zhuanke xuexiao/kongyixiao*) in Jilin, Jilin Province. Intermediate training is conducted at the PLAAF Command College (*kongjun zhihui xueyuan*) in Beijing, and the GLD provides advanced training at the Logistics Academy (*houqin xueyuan*) in Beijing.

New enlisted logistics personnel receive training at one of several logistics training regiments (*houqin xunlian zhuanrong tuan*), which are mostly independent regiments (*duli tuan*). These regiments have several specialties, but some only have one or two. The size, scope, and number of the training regiments depends upon the specialty and the total number of PLAAF personnel who need that particular type of training. For example, regiments for larger specialty fields, such as medical or transportation, will be larger and more numerous. Enlisted medical training is eight months long. NCOs receive advanced training at Training Groups (*xunlian dadui*). The PLAAF also has Training Regiments for specialized logistics troops (*zhuanrong bing*).

The Logistics Department is responsible for some equipment repair at vehicle repair factories (*qiche xiuli chang*), armament and radar repair factories (*junxie leida xiuli chang*),

engineering equipment repair factories (*gongcheng jixie xiuli chang*), and aviation four stations repair factories (*hangkongsizhan xiuli chang*), all of which are subordinate to the Logistics Department. These repair factories are responsible for vehicles, radar, armament, engineering equipment, and aircraft start vehicles, and oxygen trucks, etc.

The Logistics Department has four levels of health facilities listed below, and each flying regiment has several flight surgeons assigned to a flight surgeon section:

- HQ PLAAF general hospital
- A central hospital at each MRAF
- A clinic (*menzhenbu*) at each unit headquarters
- A Health Office or Team (*weishengke/weishengdui*) at each unit's basic element

Each pilot also has 30 days per year of convalescence at one of the following ten PLAAF sanitoriums (*liaoyangyuan*):

City	Province	MRAF
Xingcheng	Liaoning	Shenyang
Dalian	Liaoning	Shenyang
Beidaihe	Hebei	Beijing
Xian Lintong	Shaanxi	Lanzhou
Hangzhou	Zhejiang	Nanjing
Jiujiang	Jiangxi	Nanjing
Guilin	Guangxi	Guangzhou
Wuhan	Hubei	Guangzhou
Qingdao	Shandong	Jinan
Chengdu	Sichuan	Chengdu

The Logistics Department's **Headquarters Department** (*silingbu*) serves the same purpose as a General Office and is responsible for the functional control, including the budget, plans, and regulations, for all of the research institutes that belong to the Logistics Department. In the 1950s and 1960s, the Logistics Department established the Medical and Fuels Research Institutes. After the third plenum of the 11th Party Congress, research institutes such as those for

capital construction, aviation munitions, and surface-to-air missiles were established. This department has at least three subordinate divisions/offices:

- The Science, Technology, and Equipment Division (*keji zhuangbeichu*) is responsible for logistics science and technology, and academic theory and research, and is responsible for the Logistics Department's research institutes' budget, writing regulations, and assigning requirements.
- Translation Office (*fanyishi*)
- Combat Support Division (*zuozhan qinwuchu/zhanqinchu*)

Political Department (*zhengzhibu*). No information is available, but it is probably organized similar to the Political Department in the Headquarters Department, in that it has at least a Cadre/Personnel Division that is responsible for all logistics personnel matters.

The **Finance Department** (*caiwubu*) formulates the PLAAF's budget, requests the PLAAF's funding, allocates the funds, formulates the standardization system for logistics special use funds, and performs financial accounting. There is at least one division.

- Accounting Division (*kuaijichu*)

The **Quartermaster Department** (*junxubu*) takes charge of quartermaster work by organizing planning, supply, and management of provisions and clothing. It is also responsible for quartermaster research. It has at least one division.

- Clothing Division (*beizhuangchu*)

The **Health Department** (*weishengbu*) is responsible for organizing epidemic prevention, aviation health, and medical aid; for family planning; for supplying and managing medicine and medical equipment; and for writing the regulations on all health matters. It is also responsible for all the PLAAF hospitals, the ten pilots' sanitoriums, the Medical School in Jilin, the administrative control of the Fourth (Aviation Medicine) Research Institute, and the health units down to the lowest level. There is at least one division.

- Health Services Division (*weisheng qinwuchu*)

The **Armament Department** (*junxiebu*) has a director, one deputy director, and at least five divisions. Although not confirmed, this department was most likely moved under the Equipment Department in 1998.

- Plans and Finance Division (*jihua caiwuchu*)
- Aviation Munitions Division (*hangkong danyaochu*) is responsible for bombs, air-to-air missiles, and rockets.
- The Avionics/Electronics Division (*dianzichu*) is responsible for computers.
- Radar Division (*leidachu*)
- The Surface-to-Air Missile Division (*dikong daodanchu*) is responsible for SAM and AAA production.

The **Transportation Department** (*yunshubu*) is responsible for maintenance and management of military transportation, vehicles, boats, and special rail lines and roads. It coordinates the PLAAF's monthly, quarterly, and annual rail transportation requirements with the General Logistics Department for shipping what amounts to almost all of the PLAAF's supplies throughout China. This department also has vehicle battalions, car repair facilities, and boat troops. The boat troops are stationed along the Yangzi river and the coast for supplying fuel to air bases.

The **Fuels Department** (*youliaobu*) is responsible for procurement, storage, supply, and management of fuel and fuel equipment. Although not confirmed, this department was most likely merged with the Materials Department (*wuzibu*) as the Fuels and Materials Department (*youliao wuzibu*) in the early 1990s in conjunction with the merger of the two departments within the General Logistics Department.

The **Materials Department** (*wuzibu*) is responsible for application, allocation, supply, and management and storage of all materials, excluding air materiel. Although not confirmed, this department was most likely merged with the Materials Department (*wuzibu*) as the Fuels and Materials Department (*youliao wuzibu*) in the early 1990s in conjunction with the merger of the two departments within the General Logistics Department.

The **Airfield Construction Department** (*xiujianbu*) is primarily responsible for airfield runway construction. There are several engineering units (*gongchengbing zongdui*) that are closely associated with the construction department, but are directly subordinate to the Logistics Department. These units are equivalent to a corps (*jun*) or division (*shi*) and have several subordinate Engineering Divisions (*jianzhu gongcheng chu*), Groups (*dadui*), and construction material compounds. From June-November 1950, the PLAAF selected seven army engineering companies from throughout China and organized them into five Airfield Construction Engineering Groups (*jichang xiujian gongcheng dadui*). Each Group, consisting of about 600 people, had one subordinate Engineering Company (*gongcheng lian*) and two Airfield Engineering Companies (*jichang gongcheng lian*). In January 1951, they were officially named the PLAAF 1st, 2nd, 3rd, 4th, and 5th Engineering Groups. In May 1951, the 6th Engineering Group was formed in the Xinan Military Region.

By the late 1980s, these engineering units were used for building PLAAF facilities, but also contract out for civilian projects, such as bridges, roads, buildings, and airfields. For example the 8th Engineering *zongdui* repaired/expanded airfields in Dandong, Dalian, Qiqihar, and in Xinjiang during the 1980s. It also built a new airfield at Shenyang Taoxian from November 1986 to November 1988. Once this project was over, the *zongdui* was reduced from 9,000 to an Engineering Division (*chu*) with 300 personnel, and consequently had its status downgraded from that of a corps to a regiment. This move was taken as part of the overall reduction of forces. Most of the remaining people became civil service personnel.

The **Airfield and Barracks Management Department** (*jichang yingfang guanlibu/jiyingbu*) is responsible for airfield command shelter engineering, barracks management, design and construction of airports, battlefield shelters, cave warehouses, warehouses, fuel depots, factories, and housing, as well as daily maintenance of the housing area and base facilities. It has at least one division.

- Environment and Greening Division (*huanjing luhuachu*)

The **Air Materiel Department** (*hangkong cailiaobu/hangcaibu*) was most likely moved under the Equipment Department in 1998, but this has not been confirmed. The Air Materiel Department has a director, one deputy director, and at least six divisions to manage procurement, storage, and supply of air materiel, and to organize the management and four stations services support for retired aviation equipment. The difference between the materials department and the air materiel department is that the former is responsible for items such as lumber and concrete for the entire PLAAF, and the latter is responsible only for aircraft and aircraft support equipment for aviation troops only. It is not responsible for radar, communications, airborne, SAM, or AAA troops. Unlike most of the other PLAAF logistics second-level departments, the air materiel department does not have a counterpart organization at the GLD, and is therefore not responsible to any specific GLD department. The Air Materiel Department's six divisions are listed below:

- Plans Division (*jihuachu*)
- Finance Division (*caiwuchu*)
- Avionics Division (*hangkong dianzichu*)
- Aircraft and Engine Division (*feiji fadongjichu*)
- Ground Equipment Division (*dimian shebeichu*)
- Four Stations Division (*sizhanchu*)

Supply depots are organized on a three tier structure – first-level (*yiji*) depots are located in various military regions but are subordinate to HqAF; second-level (*erji*) depots are located in each military region and are subordinate to the MRAF Headquarters; and third-level (*sanji*) depots are located at and subordinate to operational units. For example, each aviation

division/airfield has a third-level depot, and the second-level depots can support the third-level depots in time of need. In addition, first-level depots can either supply the second-level depots or send items directly to the unit if necessary. The PLAAF's first-level air materiel depots are directly subordinate to the Logistics Department Hq, but are functionally (*yewu*) responsible to the Plans Division within the Air Materiel Department.

The **Directly Subordinate Supply Department** (*zhishu gongyingbu/ zhigongbu*) is responsible for logistics support to HqAF only. It works closely with the Administrative Bureau/Divisions at HqAF. Since the institution of the PLA's civil service program in 1988, this department is responsible for logistics support to the HqAF civil service personnel. There is no equivalent at the MRAF Headquarters, air corps, command post, or division/base-level, but each Military Region Logistics Department has a Directly Subordinate Supply Department that performs the same functions.

The **Audit Bureau** (*shenjiju*) performs audits and inspections to determine how money is being used.

In July 1962, HqAF Logistics Department established an Engineering Design Bureau (*kongjun gongcheng shejiju*) and each MRAF Logistics Department established an Engineering Design Office (*shejishi*), which were responsible for designing defense construction projects. Today, this department is known as the **Engineering Design and Research Bureau** (*gongcheng sheji yanjiuju*). It also designs engineering equipment such as frequency detectors and processors. This bureau may also have a subordinate factory assigned to it.

The **Administrative Division** (*guanlichu*) has the same role as the Administrative Division in the Political and Aeronautical Engineering Departments and works closely with the Headquarters Department's Administrative Bureau, and the Directly Subordinate Supply Department.

The **Production Management Office** (*shengchan jingying bangongshi*) guides PLAAF units' production management work, and is responsible for thousands of small businesses/enterprises which the PLAAF has established to make money. For example, and above are in charge of farms, while most airfield supply stations, ground brigades, and ground regiments have established non-staple food bases. The large-type production bases near Beijing at Tongxian, Sanhe, and Caojiawu produced 4000 pigs, 2000 suckling pigs, and 200,000 chickens in 1988.

Headquarters Air Force, Equipment Department

When the PLAAF was founded in November 1949, an Air Force Engineering Department (*kongjun gongchengbu*) was established to manage aircraft maintenance, and the PLAAF's Engineering College in Xian was established on 1 September 1964. In September 1969, the

Engineering Department was abolished and its Field Maintenance Department (*waichangbu*) was subordinated to the Headquarters Department as the Maintenance Department (*jiwubu*). On 1 May 1976, the current Aeronautical Engineering Department (*hangkong gongchengbu/konggong*) was established as a first-level department. In November 1992, the Aeronautical Engineering Department changed its name to the Equipment-Technical Department (*kongjun zhuangbei jishubu*).⁹³⁹ It was not until 1998, when the General Armament Department (GAD) was created, that some of the departments within HqAF's Headquarters Department and Logistics Department were moved over to the newly-named Equipment Department to be in alignment with the GAD. Other than the Equipment Department and Scientific Research Department, it is not clear which other departments or sub-elements were transferred over.

The Equipment Department has a director and at least two deputy directors. One deputy director is responsible for the Field Maintenance and Procurement Departments, and the other deputy director is responsible for the Factory Management Department, Political Department, and the General Office. A third deputy director was probably added in 1998 to manage equipment and R&D.

Whereas the PLAAF's Headquarters, Political, and Logistics Departments have always been a mirror image of higher level PLA department (GSD, GPD, and GLD, respectively) the Aeronautical Engineering/Equipment Department did not have an equivalent higher level department until the GAD was created.

The Equipment Department is responsible for the following:

- All aircraft and engine maintenance, repair, and procurement
- Aviation maintenance/repair research at two research institutes
- Aviation maintenance/repair regulations
- Aircraft ground support equipment

Aircraft and engine maintenance is carried out at the following three levels:

- Aviation Repair Factories (*hangkong xiuli chang*) are responsible for major overhaul (*fanxiu*). These factories are directly managed by either HqAF or by the HqAF and the MRAF Headquarters together.
- Central Repair Factories (*zhongxin xiuli chang*) are responsible for major (*daxiu*) and intermediate (*zhongxiu*) repairs, and are managed by the MRAF Headquarters.
- Divisions and academies have Repair Factories (*xiuli chang*), which are responsible for intermediate and minor (*xiaoxiu*) repairs, and are managed by the Division or Academy.

⁹³⁹ Kongjun da cidian, p. 146.

Prior to 1998, the Logistics Department, not the Aeronautical Engineering Department, was responsible for maintenance of equipment belonging to AAA, SAMs, radar, communications, or airborne troops/units. This situation may have changed when the Equipment Department took over some responsibilities from other departments. Although the Aeronautical Engineering Department was not responsible for SAMs or AAA maintenance, it was responsible for air-to-air missiles.

Maintenance personnel are trained in several ways, depending upon their rank (officer or enlisted). Officers are trained at the Aeronautical Engineering College (*kongjun gongcheng xueyuan*) in Xian, or at the Maintenance Technical Training Schools (*hangkong jishu zhuanye xuexiao*) in Xinyang or Changchun. In the 1970s, three maintenance schools (*hangkong xiuli gongcheng jigong xuexiao*) were established in Jilin, Changsha, and Xian Yanliang. From 1982-1985, these changed to Aviation Engineering Schools (*hangkong gongcheng xuexiao*), which trained intermediate-level specialized staff and workers. In August 1986, eight Aviation Maintenance Training Regiments (*hangkong jiwu xunlian tuan*) were established to train new enlisted maintenance troops. The Equipment Department works closely with the Headquarters Department's Schools Department and provides the curriculum and instructors for these schools.

The Equipment Department has at least seven second-level departments/offices/divisions:

The **General Office** (*bangongshi*) has at least two subordinate divisions/offices.

- Secretariat Division (*mishuchu*)
- Translation Office (*fanyishi*)

The **Political Department** (*zhengzhibu*) is probably organized similar to the Political Department in the Headquarters Department and has at least a Cadre/Personnel Division (*ganbuchu*) to manage personnel matters for the Equipment Department.

The **Field Maintenance Department** (*waichangbu*) is responsible for all first- and second-level maintenance at the aviation division/base-level, and works closely with the First (Maintenance) Research Institute in Beijing. This department also has directly subordinate repair and spare part factories (*xiupeichang*) for second-level maintenance in each Military Region. There are at least seven divisions and subordinate offices.

- Aircraft Division (*feijichu*)
 - Bomber Office (*hongzhake*)
 - Fighter and Ground Attack Office (*qianqiangke*)
 - Transport Office (*yunshuke*)
 - Helicopter Office (*zhishengke*)
 - Aircraft Service Life and Reliability Office (*feiji dingshou he kekaoxing bangongshi*)
- Plans Division (*jihuachu*)

- Avionics Division (*dianzichu*)
- Armament Division (*junxiechu*)
- Quality Control and Safety Division (*zhianchu*)
- Special Equipment Division (*teshechu*)
- Training Division (*xunlianchu*)

The **Procurement Department** (*dinghuobu*) procures all PLAAF aviation equipment from domestic and foreign suppliers and, like the USAF AFPRO system, is responsible for all factory and MRAF procurement representatives (the Scientific Research Department also has some plant representatives). It has at least two subordinate divisions/offices.

- Training Division (*xunlianchu*).

The **Factory Management Department** (*gongchang guanlibu/gongguanbu*) is responsible for all aircraft and engine depot-level repairs and major modifications, and works closely with the Repair Research Institute in Nanjing. The department has several distribution warehouses located throughout China, including Beijing, Dalian, and Shanghai, where items such as engines are sent after being repaired. The equipment is then returned directly to a unit or given to the Logistics Department's supply depots for distribution. The Factory Management Department has at least six subordinate divisions.

- Technical Division (*jishuchu*)
- Production Planning Division (*shengchan jihuachu*)
- Finance Division (*caiwuchu*)
- Quality Control Division (*zhiliangchu*)
- Air Materiel Division (*hangcaichu*)
- Training Division (*xunlianchu*)

The Factory Management Department has twenty-one repair factories which employed 40,000 workers in 1989, all of whom were civilians. All of the factories are under the factory management responsibility system, which increases the autonomy of the factory managers, reduces emphasis on planned quotas, and allows the factories to produce goods outside the plan for sale on the market. The factories are also allowed to retain some of the profit for reinvestment and for bonuses for the workers. Each factory has a public name, a two-digit PLAAF designator, and a four-digit (57XX) GLD designator. Most, if not all, of the factories are located near a PLAAF airfield.

In March 1958, the PLAAF established the Air Force Military **Scientific Research Department** (*kongjun junshi kexue yanjiubu*) as a first-level administrative organization, with Deputy Commander Chang Qiankun as the first Director. In addition, a Scientific Research

Guidance Commission (*kexue yanjiu zhidao weiyuanhui/kewei*) was established at units (*danwei*) of regiment-level and above, and each MRAF established a Scientific Research Office (*keyanshi*). Today, the Scientific Research Department (*keyanbu*), which is similar to the USAF systems command, has a director and four deputy directors. This department, which was transferred from the Headquarters Department to the Equipment Department in 1998, is responsible for the organization to evaluate and monitor the PLAAF's weapons R&D plans and programs, and for reporting their operational requirements, as well as their tactical and technical criteria, to higher authorities. The department researches and drafts the PLAAF's weapons development technical policies, as well as drafting the necessary rules and regulations for implementation.

In order to carry out its mission, the Scientific Research Department is divided into three general areas – integration (*zonghe*), technical (*jishu yewu*), and information/data (*qingbao ziliao*). In addition, it has special research units, military factory representatives, acceptance testing and test flight units, and training centers. This department is responsible for the planning, budgeting, and establishing of requirements for all of the research institutes within the Headquarters Department.

The integration area includes the following divisions and elements:

- The Plans Division (*jihuachu*)
- The Finance Division (*caiwuchu*)
- The Testing and Test Flight Division (*shifeichu*). This division manages the flight test program. The PLAAF's missile test base (*daodan shiyan jidi*) in northwest China and the flight test portion of the flight test and training center (*feixing shifei xunlian zhongxin*) at Cangzhou Airfield are also under the Scientific Research Department's functional control through this division.
- The Technical Innovation Division (*jishu gexinchu*). When someone at a unit develops a new technique or a piece of equipment, they submit it through the proper channels to this division. This division is also responsible for the budget, regulations, and overall management of the eight research institutes and various laboratories that belong to the Headquarters Department.
- The Aviation Military Products Design Finalization Commission (*hangkong jungong chanpin dingxing weiyuanhui*) was established in Beijing in January 1962 with 16 members, and the Aviation Design Finalization Commission General Office (*hangkong dingxing bangongshi/hangdingban*) was formed within the PLAAF's Scientific Research Department to handle the commission's daily affairs. The commission ceased working during the Cultural Revolution, but was revived in 1973.
- The Standardization Office (*biaozhunhua bangongshi*)

The technical area includes the following divisions:

- The Aircraft and Engine Division (*feiji fadongjichu*)
- The Airborne Weapons and Equipment Division (*jizai shebei wuqichu*)
- The Communications and Navigation Division (*tongxin daohangchu*)
- The Radar and Electronic Countermeasures Division (*leida dianziduikangchu*)
- The Surface-to-Air Missile Division (*dikong daodanchu*) is responsible for SAMs and AAA
- The Support Equipment Division (*baozhang shebeichu*)

The Science and Technology Data Information Center (*keji ziliao qingbao zhongxin*) is primarily responsible for collecting and assessing technical information on foreign weapon systems and managing the PLAAF's S&T information/intelligence program. Exhibitions and technical exchanges with foreigners also fall within the center's charter.

The **Equipment Department** (*zhuangbeibu*), which was transferred from the Headquarters Department in 1998, decides how much and what types of items the PLAAF should procure. This department works closely with the Aviation Equipment Division (*hangkong zhuangbeichu*) within the General Armament Department's Equipment Department. Within the PLAAF, the Scientific Research Department is responsible for R&D; the Equipment Department decides how many and when to buy the equipment and is responsible for general management of the equipment; and the Procurement Department buys the equipment. There are at least seven divisions.

- The Excess Equipment Management Division (*bianyu zhuangbei guanlichu*) is responsible for equipment in the Air Force inventory that is excess or is no longer operational.
- The Foreign Assistance Division (*yuanwaichu*) is responsible for foreign military sales.
- The Finance Division (*caiwuchu*) pays for new equipment in accordance with existing requirements.
- The Aviation Division (*hangkongchu*) is responsible for all aircraft.
- The Ground Equipment Division (*dimian zhuangbeichu*) is responsible for vehicles such as trucks and jeeps.
- The Plans Division (*jihuachu*) is responsible for all the plans.
- The Administrative Division (*guanlichu*) distributes equipment according to requirements in the field. The officers in this division are responsible for aircraft, vehicles, radar, SAM/AAA, and communications.

The **Administrative Division** (*guanlichu*) performs the same functions for the Equipment Department as the Administrative Bureau does for the Headquarters Department.

APPENDIX E. ORGANIZATIONAL STRUCTURE BELOW HEADQUARTERS AIR FORCE

At all levels from the regiment to the MRAF headquarters, the command staff consists of at least the following personnel:

- Commander
- Political commissar
- Deputy political commissar(s) (oftentimes is also the director of the Political Department)
- Deputy commander(s)
- Chief of staff
- Possible deputy chief(s) of staff
- Director of the Political Department

The command staff members make up the Party Standing Committee (*changwei*), of which the political commissar is usually the secretary. Other members of the Party Committee (*dangwei*) include the director of the logistics organization and the Equipment/maintenance organization, as well as a representative from the subordinate regiments or battalions. Each operational unit commander works for the next higher echelon commander through that commander's Operations Division/Department.

The Headquarters, Political, and Logistics Departments and most of their subordinate offices are represented at each level below HqAF: MRAF headquarters, air corps/command post/base, and operational unit. In general, the MRAF and air corps organization is the same. While these three departments, along with the Equipment Department, remain as departments at the MRAF and -level, the second-level departments are reduced by one step at each level below HqAF (i.e. departments/*bu* become divisions/*chu*, and divisions become offices/*ke*).

At the operational unit level, there is a Headquarters Department, Political Department/Division, Logistics Department/Division or Field Station (*chanzhan*), and Maintenance Division.⁹⁴⁰ The chief of staff (who is also the director of the Headquarters Department) and the director of the Political Department are co-equals at these levels. In some cases, the deputy political commissar is also the director of the Political Department. Below these first-level elements, there is a further reduction of the second-level elements into administrative offices (*shi/ke*), groups (*zu*), or branches (*gu*). There are also operational elements such as groups (*dadui*), squadrons (*zhongdui*), battalions (*ying*), companies (*lian*) or flights (*fendui*), which carry out the tasks.

⁹⁴⁰ The *chanzhan* is the logistics element of for the airfield.

In order to exercise the Party's absolute leadership over the military, a Party Committee and Standing Committee is established at each regiment (and equivalent) and above. The political commissar is normally the secretary of the Party Committee at these levels. However, certain commanders with unique experience levels have also served as the secretaries of their Party Committees and Standing Committees.⁹⁴¹ Grassroots Party Committees (*jiceng weiyuanhui*) are established at each battalion and equivalent. Grassroots Party Branches (*dangde jiceng zhibu*) are set up at the company-level.

Besides the Party Committee, political organizations have been established in each regiment and higher, and their equivalent. The GPD is the highest leading body for political work in the PLA. While Divisions and brigades have a Political Department, regiments have a Political Division. Within the Political Department/Division, there is a director, deputy director(s), and functional departments/divisions/offices equivalent to those at HqAF (i.e. secretariat, propaganda, security, cultural, cadre/personnel, etc.).

Political commissars are assigned to units at and above the regimental-level, and political instructors are assigned to units below this level. Political instructors are also assigned to the PLAAF's flying groups and their maintenance squadrons. Political commissars' duties include teaching the CCP line, policies, and principles; handling personnel issues such as promotion, selection, and transfers, and coordinating on recruitment and training matters; overseeing public affairs such as cultural, artistic, and athletic work. Political instructors at the battalion and below receive basic training at the PLAAF Political Academy in Shanghai and political commissars receive senior-level training at the Air Force Command College in Beijing.

Under the Party Committee's collective leadership, the PLAAF has a division of responsibilities at each level. For example, all major issues are decided jointly, or collectively, by the Party Committee. If the issue concerns military affairs, then the military officers or commander will carry out the decision. If the issue concerns political matters, then the political officers are responsible for implementing the decision. In theory, an Air Force unit's commander and political commissar are equal positions.

In the absence of the commander, the political commissar is responsible for carrying out the unit's mission in conjunction with the deputy commander(s). In practice, the rank relationship between the commander and the political commissar is obscure, but has sometimes been forged over many years of working together as they rose through the ranks together.

One of the major differences between aviation and non-aviation units is the maintenance organization. At the HqAF, MRAF, and levels, the Equipment Department is responsible for aviation maintenance and the Logistics Department is responsible for non-aviation (SAM, AAA, communications, and radar) maintenance. For aviation troops, the maintenance organization at a division/airfield is the Maintenance Division (*jiwuchu*), and at a regiment it is the Maintenance Group (*jiwu dadui*). For SAM and AAA troops, there is a Maintenance Department (*jishubu*) at

⁹⁴¹ This was the case in the Nanjing, Jinan, and Chengdu MRAFs in the late 1980s.

the brigade-level and a Maintenance Division (*jishuchu*) at the regiment-level, which are co-equals to the Logistics Department and Division, respectively. However, the Logistics Division is responsible for maintenance at a communications regiment. These should not be confused with the Technical Support Divisions (*jishu qinwuchu*) within the Headquarters Department's AAA, SAM, Radar, and Communications Departments/ Divisions at the HqAF, MRAF headquarters, and air corps-levels, which are responsible for the technical and operational details of these systems.

Military Region Air Force Headquarters

The MRAF headquarters is organized almost identically to HqAF, except that the second-level departments (*bu*) and bureaus (*ju*) at HqAF are lowered to divisions (*chu*) at the MRAF, and HqAF's divisions (*chu*) become offices (*ke*) at the MRAF. Each of these organizations performs the same functions as its counterpart at HqAF. In most cases, the political commissar is the secretary of the Party Committee and Party Standing Committee. Each MRAF headquarters has a Party Committee with a Standing Committee.

Listed below are the command staff and administrative elements at the MRAF headquarters that have been noted, but almost all of the HqAF second-level elements are probably represented. In addition, the rank structure for the MRAF headquarters is as follows:

Position	Rank
Commander	Lieutenant General
Political commissar	Lieutenant General
One deputy political commissar ⁹⁴²	Major/Lieutenant General
Two deputy commanders	Major General
Chief of staff	Major General
Two deputy chiefs of staff	Major General
Headquarters Department director	Major General
Deputy director	Senior Colonel/Colonel
Political Department director	Major General
Deputy director	Senior Colonel/Colonel
Logistics Department director	Major General

⁹⁴² In some instances, the deputy political commissar is also the director of the Political Department.

Deputy director	Senior Colonel/Colonel
Equipment Department director	Major General
Deputy director	Senior Colonel/Colonel

MRAF Headquarters Department

Within the MRAF headquarters, the chief of staff acts as the director and the deputy chiefs of staff act as the deputy directors of the Headquarters Department (*silingbu*). The Headquarters Department has various directly subordinate units such as a Combat Support Company (*zhanqin lian*), a vehicle company (*cheliang lian*), and a weather support station (*qixiang qinwuzhan*). The following second-level divisions have been noted at the MRAF headquarters-level, of which the four most important divisions are Operations, Military Affairs, Training, and Scientific Research:

- The General Office (*bangongshi*) has at least five subordinate offices as follows:
 - Documents Office (*danganke*)
 - Secretariat Office (*mishuke*)
 - Translation Office (*fanyishi*) performs the same functions as the Foreign Affairs Division at HqAF.
 - First Office (*yike*) is responsible for assisting the military commander and deputy commanders, past and present.
 - Second Office (*erke*)
- Political Division (*zhengzhichu*)
- Operations Division (*zuozhanchu*)
- Intelligence Division (*qingbaochu*)
- Scientific Research Division (*keyanchu*)
- Communications Division (*tongxinchu*)
- Training Division (*junxunchu*) incorporates the responsibility for schools, so there is no Schools Division
- Military Affairs Division (*junwuchu*)
- Equipment Division (*zhuangbeichu*)
- Radar Division (*leidachu/leidabingchu*)
 - Training Office (*xunlianke*)
- AAA/SAM Division (*gaopao daodanchu*) is also called the AAA Division (*gaopaochu*) in some MRAF headquarters. It incorporates SAM operations and technical matters. It has at least two offices.
 - Plans Office (*jihuake*)
 - Air Materiel office (*qicaike*)
- Administrative Division (*guanlichu*)

- The Air Traffic Control Division (*hangxingchu*) also has an Air Traffic Control Command Center (*zhihui zhongxin*)
- Navigation Division (*linghangchu*)
- Weather Office (*qixiangshi*)
- Confidential Division (*jiyaochu*)

MRAF Political Department

The Political Department (*zhengzhibu*) at the MRAF headquarters is organized as follows:

- The Secretariat Division (*mishuchu*) is the same as the General Office at HqAF.
- Party Affairs Division (*zuzhichu*)
- Cadre/Personnel Division (*ganbuchu*). While there are separate sanitoriums (*ganxiusuo*) for each of the first-level departments at HqAF, the Political Department's *ganbuchu* at the MRAF is responsible for all sanitoriums at the MRAF-level.
 - Welfare Office (*fulike*)
- The Propaganda Division (*xuanchuanchu*) is also responsible for cultural affairs. There is no Cultural Division. A Propaganda Branch (*xuanchuangu*) was noted within a radar regiment.
- Security Division (*baoweichu*)
- The Mass Works and Liaison Division (*qunlianchu*) combines the responsibilities of the HqAF's Mass Works Department and Liaison Department.

MRAF Logistics Department

Like HqAF's Logistics Department, the MRAF headquarters's Logistics Department (*houqinbu*) is organized like a command, including a chief of staff. The department also has a Party Committee and Standing Committee. The Beijing MRAF's Logistics Department (*houqinbu*) is located in a separate compound about one mile from Beijing MRAF Headquarters, but the Shenyang MRAF Logistics Department is co-located with the rest of the Shenyang MRAF Headquarters Departments. The MRAF Logistics Department also has directly subordinate training regiments (*xunlian tuan*), fuel depot regiments (*youliao tuan*), farms (*nongchang*), vehicle repair shops, and hospitals. The Nanjing MRAF has a Boat Group (*chuanting dadui*), which in turn has a Logistics Department (*houqinbu*). The following departments and divisions within the MRAF Headquarters's Logistics Department have been noted:

- Headquarters Department (*silingbu*)
 - Military Affairs Office (*junwu*)
- General Office (*bangongshi*)
- Finance Division (*caiwuchu*)
- Health Division (*weishengchu*)

- Armament Division (*junxiechu*)
 - Plans and Finance Office (*jihua caiwuke*)
 - Aviation Munitions Office (*hangkong danyaoke*)
 - Avionics/Electronics Office (*dianzike*)
 - Radar Office (*leidake*)
 - Surface-to-Air Missile Office (*dikong daodanke*)
- Transportation Division (*yunshuchu*)
- Fuels Division (*youliaochu*)
- Airfield and Barracks Management Division (*jiyingchu*)
- Air Materiel Division (*hangcaichu*)

In addition to the above noted elements, the following elements also probably exist:

- Political Department (*zhengzhibu*)
- Administrative Office (*guanlike*)
- Audit Division (*shenjichu*)

MRAF Equipment Department

The following divisions within the MRAF headquarters's Equipment Department (*zhuangbei jishubu*) have been noted:

- Repair Division (*xiulichu*) is subordinate to the Field Maintenance Department at HqAF, and is responsible for intermediate-level aviation repair/overhaul facilities (*hangxiuchang/xiupweichang*). There is at least one of these facilities per Military Region.
- Factory Management Division (*gongguanchu*)
- Procurement Division (*dinghuochu*)
- Finance Division (*caiwuchu*)

AIR CORPS

Air corps (*jun*) are basically organized the same as the MRAF headquarters. The command staff consists of the following personnel:

Position	Rank
Commander (<i>junzhang</i>)	Major General
Political commissar	Major General
Deputy commander(s)	
Possible deputy political commissar	
Chief of staff	
Deputy chief(s) of staff	

There is a Party Committee and Standing Committee with the political commissar as the secretary of each. Although the commander works directly for the MRAF commander, he works through the MRAF's Operations Division (*zuozhanchu*) within the Headquarters Department.

The administrative organization consists of a Headquarters Department, Political Department, Logistics Department, and Equipment Department. Each of these departments have the same subordinate divisions (*chu*) as the MRAF. The department and division directors are senior colonels and colonels. The following organizations have been noted in the air corps headquarters, but probably has all of the same offices as the MRAF headquarters:

- Headquarters Department (*silingbu*)
 - Air Traffic Control Division (*hangxingchu*)
- Political Department (*zhengzhibu*)
- Logistics Department (*houqinbu*)
 - Air Materiel Division (*hangcaichu*)
 - Health Division (*weishengchu*)
- Equipment Department (*zhuangbei jisjubu*)

COMMAND POSTS

Between the late 1950s and mid-1980s, the PLAAF created at least twelve command posts (*zhihuisuo/junqu kongjun zhihuisuo*) located throughout China, which integrated aviation and air defense units to protect a particular area. These command posts had three separate origins – formed as new organizations, formed from previous air corps, or formed the PLAAF's regional headquarters prior to the reduction from eleven to seven military regions in August 1985. While some of them were downgraded or abolished, all of the command posts except for Lhasa were replaced after 1993 by a base (*jidi*) structure. Each of the command posts, except Lhasa, had the same status as an air corps. The Lhasa Command Post was created as a division-level organization but was later changed to a brigade-level.

One of the primary reasons command posts replaced air corps was to eliminate unnecessary administrative functions and to make the command post an operational (not an administrative) organization. As a result, the Political Department, Logistics Department, and Aeronautical Engineering Departments were all reduced to a Political Division, Logistics Division, and Maintenance Division, and placed directly under the Headquarters Department. Some command posts, such as Xian and Wuhan, did not have any directly subordinate aviation units, so they did not have a Maintenance Division. In addition, some of the administrative divisions (*chu*) present at the air corps or MRAF headquarters were eliminated at the command post. The appropriate MRAF headquarters took over responsibility for these administrative functions.

A typical command post had 50-100 personnel and controlled one or more aviation units, 1-3 radar regiments, 1-2 AAA regiments, and 1-2 SAM regiments. Some command posts also controlled a combined (AAA/SAM) brigade.

The command post's command staff and administrative organization is as follows:

Position	Rank
Commander (<i>silingyuan</i>)	Major General
Political commissar	Major General
One deputy commander	Senior Colonel
No deputy political commissar	
Chief of staff	Colonel

Administrative organization

- Headquarters Department (*silingbu*)
- Political Division (*zhengzhichu*)
- Logistics Division (*houqinchu*)
- Maintenance Division (*jiwuchu*)
- Operations Division (*zuozhanchu*)
- Intelligence Division (*qingbaochu*)
- Scientific Research Division (*keyanchu*)
- Equipment Division (*zhuangbeichu*)
- Military Affairs Division (*junwuchu*)
- Radar Division (*leidachu*)
- Communications Division (*tongxinchu*)
- AAA Division (*gaopaochu*)
- Administrative Division (*guanlichu*)
- Air Traffic Control Division (*hangxingchu*)
- Navigation Division (*linghangchu*)
- Confidential Division (*jiyaochu*)
- Weather office (*qixiangshi*)

Unlike the air corps, command posts do not have number designators. Instead, they take the name of their location, such as the Dalian Command Post. In addition, their names are usually shortened to two characters. For example, the *Dalian Zhihuisuo* is simply called *Dazhi*.

BASES

In 1993, bases (*jidi*) began replacing all of the command posts in response to the PLA's overall reduction in force.⁹⁴³ The only notable difference between a command post and a base is that a command post is equivalent in status to an air corps (*jun*), while a base is slightly lower in status and the commander is equivalent to an air corps deputy commander.⁹⁴⁴ The only exception was Lhasa which remains as a command post, because Lhasa's status was already lower than that of the other command posts. Unfortunately, there is virtually no information available about the structure of the base, but it can be assumed that they are almost identical to the command posts they replaced. Whereas the command posts were simply known by a two-character name, such as Shanghai's *Shangzhi*, the bases also use a two-character name such as *Shangji*.

⁹⁴³ Kongjun da cidian, p. 147.

⁹⁴⁴ Interview with PLA officials.

APPENDIX F. PLAAF BRANCHES, TROOPS, AND SUPPORT UNITS

Aviation Troops

A typical aviation division headquarters consists of the command staff and administrative organization.⁹⁴⁵ These people/organizations are responsible for combat and training, political training, supply, and maintenance support for the division. Each division and regiment has a Party Committee and a Standing Committee, of which the political commissar is the secretary. The command staff consists of the following:

Position	Rank
Commander	Senior Colonel
Political commissar	Senior Colonel
2 deputy commanders	Senior Colonel/Colonel
Deputy political commissar -	None
Chief of staff	Colonel
1-2 deputy chiefs of staff	Colonel

The air division's first-level administrative organization is as follows:

- Headquarters Department (*silingbu*)
- Political Department (*zhengzhibu*)
- Field station (*changzhan*)
- Maintenance Division (*jiwuchu/gongcheng jiwuchu*)

The second-level administrative structure for an air division's Headquarters and Political Department are not available, but it is probably very similar to the MRAF headquarters, but the divisions (*chu*) are probably at the office (*ke*) level. The following notional structure probably exists. The chief of staff acts as the director and the deputy chief of staff acts as the deputy directors of the Headquarters Department (*silingbu*). The Headquarters Department has various directly subordinate units for combat support, vehicles, and weather support. Second-level administrative elements probably include the following:

- The General Office (*bangongchu*)

⁹⁴⁵ Unless specified, the information in this appendix was taken from Allen, 1991. See also *Kongjun da cidian*; Yao Jun; and Xin Ming.

- Political Office (*zhengzhike*)
- The Operations Office (*zuozhanke*)
- Intelligence Office (*qingbaoke*)
- Communications Office (*tongxinke*)
- The Training Office (*junxunke*)
- Military Affairs Office (*junwuke*)
- Equipment Office (*zhuangbeike*)
- Radar Office (*leidake/leidabingke*)
- Administrative Office (*guanlike*)
- The Air Traffic Control Office (*hangxingke*)
- Navigation Office (*linghangke*)
- Weather Office (*qixiangshi*)
- Confidential Office (*jiyaoke*)

The Political Department (*zhengzhibu*) at the air division headquarters is probably organized as follows:

- The Secretariat Division (*mishuchu*) is the same as the General Office at HqAF and the MRAF headquarters.
- Party Affairs Office (*zuzhike*)
- Cadre/Personnel Office (*ganbuke*)
- The Propaganda Office (*xuanchuanke*)
- Security Office (*baoweike*)
- The Mass Works and Liaison Office (*qunlianke*)

An air division normally has two to three flying regiments (*feixing tuan*), and if the regiments are located at different airfields, each airfield has a field station (*changzhan*) for logistics support. The flying regiment, each of which has a set number of 25-32 aircraft, is the basic organization for training and operations. Each regiment has three flying groups (*feixing dadui*), which are always numbered the 1st, 2nd, and 3rd, and one Maintenance Group (*jiwu dadui*). Each flying group has three flying squadrons (*feixing zhongdui*).

The division has an aircraft-to-pilot ration of about 1:1.5 . Although the pilots are assigned to squadrons, each with three to five pilots, the aircraft are assigned to the regiment as a whole, not just to the squadrons. Each pilot, however, normally only flies one to three airframes, so they become familiar with each aircraft's handling capabilities. The average pilot remains in the Air Force until he or she retires. The PLAAF established age limits for its pilots in the 1980s: fighter and ground-attack pilots, 43–45 years; bomber pilots, 48–50 years; transport pilots, 55 years; helicopter pilots, 47–50 years; and female pilots, 48 years. The average fighter and ground-attack pilot is 28 years old.

The field station (*changzhan*) is an independent logistics support unit under dual leadership of the air division and the MRAF headquarters. Prior to February 1970, the field station was called a base (*jidi*), and had the status of a division. Today, it has the status of a regiment. The field station is responsible for organizing and supplying material and equipment, and also for providing continuous combined service support for operations and training. A field station at an airfield supporting two fighter regiments has about 930 personnel, including 170 officers and 760 airmen. Each airfield housing aircraft assigned to the division has its own field station. The officers are graduates of PLAAF academies and technical schools. The field station is organized into a command staff, Party Committee, Headquarters Department, Political Division, administrative branches, and support companies as follows:

Command staff

- Chief (*changzhang*)
- Political Commissar
- Chief of Staff
- Director, Political Division

Administrative branches

- Air Materiel Branch (*hangcaigu*)
- Armament Branch (*junxiegu*)
- Quartermaster Branch (*junxugu*)
- Finance Branch (*caiwugu*)
- Transportation Branch (*yunshugu*)
- Housing Branch (*yingfanggu*)
- Runway Maintenance Branch (*xiujiangu*)

Support companies

- Vehicles Company (*qiche lian*)
- Instrument Company (*qizhan lian*)
- Field Service Company (*changwu lian*)
- Communications Company (*tongxin lian*)
- Four Stations Support Company (*sizhan qinwu lian*)
- Security Company (*jingwei lian*)
- Fuel Transport Company (*yunyou lian*)
- Plus six other unidentified companies

The air division's maintenance workshops/backshops (*xiulichang*) are responsible for intermediate repair of the division's aircraft and periodic inspections under 400 hours, general malfunction repair and overall repair, specialized parts inspection and repair, and repairing of certain spare parts. All the technical equipment for maintenance is organized into ground equipment and instruments, and instruments and equipment onboard engineering vehicles. A

typical repair shop department (*changbu*) consists of six flights (*fendui*) and their respective sections (*zu*).

The Maintenance Group (*jiwu dadui*) performs flight line maintenance on the division/regiment's aircraft. A typical Maintenance Group is organized as follows into four squadrons (*zhongdui*) and their subordinate flights.

AAA AND SAM TROOPS

Prior to 1966, HqAF's Headquarters Department had a AAA Command Department (*gaopao zhihuibu*), which was responsible for AAA, and a Technical Department (*jishubu*), which was responsible for SAMs. In 1966, the two departments merged. Today, the AAA Department (*gaopao bu*) is administratively responsible for AAA and SAMs.

AAA troops (*gaoshepao bing/gaopao bing*) are operationally organized as part of a Combined (SAM/AAA) Brigade (*huncheng lu*) and/or into regiments (*tuan*), battalions (*ying*), companies (*lian*), squads (*pai*), and platoons (*ban*). Previously, there were AAA Divisions (*shi*), but they were all converted to brigades in the late 1980s. AAA regiments which are not part of a Combined Brigade have the status of an independent regiment and are therefore equal to a division (*shi*). Each regiment has 2-3 battalions; each battalion has 3-5 companies; each company has three AAA squads plus support (vehicle, maintenance, logistics, etc.) squads; each squad has 3-6 platoons; and each platoon has one AAA piece.

The AAA regiment's command staff consists of the commander, political commissar, one deputy commander, the chief of staff, and the director of the Political Division. The chief of staff and Political Division director are of equal status. The regiment's headquarters is organized administratively into a Headquarters Department, Political Division, Logistics Division, and Maintenance Division (*jishuchu*). There is also a Party Committee and Standing Committee.

The AAA Academy (*gaopao xueyuan*) opened in 1952 in Shanghai (it was only a school/*xuexiao* at that time). It closed down for a period of time during the Cultural Revolution, and then re-opened in 1978 in Guilin. The students study for two years, and are then sent to an operational unit for one year of training before they receive their commission. The academy had 1,100 students in 1988.

The PLAAF's SAM troops (*didao/daodan/dikong daodanbing*) began when China received its first SA-2 missiles (five launchers and 62 missiles) from the Soviet Union in October 1958. At the same time, the Air Force established its missile school at Sanyuan, Hebei Province, and the first SAM battalion near Beijing. The first units borrowed people from the AAA, radar, aviation maintenance, and spotlight troops. For security purposes, the SAM department in HqAF was called the Technical Department (*jishubu*) until 1966, when it was combined with the AAA Department.

A SAM regiment's command staff has a commander, political commissar, one deputy commander, a chief of staff, and the director of the Political Division. The political commissar chairs the Party Committee and Standing Committee, and each battalion has a representative on the Party Committee. Like a AAA regiment, a SAM regiment's administrative organization consists of a Headquarters Department, Political Division, Logistics Division, and Maintenance

Division. Each SAM regiment has 1-3 battalions, and each battalion has six launchers plus various support companies, such as command and control, logistics, maintenance, radar, etc.

The AAA/SAM Combined Brigades that were established beginning in 1985 eliminated the regiment-level completely, but kept the rest of the AAA and SAM organization in tact, so that the chain of command goes directly from the brigade to the battalion. Each brigade has 5-6 battalions, including 2-3 AAA and 2-3 SAM battalions.

The brigade's administrative organization consists of a Headquarters Department, Political Department, Logistics Department, and Maintenance Department (*jishubu*). The Maintenance Department may have been replaced by an Equipment Department beginning in 1998. Each brigade and regiment has a Party Committee and Standing Committee, of which the political commissar is the secretary. The Party Committee also has one representative from each battalion.

Prior to 1998, the HqAF's Equipment Department was responsible for aircraft maintenance and the Logistics Department's Armament Department/ Division at the HqAF, MRAF, and -level was responsible for SAM and AAA maintenance. At the brigade and regiment-level, the Maintenance Department and Division, respectively, are separate entities from the Logistics Department and Division, but are still responsible to the higher headquarter's Logistics Department's Armament Division/Office and work closely with the brigade/regiment's Logistics Department/ Division. It is not clear whether or not the Logistics Department transferred the responsibility for all weapons maintenance to the Equipment Department in 1998.

In each Command Post/Base/ and the MRAF headquarters, there is a AAA/SAM Division (*gaopao daodanchu*) or AAA Division (*gaopaochu*) that is primarily responsible for the brigades' day-to-day technical matters. The brigade works with the next higher level's Operations Division/Department for operational matters, and with the respective Logistics and Training Divisions/Departments for those aspects.

RADAR TROOPS

The first radar battalion was established in April 1950 in Nanjing, but was called a Telecommunications Group (*dianxun dadui*) for security purposes. It had five squadrons (*zhongdui*). The second battalion was established in Shanghai as part of the Shanghai Air Defense Headquarters in May 1950. The first regiment was formed in 1955, and the name Radar Troops (*leidabing*) became official on 26 July 1957.

Once the PLA Air Defense Force (*fangkongjun*) was established in December 1950, radar units were divided into two types. Those subordinate to the Air Defense Force were responsible for early warning, and those subordinate to the PLAAF were responsible for directly supporting aviation units.

Initially, Air Defense Force warning radar sites (*jingjie leida zhan*) reported the information to a battalion station (*ying zhan*) or a regimental station (*tuan zhan*). Once the information was synthesized, it was forwarded to the MR Air Defense Force Headquarters General Station (*junqu fangkongbu zong fenzhan*). Finally, the General Station reported the information to the appropriate unit. At that time, all of the PLAAF units' radar sites were

subordinate to the Communications Department (*tongxinbu*), which was a HqAF first-level administrative department.

In September 1957 (after the PLAAF and Air Defense Force merged), the HqAF Aircraft Reporting Command Department (*duikong qingbaobing zhihuibu*) was renamed the Radar Department (*leidabingbu*) and was directly subordinate to the PLAAF commander. In addition, the MRAF Headquarters Department's Aircraft Reporting Command Division (*zhihuichu*) was also renamed the Radar Department (*leidabingbu*) and became directly subordinate to the MRAF commander.

In 1959, radar sites were established as the basic unit, while regiments became the highest unit. At that time, the sites and regiments could have also had a Reporting Battalion Headquarters (*qingbao ying bu*) or an Administrative Battalion Headquarters (*guanli ying bu*) between them, depending upon the situation. As a result, the radar organization could have had either a three level Regiment-Battalion-Site or a two level Regiment-Site structure. In the early 1960s, this changed so that there was only a three level structure.

The PLAAF Radar Academy is in Wuhan, and had graduated over 7,800 cadets by the end of 1987. There were 510 cadets in the 1989 graduating class. By the end of 1987, over 1200 technicians and platoon commanders had been trained at MRAF training units. For example, there is a Radar Troop Training Group (*xunlian dadui*) in the Chengdu MRAF.

Today, Radar Troops are organized into brigades, regiments, battalions, and companies/sites. Each regiment has various battalions, including one information (*qingbao*) battalion and up to twenty-five radar companies/sites. Each company/site has 2-3 radars assigned.

The regiments that are not subordinate to a brigade have the status of independent regiments, and are therefore equal in status to a division (*shi*). A radar regiment's command staff consists of the commander, political commissar, deputy commander(s), chief of staff, and director of the Political Division. The regiment also has a Party Committee and Standing Committee, of which the political commissar is the secretary.

The regiment's administrative organization consists of a Headquarters Department, Political Division, Logistics Division, and a Maintenance Division (*jishuchu*). The Maintenance Division is equal to the Logistics Division at the regiment-level, but works for the higher headquarter's Logistics Department. The Logistics Division has subordinate branches, such as the Quartermaster Branch. One Political Division has a Propaganda Branch.

Radar regiments are subordinate to the Radar Division (*leidachu*) within the next higher headquarters-level for day-to-day technical matters, to the Operations Division (*zuozhanchu*) for operational matters, and to the Training and Logistics Divisions for those functions.

AIRBORNE TROOPS

In July 1950, the Military Commission established the Air Force Marines (*kongjun luzhan*) First Brigade in Shanghai. The cities of Kaifeng and Zhengzhou in Henan Province were designated as the brigade's training bases. On 1 August, the brigade's headquarters moved to Kaifeng. Thereafter, the unit's designation changed several times, becoming the Air Force

Marine First Division, the Paratroops Division (*sanbing shi*), then the Airborne Division (*kongjiangbing shi*).

Today, China's airborne troops (*kongjiangbing*), known as the PLAAF's 15th Air Army (*kong 15 jun*), consists of three airborne divisions, each with about 10,000 troops,⁹⁴⁶ which are further divided into battalions and companies. According to an October 1993 *Jane's Defence Weekly* report, China began changing the 15th Airborne Army's three brigades into divisions, in order to boost their rapid-response power.⁹⁴⁷ The 43rd Brigade, based in Kaifeng, was the first brigade to undergo expansion to a division. The other two brigades, the 44th at Yingshan and 45th at Huangpi, followed suit shortly thereafter. Military planners had apparently decided that brigade-size forces were too small for their assigned combat missions. Chinese brigades normally have about 3,000 to 4,000 troops. The airborne units are composed of eight types of troops: scouts, infantry, artillerymen, signalmen, engineers, antichemical warfare corps, and automobile corps.

Administratively, HqAF does not have a separate Airborne Department, so the Operations Department is responsible for most of the airborne troops' operational requirements. In addition, HqAF's Training Department has an Airborne Division (*kongjiangbingchu*), which is responsible for training.

Operationally, the 15th Airborne Army works closely with other PLAAF branches. For example, during the 1979 border conflict with Vietnam, three of the 15th Airborne Army's light artillery battalions were subordinated to the PLAAF's 19th AAA Division's 55th Regiment at Ningming.

COMMUNICATIONS TROOPS

PLAAF communications consists of communications and navigation aids, while Communications Troops (*tongxinbing*) are organized into administrative elements, as well as regiments, battalions, stations (*zhan*), companies, teams (*dui*), equipment repair factories (*qicai xiupei chang*), and equipment warehouses (*qicai cangku*). The PLAAF Communications School was established in September 1957 in Xian.

The regimental command staff has at least a commander, political commissar, and a chief of staff. The regiment also has a Party Committee and Party Standing Committee. The regiment's administrative organization consists of a Headquarters Department, Political Division, and Logistics Division. Unlike radar, SAM, and AAA regiments, which have a separate Maintenance Division (*jishuchu*), the communications regiment's Logistics Division is responsible for maintenance. A typical communications regiment consists of about 1600 personnel.

Each MRAF headquarters has a communications battalion and subordinate transmitter company. The battalion also has subordinate receiver companies (*shouxi*

⁹⁴⁶ 1999 DoD Taiwan Strait Report.

⁹⁴⁷ "PLA Airborne Brigades Become Divisions," *Jane's Defence Weekly*, Vol 20, No. 14, 2 October 1993, p. 12.

lian), each of which has operator platoons (*baowu pai*). Each operator has one transmitter, which is networked to a receiver company at an air corps, air division, or supply station.

LOGISTICS TROOPS

The PLAAF's Logistics Department (*houqinbu/konghou*) was established in November 1949. It is responsible for supply, as well as support for operations, training, and living. The PLAAF's logistics troops (*houqinbing*) are organized operationally to carry out the policies of the Logistics Department. Consequently, they are responsible to the HqAF Logistics Department and its subordinate offices at the MRAF, air corps, command post/base, and unit-level. The Field Station (*chang zhan*) is the logistics organization at an aviation division/base. The Air Force's Logistics Department has its own water transport craft and boat troops to ship fuel to PLAAF units along the Yangzi River and coast.

Looking at how the PLAAF's logistics troops are organized today, the air materiel organization at each level manages supply depots and warehouses, and orders the supplies. Supply depots are organized on a three tier structure -- first level (*yiji*) depots are located in various military regions but are subordinate to HqAF (The Lanzhou MRAF does not have any first level depots, but has second level depots at Xian, Wulumuqi, and the HeXi corridor); second level (*erji*) depots are located in each military region and are subordinate to the MRAF Headquarters; and third level (*sanji*) depots are located at and subordinate to operational units. First level depots can either supply the second level depots or send items directly to the unit if necessary. The PLAAF's first level air materiel depots are directly subordinate to the Logistics Department Headquarters, but are functionally (*yewu*) responsible to the Plans Division within the Air Materiel Department.

First level depots have a director, political commissar, two deputy directors, a General Office, Political Division, and Administrative Division. The main depot is divided into six sub-depots, one oil preservation shop, and one combined service company. Each sub-depot has a director, the oil preservation shop has a shop director, and the combined service company has a director and political commissar. The depot employs about 230 people.

A first level depot's main task is to ensure the supply of air materiel to aviation units in its region. The missions include the following:

- Store, inspect, and maintain materiel
- Supply mission capable (MICAP) items needed urgently
- Technical development, depot management, and depot safety

At an aviation division/base, the field station is an independent logistics support unit under dual leadership of the Air Division and the MRAF Headquarters' Logistics Department's Air Materiel Division (*hangcaichu*). It is responsible for organizing and supplying material and equipment, and also to provide continuous combined service support for operations and training.

There are several engineering units (*gongchengbing zongdui*) that are closely associated with the construction department, but are directly subordinate to the Logistics

Department. These units are equivalent to a corps/army (*jun*) or a division (*shi*) and have several subordinate Engineering Divisions (*jianzhu gongchengchu*), Groups (*dadui*), and construction materiel compounds. From June-November 1950, the PLAAF selected seven army engineering companies from throughout China and organized them into five Airfield Construction Engineering Groups (*jichang xiujian gongcheng dadui*). Each Group, consisting of 620 people, had one subordinate Engineering Company (*gongbing lian*) and two Airfield Engineering Companies (*jichang gongcheng lian*). In January 1951, they were officially named the PLAAF 1st, 2nd, 3rd, 4th, and 5th Engineering Groups. In May 1951, the 6th Engineering Group was formed in the Xinan Military Region. In 1962, the 7th *zongdui* was involved in construction projects in Chengdu.

During the late 1980s, these engineering units were used for building PLAAF facilities, but also contract out for civilian projects, such as bridges, roads, buildings, and airfields. For example, the 8th Engineering *zongdui* repaired/expanded airfields in Dandong, Dalian, Qiqihar, and Xinjiang. It also built the new Shenyang Taoxian airfield from November 1986 to November 1988. Once this project was over, the *zongdui* was reduced from 9,000 personnel to an Engineering Division (*chu*) with 300 personnel, and consequently had its status downgraded from that of a corps to a regiment. This move was taken as part of the overall reduction of forces. Most of the remaining people have become civil service personnel. The current status of all eight *zongdui* is not known.

APPENDIX G. ORIGINS OF PLAAF MRAFS, AIR CORPS, COMMAND POSTS,

BASES, AIR DIVISIONS, AND INDEPENDENT REGIMENTS

Military Region Air Forces

The PLAAF's military region air forces (MRAFs) are designated as operational (*zhanyi*) *juntuan* organizations.⁹⁴⁸ While they belong to the PLAAF, they are under the dual leadership of the PLAAF and the military region leadership. The MRAF's primary responsibility is territorial air defense and support for ground and naval operations.

Beijing MRAF: In October 1950, the Huabei MRAF Headquarters was formed from the Huabei MR Aviation Division (*hangkongchu*).⁹⁴⁹ In May 1954, it was renamed the Huabei Air Force Department (*kongjunbu*). In May 1955, it was renamed the Beijing MRAF. In June 1957, the Beijing MRAF and Beijing MR Air Defense Force were merged into a combined air defense system, covering Hebei, Shanxi, Neimenggu, Beijing, and Tianjin. Beijing MRAF commanders have included, Xu Decao, Duan Suhan, Luo Yuanfa, Li Jitai, Liu Yuti, Yao Xian, Lin Jigui, Ma Zhanmin, Qiao Qingchen, and Li Yongjin.

Chengdu MRAF: The Chengdu MRAF's origins came from the Xinan MR Headquarters Aviation Division, which was created in January 1950 in Chongqing.⁹⁵⁰ In September 1950, the Xinan MRAF was established using the Aviation Division as a base, with Fu Chuanzuo as the commander. In order to control aviation forces and support ground forces entering Tibet, the Xinan MRAF was moved to Chengdu in September 1950. In June 1955, the Xinan MRAF was abolished. The existing forces were transferred to the Lanzhou MRAF. In August 1960, the Kunming MRAF CP was created, and in October 1965 the Chengdu MRAF CP was also created. In April 1976, the Kunming MRAF CP became the 5th Air Corps and the Chengdu MRAF CP became the 8th Air Corps. In November 1978, the 5th Air Corps was renamed the Kunming MRAF CP, and the 8th Air Corps was renamed the Chengdu MRAF CP. At that time, the Chengdu MRAF CP was responsible for Yunnan, Guizhou, Sichuan, and Tibet (forces in Tibet were transferred from the Lanzhou MRAF in 1969). In September 1985, the Kunming MRAF CP and the Chengdu MRAF CP were merged and reorganized as the Chengdu MRAF. Since 1985, the Chengdu MRAF's commanders have included Hou Shujun, Xie Decai, and Huang Hengmei.

⁹⁴⁸ *Zhongguo junshi baike quanshu*, Volumes 7-9.

⁹⁴⁹ *Ibid.*, Volume 7, p. 75.

⁹⁵⁰ *Ibid.*, Volume 7, p. 383.

Fuzhou MRAF: In July 1958, the CMC decided to move aviation troops into Fujian for air defense of the southeast coast.⁹⁵¹ At the end of July, the Fuzhou MRAF was created at Jinjiangxian, using officers from the Nanjing MRAF, 1st Air Corps, and 5th Air Corps as the core. In June 1960, the headquarters was moved to Fuzhou, and was responsible for Fujian and Jiangxi. In September 1985, the Fuzhou MRAF was merged into the Nanjing MRAF. From 1958-1985, over 130 aviation regiments have been deployed or stationed in the Fuzhou MRAF. Commanders of the Fuzhou MRAF included Nie Fengzhi, Chen Huatang, Xie Bin, Yang Silu, and Hou Shujun.

Guangzhou MRAF: In September 1950, the Zhongnan MRAF was established in Wuhan from the Zhongnan MR Aviation Division.⁹⁵² In October 1950, the Zhongnan MRAF was created. In May 1954, the Zhongnan MRAF changed its name to the Zhongnan MR Air Force Department. In July 1955, the Air Force Department was moved to Guangzhou and renamed the Guangzhou MRAF. Forces that were stationed in Hubei and Henan were transferred to the Wuhan MRAF. In May 1957, the Guangzhou MRAF and Guangzhou MR Air Defense Force were merged into a combined air defense system. When the Wuhan MRAF was abolished in September 1985, the PLAAF units in Hubei were transferred to the Guangzhou MRAF. After September 1985, the Guangzhou MRAF included Guangdong, Hainan, Guangxi, and Hubei. Commanders of the Guangzhou MRAF have included Liu Zhen, Cao Lihuai, Wu Fushan, Wang Pu, Wang Hai, Yu Zhenwu, Wu Jiyan, Liu Heqiao, Yang Zhenggang, and Han Ruijie.

Jinan MRAF: In September 1967, the Jinan MRAF was created in Jinan, Shandong Province, from the 6th Air Corps and portions of the Beijing MRAF headquarters.⁹⁵³ The Jinan MRAF covered only Shandong. When the Wuhan MRAF was abolished in 1985, the Jinan MRAF added Henan to its area of responsibility. Jinan MRAF commanders have included Wu Chongxian, Wang Zixiang, Lin Jigui, Wu Guangyu, Han Ruijie, and Guo Yuxiang.

Lanzhou MRAF: In May 1952, the Xibei MRAF was created in Lanzhou using the 6th Army and the Xibei MR Aviation Division as the core.⁹⁵⁴ Shortly thereafter, the headquarters moved to Xian. In May 1954, the name was changed to the Xibei MRAF, and in May 1955 changed again to the Lanzhou MRAF, covering Shaanxi, Gansu, Ningxia, Qinghai, and Xinjiang. When the Lanzhou MRAF was established, it included Sichuan and Tibet, but they were transferred to the Chengdu MRAF CP in 1965 and 1969, respectively. Lanzhou MRAF commanders have included Luo Yuanfa, Yang Huanmin, Liu Maogong, Xu Dengkun, Liu Zhitian, Sun Jinghua, Ma Zhanmin, Liu Shun Yao, Li Yongde, and Ma Xiaotian.

⁹⁵¹ Ibid., Volume 7, p. 338.

⁹⁵² Ibid., Volume 7, p. 383.

⁹⁵³ Ibid., Volume 7, p. 492.

⁹⁵⁴ Ibid., Volume 8, p. 659.

Nanjing MRAF: In August 1950, the Nanjing MRAF was created from the Huadong MR Aviation Division.⁹⁵⁵ In September, the headquarters moved to Shanghai and merged with the Shanghai Air Defense Headquarters, changing the name to the Huadong MRAF and simultaneously the Shanghai Air Defense Headquarters. In November 1954, the name changed to the Huadong MR Air Force Department. In June 1955, the name changed again to the Nanjing MRAF. In September 1957, the Nanjing MR Air Defense Forces merged into the Nanjing MRAF. In July 1958, the Fuzhou MRAF was created at Jinjiangxian, using officers from the Nanjing MRAF, 1st Air Corps, and 5th Air Corps as the core. In September 1985, the Fuzhou MRAF merged back into the Nanjing MRAF, covering Jiangsu, Zhejiang, Anhui, Fujian, Jiangxi, and Shanghai. Commanders of the Nanjing MRAF have included Nie Fengzhi, Cheng Huatang, Liu Maogong, Yang Huanmin, Yuan Bin, Jiang Yutian, Sun Jinghua, Xie Decai, and Lu Denghua.

Shenyang MRAF: In July 1950, the Dongbei MRAF was created using the Dongbei MR Aviation Division as the core.⁹⁵⁶ In May 1954, the name was changed to the Dongbei MRAF, and in April 1955 it was changed again to the Shenyang MRAF. In May 1957, the Shenyang MR Air Defense Force was merged into the Shenyang MRAF. The Shenyang MRAF covered Liaoning, Jilin, and Heilongjiang. Commanders have included Duan Suquan, Liu Zhen, Zhou Chiping, Cao Guohua, Wang Yuhuai, Cao Shuangming, Xin Dianfeng, Hu Denghua, Zheng Shenxia, and Xu Qiliang.

Wuhan MRAF and Base: The Wuhan MRAF was created in July 1955 from the merger of the Xinan MRAF and PLAAF's Guangzhou CP, covering Henan and Hubei.⁹⁵⁷ In September 1985, the Wuhan MRAF was abolished and replaced by the Wuhan CP (*Wuhan zhihuisuo*).⁹⁵⁸ The name was changed to the Wuhan Base (*Wuhan jidi/Wuji*) sometime after 1993.⁹⁵⁹ Forces in Henan were transferred to the Jinan MRAF, and those in Hubei were subordinated to the Guangzhou MRAF. Commanders of the Wuhan MRAF included Fu Chuanzuo, Liu Cunxin, Li Yongtai, and Wu Jiyuan.

Air Corps, Command Posts, and Bases

1st Air Corps: The 1st Air Corps (*kong 1 jun*) was established in Changchun, Jilin Province, probably in November 1951. During preparations to liberate Taiwan in the fall of 1958, the PLAAF moved the core staff of the 1st Air Corps to Jinjiang, Fujian

⁹⁵⁵ Ibid., Volume 8, p. 865.

⁹⁵⁶ Ibid., Volume 8, p. 1018.

⁹⁵⁷ Ibid., Volume 9, p. 1239.

⁹⁵⁸ Allen, 1991, Section 12.

⁹⁵⁹ *Directory of PRC Military Personalities*, Hong Kong: Defense Liaison Office, US Consulate General, October 1995, p. 50. *Zhongguo Kongjun*, p. 28.

Province, in July 1958. In October 1958, the 1st Air Corps was reestablished in Changchun with a new commander⁹⁶⁰ and still exists today.

2nd Air Corps: The 2nd Air Corps (*kong 2 jun*) was established in November 1951 at Andong, Liaoning Province,⁹⁶¹ and was later abolished. It was not replaced by a command post.

3rd Air Corps, Dalian Command Post and Base: The 3rd Air Corps (*kong 3 jun*) was originally formed at Kaiyuan Liaoning Province, in November 1951,⁹⁶² changed to the Dalian CP (*Dalian zhihuisuo/Dazhi*) probably in 1985⁹⁶³ and changed again to the Dalian Base (*Dalian jidi/Daji*) sometime after 1993.⁹⁶⁴

4th Air Corps, Shanghai Command Post and Base: The 4th Air Corps (*kong 4 jun*) was established in Shanghai in August 1952,⁹⁶⁵ changed to the Shanghai CP (*Shanghai zhihuisuo/Shangzhi*) probably as early as 1985,⁹⁶⁶ and changed again to the Shanghai Base (*Shanghai jidi/Shangji*) sometime after 1993.⁹⁶⁷

5th Air Corps: The 5th Air Corps (*kong 5 jun*) was established in Weifang, Shandong Province, in August 1952,⁹⁶⁸ but was noted in Hangzhou in 1954 until April 1976, when it was abolished.⁹⁶⁹ At that time, the 5th Air Corps command staff was moved to Kunming and the Kunming MRAF CP was renamed the 5th Air Corps.⁹⁷⁰ In November 1978, the 5th Air Corps was renamed the Kunming MRAF CP.⁹⁷¹ The 5th Air Corps apparently disappeared for good in 1978.⁹⁷²

6th Air Corps, Jinan MRAF, Tangshan Command Post and Base: The 6th Air Corps (*kong 6 jun*) was established at Yangcun, Hebei Province, in March 1956, but moved to Weifang, Shandong Province, in June 1956.⁹⁷³ In September 1967, the 6th Air Corps moved to Jinan, Shandong Province, and formed the basis for the Jinan MRAF

⁹⁶⁰ Yao Jun, p. 659.

⁹⁶¹ Ibid., p. 657.

⁹⁶² Ibid.

⁹⁶³ Allen, 1991, Section 12.

⁹⁶⁴ 1999 Directory, p. 54.

⁹⁶⁵ Yao Jun, p. 657.

⁹⁶⁶ Allen, 1991, Section 12.

⁹⁶⁷ 1996 Directory, p. 46.

⁹⁶⁸ Yao Jun, p. 657.

⁹⁶⁹ Ibid., p. 666.

⁹⁷⁰ Ibid., *Encyclopedia*, p. 160.

⁹⁷¹ Yao Jun, p. 667; *Encyclopedia*, p. 160.

⁹⁷² Interview with PLA officials.

⁹⁷³ Yao Jun, p. 659.

(*Jinan junqu kongjun/Jikong*).⁹⁷⁴ During December 1968, the 6th Air Corps was recreated in Tangshan, Hebei Province,⁹⁷⁵ and was noted in 1976 during the earthquake. At an unidentified later time, the 6th Air Corps changed its name to the Tangshan CP (*Tangshan zhihuisuo/Tangzhi*).⁹⁷⁶ The name was changed to Tangshan Base (*Tangshan jidi/Tangji*) sometime after 1993.⁹⁷⁷

7th Air Corps: In November 1959, the Shantou CP (*Shantou zhihuisuo/Shanzhi*) was established in Changhai, Guangdong Province, but moved to Xingning, Guangdong Province, in 1960.⁹⁷⁸ At some point after 1960, another Shantou CP was apparently established. In June 1962, the second Shantou CP became the 7th Air Corps (*kong 7 jun*).⁹⁷⁹ Sometime after that, the 7th Air Corps moved to Xingning, Guangdong Province. In August 1964 the 7th Air Corps moved to Nanning, Guangxi Autonomous Region,⁹⁸⁰ where it still exists today.⁹⁸¹

8th Air Corps, Fuzhou MRAF, Fuzhou Command Post, Jinjiang Command Post: The PLAAF has changed its command organizations in Fuzhou several times since the mid-1950s, and provides one of the most difficult situations to understand. In September 1955, the PLA Air Defense Force's 1st Corps (*fangkongjun diyi jun*) was established in Fuzhou, Fujian Province. Following the Air Defense Corps' merger with the PLAAF in 1957, the 1st Corps was replaced in July 1958 by the Fuzhou MRAF (*Fuzhou junqu kongjun/Fukong*), which was formed at Jinjiang, Fujian Province, from a core of the 1st Air Corps (Changchun) and organized to command Fujian and Jiangxi PLAAF units in preparation to liberate Taiwan.⁹⁸² In February 1960, the PLAAF established the Fuzhou CP (*Fuzhou zhihuisuo/Fuzhi*) in Fuzhou City.⁹⁸³ In June 1960,

⁹⁷⁴ Ibid. p. 664.

⁹⁷⁵ Ibid. p. 664.

⁹⁷⁶ Allen, 1991, Section 12.

⁹⁷⁷ *Zhongguo Kongjun* p. 27.

⁹⁷⁸ Yao Jun, p. 660. The command post was upgraded to a corps-level organization in April 1965 as the United States' involvement in Vietnam increased. The command post commander was Lin Hu, who was former PLAAF commander Wang Hai's regiment commander during the Korean War. He was a division commander during the 1958 Taiwan Straits crisis, a deputy commander in the Guangzhou MRAF under Wang Hai, and a deputy commandant of the PLAAF Command Academy. He became a PLAAF deputy commander under Wang Hai in September 1985.

⁹⁷⁹ Ibid., p. 661.

⁹⁸⁰ Ibid., p. 662.

⁹⁸¹ The author visited the 7th Air Corps in 1989.

⁹⁸² Ibid., p. 659.

⁹⁸³ Ibid., p. 660.

the MRAF and command post staffs exchanged locations, and the Fuzhou CP changed its name to the Jinjiang CP (*Jinjiang zhihuisuo/Jinzhi*).⁹⁸⁴

In June 1962, the Jinjiang CP changed its name to the 8th Air Corps (*kong 8 jun*).⁹⁸⁵ In April 1976, the 8th Air Corps, then located in Zhangzhou, Fujian Province, was abolished,⁹⁸⁶ but was immediately reconstituted in Chengdu when it replaced the Chengdu MRAF CP. In November 1978, the 8th Air Corps was replaced by the Chengdu MRAF CP.⁹⁸⁷ At some point after 1978, the 8th Air Corps moved from Chengdu to Fuzhou, Fujian Province. When the Fuzhou MRAF Headquarters was abolished in August 1985, the 8th Air Corps became the primary PLAAF command authority and still exists today.

9th Air Corps, Xinjiang/Wulumuqi Command Post: In November 1964, the 9th Air Corps (*kong 9 jun*) was established in Wulumuqi, Xinjiang Autonomous Region, and in November 1978 changed to the Xinjiang MRAF CP (*Xinjiang junqu kongjun zhihuisuo/Xinzhi*).⁹⁸⁸ On 16 April 1979, the name was changed to Wulumuqi MRAF CP (*Wulumuqi junqu kongjun zhihuisuo/Wuzhi*).⁹⁸⁹ The 9th Air Corps was again noted in Xinjiang (probably Wulumuqi) as early as 1993.⁹⁹⁰ Furthermore, no reference has been seen to the Wulumuqi CP since then. Most likely, the 9th Air Corps was re-established to replace the Wulumuqi CP, possibly as early as August 1985 when the PLA reduced its eleven military regions into seven, including the merger of the Xinjiang MR into the Lanzhou MR.

10th Air Corps: The 10th Air Corps (*kong 10 jun*) was established in January 1969 at Datong, Shanxi Province, and still exists today.⁹⁹¹

11th Air Corps, Xian Command Post and Base: The 11th Air Corps (*kong 11 jun*) was established in June 1969 in Hetian, Xinjiang Autonomous Region, and replaced the Lanzhou MRAF Headquarters at Xian, Shaanxi Province, when the Lanzhou MRAF (*Lanzhou junqu kongjun/Lankong*) headquarters moved from Xian to Lanzhou, Gansu Province in November 1969.⁹⁹² The 11th Air Corps was replaced by the Xian CP (*Xian*

⁹⁸⁴ Ibid.

⁹⁸⁵ Ibid., p. 661.

⁹⁸⁶ Ibid., p. 666.

⁹⁸⁷ Ibid., *Encyclopedia*, p. 160.

⁹⁸⁸ Yao Jun, pp. 662 and 667.

⁹⁸⁹ Ibid.

⁹⁹⁰ *1994 Directory*, p. 47.

⁹⁹¹ Yao Jun, 664.

⁹⁹² Allen, 1991, Section 11; and Yao Jun, p. 664.

zhihuisuo/Xizhi) in August 1985.⁹⁹³ The name was changed to the Xian Base (*Xian jidi/Xiji*) sometime after 1993.⁹⁹⁴

12th Air Corps, Shantou and Xingning Command Post: In November 1959, the Shantou CP (*Shantou zhihuisuo/Shanzhi*) was established in Chenghai, Guangdong Province, but moved to Xingning, Guangdong Province, in 1960.⁹⁹⁵ At some point after 1960, another Shantou CP was established that became the 7th Air Corps in June 1962. In June 1969, the Xingning CP changed its name to the 12th Air Corps (*kong 12 jun*).⁹⁹⁶ The 12th Air Corps was abolished in April 1976.⁹⁹⁷

13th Air Corps: The 13th Air Corps (*kong 13 jun*) was created in Shijiazhuang, Hebei Province, in August 1970 and was abolished in March 1976.⁹⁹⁸

Kunming MRAF Command Post and Base: On 1 August 1960, the Kunming MRAF CP (*Kunming junqu kongjun zhihuisuo/Kunzhi*) was formed.⁹⁹⁹ In April 1976, the 5th Air Corps command staff was moved to Kunming and the Kunming MRAF CP was renamed the 5th Air Corps.¹⁰⁰⁰ In November 1978, the 5th Air Corps was renamed the Kunming MRAF CP.¹⁰⁰¹ The Command Post was renamed the Kunming Base (*Kunming jidi/Kunji*) sometime after 1993.¹⁰⁰²

Lhasa Command Post and Base: The Lhasa CP (*Lhasa zhihuisuo/Lazhi*) was established at the division-level in November 1962 and subordinated to the Chengdu MRAF in January 1969.¹⁰⁰³ In August 1985, it was downgraded to a general office (*bangongshi*), but was upgraded again in 1987 to a division-level command post.¹⁰⁰⁴ Lhasa is the PLAAF's smallest command post and, according to PLAAF officials in

⁹⁹³ Ibid., p. 664.

⁹⁹⁴ 1994 *Directory*, p. 47.

⁹⁹⁵ Yao Jun, p. 660. The command post was upgraded to a corps-level organization in April 1965 as the United States' involvement in Vietnam increased. The command post commander was Lin Hu, who was former PLAAF commander Wang Hai's regiment commander during the Korean War. He was a division commander during the 1958 Taiwan Straits crisis, a deputy commander in the Guangzhou MRAF under Wang Hai, and a deputy commandant of the PLAAF Command Academy. He became a PLAAF deputy commander under Wang Hai in September 1985.

⁹⁹⁶ Ibid., p. 664.

⁹⁹⁷ Ibid., p. 666.

⁹⁹⁸ Ibid., p. 664, 666.

⁹⁹⁹ Ibid., p. 660.

¹⁰⁰⁰ Ibid., p. 666; *Encyclopedia*, p. 160.

¹⁰⁰¹ Yao Jun, p. 667; *Encyclopedia*, p. 160.

¹⁰⁰² *Directory 1996*, p. 41.

¹⁰⁰³ Yao Jun, p. 661.

¹⁰⁰⁴ Ibid.

1989, is equivalent to only a brigade-level organization.¹⁰⁰⁵ According to PLA officials, the Lhasa CP probably did not get restructured as a base (*jidi*) when the other command posts changed in 1993. The 1999 *Directory of PRC Military Personalities* still carried Lhasa as a command post.¹⁰⁰⁶

Hetian Command Post: In July 1962, the Lanzhou MRAF created the Hetian Command Post (*Hetian zhihuisuo/Hezhi*) in Xinjiang.¹⁰⁰⁷ The Hetian CP was a division-level organization. The CP was downgraded to a maintenance field station (*changzhan*) in April 1967.

Zhangzhou Command Post: In October 1978, the Fuzhou MRAF re-established the Zhangzhou Command Post (*Zhangzhou zhihuisuo/Zhangzhi*) in Fujian Province.¹⁰⁰⁸ This command post was probably originally established in 1958, but was later abolished.

Table 9.6 PLAAF Air Corps Status

Air Corps	Date Established	Location when established	Current Status
1 st	Nov 1951	Changchun, Jilin	Active in Changchun
2 nd	Nov 1951	Andong, Liaoning	Abolished
3 rd	Nov 1951	Dalian, Liaoning	Dalian Base
4 th	Aug 1952	Shanghai	Shanghai Base
5 th	Aug 1952	Weifang, Shandong	Abolished
6 th	Mar 1956	Yangcun, Hebei	Tangshan Base

¹⁰⁰⁵ *Zhongguo Kongjun*, pp. 22-23. The author escorted two USAF delegations to Lhasa in 1988.

¹⁰⁰⁶ *Directory of PRC Military Personalities*, October 1999, p. 46.

¹⁰⁰⁷ Yao Jun, p. 661.

¹⁰⁰⁸ *Ibid.*, p. 667.

7 th	Jun 1962	Shantou, Guangdong	Active in Nanning
8 th	Jun 1962	Jinjiang, Fujian	Active in Fuzhou
9 th	Nov 1964	Wulumuqi, Xinjiang	Active in Wulumuqi
10 th	Jun 1969	Datong, Shanxi	Active in Datong
11 th	Jun 1969	Hetian, Xinjiang	Xian Base
12 th	Jun 1969	Xingning, Guangdong	Abolished
13 th	Aug 1970	Shijiazhuang, Hebei	Abolished

Table 9.7 Origin of PLAAF Air Divisions

Division	Regiments	Date	Aircraft	Location when established
1 st	1 st 2 nd 3 rd	Mar 56	Fighter	Anshan, Liaoning
2 nd	4 th 6 th	Nov 50	Fighter	Shanghai Longhua
3 rd	7 th 8 th 9 th	Oct 50	Fighter	Shenyang, Liaoning. Currently in Wuhu, Anhui
4 th	10 th 12 th	Oct 50	Fighter	Liaoyang, Liaoning Changed to 1 st Division. Then reestablished in Mar 56 in Liaoyang.
5 th	13 th 15 th	Dec 50	Ground Attack	Kaiyuan, Liaoning
6 th	16 th 17 th	Nov 50	Fighter	Anshan, Liaoning
7 th	19 th 21 st	Dec 50	Fighter	Dongfeng, Jilin2

8 th	22 nd 24 th	Dec 50	Bomber	Siping, Jilin
9 th	25 th 27 th	Dec 50	Fighter	Jilin, Jilin Transferred to Naval Aviation as 5 th Division, Sep 55. Reestablished in Ganzhou in Mar 56.
10 th	28 th 30 th	Jan 51	Bomber	Nanjing, Jiangsu
11 th	31 st 33 rd	Feb 51	Ground Attack	Xuzhou, Jiangsu
12 th	34 th 36 th	Dec 50	Fighter	Xiaoshan, Zhejiang
13 th	37 th 39 th	Apr 51	Transport Recce	Xinjin Xian, Sichuan
14 th	40 th 42 nd	Feb 51	Fighter	Beijing Nanyuan
15 th	43 rd 45 th	May 51	Fighter	Huaide Xian, Jilin
16 th	46 th 48 th	Feb 51	Fighter	Qingdao, Shandong
17 th	49 th 50 th 51 st	Apr 51	Fighter	Tangshan, Hebei Transferred to Naval Aviation as 4 th Division, May 54. Reestablished in Beijing in Mar 56.
18 th	52 nd 54 th	May 51	Fighter	Guangzhou, Guangdong
19 th		Nov 51	Fighter	
20 th		Nov 51	Bomber	
21 st		Nov 51	Fighter	
22 nd		Nov 51	Ground Attack	
23 rd		Nov 51	Bomber	

24 th	70 th Dadui	Nov 51	Fighter	Zunhua, Hebei
25 th		Nov 51	Bomber	
26 th	76 th 78 th Dadui	Dec 52	Fighter	Liuzhou, Guangxi
27 th		Dec 52	Fighter	Tongxian, Hebei
28 th		Dec 52	Ground Attack	Gucheng, Today - Hangzhou, Zhejiang
29 th		Jan 54	Fighter	Jiaxing, Zhejiang
30 th		May 60		Donggou, Liaoning
31 st		May 60		Yancheng, Jiangsu
32 nd		May 60		Jinghai, Hebei
33 rd		May 60		Shanpo, Hubei
34 th		Sep 63	Transport	Beijing, Hebei. Sep 80 changed to Indep transport rgmt. Mar 88 changed back to 34 th Division that is directly subordinate to HqAF
35 th		Mar 65		
36 th		Mar 65	B-6	Wugong, Shaanxi
37 th		Aug 66		Dandong Langtou, Liaoning
38 th		Jun 67		Jinghai, Hebei Formerly 1 st Training Base
39 th		Jun 67		Liuhe, Jilin Formerly 2 nd Training Base
40 th -46 th		Jul 69		

47 th		Feb 70		Yinchuan, Ningxia
48 th -50 th		Apr 71		

Table 9.8 Origin of PLAAF Independent Regiments

Independent Regiment	Date	Aircraft	Location when established
1 st Indep Recce Regiment	Nov 51	Recce	Nanjing
2 nd Indep Recce Regiment	Nov 51	Recce	Nanjing
3 rd Indep Transport Regiment	Dec 52	Transport	
4 th Indep bomber Regiment	Dec 52	Bomber	
5 th Indep Recce Regiment	Jan 54	Recce	Yuanshi, Hebei

APPENDIX H. PLAAF RESEARCH INSTITUTES

All of the PLAAF's research institutes are subordinate to HqAF's Logistics Department or Equipment Department.¹⁰⁰⁹ In turn, all of the research institutes within the Logistics Department are subordinate to the Headquarters Department and those in Equipment Departments to the Headquarters Department and Scientific Research Department. Each of these three departments have a Division (*chu*) which is specifically responsible for planning, budgeting, and issuing requirements/projects to each of their research institutes.

There are eight numbered research institutes under the Scientific Research Department. Each of these research institutes have about 200 personnel. The senior administrative personnel are active duty military, and the technicians are Air Force civil service personnel. While this department has functional (*yewu*) control for the planning, budgeting, and requirements for these institutes, other departments have administrative (*xingzheng*) responsibilities for them.

In general terms, the Scientific Research Department is responsible for development of new systems, and the other departments are responsible for the systems once they are deployed. However, the Scientific Research Department, the research institute, and the associated department work closely on all phases of weapons and equipment development. Except for the First and Fourth Research Institutes, all of the research institutes assigned to the Scientific Research Department are associated with departments in the first-level Headquarters Department, which also has several research laboratories.

The **First (Aeronautical Engineering/hangkong gongcheng) Research Institute**, AKA the Maintenance/*weihu* Research Institute, was established at Beijing Nanyuan airfield in August 1958, changed its name to the PLA Sixth Research Institute in June 1961, and was reactivated as the PLAAF First Research Institute in September 1962. It is functionally subordinate to the Scientific Research Department, but is administratively subordinate to the Equipment Department's Field Maintenance Department.

The **Second (Radar/leida) Research Institute** was established in Beijing in August 1958. It is functionally subordinate to the Scientific Research Department, but is administratively subordinate to the Radar Department. It is co-located with the Third, Fifth, and Seventh Research Institutes at Qinghe, in northern Beijing. There is an Air Force radar repair factory in Lintong, near Xian, which probably works closely with this research institute.

The **Third (Communications/tongxin) Research Institute** was established in Qinghe in August 1958. It is functionally subordinate to the Scientific Research Department, but is administratively subordinate to the Communications Department.

¹⁰⁰⁹ Unless specified, the information in this appendix was taken from Allen, 1991. See also *Kongjun da cidian*; Yao Jun; and Xin Ming.

In March 1960, the **Fourth (Aviation Medicine/hangkong yixue yanjiusuo/hangyi yanjiusuo) Research Institute** was established in Beijing. It is co-located with the Air Force General Hospital. It is functionally subordinate to the Scientific Research Department, but is administratively subordinate to the Logistics Department's Health Department.

The **Fifth (Air Defense/daodan) Research Institute** was established in Qinghe in June 1976. It is functionally subordinate to the Scientific Research Department, but is administratively subordinate to the Antiaircraft Artillery Department. It also works closely with the Logistics Department's Armament Department's SAM Division. It is responsible for SAMs and probably AAA. It is not responsible for air-to-air missiles. It is co-located with the Second, Third, and Seventh Research Institutes.

The **Sixth (Technical Reconnaissance/jishu zhencha, Telecommunications Technology/dianxin jishu, Intelligence/qingbao) Research Institute** was established in Beijing in June 1976. It is functionally subordinate to the Scientific Research Department, but is administratively subordinate to the intelligence department. The primary missions of the Sixth Institute are development of telecommunications equipment for intelligence collection, and ground and aerial reconnaissance. Ground reconnaissance includes signals intelligence against the Soviet Union from listening posts along the border, and there is a Division (*chu*) within the institute which is specifically responsible for this mission. Aerial reconnaissance includes photographic and other means.

The **Seventh (Aviation Weather/hangkong qixiang) Research Institute** was established in Qinghe in June 1976. It is functionally subordinate to the Scientific Research Department, but is administratively subordinate to the Weather Bureau. It is co-located with the Second, Third, and Fifth Research Institutes.

The **Eighth (Weapons System and Evaluation/wuqi xitong lunzhengsuo) Research Institute** belongs solely to the Scientific Research Department. This institute evaluates ongoing/completed research to see if it is actually feasible to proceed with a particular system. If the Eighth approves the theoretical concepts, then it issues the necessary requirements to continue research or to produce the specific system or piece of equipment. This institute has several subordinate laboratories and is also responsible for air-to-air missile development. It was previously co-located with the other research institutes above in Qinghe, but moved in 1989 to a new facility at Beijing Nanyuan airfield.

The Simulator Research Lab (*moni qi yanjiushi*) is functionally subordinate to the Scientific Research Department, but is administratively subordinate to the Training Department. Its location is not known.

The Logistics Department's Headquarters Department is responsible for the functional control, including the budget, plans, and regulations, for all of the research institutes that belong to the Logistics Department. In the 1950s and 1960s, the Logistics Department established the Medical and Fuels Research Institutes. After the Third Plenum of the 11th Party Congress, research institutes, such as those for Capital Construction, Aviation Munitions, and SAMs etc., were established.

The Fuels (*youliao*) Research Institute was established as the Aviation Fuel Research Institute (*hangkong youliao yanjiusuo*) in Beijing in 1960. It is functionally

subordinate to the Logistics Department's Headquarters Department, but is administratively subordinate to the Fuels Department.

The Clothing (*beizhuang*) Research Institute is functionally subordinate to the Logistics Department's Headquarters Department but is administratively subordinate to the Quartermaster Department. It is located in Beijing.

The Aviation Munitions (*hangkong danyao*) Research Institute is functionally subordinate to the Logistics Department's Headquarters Department, and is administratively subordinate to the Armament Department. It is located in Chuzhou City, Anhui Province.

The Four Stations Equipment (*sizhan zhuangbei*) Research Institute develops oxygen generation, compressed air, battery charging, and power supply equipment. Its location is unknown. There are PLAAF four stations repair facilities (*sizhan xiuli chang*) in Shenyang and Chuzhou.

The Medicine Examination/Inspection (*yaopin jianyan*) Research Institute is functionally subordinate to the Logistics Department's Headquarters Department, but is probably administratively subordinate to the Health Department. It is located at Beijing Nanyuan airfield.

The Capital Construction (*jijian gongcheng*) Research Institute is functionally subordinate to the Logistics Department, is probably administratively subordinate to the Airfield Construction and/or Airfield and Barracks Construction Departments. Its location is unknown.

The Aviation Repair (*hangkong xiuli*) Research Institute was established in Nanjing in February 1978. It is functionally subordinate to the Equipment Department's Headquarters Department, but is administratively subordinate to the Factory Management Department. It is co-located with the Aviation Electro-Mechanical Research Institute (*hangkong jidian yanjiusuo*) in Nanjing.

In addition to the research institutes noted above, the PLAAF formed the research institutes listed below from 1957-1965. Their status is not known.

- Aviation Equipment Technical & Maintenance Research Institute (*hangkong zhuangbei jishu weixiu yanjiusuo*)
- Navigation Research Institute (*daohang yanjiusuo*)
- Automation Research Institute (*zidonghua yanjiusuo*)
- Refueling Equipment Research Institute (*jiayou shebei yanjiusuo*)
- Chemical Defense Research Institute (*fanghua yanjiusuo*)
- Weapons Equipment System (*wuqi zhuangbei xitong*) Research Institute

There are also various PLAAF research centers, such as those listed below:

- In 1981, the PLAAF Navigation Theory Research Center (*kongjun linghang lilun yanjiu zhongxin*) was established.
- The PLAAF's SAM and AAA Applied Research Center (*kongjun dikong daodan, gaopao yingyong yanjiu zhongxin*) is located at an unknown location.

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10. THE ORGANIZATION OF THE PEOPLE'S LIBERATION ARMY NAVY (PLAN)

By Bernard D. Cole^{1010 1011}

INTRODUCTION

This addresses China's naval establishment, focusing on the People's Liberation Army Navy (PLAN). Understanding the organization of a nation's military service may tell us much about that nation's security priorities, international aspirations, and domestic priorities. Naval organization may be particularly telling in this respect, since navies are so technology- and equipment-dependent that they demand very large investments of national attention and treasure. The organization of a navy should also reflect the strategic imperatives and doctrinal thinking of the nation. Fleet composition, homeport location, and command arrangements all provide indicators of the role the nation's leaders intend for their navy and national security priorities.

Speaking to the first session of the National Political Consultative Conference in July 1949, Mao Zedong proclaimed:

Our national defense will be strengthened and we won't permit any imperialist to encroach any more upon our territory. Based on the gallant and tested People's Liberation Army, the people's armed forces of ours must be maintained and developed. We shall not only have a powerful army, but also a powerful air force and a powerful navy.¹⁰¹²

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¹⁰¹¹ This paper reflects the views of the author and may not reflect those of the National War College or any other agency of the U.S. Government

Mao and the leading PLA generals were, not surprisingly, strict continentalist in strategic outlook, and it was only the events of the next few years that convinced them China required a navy capable of more than guarding the army's flanks and helping it cross rivers. The need to enforce order on China's coastal waters, offshore battles with the remaining Kuomintang (KMT) navy, including operations to evict KMT troops from various islands, and campaign planning to invade Taiwan were some of these events.

IMPERIAL CHINA

The PLAN can trace its lineage back through the dynasties. The earliest recorded naval battle in China occurred during the Spring and Autumn Period, in 549 B.C., when rival rulers used ships to attack each other's forces; large-scale naval operations continued to play a role in Chinese warfare through the Han Dynasty (206 B.C.-220 A.D.).¹⁰¹³

Chinese sea-goers were the first to control their ships with sails and rudders, greatly increased their vessels' seaworthiness through compartmentation, painted their vessel bottoms to inhibit wood rot, and built dry docks. They developed the art of navigation to a high degree, including use of the portable compass as early as 1044.¹⁰¹⁴ The sea also probably provided the earliest trading routes with south and west Asia, with regular commercial routes established by the end of the Tang Dynasty (907).¹⁰¹⁵

Song Dynasty

The high point of naval developments in dynastic China probably occurred during the Song Dynasty (960-1279), over a 500-year period when China deployed the world's most powerful and technologically advanced navy.¹⁰¹⁶ During this time, combat fleets

¹⁰¹² Quoted in Bruce Swanson, *The Eighth Voyage of the Dragon: A History of China's Quest for Seapower*, Annapolis, MD: U.S. Naval Institute Press, 1982, p. 183.

¹⁰¹³ Gang Deng, *Chinese Maritime Activities and Socioeconomic Development, c. 2100 B.C.-1900 A.D.*, Westport, CT: Greenwood Press, 1997, is a well-written history of this topic. All dates are "A.D.," unless otherwise noted.

¹⁰¹⁴ Joseph Needham's massive work, *Science and Civilization in China*, vols. 1-6, Cambridge: Cambridge Univ. Press, 1954-1986, discusses these and related developments.

¹⁰¹⁵ Deng, p. 41. Also see "China's Sea Route to West Asia Begins in Xuwen," *Xinhua*, 21 June 2000, in FBIS-CPP20000621000077, for archeologists' theory that trading voyages may have departed from Guangdong Province as early as 200 BC, 200 years before the "Silk Road" was established.

¹⁰¹⁶ See Paul C. Forage, "The Foundations of Chinese Naval Supremacy in the Twelfth Century," in Jack Sweetman, ed., *New Interpretations in Naval History: Selected*

composed of several hundred warships and supply vessels were common, with the Song navy reportedly totaling 13,500 ships in 1274.¹⁰¹⁷ Chinese maritime technology also matured during this age, and the maritime sector was an important part of the national economy. Perhaps most significantly, the Song regime was the first in China to establish a permanent national navy as an independent service, administered by a central government agency. The "Imperial Commissioner's Office for the Control and Organization of the Coastal Areas" was established in 1132 to supervise a navy of 52,000 men.¹⁰¹⁸

The Song maritime experience was based on a rapidly expanding national economy, with a particularly strong maritime sector encompassing commerce, fisheries, and transportation. As the navy was expanded and modernized, so were port facilities, supply centers, and dockyards; soldiers were trained specifically as marines and coast guard squadrons established.¹⁰¹⁹ Song navies used both sail and paddle wheel-driven craft, the latter powered by laborers on treadmills; doctrine was formalized, with formation maneuvering, long-range projectile launches, and complex tactics.¹⁰²⁰

China remained a sea power during the two succeeding dynasties. In fact, the overthrow of the Song regime by the Yuan (Mongol) Dynasty resulted in significant part because the latter rapidly mastered naval warfare. The Yuan also used large fleets to undertake invasions of Vietnam, Java, and Japan: the 1274 expedition against Japan included 900 ships and 250,000 soldiers; that of 1281 sent 4,400 ships.¹⁰²¹

Ming Dynasty

The Ming Dynasty (1368-1644) saw China reach the pinnacle of its overseas naval deployments, but also witnessed the collapse of imperial naval power. Zheng He's early fifteenth century voyages to the Middle East and Africa represented a standard of Chinese shipbuilding, voyage management, navigation ability, and naval organization

papers from the Tenth Naval History Symposium Held at the United States Naval Academy, 11-13 September 1991, Annapolis, MD: Naval Institute Press, 1992, p. 3.

¹⁰¹⁷ Ibid., p. 70.

¹⁰¹⁸ Lo Jung-pang, "The Emergence of China as a Sea Power During the Late Sung and Early Yuan Periods," *The Far Eastern Quarterly*, vol. XIV, August 1955, p. 491. By comparison, according to N.A.M. Rodger, *The Safeguard of the Sea: a Naval History of Britain, 660-1649*, N.Y.: W.W. Norton, 1997, p. 221ff, a likely date for the initial organization of a central office for administering England's Royal Navy is 1545.

¹⁰¹⁹ Forage, pp. 6-7.

¹⁰²⁰ Ibid., pp. 19-21, provides a fascinating account of two battles between Song and Yuan naval forces.

¹⁰²¹ John K. Fairbank, ed., "Maritime and Continental in China's History," in *The Cambridge History of China, vol. 12: Republican China: 1912-1949*, Cambridge: Cambridge Univ. Press, 1983, vol. 1, p. 15.

afloat and ashore well beyond European capabilities. Zheng He led large fleets of ships, some displacing over 400 tons, on four voyages half-way around the world at a time when Portuguese explorers were still feeling their way down the west coast of Africa in 50-ton caravels.¹⁰²² At its height, the Ming fleet included as many as 3,500 ships; most were warships, but transports, troop carriers, and even replenishment-at-sea ships were built and organized into discrete squadrons to facilitate administration and operations.¹⁰²³

The Ming rulers deliberately ended these voyages for domestic financial and political reasons, just at the time when European nations were beginning to use the high seas to achieve economic wealth and to proselytize. Furthermore, the government allowed its naval forces to atrophy; organization and administration of the navy became largely a "paperwork drill," and even coastal piracy made a comeback.¹⁰²⁴ By 1500, the government had made it illegal "to build boats of more than two masts," and in 1525 an imperial edict authorized coastal authorities to destroy all oceangoing ships.¹⁰²⁵

Even during this long period of brilliant maritime scientific progress and dominating power, however, the focus of China's national security concerns still lay to

¹⁰²² Louise Levathes, *When China Ruled the Seas: The Treasure Fleet of the Dragon Throne, 1405-1433*, N.Y.: Oxford Univ. Press, 1994, provides a comprehensive description of these epic voyages.

¹⁰²³ *Ibid.*, p. 175.

¹⁰²⁴ There were several reasons for the downfall of the Ming navy. First, the opening of China's Grand Canal in 1415 reduced the need for coastal trade; second, the sea-going commerce attracted foreign merchants and sailors, which increased the foreign presence in coastal provinces: the central government feared that this would loosen its control over these provinces. Third, court politics, with struggles between civil officials and the court eunuchs—traditional sponsors of overseas trade—became increasingly bitter; civil officials tried to weaken the eunuchs by curtailing this trade, which provided them with most of their funding. Fourth, the navy was allowed to deteriorate; by the end of the 16th century, the Ming government was unable to defend Chinese maritime traders against pirates. Fifth, the threat from Mongols and other Asian aggressors increased, which both increasingly focused government concerns inland, and absorbed an increasing portion of the national budget. Finally, the Ming decision also reflected Chinese xenophobia, perhaps best expressed in the Qing Emperor Ch'ien-lung's response to Britain's 1793 attempt to establish relations with Beijing when he told Lord MacCartney that "we possess all things. I set no value on objects strange or ingenious, and have no use for your country's manufactures."

For an interesting but Eurocentric interpretation of the role maritime mobility played in European imperialism, see George Raudzens, "Military Revolution or Maritime Evolution? Military Superiorities or Transportation Advantages as Main Causes of European Colonial Conquests to 1788," *The Journal of Military History*, Vol. 63, July 1999, pp. 631-642.

¹⁰²⁵ Levathes, p. 174.

the north and west.¹⁰²⁶ No dynasty fell because of maritime invasion or pressure: usurpers emerged from the Asian interior and the crucial battles were land battles. Naval missions were defense of the coast, defense and control of maritime trade, and control of riverine and canal traffic to safeguard the state's economic interests. The navy was during various periods well-organized, capable, and even powerful, but never was it vital to the dynasty's survival.

The Qing Navy

The Qing (Manchu) Dynasty made no concerted effort following its 1644 assumption of power to rebuild the navy or expand the maritime sector of China's economy. The Qing faced no significant threat from the sea during its first century and a half in power, and there seemed insufficient justification for the large investment needed for a large, modern navy.¹⁰²⁷ This was especially true after the most notable Qing maritime campaign, when the new dynasty conquered Taiwan in 1683. The island was described as "still largely unknown: flat, malarial plains along the west, backed by inhospitable mountain ranges....[An] unfriendly aboriginal population further discouraged exploration or settlement. . . ."¹⁰²⁸

Until the late 19th century, the Qing navy remained powerful enough to prevent coastal piracy from getting out of hand, to keep order on the canals and rivers, and to perform other coast guard-type functions. China had fallen so far behind the global norm in naval power, however, that it was completely unable to defeat the late-eighteenth and early-nineteenth century imperialists—who came almost entirely by sea.

Major "restoration" movements occurred in China late in the Qing period, following the end of the Taiping Rebellion in 1864. "Self-strengthening" reformers used the rubric of "Chinese learning as the fundamental structure, Western learning for practical use" to describe their intent to take advantage of western science and technology to develop modern Chinese capabilities.

By 1884, China had organized and deployed a modern navy, led by the efforts of Li Hongzhang, one of the most prominent of the scholar-bureaucrats who appreciated how far behind foreign powers China had fallen. Li used three approaches to build China's first modern navy: indigenous production, purchases abroad, and the reverse engineering of foreign systems. An arsenal was established in Shanghai to build steam-powered gunboats, but such efforts to modernize China's navy were opposed by Confucian traditionalists who were the rigid ideologues of the day: it was in part a struggle between ideology and professionalism that foreshadowed the similar situation today.

¹⁰²⁶ "The northern frontier became the fixation," according to Fairbank, p. 16.

¹⁰²⁷ Ibid., p. 13, makes this point.

¹⁰²⁸ Jonathan D. Spence, *The Search for Modern China*, N.Y.: W.W. Norton, 1990, pp. 53-54, describing Taiwan in terms which might be still used.

The new navy also suffered from high-level governmental corruption and weak organization. It was formed into four fleets that were essentially independent navies.¹⁰²⁹ The first test of the new Qing navy resulted from disputes with France over its colonization of Vietnam. Hostilities broke out in August 1884 and the local French fleet attacked the outgunned Chinese Fujian Fleet in Fuzhou Harbor, sinking every ship.¹⁰³⁰ China's other fleets were not sent to fight the French; Li held only problematic authority over the other fleets and in any case wanted to conserve and continue to build up remaining naval strength. His efforts were successful on paper, including establishment of a national Navy Office, a more organized training regimen and shore establishment, and in 1888 standardized naval regulations.¹⁰³¹

Despite these achievements, China's fleets failed to become a coherent national navy, and the most powerful fleet, the Beiyang, came to grief trying to halt Japanese incursions into Korea in the 1890s. The Beiyang Fleet of two modern battleships, ten cruisers, and two torpedo boats lost a sea battle to the Japanese in September 1894. The fleet then withdrew to Weihaiwei's strongly fortified harbor on the northern Shandong coast. In January 1895, the Japanese landed troops who seized the Chinese forts guarding Weihaiwei.¹⁰³² Their guns were then turned on the Chinese ships, which were also attacked by Japanese torpedo boats. The Chinese lost five ships; in conjunction with the September 1894 losses and the suicides of the fleet commander and other senior officers, the Peiyang Fleet was eviscerated.¹⁰³³ The other Chinese fleets again did not join the fight.

China and Japan launched near-simultaneous efforts to organize a modern navy in the second half of the nineteenth century. Both nations sought the technological and organizational expertise of outsiders; they bought and reverse-engineered foreign ships

¹⁰²⁹ Fairbank, *China: A New History*, Cambridge: The Belknap Press of Harvard Univ. Press, 1992, p. 220, relates the most famous case of corruption: the diversion of perhaps \$50 million in naval construction funds to the building of the Empress's Summer Palace in Beijing, complete with a large boat made of marble.

The new Chinese navy was organized into four fleets. The Peiyang Fleet, organized by a leader of the self-strengthening movement, Li Hongzhang, was the most modern and powerful and by 1884 included two 7,500-ton displacement, German-built battleships. The Fujian Fleet was homeported in Fuzhou; the other two fleets were the Nanyang and Guangdong.

¹⁰³⁰ Spence, p. 221. The French had eight warships and two torpedo boats; the Chinese had eleven warships and several other craft, but all were made of wood. The French also destroyed the Chinese shore installations.

¹⁰³¹ Swanson, p. 96ff, discusses these developments.

¹⁰³² Japanese success was simplified by the fact that the forts' guns were designed only to defend against threats from seaward; Japanese forces in took advantage of the same flaw in 1941, when it was repeated by the British in Singapore.

¹⁰³³ *Ibid.*, p. 223.

and systems while developing an indigenous military-industrial infrastructure. Japan succeeded, because it also developed a coherent organization that enabled the navy to function effectively as an instrument of the national security structure.

China's naval conflicts with the French and the Japanese demonstrated that while Beijing had successfully acquired the ships and weapons of a modern navy, it had not instituted effective central administration, training, logistical and maintenance support, and command and control. Furthermore, operational doctrine was almost completely lacking; the navy's leaders failed to establish inter-fleet coordination, exercises, or mutual support. Finally, China failed to provide its new navy with a coherent strategy tied to national security objectives. As a result of these factors, China's attempt to deploy a modern navy in the late nineteenth century ran aground.¹⁰³⁴

Republican China (1911-1948)

Chinese naval forces during the republican period relied almost entirely on ships leftover from the Qing or obtained from foreign nations. No significant efforts were made to rebuild the navy, or perhaps could have been made, given the general political and economic disarray suffered by China during those decades. Individual warlords occasionally made effective use of maritime forces, but these were viewed as adjuncts of the army. The low point was probably reached during the height of the warlord period, in the mid- to late-1920s. A western observer dismissed the Chinese navy since

“there has been a steady deterioration in the discipline of the Chinese Navy since the establishment of the Republic, and it has now ceased to exist as a national force, the different units being under the control of various militarists, who treat the vessels as their own private property It is impossible today to obtain a complete list of Chinese warships, showing to which party or militarist faction they belong.

¹⁰³⁴ China was only one of several countries building navies at this time: Great Britain, Germany, France, Italy, Russia, Japan, the United States, even Austria-Hungary, were all modernizing their fleets. Those that failed spectacularly—China, Germany, Austria-Hungary—all failed to develop meaningful strategic and operational frameworks for their new navies.

William Ferdinand Tyler, *Pulling Strings in China*, London: Constable & Co., 1929, tells some colorful stories about another, more successful maritime force developed in China during the late nineteenth century: the Revenue Service established as part of the Customs Service long-supervised by Sir Robert Hart. The ships of this service were operated mostly by British officers. Tyler also states that he was onboard the Chinese flagship at Weihaiwei in 1895, and characterizes the navy as “a monstrosity of disordered epicyclic heterogeneity.”

Vessels have been changing their allegiance . . . with bewildering frequency.”¹⁰³⁵

Threats to the new regime were *ground* threats from the Chinese Communist Party (CCP), Russia, and internal warlords. Naval actions that occurred took place chiefly on the rivers, especially the Yangzi and the waterways of the Canton Delta. Many of the warlords who struggled to gain control of various provinces and districts during the revolutionary period used China's inland waterways for transportation, as sources of revenue--taxing the dense river and canal traffic, or as military barriers. These efforts led to frequent "firefights" between provincial forces and the imperialist gunboats that patrolled China's rivers and lakes during the period, but did not contribute to any national effort to revive Chinese maritime power.¹⁰³⁶

Foreign sea power was especially effective as a "force multiplier": Great Britain, the United States, and Japan were able to use sea and river transport to move troops rapidly between crisis areas.¹⁰³⁷ This allowed them to influence the course of events in revolutionary China with relatively small military formations. There was also an October 1929 naval and land engagement on the Heilong (Amur) River between Chinese and Soviet forces that presaged the 1969 incident over disputed boundaries.¹⁰³⁸ Japan introduced a new element of maritime warfare in 1932, when it used bombers from an aircraft carrier stationed offshore Shanghai to bombard Chinese forces threatening Japanese interests in the city. Republican China was unable to contest such maritime efforts.

Jane's Fighting Ships documented this sad story. The 1939 edition reported that "Pending the termination of hostilities between China and Japan it has proved impossible

¹⁰³⁵ "The Chinese Navy," in *Shanghai Defense Force and Volunteers*, Shanghai: North China Daily Herald, 1929 (?), p. 1302.

¹⁰³⁶ One notable exception was a battle at the upper Yangzi River port city of Wanh sien, in September 1926. The local warlord, General Yang Sen, first commandeered British-owned steamers to transport his troops; when a British gunboat, HMS *Cockchafer*, attempted to free the steamers it ran into an ambush very capably managed by Yang and suffered severe casualties. See B.D. Cole, *Gunboats and Marines*, Newark, DE: University of Delaware Press, 1983, pp. 89-90, for an account of this affair.

¹⁰³⁷ The United States, for instance, used just two navy transports and a commercial passenger liner to move a single regiment of Marines from the United States to the Far East, and then between the Philippines and China, and between north and south China, as crises waxed and waned.

¹⁰³⁸ Swanson, p. 157. The "Chinese" naval forces were actually those of Zhang Xueliang, the Manchurian warlord (the "Young Marshall") who had recently sworn allegiance to Chang K'ai-shek's Nationalist government. The Chinese account of this battle quoted by Swanson ends with a Soviet victory due to superior firepower, including air strikes.

to obtain a reliable list of the ships of the Chinese Navy that remain in service. But it is believed that the following [forty-one surface ships] have been destroyed or otherwise lost.” In 1945 *Jane’s* listed fourteen ships in the Chinese Navy, but listed another six as belonging to the “Nanking Quisling Government.”

China’s record as a naval power during the long period of empire and republic documents an understandable focus on the continental rather than the maritime arena. Navies were built, organized, and employed only episodically and almost entirely for defensive purposes.

A NEW BEGINNING: THE PEOPLE’S REPUBLIC OF CHINA (PRC)

The Early Years: 1949-1954

The communist victory in 1949 was an army victory. The PLA had no naval arm and was unable to project power across even the narrow Taiwan Strait. Furthermore, many Chinese thought that China’s 19th and 20th century humiliation had been due in large part to foreigners’ ability to invade from the sea. The new government in Beijing sought to defend its coastline and island territories against both the United States and the KMT regime on Taiwan.

The “East China People’s Navy” was organized on 1 May 1949, formed mostly by the defection of the former KMT Second Coastal Defense Fleet.¹⁰³⁹ The new navy became part of the “East China Military Command,” organized in January 1950 with strength of more than 450,000 men and headquartered in Shanghai.

The new maritime force was given several missions. First was establishing law and order on coastal and riverine waters; second was helping the army capture offshore islands still occupied by the KMT and to prepare for the capture of Taiwan. Third, the CCP Politburo charged the new navy with “defending both [eastern and southeastern] China coasts and the Yangzi River.”¹⁰⁴⁰ Commander (and political commissar) of the East China Navy, General Zhang Aiping, interpreted these missions as requiring the new navy

¹⁰³⁹ Larry M. Wortzel, “The Beiping-Tianjin Campaign of 1948-49: The Strategic and Operational Thinking of the People’s Liberation Army,” Paper prepared for the U.S. Army War College’s Strategic Studies Institute, Carlisle, PA, n.d., Chart 1, points out that by July 1949 the PLA actually included seventy-seven “naval vessels”; Gene Z. Hanrahan, “Report on Red China’s New Navy,” *Naval Institute Proceedings*, vol. 79, August 1953, p. 847, describes the Nationalist contribution to this force as “twenty-five vessels ranging from LCTs to destroyers, representing an estimated one-fourth of the total Nationalist naval force. . . .”; and David G. Muller, Jr., *China as a Maritime Power*, Westview Press, 1983, p. 13, estimates that 2,000 former Republican naval personnel who defected to the communist regime in 1949 formed the core of the nascent PLAN.

¹⁰⁴⁰ Quoted in Shu, p. 51.

to safeguard China's independence, territorial integrity and sovereignty against imperialist aggression. . . . to destroy the sea blockade of liberated China, to support the land and air forces of the People's Liberation Army in defense of Chinese soil and to wipe out all remnants of the reactionary forces.¹⁰⁴¹

Among Zhang's first acts was establishing the "Naval Academy for the East China Military Zone" at Nanjing, in August 1949, to train army troops to become sailors in the new navy.¹⁰⁴² He also organized a rudimentary maintenance and logistical infrastructure.

The PLAN was officially established in May 1950, absorbing the East China Navy.¹⁰⁴³ Zhang remained in command; he was typical of early PLAN leadership, veterans of China's civil war who had spent their entire career as ground commanders. They were transferred to the new navy because of their political reliability and proven combat record, rather than naval experience. In fact, only two career naval officers have commanded the PLAN: Admirals Zhang Liangzhong, from 1987-1996 and Shi Yunsheng, from 1997 to the present.¹⁰⁴⁴

Zhang Aiping visited Moscow in September 1949, and the PLAN was established with Soviet assistance obtained by Mao Zedong during his 1949-50 stay in Moscow. China acquired mostly small vessels suitable to combat the coastal threat from Taiwan, as Zhang set out to develop a defensive force that would be inexpensive to build, and could be quickly manned and trained.¹⁰⁴⁵ Beijing's goal was the naval capability to recover the offshore islands still occupied by the KMT, to conclude with the invasion of Taiwan

¹⁰⁴¹ General Zhang Aiping, quoted in *ibid.*, p. 848.

¹⁰⁴² Muller, p. 14.

¹⁰⁴³ *Ibid.*, pp. 46-54, provides a useful description of the beginnings of the PLAN.

¹⁰⁴⁴ The reverse also occurs. Author's conversation with Qingdao Garrison DCOS for Militia and Reserve Affairs in May 2000 involved a long discussion with a PLA "senior- colonel," who had spent the previous twenty-two years as a senior captain in the PLAN; his transfer to the army came about because of his expertise as an engineer.

¹⁰⁴⁵ The new PLAN also ordered two new cruisers from Great Britain and attempted to obtain surplus foreign warships through Hong Kong, efforts that were nullified by the outbreak of the Korean War.

He Di, "The Last Campaign to Unify China': The CCP's Unmaterialized Plan to Liberate Taiwan, 1949-1950," *Chinese Historians*, vol. 5, Spring 1992, p. 8. This article is probably the most complete account of this period's PLAN activities connected with the Taiwan Strait islands. Its author works at the Institute of American Studies of the Chinese Academy of Social Sciences and presumably had good access to PLA archives while researching this article.

in August 1951. Mao Zedong considered the capture of Taiwan “an inseparable part of his great cause of unifying China.”¹⁰⁴⁶ He lacked experience in naval warfare, but quickly learned that a successful campaign against Taiwan would require adequate amphibious training, naval transportation, “guaranteed air coverage,” and the cooperation of a “fifth-column” on the island--requirements that still apply.¹⁰⁴⁷

1950s

The Korean War presented mixed military lessons to China. The amphibious landing at Inchon in September 1950 was a major turning point of the war, while allied command of the sea allowed free employment of aircraft carriers and battleships to bombard Chinese and North Korean forces. The UN forces also suffered a significant maritime defeat, when a planned amphibious assault on the east coast port of Wonsan in October 1950 had to be canceled because the North Koreans had mined the harbor.¹⁰⁴⁸ Overall, however, Korea was not a maritime conflict and the PLA's successes on the land and in the air contributed to a continued policy of relying on a coastal navy for China's defense.

PLAN operations continued to focus on KMT attacks against the mainland and on capturing offshore islands held by Taiwan. The decade was highlighted by two Taiwan Strait Crises, in 1954-55 and 1958. The 1954-55 incident included the PLA seizure of the Dachen Islands, evacuated by the KMT in the face of PLA air power and developing amphibious assault proficiency.¹⁰⁴⁹

The navy's air force, the People's Liberation Army Navy-Air Force (PLANAF), was organized in 1952. Its mission was support of anti-surface ship and anti-submarine

¹⁰⁴⁶ Ibid., p. 2, points out that the date for assaulting Taiwan was postponed by Mao several times, as PLA failures against various offshore islands emphasized the additional time required to prepare for a successful, large-scale amphibious assault.

¹⁰⁴⁷ Ibid., p. 4

¹⁰⁴⁸ The American amphibious assault on Wonsan in October 1950 was so delayed by 2,000-4,000 mines laid in the harbor and its approaches that the city was captured by Allied troops attacking overland before a landing could be made from the sea. Two U.S. minesweepers were sunk and Japanese “sweeps” had to be called in to complete the task. The presence of mines had been anticipated, but the North Korean failure to lay their mines correctly in Inchon led the U.S. commanders to dismiss the dangers of mine warfare.

¹⁰⁴⁹ Gordon H. Chang and He Di, “The Absence of War in the U.S.-China Confrontation Over Quemoy and Matsu in 1954-1955: Contingency, Luck, or Deterrence?” *The American Historical Review*, vol. 98, December 1993, p. 1514, misleadingly describes this action during which “10,000 PLA troops...overwhelmed 1,086 Kuomintang soldiers.”

defensive operations;¹⁰⁵⁰ initial inventory was eighty aircraft, including MiG-15 jet fighters, Tu-16 jet bombers (a model still active), and propeller-driven Tu-2 bombers.

The North Sea Fleet included the majority of the PLAN's submarine force, perhaps because it was the fleet nearest the U.S. naval forces based in Japan.¹⁰⁵¹ The East Sea Fleet, headquartered in Ningbo, was the busiest and most important of the PLAN's three operating fleets during the 1950s. It faced the American-supported KMT forces, and the Taiwan Strait crises occurred in this fleet's area of responsibility (AOR). The South Sea Fleet, once Hainan was taken from KMT forces in 1950 and the Vietnamese-French war ended in 1954, faced a hostile SEATO alliance but a relatively quiet maritime situation. Within ten years of its founding, the PLAN had been organized, sent to sea, and proven itself as a coastal defense force.

1960s

The 1960s were marked by major foreign and domestic events that constrained development of a sea-going navy. Most important was the split with the Soviet Union, when Soviet advisors (and their plans) were withdrawn from China in 1960. The navy suffered with the rest of the PLA, as training and development projects were left in turmoil.

Other significant events in the early 1960s included war with India, the reemerging Vietnam conflict, turmoil in the new African states, and revolutionary movements throughout Southeast Asia. None of these international events directly involved the navy; they did not provide justification for reorganizing or expanding the PLAN, but instead served to limit naval modernization.

The massive Soviet ground force threat in the 1960s and the PLA's lack of mobility drove China's national security strategy to focus on very large army forces, supplemented by a coastal navy. Naval modernization focused almost solely on the development in the 1960s of nuclear-powered attack and ballistic missile submarines, to the detriment of the remainder of the PLAN.¹⁰⁵²

Addition of a nuclear arm to a coastal defense navy resulted from Mao's determination that China join the nuclear club. Despite the ideological turmoil of the late

¹⁰⁵⁰ Kenneth W. Allen, Glenn Krumel, and Jonathan D. Pollack, *China's Air Force Enters the 21st Century*, Santa Monica, CA: RAND, 1995, p. 205 n.11: little open-source information is available about PLANAF assets; a reasonable assumption is that the navy's air arm has flown the older variants of the same aircraft flown by the PLAAF. Allen, Krumel, and Pollack provide a useful description of PLA aircraft acquisition programs in Appendix E, pp. 221-9.

¹⁰⁵¹ The PLAN submarine bases were perhaps influenced by Soviet advisors; during discussions with the Allies in the 1940s and with Mao in 1950, Stalin had expressed interest in establishing a Soviet submarine base at Pt. Arthur (Lushun).

¹⁰⁵² John E. Moore and Richard Compton-Hall, *Submarine Warfare: Today and Tomorrow*, London: Adler & Adler, 1987, pp. 195, 201.

1950s and the 1960s, Beijing invested heavily in developing nuclear-armed missiles and the nuclear-powered submarines to launch them. This policy came to fruition in China's 1964 detonation of a nuclear device and the 1988 commissioning of a nuclear-powered fleet ballistic missile submarine (SSBN).¹⁰⁵³

America's involvement in Vietnam and Taiwan's failure to act on its invasion rhetoric meant that China faced no overseas threat during the decade.¹⁰⁵⁴ The PLAN remained organized in three operating fleets, each facing discrete "theaters": the North Sea Fleet was primarily responsible for countering the Soviet naval threat; the East Sea Fleet focused on Taiwan; the South Sea Fleet was on the immediate sidelines of the Vietnam conflict.

1970s

Mao Zedong reportedly directed the development of a modern navy in May 1975 at a meeting of the Central Military Commission (CMC).¹⁰⁵⁵ He may have been reacting both to the Soviet threat and to the development of a powerful navy by China's ancient protagonist and most recent invader, Japan.

PLAN missions in the 1970s included combating criminal activities such as smuggling, piracy, and illegal immigration; life saving; and safety of navigation. The navy's first priority, however, remained defending against possible Soviet amphibious assault. The Soviet Navy in the late 1970s and 1980s was in a position to threaten sea lines of communications vital to Beijing's rapidly increasing merchant marine, as Soviet maritime forces maintained continual naval presence in the Indian Ocean and North Arabian Sea. The Soviet Pacific Fleet almost doubled in size during the 1970s and was improved by the addition of Moscow's latest combatants, including nuclear-powered and armed surface ships and submarines. Soviet merchant and fisheries ships were also omnipresent in Pacific waters historically vital to China's economic interests.

Beijing's second maritime priority was securing offshore territorial claims. Taiwan was the most important of these, but the South China Sea was also significant. Successful action against South Vietnamese naval forces in 1974 resulted in Chinese possession of the disputed Paracel Islands, located in the northern part of that sea.

¹⁰⁵³ Richard Sharpe, ed., *Jane's Fighting Ships: 1995-96*, London: Butler and Tanner, 1996, p. 114, states that China built two *Xia*-class fleet ballistic missile submarines, patterned on the U.S. *George Washington*-class/Soviet *Hotel*-class: A.D. Baker, III, ed., *The Naval Institute Guide to Combat Fleets of the World, 2000-2001: Their Ships, Aircraft, and Systems*, Annapolis, MD: Naval Institute Press, 2000, does not repeat this claim.

¹⁰⁵⁴ Presumably, the United States would have come to Taiwan's defense had the PRC tried to take advantage of the American preoccupation with Vietnam by attacking the island, but the GPCR was even more of a preoccupation for Beijing.

¹⁰⁵⁵ FBIS reports, cited in Muller, p. 154.

The Soviet naval base at Cam Ranh Bay in Vietnam was flourishing as the 1970s ended, and the fight over the Paracels indicated that other claimants to the islands and reefs of the South China Sea would not accede meekly to Beijing's territorial claims. Hence, the South Sea Fleet's organization was significantly changed: the Marine Corps, first formed in 1953 but disbanded in 1957, was reestablished in 1980 as an amphibious assault force and assigned to the southern fleet. The PLAN's slender amphibious assets were concentrated in the south, as that fleet's training regimen began including "island seizing" exercises. In 1980, for instance, a major fleet exercise in the South China Sea focused on the seizure and defense of islands in the Paracels.¹⁰⁵⁶

1980s

PLAN force structure in 1980 for the first time centered on Chinese-built warships. Although still heavily reliant on Soviet designs, the *Luda*-class guided-missile destroyers, *Jianghu*-class frigates, and fast-attack missile-boats marked a significant increase in China's maritime capability.¹⁰⁵⁷ The submarine force included the first Chinese-built nuclear-powered attack submarines, as well as about 60 conventionally powered boats. A seaborne nuclear deterrent force continued under development, following Mao's command "to make [the navy] dreadful to the enemy."¹⁰⁵⁸

Mao's passing from the scene in 1976 limited the effort to modernize the PLAN, however, as Deng Xiaoping put forward a continentalist strategic perspective. Deng selected another general to command the navy, an officer who had worked for him previously. General Liu Huaqing held substantive (general/admiral) rank senior to that (lieutenant general/vice admiral) normally held by the PLAN commander, a sign of Deng's determination to improve the navy.

Liu exerted a strong force on naval developments as commander of the PLAN from 1982-1987, and then Vice-Chairman of the CMC until 1997. He is best known for promulgating a three-stage maritime strategy that provided justification on which PLAN officers and other navalists could base their plans for a larger, more modern navy—a process Liu supported, but at a very moderate pace.

Probably most important, however, were Liu's accomplishments reorganizing the navy, redeveloping the Marine Corps, upgrading bases and research and development

¹⁰⁵⁶ Tai Ming Chueng, *Growth of Chinese Naval Power: Priorities, Goals, Missions, and Regional Implications*, Singapore: Institute of Southeast Asian Studies, 1990, p. 28. China's marine corps had been disbanded in 1957 as "unnecessary."

The concentration of amphibious forces in the South rather than the East Sea Fleet may reveal the PLAN's attitude—ambivalent at best—toward the very difficult task of conducting an amphibious assault against Taiwan.

¹⁰⁵⁷ John E. Moore, ed., *Jane's Fighting Ships: 1976-77*, New York: Franklin Watts, 1977, p. 100ff. The PLAN also included the first Chinese range-instrument ships for tracking guided-missile flights, and the first Chinese-built amphibious transports.

¹⁰⁵⁸ Muller, p. 171.

facilities, and restructuring the naval school system.¹⁰⁵⁹ China's widening maritime concerns and increased budget resources in the 1980s raised interest in a strong modern navy. PLAN modernization proceeded along three paths--indigenous construction, foreign purchase, and reverse engineering--much as had Li Hongzhang's "self-strengthening" navy a hundred years earlier. The 1980s program proceeded at a measured pace, however; Beijing did not embark on a major naval expansion program.

Foreign purchases were concentrated in the west, with the United States sold China a small number of modern ship engines and torpedoes, and western European nations sold other weapons and sensor systems. Indigenous construction included guided-missile destroyers and frigates, replenishment-at-sea ships, and conventionally and nuclear-powered submarines. The PLAN acquired its only *Xia*-class fleet ballistic missile submarine in 1982. The successful submerged launch in 1988 of the *Julong-1* (JL-1) intermediate-range ballistic missile (IRBM) from this submarine meant that China for the first time could deploy nuclear strategic weapons at sea.¹⁰⁶⁰ The *Xia* was one of a kind, however, and other than being home ported with the North Sea Fleet to facilitate engineering support,¹⁰⁶¹ its commissioning did not result in the PLAN organizing a dedicated nuclear strategic force.

During this decade the PLAN also demonstrated increasing capability in other maritime missions. Protecting offshore petroleum assets, other seabed minerals, and fisheries received increased attention,¹⁰⁶² but did not dictate fleet reorganization.

¹⁰⁵⁹ Liu's accomplishments are summed up in Alfred D. Wilhelm, Jr., *China and Security in the Asian Pacific Region Through 2010*, CRM 95-226, Alexandria, VA: Center for Naval Analysis, 1996, p. 43.

¹⁰⁶⁰ See John Wilson Lewis and Xue Litai, *China's Strategic Seapower*, Stanford: Stanford University Press, 1984, for the best account of the development of the FBM and JL-1 programs. A successful 1982 launch was made from a submerged platform; a 1985 attempt from the *Xia* failed; a 1988 attempt succeeded. The *Xia* itself apparently has been a failure, never operating on a regular basis. *Jane's Fighting Ships, 1999-2000*, p. 115, repeats a continuing report that the second *Xia* was destroyed in a 1985 accident before it could go to sea.

Liu has been compared to Alfred Thayer Mahan, the great American maritime strategist, but it would be more accurate to compare Liu to Admiral John Fisher, the British First Sea Lord in the first decade of the 20th century who completely reorganized the Royal Navy.

¹⁰⁶¹ Author's discussion with Senior-Colonel (formerly Senior Captain) Wang Jue (May 2000), who had spent his career as a PLAN nuclear engineer, only to end up as DCOS for Militia and Reserve Affairs for the Qingdao Garrison. A conventionally-powered submarine copied from the Soviet's *Gulf II*-class was also built; it is still operational as a missile test-platform.

¹⁰⁶² See, for instance, Michael Leifer, "Chinese Economic Reform and Defense Policy: The South China Sea Connection," paper presented at the IISS/CAPS Conference,

China invested in four large space-surveillance ships to support its growing military and commercial space program, with these ships conducting the first long-range PLAN deployments in support of space launches in 1980. Task forces also supported scientific expeditions to the Arctic and Antarctic. The navy's operational exploits were accomplished by an organization that had changed little since its founding in 1950.

ADMINISTRATIVE ORGANIZATION OF THE NAVY

The PLAN was downsized as part of Beijing's 1985 decision to reduce the size of the PLA.¹⁰⁶³ Its strength was approximately 270,000 personnel in 1995, about 9 percent of the overall PLA's strength. PLAN strength was 250,000 personnel at the end of 1998 (about 10 percent of the PLA's total strength). This number was scheduled for a 10 percent reduction by mid-2000, as part of the three-year, 500,000-man cut in PLA strength announced by Jiang Zemin in 1997.¹⁰⁶⁴ This downsizing is part of the effort to reorganize the PLA for future warfare, where personnel skill and technological competence count more than mass:

- (1) Active duty PLA forces will become quantitatively smaller, with an emphasis on technological quality;
- (2) Reserves and the People's Armed Police (PAP) 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;

Hong Kong, July 1994; and John W. Garver, "China's Push Through the South China Sea: The Interaction of Bureaucratic and National Interests," *China Quarterly*, December 1992, pp. 1019, 1022.

¹⁰⁶³ See Nan Li, "Organizational Changes in the PLA, 1985-1997," *China Quarterly*, June 1999, p. 330, who also notes that all headquarters were reduced by 25 percent as part of this reduction.

¹⁰⁶⁴ The 270,000 figure is contained in Kuan Cha-chia, "Commander Jiang Speeds Up Army Reform, Structure of Three Armed Services To Be Adjusted," Hong Kong *Kuang chiao ching*, No. 305, 16 February 1998, in FBIS-CHI-98-065, 6 March 1998. PLAN strength is given as 230,000 by The Institute for Strategic Studies, *The Military Balance, 1999-2000*, London: Oxford University Press, 1999, p. 187, but the number 250,000, and the 10 percent cut in manpower, is from the author's interviews in October 99. Dennis J. Blasko, "A New PLA Force Structure," in James C. Mulvenon and Richard H. Yang, eds., *The People's Liberation Army in the Information Age*, Santa Monica, CA: RAND, CF-145-CAPP/AF 1999, pp. 263-4, notes that China's July 1998 Defense White Paper states that PLA ground forces will be reduced by 19 percent, naval forces by 11.6 percent, and air forces by 11 percent, which would equal a reduction of about 418,000 ground forces, 31,000 naval personnel, and 52,000 air force personnel.

- (5) Capabilities will emphasize rapid response and joint operations, focusing on precision attack, air operations, naval operations, information warfare, and space operations; and
- (6) Command and control organization will be reorganized to better manage the requirements of future warfare.¹⁰⁶⁵

Since the majority of this reduction will affect the army, the navy's percentage of overall PLA strength should increase. These points will affect the navy's administrative and operational practices, but are not likely to require changes to basic fleet organization.

Although the PLAN is and will almost certainly remain the smallest of China's conventional armed services, it may exert influence in PLA policy determination out of proportion to its size. This is evidenced by the fact that the PLAN probably receives as much as one-third of the PLA budget, although it comprises no more than about 13 percent of the two million PLA personnel.¹⁰⁶⁶

PLAN size is only one indicator of its importance in Beijing's view. The navy's strategic missions are also important. A likely list of China's strategic military goals include the following, all of which require a strong navy to:

- (1) Defend China's borders and territories, especially if they are subjected to military challenge (e.g., Russia, India, Vietnam....);
- (2) Establish secure and recognized maritime boundaries for China, especially in contested areas of the South China Sea and along China's continental shelf;
- (3) Guarantee China against external intervention, coercion, or dictation by other great powers;
- (4) Back up Chinese diplomatic efforts to avoid permanent separation and ultimately achieve recovery of territories (by force if necessary) wrested from China by foreign powers—primarily Taiwan and the Senkaku (Diaoyu) islands; and
- (5) support China's ultimate emergence as a world power with "comprehensive strength."¹⁰⁶⁷

¹⁰⁶⁵ Blasko, "A New PLA Force Structure," pp. 262-3.

¹⁰⁶⁶ Alexander Huang, "The Chinese Navy's Offshore Active Defense Strategy: Conceptualization and Implications," *Naval War College Review*, v. XLVII, No. 3 (Summer 1994), p. 9. These figures do not address national defense expenditures that are not included in the nominal PLA budget, such as foreign purchases of Su-27 and Su-30 aircraft, *Kilo*-class submarines, and *Sovremenny*-class destroyers. Other defense costs that may not be included in the PLA budget include pensions, research and development, training conducted at civilian schools, and China's space program.

¹⁰⁶⁷ This list is adopted from Charles W. Freeman, Jr., "China, Taiwan, and the United States," in Selig S. Harrison and Clyde V. Prestowitz, Jr., eds., *Asia After the*

These missions should make the PLAN commander an important military participant in the national security policy apparatus, along with the heads of the PLAAF, the Second Artillery, and China's seven military regions (MR).¹⁰⁶⁸ His actual influence, however, is likely tied directly to specific maritime missions and/or to the degree of crisis felt about the strategic issue of the moment.

Seven Roles of the PLAN Commander

Admiral Shi Yunsheng rose to command of the PLAN through a series of operational and administrative assignments. He is a naval aviator and served in senior positions in both the North and South Sea Fleets, including command of the PLANAF forces that participated in the 1988 battles against Vietnam in the South China Sea.¹⁰⁶⁹ Shi has to "wear more than one hat" as PLAN commander.

Operational Tasking. First, as the senior officer in the PLAN, he is responsible for directing the operational tasking of the navy in accordance with the determination of national security objectives. The most important facet of this responsibility is ensuring that the PLAN is ready to fulfill its role in national tasking ranging from combating piracy to preparing for various operational options regarding Taiwan.¹⁰⁷⁰

"Miracle": Redefining U.S. Economic and Security Priorities, Washington, D.C.: The Economic Strategy Institute, 1999, p. 172.

¹⁰⁶⁸ See Swaine, pp. 43ff, who discusses a wide range of participants in the national security policy-making process, including retired senior officers and those heading up the National Defense University (NDU) and Academy of Military Science (AMS).

I will not discuss formal organizational or bureaucratic-behavior theory, but note that I assume the national security policy-making process in China has many of the same characteristics as that in western countries and Japan, where the formal structure of decision-making, from the determination of national objectives to the allocation of finite amounts of resources to specific programs, operates amidst an environment of personal relationships and less formal discussion/decision-making. Various elements in the defense bureaucracy, for instance, no doubt contain individuals, military or civilian, who by virtue of longevity and/or special expertise, are able to influence policy to a degree out of proportion to their titular position.

¹⁰⁶⁹ David Shambaugh, "China's Post-Deng Military Leadership," in James R. Lilley and David Shambaugh, eds., *China's Military Faces the Future* Washington, D.C.: AEI/M.E. Sharpe, 1999, p. 27.

¹⁰⁷⁰ Another aspect to his operational responsibility is Shi's role in gaining authorization from the national policy-making apparatus for tasking the navy wants to execute—such as a multi-ship deployments to foreign nations—by presenting it as beneficial to China in order to gain official sanction.

Resources. Second, as representative of the PLAN in Beijing, Shi serves as advocate for his service in the resource allocation process—in PLA budget battles, in other words. His personal effectiveness in this role is not easily discernable, since current major equipment modernization programs such as the acquisition of *Kilo*-class submarines, *Sovremenny*-class destroyers, *Song*-class submarines, Ukrainian-built gas turbine engines, and various foreign weapons and fire-control systems, were initiated before he assumed his present office.

Education. Third, equally as significant as this equipment modernization, however, may be organizational changes that have occurred since Shi assumed office in 1997. A potentially significant change is the ongoing restructuring of the training and education establishment, from officer accession to ship crew training. The PLAN also operates its own academic research institute (the Naval Research Institute) and equipment research institute (the Naval Research Center) in Beijing, which follow the direction of the navy commander.¹⁰⁷¹

The PLAN is emulating the U.S. reserve officer-training corps (ROTC) programs for producing well-educated, technically oriented candidate officers.¹⁰⁷² Agreements

Author's interviews with PLA officers reveal that Naval Headquarters in Beijing, in late October or early November, nominates to the CMC countries to be visited by PLAN ships during the following calendar year. Nominations are based on visits the PLAN Headquarters or fleet commanders think will serve Chinese and PLAN purposes. These employment plans are submitted to the First Office of the Ministry of Defense for vetting and if approved, to the CMC for approval. Once national approval is gained, ship selection and preparation is the responsibility of the navy offices and fleet headquarters designated by PLAN Headquarters. Typical preparations for a significant foreign deployment would include ship selection from different fleets, to pick the most operationally ready and best looking ships, as well as those with the most proficient commanding officers (CO). An effort is also made to "share the wealth" among the fleets, by rewarding those units that have performed unusually well. Once selected, the ships' COs and crews are "frozen," to ensure continuity throughout the special deployment. Additional crewmen and officers are also usually assigned to increase the number of personnel benefiting from the special deployment (a procedure especially followed in the case of the 1997 PLAN deployment to North and South America). The ships are assigned a dedicated supply officer to help them prepare for the deployment, may receive special training for a particularly long deployment, and their crews receive cultural familiarization lectures.

¹⁰⁷¹ Li Jun-ting and Yang Jin-he, eds., *Overview of the Chinese Armed Forces*, Beijing: People's Publishing Agency, 1989, p. 232. I am indebted to David Finkelstein for explaining the different missions of these two organizations: the *Haijun junshi xueshu yanjiusuo* and the *Haijun zhuangbei lunxheng yanjiu zhongxin*.

¹⁰⁷² The author first discussed with PLA officers implementing an ROTC-like program in China in 1993; discussions since then between U.S. and PRC National Defense University (NDU) faculty--which typically occur at least twice a year--have

are being signed between MR headquarters and civilian universities located in their respective military regions through which the university receives compensation for producing military officer candidates.¹⁰⁷³ The navy is pursuing an especially ambitious ROTC-type program, with a goal of eventually producing no less than 40 percent of the PLAN officer corps from civilian universities.¹⁰⁷⁴

The navy is also participating in the general overhaul of PLA service academies,¹⁰⁷⁵ following Jiang Zemin's demand that academy education "strengthen the

almost always included ROTC as a discussion topic. The modern, highly successful American Naval ROTC program was initiated in 1946 (the Holloway Program) with the goal of organizing units at prominent U.S. universities to produce officers educated in technical and engineering curricula.

¹⁰⁷³ Author's interview with senior PLA officer. Also see, for instance, Xiang Jiajun and Zhang Xuanjie, Beijing *Xinhua*, 28 May 1999, in FBIS-CHI-99-0601, for the report that the "Second Artillery Corps signed an agreement with the Northwest Engineering University in Xian today to cultivate cadres for guided missile troops" and will "supply a certain number of outstanding university and graduate students for the Second Artillery Corps every year," with the Corps establishing a "national defense scholarship" at the school to "encourage and fund" likely students. A similar report is found in Liu Jianxin, Beijing *Xinhua* 28 October 1999, in FBIS-CHI-99-1103, for the report that the "Guangzhou Military Region and Wuhan University have signed an agreement on jointly training military cadres....this military region will...expand the selection of outstanding personnel from institutions of higher learning across the country....All major military regions and armed services have separately designated one local university to be the designated school for training their own cadres."

¹⁰⁷⁴ Beijing *Xinhua*, 17 August 1999, in FBIS-CHI-99-0817: "The Chinese navy plans to recruit about 1,000 officers from non-military universities and colleges yearly beginning this autumn in an effort to meet its need for command and technical talent....[these officers] will account for 40 percent of all naval officers by the year 2010. Also see *Xinhua* Hong Kong Service, 21 June 1999, in FBIS-CHI-99-0622, for the note that these civilian university programs will be linked to the military academy structure. This linkage is no doubt intended to maintain control of the ideological as well as the subject-matter content of the "civilian" program—the latter long a concern within the U.S. Naval ROTC program.

¹⁰⁷⁵ See, for instance, *Xinhua* Hong Kong Service, 21 June 1999, in FBIS-CHI-99-0622, for a *Jiefangjun bao* report that the number of academies are being reduced in the interest of making individual schools larger and more efficient. A 20 June 1999 *Straits Times* article entitled, "China Sets Up Defense Campus," reported that the PLA "has set up a new National Defence Science and Technology University" in Changsha, and "directly under the command of the CMC" will offer a wide range of courses at the general staff college (0-5/0-6) level.

military through science and technology.”¹⁰⁷⁶ In Wuhan, the former Navy Engineering Academy and Navy Electronics Engineering Academy have been merged into the Engineering University of the Navy. The new school, established in June 1999, reportedly awards undergraduate degrees and has graduate programs in 35 subjects.¹⁰⁷⁷ The university's thirteen departments seem to focus on advanced technological areas that address the putative "revolution in military affairs" (RMA), including warship kinetic engineering, electronic information and naval arms engineering, and command and electronic warfare engineering.¹⁰⁷⁸

Shipboard Training. Fourth, education for ships' crews previously occurred almost entirely aboard ship. Within the past decade, however, the PLAN has created more centralized schools and training facilities to help teach personnel how to operate modern shipboard systems.

These new schools and training centers are operated by each fleet's naval base commands, and have been established to teach engineering, surface warfare, ship handling, aviation operations, submarine warfare, and medical operations, in addition to addressing specific equipment systems.¹⁰⁷⁹ The East Sea Fleet, at least, also has established a petty-officer leadership school, in Shanghai, which draws its students from ship and aircraft squadron personnel who have reenlisted.

Logistics. Fifth, in the vital but unglamorous area of logistics, the PLAN has been trying to modernize its support systems during Shi Yunsheng's term in office. He has devoted considerable attention to improving the Navy's General Logistics Command.¹⁰⁸⁰ Shi is reportedly building a "modern logistic support system," to include oil and water supply systems for the fleet, as well as surveying, salvage, transport, and

¹⁰⁷⁶ "Put Military Academy Education in a Strategic Position of Priority Development," *Jiefangjun bao*, 23 June 1999, in FBIS-CHI-99-0629. During the past year, there have been numerous reports of military academy reform; for another "ROTC" plan, see Zhang Jiajun and Zhang Xuanjie, *Xinhua*, 28 May 1999, in FBIS-CHI-99-0601: "The Second Artillery Corps signed an agreement with the Northwest Engineering University in Xian today to....supply a certain number of outstanding university and graduate students for the Second Artillery Corps every year. The Second Artillery Corps will establish a national defense scholarship...to encourage and fund outstanding students...."

¹⁰⁷⁷ Li Xianfang and Liu Haiyang, *Xinhua*, 17 June 1999, in FBIS-CHI-99-0617.

¹⁰⁷⁸ Rear Admiral (RADM) Shao Zijung (college president), quoted in, "Navy Engineering College Is Aimed at Developing New Naval Military Talent," *Xinhua* 7 August 1999, in FBIS-CHI-99-0826.

¹⁰⁷⁹ Author's conversation with senior PLA officers; also, Xu Sen, "Building a Modern Naval Battlefield—Overview of the Naval Vessel Training Center," *Jiefangjun bao*, 15 September 1999, p. 6, in FBIS-CHI-99-0923.

¹⁰⁸⁰ Lin Jun-ting and Yang Jin-he, pp. 244, 245.

hospital ships. Improved ship maintenance is being pursued, as is better support for equipment maintenance and repair.¹⁰⁸¹

Shi is also working to implement the PLA's General Logistics Department's plan to establish a joint logistics service for all services in order to improve the timeliness and effectiveness of PLA logistics, including privatization of some parts of the system.¹⁰⁸² Under this plan, currently being implemented to include creation of joint "naval-air-ground rapid-response logistics units,"¹⁰⁸³ the navy will remain responsible for specific requirements linked to operations at sea, such as providing shipboard supplies and harbor facilities.

A major effort to reorganize the naval base structure to improve management and availability of supply activities both afloat and ashore is part of this PLAN program. This includes provisioning, repair and maintenance, medical care, and technical systems support of naval units and activities.¹⁰⁸⁴ There is no firm evidence, however, that the PLAN is establishing such facilities abroad.¹⁰⁸⁵

Inter-Service Relations. Sixth, Shi Yunsheng presumably is expected to wear a joint (or "purple," in U.S. parlance) hat as a senior member of China's military hierarchy. The importance of ensuring the close coordination of efforts by all services--joint warfare--was brought home to the PLA by the allied victory against Iraq in Desert Storm in 1991. To further jointness, Shi must subsume PLAN priorities within national defense plans that may reduce the navy's share of defense resources.

This "hat" is probably more complex for senior PLA officers than for their foreign counterparts, because of the relationship between the CCP and the PLA: maintaining a

¹⁰⁸¹ Quoted in Huang Caihong, Chen Wanjun, and Zhang Zhao, "China Enhances the Navy's Comprehensive Strength—Interview with Naval Commander VADM Shi Yunsheng," Beijing *Liaowang*, No. 16, 19 April 1999, pp. 13-15, in FBIS-CHI-99-0513.

¹⁰⁸² "Zhang Wannian Steps Up Military Logistics Reform," *Xinhua*, 9 December 99, in FBIS-FTS19991209000883, cites Zhang's statement that "it is imperative for the military to commercialize its logistics in this period of modernization."

¹⁰⁸³ Jianxiang Bi, p. 11. Huang, Chen, and Zhang, describe "naval port cities" being designated as central distribution points in the new logistics system.

¹⁰⁸⁴ See, for instance, Huang Caihong, Chen Wanjun, and Zhang Zhao, "The PLA Navy Has Enhanced Comprehensive Combat Effectiveness," *Xinhua*, 19 April 1999, in FBIS-CHI-99-0423. Even in the logistics area, Shi has been able to build on his predecessor's work: the PLAN's most significant overseas deployment to date, the three-ship visit to the Americas in 1997, which occurred before Shi was appointed to command the navy, is cited as evidence of the navy's enhanced logistics capability by Tai Ming Cheung, p. 237.

¹⁰⁸⁵ There has been considerable speculation in the open press, especially among Indian analysts, that China has established facilities at Burmese coastal and island sites to support a PLAN presence, but U.S. and Taiwan analysts do not support these accusations.

“party army” strains the process of military modernization. “Red” versus “expert” may be too stark a phrase to use, but increasing military professionalism is clearly one of Beijing’s goals and is not likely facilitated by the continuing priority placed on ensuring an ideologically oriented military loyal to the CCP. In other words, Shi Yunsheng must not only be “purple,” he must also be “red.”¹⁰⁸⁶

International Responsibilities. Seventh, Shi represents China in his relations with foreign navies. He has traveled to the United States, most recently in April 2000, and in November 1999 made a trip to France and Egypt accompanied by his East Sea Fleet Commander. This may simply represent tasking from the CMC, but also reflects Shi’s personal interest in foreign navies and a degree of cosmopolitanism perhaps not common among all senior PLA commanders.¹⁰⁸⁷

These seven points indicate that Shi Yunsheng has been an active navy chief, but evaluating his effectiveness requires information that is difficult to access, given the opaqueness of PLA headquarters. There are factors arguing in favor of his limitations as commander: first, he had a hard act to follow: with the retirement in September 1997 of Liu Huaqing as CMC vice-chairman, the PLAN (and its commander) lost an advocate at the highest level of China’s defense establishment. Liu certainly wore “purple” and “red” hats, but is also the father of the current modernizing process in the PLAN. Shi does not have Liu’s stature, because of his lack of a personal relationship with Jiang Zemin, lack of similar experience in the PLA, and because of his relatively junior rank among the heads of the services.¹⁰⁸⁸ Writing circa 1997, Michael Swaine does credit the PLAN with behaving as a quasi-independent bureaucratic actor....pushing for a greater

¹⁰⁸⁶ See James C. Mulvenon, *Professionalization of the Senior Chinese Officer Corps: Trends and Implications*, Santa Monica, CA: RAND, 1997, for the best current analysis of the ongoing professionalization of the PLA’s senior officer corps.

¹⁰⁸⁷ Author’s conversation with U.S. Navy analysts in November 1999 included the suggestion that Shi and Yang visited France to discuss purchase of follow-on technology to the *Exocet* anti-ship cruise missiles previously acquired by China and used as the model for the Chinese-built C-800 series missiles; the visit to Egypt was conjectured to be in connection with a possible multi-ship PLAN deployment to the Mediterranean being planned by Shi. As noted above, this (November) is about the timeframe for such proposals to be forwarded to the Defense Ministry by the Naval Headquarters.

Author’s discussion with Admiral Shi’s U.S. escort officer for his April 2000 visit to the United States revealed that Shi was most interested in U.S. naval aviation programs; C4ISR; officer and enlisted recruitment, retention, and training programs; and USCG roles, missions, and relationship with the U.S.N.

¹⁰⁸⁸ Shi, appointed PLAN commander in September 1997, was finally promoted to full admiral in June 2000. This promotion may merely represent his longevity and distinguished career, but Swaine does identify Shi as one of “the most influential (and vocal) bureaucratic players in formulating and supervising critical components of policy.” See Swaine, p. 45.

recognition of its institutional viewpoint in the senior levels of the PLA leadership, with significant success....as the major...proponent of the creation of a technologically sophisticated, operationally versatile blue water force, although he notes that the “pace and direction of naval modernization remains a major subject of debate” among PLA leaders, with the PLAN viewpoint “often challenged by the ground forces orientation of the [General Staff Department] GSD.”¹⁰⁸⁹ Within the navy itself, Shi’s effectiveness may be limited by the fact that he has spent his entire operational career in aviation units, and has had no shipboard experience.¹⁰⁹⁰

FORCE STRUCTURE

Admiral Shi categorizes the PLAN force structure as comprising five “major arms systems:”

- (1) Naval surface vessel units;
- (2) Naval submarine units;
- (3) Naval aviation units;
- (4) Naval coastal defense units; and
- (5) Marine Corps.¹⁰⁹¹

The “Chinese Naval Officer’s Manual” lists operational level duties for these PLAN “systems,” or warfare communities. The surface fleet is responsible for:

- (1) Attacking enemy warships;
- (2) Anti-submarine warfare (ASW);
- (3) Amphibious warfare;
- (4) Coastal defense; and

¹⁰⁸⁹ Ibid., p. 47.

¹⁰⁹⁰ This would be a significant problem in the U.S. Navy, among others; in fact, an officer of such narrow experience would not be selected to head the U.S. Navy. Historically, there have been very effective heads-of-navy with very limited or no seagoing experience (Alfred von Tirpitz, in early 20th century Germany, for instance), but they are the exception. Key to evaluating the durability of Shi’s influence on the direction of modernization and strategic development in the PLAN would be knowledge of how many and influential are his acolytes in the naval officer corps, especially at the flag officer level.

¹⁰⁹¹ Quoted in “Interview with Shi.” Also see Ren Yanjun, “Forging A Shield of Peace for the Republic—Part 1 of Roundup on 50 Years of Achievements in Army Building,” *Jiefangjun bao*, 6 September 1999, pp. 1-2, in FBIS-CHI-99-0911; and Xu Zuzhi, “Backgrounder on National Day Celebrations,” *Zhongguo xinwen she*, 1 October 1999, in FBIS-CHI-99-1002. These press accounts all make a point of citing Shi’s role in PLAN modern developments, leading to “greatly improved combat capability.”

- (5) Maritime surveillance; mine warfare, merchant ship convoys, search and rescue (SAR), and logistics.
- (6) Interdicting enemy logistics;
- (7) Attacking enemy naval bases and coasts; and
- (8) Maritime patrol and reconnaissance, mine warfare, logistic lift [!], and SAR.

The submarine force is responsible for strategic nuclear strikes;

The PLANAF's responsibilities include

- (1) Anti-surface warfare (ASUW);
- (2) Attacking enemy naval installations;
- (3) Defending PLAN surface and submarine forces during offensive operations;
- (4) Amphibious warfare, and anti-air warfare (AAW); and
- (5) Maritime reconnaissance, ASW, mine warfare, early warning, communications, SAR, and logistic lift.

Finally, the Marine Corps is assigned

- (1) Amphibious warfare;
- (2) Forward base seizure; and
- (3) Coastal defense.¹⁰⁹²

Administration

The PLAN Commander is headquartered in Beijing, where the navy's Political Commissar is usually his equivalent in rank (see Figure 10.1 and 10.2). Nominally, the Commander and the Political Commissar are also equivalent in authority.¹⁰⁹³ There are three vice admirals as deputy commanders of the PLAN, as well as two deputy

¹⁰⁹² These lists are quoted in Srikanth Kondapalli, "China's Naval Structure and Dynamics," *Strategic Analysis*, vol. XXIII, October 1999, pp. 1097-1109.

¹⁰⁹³ Seniority among officers of the same rank is based on "date of rank": if an officer is promoted to vice admiral on 1 June and a second officer is promoted to the same rank a day later, the first will always be senior to the second, so long as they both are vice admirals. This is not to say, however, that the second officer may not be assigned to a billet in which he is more influential than his nominal senior: in the PLAN the billet may also dictate "seniority;" in the case cited, even if the navy's political commissar was promoted to vice admiral earlier than the navy's commander, the latter would still be "senior" to the former.

commissars, a vice admiral and a rear admiral. The former includes personnel affairs among his duties, while the latter serves as PLAN Inspector-General.¹⁰⁹⁴

The headquarters is organized into four departments, with the PLANAF Headquarters constituting a fifth (Aviation) department. The Headquarters, Political, and Aviation Departments are headed by vice admirals; the Logistics and Equipment Departments by rear admirals. Management of the personnel system is an important function within the Political Department, where it is directed by a rear admiral with a direct line of communication to the PLAN political commissar. This office manages the PLAN officer promotion system, which uses a system of committees.

PLAN officers are commissioned at the naval base level. Their diplomas (if they are naval academy graduates) are signed by the academy commander; their commissions are signed by the commander and the political commissar of the naval base at which they are first stationed following graduation.

Officers with the seniority and qualifications to be considered for promotion to lieutenant, lieutenant-commander, and commander are considered for promotion by a personnel committee at their parent naval base. The committee is chaired by the base political commissar and the base commander (usually a senior captain) has the authority to approve the promotion of those selected. Hence, the promotion system, as it does in most navies, gives a shore commander rather than a sea-going commander the authority to promote or not promote officers stationed in operational fleet units. If the PLAN conforms to common naval practice, however, a sea-going officer's promotability is strongly affected by reports of efficiency from his/her operational commander. Moreover, the base commanders likely have had several successful assignments at sea, or they would not have been promoted to their senior rank and selected for such responsible positions.

The role played by the unit political commissar in officer promotion is important: officer evaluations are undoubtedly based on estimates of both ideological reliability and professional expertise, but the balance between the two is not clear. Some analysts of the PLA believe that professional performance is increasingly important, and that the political commissar's job is increasingly that of a personnel manager and "human resources" specialist, rather than ideological policeman—although that role certainly remains.¹⁰⁹⁵

Selection for promotion to the rank of captain is made at each of the three geographic fleets by a committee headed by the fleet political commissar. The fleet commander has the authority to approve the promotions of the officers selected.

Promotion nominations to the ranks of senior captain, rear admiral, and vice admiral occur at PLAN headquarters. The PLAN political commissar nominally chairs

¹⁰⁹⁴ PLAN organization and office holders are identified through the *Directory of PRC Military Personalities*, October 1999, Honolulu: Serold Hawaii, Inc., 1999, USCINCPAC sources, and PLA sources. The author will note where sources differ.

¹⁰⁹⁵ For instance, see Harlan Jencks, who estimates that current PLA officers spend more than 70 percent of their "day" in professional training and less than 30 percent in ideological education, this was a reversal of the employment percentages prevalent during the Great Proletarian Cultural Revolution of the 1960s and 70s.

the selection committee, which forwards the senior captain and various admiral promotion nominations to a CMC-level office or committee for final approval. Promotions to full admiral are rare and almost certainly a matter for the CMC. The entire PLAN officer selection and promotion system for vice admiral and below is overseen by the "Committee of the CCP of the Navy for Promotions and Major Policies," chaired by the PLAN commander.¹⁰⁹⁶

This is a complex process, but not noticeably more so than that employed in other militaries. The promotion system is notable, however, for the important role assigned to the CCP as managers of the PLAN officer corps.

Headquarters Department. (*siling bu*) The Headquarters Department is arguably the most important of the four PLAN departments in Beijing, since it is through this department that the chain of command runs to the three operational fleets. The Headquarters Department includes one office and four second-level departments, each headed by a senior captain (see Figure 10.3).

The *General Office* (*bangongting*) includes seven divisions:

- (1) Military Strategic Studies, which focuses on long-range planning and strategy;
- (2) Political-Military Affairs, which is organized into global geographic sections;
- (3) Military Assistants, which provides and coordinates the activities of administrative and executive assistants to senior PLAN officers in the headquarters; and
- (4) Operations, which performs the planning function for future fleet operations.

The second of the five Headquarters departments is the *Operations Department* (*zuczhān bu*), which transmits--and probably formulates--operational tasking directly to the three fleets. The third is the *Intelligence Department* (*qingbao bu*), which is organized into regional divisions--Western Hemisphere, Europe, Asia, West Asia, Africa--and performs the PLAN headquarters intelligence function. There are also Planning and Secretarial Offices. This department probably provides intelligence both *up*, to the PLAN commander, and *down*, to the fleet. The PLAN Intelligence Office's relationship to the CMC/PLA intelligence hierarchy is not clear.

The fourth department, the *Training Department* (*zunlian bu*), contains four divisions. These are responsible for PLAN academies (surface, sub-surface, aviation) and other officer schools.¹⁰⁹⁷ The Training Department also manages enlisted and officer equipment classroom training, and probably is the PLAN's primary point of contact with the GSD for training matters.

¹⁰⁹⁶ This discussion on promotions is based on the author's discussions with two PLAN senior captains.; additional information sources are certainly desirable.

¹⁰⁹⁷ There must be a special relationship between the PLAN Political Commissar/PLAN Political Office and the Political Academy in Qingdao.

The PLAN's Training Department's relationships with the GSD training department and with the geographic fleets' training departments are unclear. If the PLAN resembles the PLAAF in this regard, it participates in a GSD annual training conference that delineates the next year's training objectives. The PLAN Training Department would then "flesh out" this annual training plan to ensure the navy's operational objectives are met, and pass the plan to the geographic fleets for execution—possibly following additional modification at that level. Since each fleet faces a different sub-region, each may have specific training requirements.¹⁰⁹⁸

Finally, the Headquarters Department includes the *Military Affairs Department* (*junshi bu*). This organization is responsible for developing naval doctrine, writing and promulgating regulations, overseeing naval publications in general, and organizational structure (including recruiting). It would logically have a strong relationship with counterpart CMC departments, but that is not clear.

For instance, does the Military Affairs Department receive tasking directly from the CMC, or does its direction come strictly through PLAN headquarters? Does the Military Affairs Department receive input from the fleet and naval colleges? The Naval Command Academy at Nanjing has an operational (experimental) cell with the East Sea Fleet, which would furnish a logical path for recommendations about doctrinal and tactical development to reach PLAN headquarters from the fleet. The North and South Sea Fleets also have units designated to participate in doctrinal and tactical development, and in conducting trials of new equipment and systems.

Additionally, is recruiting coordinated at the CMC level to ensure an equitable distribution of available manpower among the various PLA services?

Political Department (*zhengzhi bu*). The second of the navy's headquarters departments is the Political Department, which serves the PLAN's political commissar as his avenue to fleet and unit commissars. It is divided into at least one office and four second-level departments: General Office and Personnel, Welfare and Recreation, Propaganda, and Cultural Affairs Departments (see Figure 10.4). Each of these organizations is replicated in the geographic fleet headquarters. The Political Department provides, on paper, a duplicative chain of command throughout the PLAN, which may be as much at the service of the PLAN commander as it is the PLAN's political commissar.

Logistics Department (*houqin bu*). The Logistics Department includes Headquarters, Supply, Finance, Ordnance, Civil Engineering, Transportation, and Medical (divided into Hospitals and Public Health bureaus) (second-level) (see Figure 10.5) Departments. These bear the responsibility for ensuring that the navy's shore

¹⁰⁹⁸ For instance, the South Sea Fleet would logically require an annual training regimen that devoted attention to discrete amphibious operations. A partial survey of annual, fleet-level training exercises, however, does not show the South Sea Fleet spending significantly more time on amphibious training than the North and East Sea Fleets. So perhaps the fleets faithfully execute the annual training plan as it is passed down from the PLAN Training Office.

establishment supports the operating units. It is also responsible for the PLAN's logistics reorganization currently in progress.

This department has important personnel responsibilities, as well: the Civil Engineering Department is in charge of family housing construction and maintenance. The Finance Department must ensure an efficient pay and benefits structure for navy personnel. The role of the Medical Department includes both the PLAN medical care system of clinics and hospitals, as well as medical care in operational units at sea and distant installations, such as the South China Sea islands outposts.

Equipment Department (*zhuangbei bu*). The Equipment Department includes second-level departments for Development, Construction, and Repair—each containing specific sections responsible for surface, subsurface, and aviation systems (see Figure 10.6). Additionally, there is an Employment Management Bureau, and Equipment Technology, Equipment Repairs, and Science and Technology Departments; as well as the Center for Equipment Feasibility (probably within the Naval Research Center).¹⁰⁹⁹ This department also manages PLAN weapons and test ranges, including the Underwater Ordnance Testing Ground offshore Shanghai and the missile and gunnery testing range near the Liaotung Peninsula.

PLANAF. The chain of command from Navy Headquarters runs through the Headquarters Department to the three operating fleets, but the vice admiral commanding the navy's air force (PLANAF) reports directly to the navy commander. He has two rear admirals as deputy commanders of his approximately 25,000 personnel and 800 aircraft.¹¹⁰⁰ The PLANAF Political Commissar is a vice admiral; his two deputies are rear admirals.

The PLANAF was organized in the early 1950s, and reportedly began shipboard operations in January 1980.¹¹⁰¹ It includes nine divisions of twenty-seven regiments of twenty-four or twenty-five aircraft each. This equates to about 650 aircraft; however,

¹⁰⁹⁹ Author's conversations with Dr. David Finkelstein of CNA and with PLA officers. The PLAN also possesses many supporting activities, including oceanographic research facilities; see "Key Ocean Study Established in Hangzhou," *Xinhua*, 7 November 1999, in FBIS-CHI-99-0079.

¹¹⁰⁰ Pacific Command (USCINCPAC) sources show the PLANAF reporting not directly to the Navy Commander but through the headquarters Staff Department.

¹¹⁰¹ Chen Wanjun and Sha Zhiliang, "Newsletter: Commanding the Winds and the Clouds Between the Sea and the Sky—A True Picture of the Shipborne Aircraft Unit of the People's Navy," *Xinhua*, 21 April 1999, in FBIS-CHI-99-0502, reported that a PLANAF helicopter unit began training for shipboard operations in the late 1970s, with the first successful operational flight occurring on 3 Jan 1980. Despite this article's purple prose, a 1980 date "fits" with the development of the PLAN's first helicopter-capable combatant, the *Luda II*-class DDG *Jinan*, which began construction in 1977.

estimates of total PLANAF total range from 513 to over a thousand.¹¹⁰² While the PLANAF historically has not kept pace with PLAAF aircraft acquisitions, the South Sea Fleet air arm has conducted mid-air refueling evolutions, albeit more than a year after the PLAAF first conducted these operations.¹¹⁰³

Geographic Fleet Organization

The three fleets are similarly organized into air, surface, and sub-surface force.

Each is nominally assigned three divisions (nine Air Regiments) of the PLANAF (a regiment includes approximately twenty-four aircraft). Each regiment in turn contains four Air Groups.¹¹⁰⁴ The fleet PLANAF arm includes land-based and seaplane patrol planes, bombers, fighters, helicopters, transport, and support aircraft.

Each geographic air commander is operationally responsible to his fleet commander, but receives administrative support from PLANAF headquarters in Beijing. Engineering, maintenance, supply, and training support is provided.

In addition to the aviation arm, each fleet includes large combatants (destroyers and frigates), small combatants (patrol boats), amphibious transports, mine warfare,

¹¹⁰² *Combat Fleets*, p. 103, estimates 485 fixed wing aircraft and 28 helicopters; *The Asia-Pacific Defence Reporter: 1998 Annual Reference Edition*, Vol. 24, No. 1, p. 43, estimates 490 aircraft; *Strategic Survey, 1999-2000*, London: IISS, p. 188, shows 566 aircraft; *Jane's Fighting Ships, 1999-2000*, p. 114, estimates "over 800 aircraft," but notes some of these are "laid up unrepaired." The highest estimate is 1,098, by Sidney Trevethan, on the Federation of American Scientists' website in March 2000 (www.fas.org/nuke/huide/china/agency/plan-af-orbat-st.htm).

¹¹⁰³ Robert Sae-Liu, "Chinese Expand Aerial Refueling Capability to Navy," *Jane's Defence Weekly*, 21 June 2000, reported that "PLA Navy fighters conducted their first aerial refueling mission in late March," using a PLAAF H-6 tanker while PLAAF refueling exercises have been conducted since at least late 1998. This is just the tip of the iceberg; at the April 2000 CNA conference on the PLAN, RADM Eric McVadon, USN (Ret.), former U.S. Defense and Naval Attache in Beijing, addressed this capability: now that the PLANAF and PLAAF have demonstrated the ability to conduct aerial refueling after many years of trying, how much longer will it take them to possess the operational capability to refuel numerous aircraft—including at night and in bad weather—when the mission requires refueling to reach their target and return home safely? He suggested it may well take several years to develop this level of proficiency on a sustainable basis.

¹¹⁰⁴ Interviews with PLA officers. Srikanth Kondapalli, "China's Naval Structure and Dynamics," *Strategic Analysis*, Vol. 23, October 1999, assigns eight (vice nine) divisions and twenty-seven regiments to the three fleets. The actual number assigned to each fleet probably does vary, in response to operational and administrative imperatives. In discussion with the author, some U.S. analysts questioned the existence of the "air groups," which may be formed for a particular tactical mission rather than exist as a permanent organizational structure.

replenishment-at-sea, and miscellaneous support ships. A senior captain serves as commander of the surface-forces flotilla and a senior captain as commander of the submarine flotilla, with each flotilla organized into squadrons of the same ship-type. Under this system, a squadron is composed entirely, for instance, of *Luda*-class destroyers, or *Jiangwei*-class guided-missile frigates (FFG), or *Ming*-class submarines (SS), and so on. These flotilla commanders report directly to the fleet commander; the flotilla commanders for small craft such as small patrol boat, harbor, and support vessels report to the local naval base commander.¹¹⁰⁵

The submarine force was organized in 1951, established its first base in 1952, at Qingdao, and began operating in June 1954.¹¹⁰⁶ The PLAN currently includes six nuclear-powered submarines: five *Han*-class attack boats (SSN) and one *Xia*-class nuclear-powered fleet ballistic missile submarine (SSBN). There is also one conventionally-powered SSB, a *Golf II*. The submarine force currently totals approximately fifty-nine operational boats, including the nuclear-powered force, the four *Kilo*-class boats acquired from Russia since 1995, and a mix of *Song* (3), *Ming* (17) and *Romeo* (31) ships, all diesel-electric powered submarines of various vintages.¹¹⁰⁷ The *Song*-class submarine may be the Chinese-built replacement for these boats; the third ship was launched in early 2000. The PLAN will probably have to choose between the *Song* and the *Kilo*-classes because of budgetary limits, or it may opt to purchase the Russian-designed *Amur*-class submarine, which will reportedly be equipped with a air-independent propulsion system.¹¹⁰⁸

The PLAN's submarines are organized into six or seven flotillas. The 2nd, 12th, and 62nd are part of the North Sea Fleet, and include all six nuclear-powered submarines. The 22nd and 42nd flotillas are stationed with the East Sea Fleet, and include China's four *Kilo*-class boats, while the South Sea Fleet deploys the 32nd and possibly a second flotilla. The *Ming*-class submarines are assigned to this fleet.¹¹⁰⁹

¹¹⁰⁵ Such as very small patrol craft and, harbor service craft.

¹¹⁰⁶ Kondapalli, "China's Naval Structure," p. 4.

¹¹⁰⁷ Individual fleet numbers come from *The Military Balance* and Richard Sharpe, ed., *Jane's Fighting Ships, 1999-2000*, Coulsdon, Surrey, UK: Jane's Information Group, 1999, unless otherwise noted. The numbers accuracy is suspect for submarines and small combatants, since as many as half of the stated number of vessels may be held in reserve. Fifty-nine is the number currently used by U.S. Navy analysts.

¹¹⁰⁸ *Ibid.*, p. 117; *Combat Fleets*, p. 107.

¹¹⁰⁹ This information is from a paper on China's submarine force, presented by a very reliable source, at the April 2000 CNA Conference on the PLAN. Richard Sharpe, ed., *Jane's Fighting Ships, 1999-2000* p. 118, states that the *Mings* are split between the North and South Sea Fleets. The uncertainty about the total number of submarine flotillas results from different listings re *Janes Warships*, *Combat Fleets*, the FAS website, Taiwan sources, PLAN sources, and U.S. analysts.

The PLAN's newest indigenously produced surface ship is the *Luhai*-class DDG, the *Shenzhen*.¹¹¹⁰ The first of two *Sovremenny*-class DDGs purchased from Russia, the *Hangzhou*, reached its new homeport of Zhoushan in early 2000, with the second ship of this class is reportedly undergoing sea trials, preparatory to arriving in China late in the year.¹¹¹¹ Other surface forces include one *Luhai*-class and two *Luhu*-class guided missile destroyers and fourteen operational *Luda*-class DDGs, including the three newest models, one *Luda III* and two *Luda IIs*.¹¹¹² Additional large surface combatants include a mix of approximately six *Jiangwei* and twenty-four *Jianghu*-class guided missile frigates.

Smaller craft include several hundred vessels, ranging from modern missile-equipped *Huang*-class patrol boats to small riverine combatants—some of which are assigned to the People's Armed Police (PAP), the Maritime Safety Agency (MSA), the Customs Service, or the maritime militia.

The PLAN amphibious force is capable of embarking perhaps one mechanized infantry division, approximately 12,000 troops and their equipment, for a relatively short voyage.¹¹¹³ It includes thirteen landing-ships-tank (LST), six of them the relatively modern *Yuting*-class and seven the *Yukan*-class. Two additional *Yutings* are currently under construction. There are also approximately forty smaller landing-ships-mechanized (LSM) of various classes and ages, as well as six *Qiongsha*-class troop transports (two of which have been converted to hospital ships).¹¹¹⁴

¹¹¹⁰ A second *Luhai* is listed under construction by Ibid. p. 119; and Philip Young, *Chinese Military Digest* (<http://www.gsprint.com/cmd/cmd.htm>), but according to author's interviews the next DDG, probably under construction in a Dalian shipyard, may be sufficiently different from *Shenzhen* (the first *Luhai*-class ship) as to denote a new ship class.

¹¹¹¹ "China to Receive Second Russian Destroyer in November 2000," *Agentstvo Voyennykh Novostey*, 10 July 2000, in FBIS-CEP2000710000147.

¹¹¹² *The Military Balance*, p. 178, lists a third *Luhu* under construction, but it seems more likely, given China's propensity to build small ship classes, that construction of the follow-on *Luhai*-class of guided missile destroyer (DDG) has superseded further *Luhu* construction. Taiwan Navy sources show different PLAN strength figures, reflected in Annex B.

¹¹¹³ The key determinant to voyage length for almost all these amphibious ships is fresh water availability onboard.

¹¹¹⁴ This is a "soft" number, subject to many factors, including the amount and type of cargo to be carried by embarked troops, the duration and distance of the embarkation, and other factors. The LSTs and LSMs are designed to land troops during an opposed assault; the troop transports are more likely designed to administratively offload troops, pier-side. Also, during an amphibious assault, some of the LSTs and LSMs would carry predominantly cargo—such as supplies and vehicles—and almost no

Several of the combatants, including the *Luda*-class, have mine laying racks installed, and are required to exercise annually laying mines. The PLAN has just one dedicated minelayer, the *Wolei*, and approximately fifty-eight mine sweeping craft, at least half of them in the reserve force and of questionable operational readiness.¹¹¹⁵

Each fleet's AOR includes naval bases and subordinate naval garrison commands. These are important organizations, with extensive geographic reach: they provide "hotel"¹¹¹⁶ and other logistics services to fleet operating units, including training and education, maintenance, and general administrative support.

Command Relationships. Each fleet commander also serves as deputy commander of the matching MR. A vice admiral commands the North Sea Fleet and serves as a Shenyang MR deputy commander, but his authority during wartime is unclear: would he function as a true, joint deputy commander, or merely be the deputy in charge of naval forces? The fleet commander's relationship with the MR PLAAF commander, also an MR deputy commander, is also unclear.¹¹¹⁷

Command relationships within the MRs during peacetime are complicated by the PLAN and PLAAF commanders' dual chains-of-command: administrative and operational, with the MR commander—invariably a ground forces officer—not in control of both chains. The MR commander's scope of authority may be further complicated by the status of special units, such as quick-reaction forces, which are operationally tasked by the GSD.¹¹¹⁸

troops; others might be loaded only with troops. Furthermore, the condition of many of these vessels is hardly known; many of them may not be seaworthy or marginally so.

¹¹¹⁵ In fact, many types of mines can be laid by aircraft, as well as by almost any fishing boat or merchant ship, but laying a truly useful, navigable minefield requires expertise and exact navigation not normally found on such miscellaneous vessels. The PLAN also has forty-two drone mine-sweeping boats in the reserve. *Combat Fleets*, pp. 119-120, reports many of China's dedicated MIW ships are equipped to sweep only moored contact mines.

¹¹¹⁶ "Hotel" services include, literally, food and housing, but also denote maintenance and operation of all shore-side facilities for supporting operating units, to include such things as piers, dry docks, classrooms.

¹¹¹⁷ One senior PLA officer told the author that in time of war, the PLAN commander would be the MR deputy commander senior to the PLAAF commander; the same PLA officer told another U.S. interlocutor that the two would be equal in status as MR deputy commanders.

As pointed out by Dennis Blasko, "A New PLA Force Structure," p. 284, "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...."

¹¹¹⁸ Nan Li, "The PLA's Evolving Campaign Doctrine and Strategies," in Mulvenon and Yang, p. 154ff.

Command relationships are theoretically clarified during wartime, when one or more MRs form a "Front," as during the 1979 Vietnam incursion.¹¹¹⁹ The Front is augmented by officers from Beijing headquarters staffs. These officers are empowered to relax or sustain constraints on the Front commander's freedom of action: in the 1979 case, these issues included how far he could move forces into Vietnam and to what degree "hot pursuit" was authorized.¹¹²⁰

North Sea Fleet. The North Sea Fleet is headquartered at Qingdao, on the southern coast of the Shandong Peninsula, with other major bases at Lushun and Xiaopingdao. Smaller facilities are located at Huludao (including nuclear submarine construction and support), Weihai, Qingshan, Lianyungang, Lingshanwei, Dahushan, Changshanqundao, Liushuang, Yushan, Dayuanjiadun, and Jianggezhuang, the last serving as the fleet's submarine homeport. Important shipbuilding facilities are located at Dalian. PLANAF facilities are located at Liangxiang, Luda, Qingdao, Jinxi, Jiuyuan, Laiyang, Jiaoxian, Xingtai, Laishan, Anyang, Changzhi, and Shanhaiguan.¹¹²¹

The fleet's AOR extends from the Korean border (marked by the Yalu River) to approximately 35°10'N latitude. This area corresponds roughly to the Shenyang, Beijing, and Jinan Military Regions (MR) or, described another way, includes the Bohai (Bo Sea) and northern half of the Huanghai (Yellow Sea). The AOR's coastline is divided into nine Coastal Defense Zones. The North Sea Fleet's forces include three submarine, three surface combatant, one amphibious, and one MIW squadrons, as well as the Bohai Sea Training Flotilla and hundreds of small patrol and auxiliary craft.

As is the case with all three fleets, the North Sea Fleet's command structure closely resembles PLAN Headquarters in Beijing (see Figure 10.7). Each fleet includes Training (and an associated Training Center), Logistics/Supply, Repair, Political, and Air Departments, and Surface Combatant and Submarine Flotillas. The fleets also have flotillas of small harbor, auxiliary, and patrol craft assigned to their various naval base commanders.

The fleet's political commissar is a rear admiral, as are the three deputy commanders and three deputy political commissars. The fleet aviation commander is also a rear admiral. The fleet's Lushun and Qingdao Naval Bases are commanded by rear admirals, while the garrison commands at Dalian, Weihai, and Liugondao are commanded by senior captains.

¹¹¹⁹ Harlan Jencks, "China's 'Punitive' War on Vietnam: A Military Assessment," *Asian Survey*, vol. XIX, August 1979, pp. 805-6, describes the 1979 formation of the PLA's "Southern Front" by the Kunming and Guangzhou MRs and the "Northern Front" by the Xinjiang, Lanzhou, Beijing, and Shenyang MRs during the war with Vietnam.

¹¹²⁰ I am indebted to Paul H.B. Godwin for this explanation.

¹¹²¹ Lists of bases for the three fleets comes from *Combat Fleets*, p. 103, which differs somewhat from similar lists provided in Richard Sharpe, ed. *Jane's Fighting Ships, 1999-2000*; and Srikanth Kandopalli, "China's Naval Structure and Dynamics."

East Sea Fleet. The East Sea Fleet is headquartered at Ningbo, with other major bases at Shanghai, Fujian, and Zhoushan (where the newly acquired *Sovremennys* are homeported). Smaller facilities are located at Chenjiagang, Dinghai, Wusong, Xinxiang, Wenzhou, Sanduao, Xiamen, Quandao, and Xiangshan (submarines, including all four *Kilo*-class, are homeported at the last).¹¹²² Important shipbuilding facilities are located at Shanghai (for surface ships) and inland on the Yangzi River at Wuhan (for submarines). PLANAF facilities are located at Ningbo, Shanghai, Luqiao, Shitangqiao, Danyang, and Daishan.¹¹²³

The fleet's AOR reaches from approximately 35°-10°N down to 23°-30°N latitude, corresponding roughly to the Nanjing MR, or to the littoral areas of the southern half of the Yellow Sea, all of the East China Sea, and the Taiwan Strait. Its coastline is divided into seven Coastal Defense Zones. Assigned units include two submarine, two surface combatant, one amphibious, and one MIW squadrons, as well as over two hundred small patrol and auxiliary craft, including those that patrol the Yangzi and other riverine waters.

The East Sea Fleet is commanded by a vice admiral who also serves as a Nanjing MR deputy-commander; its political commissar is also a vice admiral (see Figure 10.8). The three deputy fleet commanders are rear admirals, as are the three deputy political commissars and the fleet aviation commander. Base commanders for Fujian, Shanghai, and Zhoushan are rear admirals, while the Xiamen Naval Garrison is commanded by a senior captain.

South Sea Fleet. The South Sea Fleet is headquartered at Zhanjiang, with other major bases at Yulin and Guangzhou. Lesser facilities are located at Hong Kong, Haikou, Shantou, Humen, Kuanchuang, Tsun, Mawai, Beihai, Pingtan, Sanzhou, Tang Chian Huan, Longmen, Bailong, Donguon, Baimajing, and Xiachuandao. PLANAF facilities are located at Lingshui, Foluo, Haikou, Sanya, Guiping, Jialaishi, and Lingling. The fleet's AOR stretches from approximately 23°-30°N to the Vietnamese border, equating to the Guangzhou MR, or the littoral areas of the South China Sea and the Beibu Gulf. Its coastline is divided into nine Coastal Defense Zones.

The fleet's most important operational responsibility is the South China Sea, with significant support facilities on Woody Island and on Fiery Cross, Lincoln, and Duncan Reefs.¹¹²⁴ The fleet's responsibility for the contested Paracel and Spratly Islands, and Macclesfield Bank, explains the presence at Hainan's Lingshui airfield of the PLANAF's

¹¹²² Author's discussion with U.S. analysts. *Jane's Fighting Ships, 1999-2000*, p. 117; *Combat Fleets*, pp. 107-8, gives Ningbo as the *Kilos'* homeport.

¹¹²³ Base locations and size are reported in *The Military Balance, 1999-2000* and in Kondapalli. These sources agree more than they disagree.

¹¹²⁴ Author's interviews with USCINCPAC personnel and with Dr. Mark Valencia, East-West Center, Honolulu, 1-5 November 1999.

long-range B-6 *Badger* aircraft. The base on Woody Island in the Paracels is the only South China Sea facility capable of supporting tactical aircraft.¹¹²⁵

The South Sea Fleet is home to the PLAN's newest indigenously produced surface combatant, the *Luhai*-class guided missile destroyer. It also includes one or two submarine, two surface combatant, one amphibious, and one MIW squadrons, as well as perhaps 300 patrol and auxiliary craft, including those based at Hong Kong and on the MR's rivers. Additionally, the fleet includes one of China's three major replenishment-at-sea ships, the *Nanchang*. The South Sea Fleet—significantly, not the East Sea Fleet facing Taiwan—also deploys the majority of China's newer amphibious ships, including all four *Qiongsa*-class troop transports, both hospital ships, ten of the fifteen *Yuting* and *Yukan*-class LSTs, and all four of the *Yudao*-class LSMs.¹¹²⁶

China's Marine Corps is headquartered in Beijing and reports to the PLAN commander, but the Marines are all stationed in the South Sea Fleet's AOR with a direct operational chain-of-command to the fleet commander. The corps is composed of two multi-arm brigades of approximately 6,000 personnel each, organized into 750-man battalions. This force includes infantry, artillery, armor, engineer, communications, anti-chemical, anti-armor, and amphibious scout personnel.¹¹²⁷

The corps' primary mission is amphibious warfare; the South China Sea is its anticipated operating theater and the marines man the island outposts of that sea. The Marine Corps resembles the PLANAF in having a dual chain-of-command: while it reports operationally through the South Sea Fleet commander, the corps is administratively responsible to PLAN headquarters in Beijing for training, equipment, strategic planning, personnel, and policy. The corps' commander is relatively junior, probably a senior captain. He apparently does not have a position on the MR commander's staff, although he may be tasked by that officer as part of a joint PLA exercise. Furthermore, in wartime the Marine Corps, as a rapid reaction force, would likely be tasked directly by the GSD.¹¹²⁸

¹¹²⁵ Woody Island may be capable of supporting 2-3 fighter aircraft in hangars plus approximately 30 on hard stands, in the open. The island does not, however, offer a significant maintenance or fresh-water washdown capability, although additional fresh water tanks have been constructed. It also does not appear to have the ground control radar capability usually required by Chinese tactical aviators.

¹¹²⁶ *Jane's Fighting Ships* for the past decade show this amphibious concentration in the South Sea Fleet. Two of the *Qiongsa*-class have been converted to hospital ships; only one of the troop transports may be operationally active.

¹¹²⁷ *Xinhua*, 1 October 1999, in FBIS-CHI-99-0930; author's interview with PLA personnel and U.S. analysts.

¹¹²⁸ This is not dissimilar to the status of the U.S. Marine Corps fleet units. For instance, the general in command of the Fleet Marine Force Pacific, located in Hawaii, is operationally responsible to the Commander-in-Chief U.S. Pacific Fleet, but administratively has a direct chain-of-command (as Commander Fleet Marine Corps

The vice admiral commanding the South Sea Fleet serves as a Guangzhou MR deputy commander; another vice admiral is the fleet political commissar (see Figure 10.9). The three deputy commanders are rear admirals, as are the three deputy political commissars. The fleet's PLANAF forces are commanded by a rear admiral; the Marine Corps brigades by senior captains. The fleet's three naval bases at Yulin, Guangzhou and Zhangjiang are commanded by rear admirals. The naval garrisons at Shantou and Xisha are commanded by senior captains.

PLANAF Operations

One important but obscure relationship is that between PLANAF and PLAAF components. Does the PLAAF assume operational control of PLANAF units in time of war, for instance, to increase the efficiency of coastal air defense? Are PLANAF units wholly responsible for the defense of naval bases and other facilities, or can they call on PLAAF assistance? Or are the two air components in the midst of the same command and control imbroglio that has dogged the American military for so many years? The preliminary, general response to these questions is that although over-water flights have now become routine for the PLAAF, there are still very limited joint flight operations occurring between the two "air forces."

One of the factors in this situation is the organization of China's coastal air defenses, including the way responsibility for continental air defense is assigned by the CMC. Ideally, the coastline would be divided into air defense sectors commanded by a joint commander with authority to call upon both PLAAF and PLANAF resources, but this does not appear to be the case.

From north to south along China's coast, air defense is assigned by the proximity of airfields, rather than by service. The North Sea Fleet's PLANAF contingent has the responsibility from its northern border down to about the Shandong Peninsula; the PLAAF then assumes air defense responsibility to a point south of Shanghai, although that city is located in the heart of the PLAN's East Sea Fleet AOR. The PLANAF resumes air defense responsibility for a brief stretch south of Shanghai, but the PLAAF then has the mission for most of Fujian Province's coastline, which places it on the front line against Taiwan. The PLANAF resumes air defense for most of the South Sea Fleet AOR, including the South China Sea.¹¹²⁹

This system, based on geographical sectors rather than service capability or doctrine, indicates that not only are joint maritime flight operations not routinely

Bases Pacific) to the Commandant of the Marine Corps, in Washington, D.C. This enables the general in Hawaii, when he does not agree with a directive from his operational commander, to "put on his other hat" and ask for a different decision from his administrative commander in Washington.

David Finkelstein described to me the 1999 regulations which assigned the GSD responsibility for PLA-wide training and for issuing operational tasking to all rapid reaction forces.

¹¹²⁹ I am indebted to Allen for describing this system of air defense to me.

employed, but joint doctrine for such operations has not been systemically developed by the two "air forces." Indeed, PLAAF operations over water likely concentrate on classic air intercept and pursuit operations, while PLANAF operational doctrine concentrates on fleet support missions, such as surveillance and ASW. Nevertheless, U.S. military surveillance aircraft operating off the coast in the East Sea Fleet's AOR are often intercepted by PLANAF F-7 fighters.¹¹³⁰

Coast Guard

China does not have a formally organized coast guard, but the functions normally assigned to that service—maritime safety, customs enforcement, environmental protection and the like—are the responsibility of several organizations. China organized a maritime militia in the early 1950s as part of the effort to defend its fishing fleet and coastal trade against depredations by KMT naval forces. This force consisted largely of fishing trawlers armed with machine guns and hand-held weapons. They were controlled by local CCP branches, and when on a mission carried party representatives.¹¹³¹ In 1955, Beijing organized Public Security Force sea units; they were responsible for guarding ports, rivers, and the fishing fleets. Ironically, these duties often took them further to sea than the PLAN. Naval district defense units were also organized, and tasked with cooperating with the army for inshore coastal defense.¹¹³²

There is a gap in our knowledge about the development of these forces. China currently deploys several maritime auxiliary forces, all of them semi-military to a degree. These include the Customs Service, the State Oceanographic Bureau, the Public Security Bureau's Maritime Section, the Border Security Force's Maritime Command, the Ministry of Public Security's Frontier Guard Detachment, the MSA, and a maritime militia. The Customs Service may be the most professional of these organizations, although all use a collection of more than 200 patrol craft of various classes, many of them sea-going.¹¹³³

¹¹³⁰ Author's not for attribution conversations with senior PLAN officers.

¹¹³¹ John Moore, ed., *Jane's Fighting Ships, 1980-81*, London: Jane's Publishing Co., 1980, p. 109.

¹¹³² Swanson, p. 204, points out these forces' similarities to imperial predecessors.

¹¹³³ *Jane's Fighting Ships, 1999-2000*, pp. 144-6. See "State to Set Up 200,000-Strong Maritime Cruise Unit," *Xinhua*, 6 December 1996, in FBIS-CHI-96-236, for a report of a 200,000-man "maritime cruise unit" established in 1996, to be manned by reservists and to assume coastal defense duties. A more recent report is "Linhai City of Zhejiang Sets up Sea-Borne Militia Unit to Ensure Boats for Civilian use Will be Able to Come at the First Call," *Zhongguo tongxun she*, 6 May 2000, in FBIS-CPP20000506000062, reporting that the "province's first armed forces department of the aquatic product oceanic administration and a sea-borne militia unit was set up." The "aquatic product oceanic administration" is not further identified, but presumably is a translation of the Maritime Safety Administration.

The State Oceanographic Bureau is responsible for research and environmental protection, including enforcement of the "Marine Environmental Protection Law of the PRC," passed in December 1999.¹¹³⁴ This law assigns responsibilities to several organizations, although they have additional duties, as well:

- (1) *State Environmental Protection Administration*: a consolidated supervisory and managerial department for national environmental protection work;
- (2) *State Marine Administration*: supervision and management of the marine environment and organization of investigations, monitoring, lookout, evaluation, and scientific research of the marine environment;
- (3) *State Maritime Affairs Administration*: supervision and management of non-fishing and non-military shipping pollution of the marine environment;
- (4) *State Fishery Administration*: supervision and management of pollution to the marine environment by non-military ships inside fishing port waters and fishing boats outside fishing port waters; and
- (5) *Military Environmental Protection Department*: supervision and management of pollution to the marine environment by military ships and boats.¹¹³⁵

Other craft are in the Coastal Regional Defense Forces, comprising 25,000 personnel. This force is probably part of the Naval Coastal Defense System, which includes a system of Coastal Observation Posts spread along China's coastline, coastal

Also see *Xinhua*, 18 June 1999, in FBIS-CHI-1999-0618, for a report that Shanghai had established a "Maritime Safety Administration, the first of its kind in China's coastal areas,...to supervise the management of navigation marks, the surveying of sea-routes, and the inspection of ships and maritime facilities."

¹¹³⁴ Tang Min, "PRC Marine Environmental Protection Law Praised," *China Daily*, 3 April 2000, in FBIS-CPP20000403000020, reports that the "amended Marine Environmental protection Law" came into effect on 1 April 2000.

The complexity of coast guard-type responsibilities in China is obvious, and shown in "State Council Forms Marine Bureau in Shenzhen," *Xinhua*, 27 December 1999, in FBIS-FTS19991227000826, which reports that the "Shenzhen Marine Bureau was formed [to carry out] marine supervision. It combined the previous "separate port supervision departments under the Shenzhen Government and the Ministry of Communications." The new bureau is responsible for "managing overseas ships sailing and anchoring in Shenzhen water space, abiding by the related international marine treaty, maintaining order in sea navigation and transportation, supervising ships anti-pollution facility, handling water pollution, maintaining public navigation facilities and regulating the shipping economy." No reference is made to the other organizations which seem to have similar responsibilities.

¹¹³⁵ Text of "Marine Environmental Protection Law of the PRC," *Xinhua*, 26 December 2000, in FBIS-FTS20000207000268.

cruise missile and artillery sites, coastal patrol boat squadrons, and a network of coastal radar and communications stations.¹¹³⁶

The recently established Maritime Safety Administration operates under the Communications Ministry in Beijing. Fourteen of a planned twenty offices had been set up by the end of 1999. The MSA is reportedly charged with supervising the "management of navigation marks, the surveying of sea-routes, and the inspection of ships and maritime facilities," with a special focus on shipboard safety.¹¹³⁷ Its ship salvage responsibilities are carried out through the semi-private China Salvage Company, which also provides afloat and air SAR assistance.¹¹³⁸

Finally, the Frontier Guard Department is "in charge of administering social order of vessels along the coasts." Rumors have surfaced that some of these vessels have been involved in piracy and other illegal acts in China's coastal waters, perhaps evidenced in guidance to this force to "strictly abide by law-enforcement procedures [and not] to levy fines which are beyond their authority, or which are too excessive."¹¹³⁹

DOCTRINE AND ORGANIZATION

Doctrine is defined in the United States as "fundamental principles by which the military forces or elements thereof guide their actions in support of national objectives

¹¹³⁶ *Xinhua*, 26 March 1999, in FBIS-CHI-99-0327, reported that "a three-dimensional border and coastal defense communications network...has been completed and become operational"; *Xinhua*, 22 November 1999, in FBIS-CHI-99-0647, discusses the command and control structure for at least part of this coastal defense system.

¹¹³⁷ "PRC Establishes 12 State Maritime Safety Administrations," *Xinhua*, 28 December 1999, in FBIS-CPP19991228001478; *Xinhua*, 18 June 1999, in FBIS-CHI-99-0618, claimed that in 1999 the MSA dealt with 1,880 safety violations and "saved the lives of nearly 2,500 people" in marine waters and on the Yangzi River. The drive to improve maritime safety, following the disastrous passenger ferry sinking in late 1999, was also indicated in "China Takes Steps to Ensure Navigation Safety," *Xinhua*, 21 February 2000, in FBIS-CPP20000221000132. Also see Guo Aibing, "Chinese Transportation Officials Urge Sea Safety Measures," *China Daily*, 28 January 2000, in FBIS-FTS20000128000198, for the report that in 1999 "769 passengers died in ship or boat accidents—a 26.9 percent increase over 1998," as the result of 249 boats sunk at a cost of more than \$30 million. The MSA predecessor, the "Bureau of Harbor Superintendency," was responsible for anti-pollution and SAR efforts, including the SAR Coordination Centers..

¹¹³⁸ Author's discussion with Mr. Gerard Yoest, U.S. Coast Guard Director of International Relations, May 2000.

¹¹³⁹ "PRC Will Enforce Rules on Coastal Vessels 1 May," *Xinhua*, 29 May 2000, in FBIS-CPP20000329000034.

[and which] is authoritative but requires judgement in application.”¹¹⁴⁰ It provides the crucial link between strategic intent and operational effectiveness.

Maritime warfare is by nature multidimensional, a characteristic becoming steadily more complex as information-age developments are adapted for naval use. PLAN organization still conforms, however, to classic naval force structure--surface, sub-surface, and air components operating almost entirely along traditional "vertical" administrative and operational chains of command.

Effective doctrine should also reflect and affect organization. The PLAN's current fleet and shore establishment organization, for instance, does not appear to reflect a significant attempt to conform to developments in modern warfare commonly attributed to "information warfare" or the "revolution in military affairs". The experimental work possibly underway in the Naval Research Center, the Naval Research Institute, or the Nanjing Command Academy's experimental cell located with the East Sea Fleet may lead to such changes.

CONCLUSION

The PLAN today is logically organized, with an emphasis on maintaining and improving its operational forces. Its basic organization is a mixture of geographic and mission-oriented commands typical of large navies. The three operational fleets are organized geographically, but are also oriented toward historic and potential threats. All operate in the shadow of U.S. naval and air power.

The North Sea Fleet faces a complex theater involving Russia, Korea, and Japan. The East Sea Fleet's AOR centers on Taiwan, but also includes the Senkaku (Daoyu) Islands. This fleet presumably is tasked with primary planning and execution responsibility for naval action against Taiwan. The fleet itself possesses inadequate assets to execute any significant action against Taiwan, but under a wartime "front" command would probably be empowered to take operational control of aircraft, surface and subsurface ships, and other resources from its sister fleets.¹¹⁴¹ The South Sea Fleet

¹¹⁴⁰ *The Joint Staff Officer's Guide*, AFSC Pub 1, Washington, D.C.: NDU Press, 1997, pp. 0-16.

¹¹⁴¹ Naval headquarters in Beijing, not to mention the CMC, would of course play a very close supervisory/command role in any such military operations against Taiwan. It is also possible that in the event of such a very major military engagement, one of the other fleets, most likely the North Sea Fleet, would simply be combined with the East Sea Fleet. See Blasko, "A New PLA Organization," p. 286, for this thought.

Moreover, the distances between adjacent PLAN fleets are quite short, generally just one to three days of steaming at moderate speeds, unlike the situation with the U.S. or Russian navies, where the distances between the ports and operating areas of the major fleets are generally measured in thousands of miles and weeks of cruising time. There are no significant geographic obstacles to quick or frequent PLAN inter-fleet transfers, although the presence of foreign naval bases throughout East Asia, from Petropavlosk in Russia to Phattaya Beach in Thailand, certainly may constrain such

also faces a complex operational situation, with its AOR including the South China Sea's operational and political problems, as well as unanswered questions about the long-term value to China of possible seabed resources in the area.

The PLAN's Beijing organization is unremarkable, reflecting the usual requirements for administering a large maritime force. It is marked, however, by the ideological coloration of the political commissar system.

The PLAN commander holds the same substantive rank or is senior to his organizational contemporaries, the PLAAF and MR commanders. Shi's June 2000 promotion to full admiral might indicate greater recognition of the PLAN's increased importance by Beijing; more likely, it merely recognizes his successful career and longevity in service. Shi Yunsheng appears to be exercising effective command of the PLAN and obtaining a disproportionate share of the PLA budget for the navy, while focusing his emphasis on improving education and training, maintenance and fleet support, and the force's ability to attain its strategic objectives.

The navy's organization is determined to a significant extent by the ships and aircraft it operates. The goal is maximum effectiveness of these units, modified by geography, perceived threats, and the international and domestic political considerations. PLAN organization will change, furthermore, as the navy grows and modernizes--as new ships and aircraft are deployed.

Historically, China's navy has been organized into geographically discrete operational fleets, as it is today. PLAN organization has evolved undramatically since its founding fifty years ago, when it was formed as an East China force in reaction to the Kuomintang threat from the sea.

The relative strengths of the North, East, and South Sea fleets has not varied startlingly over time, but changes are discernable during various periods when Beijing identified national security concerns with the United States, the Soviet Union, Taiwan, or the South China Sea. Future concerns with India or with stronger Southeast Asian naval forces would likely result in a similar shift in emphasis, with the South Sea Fleet receiving more modernized ships and aircraft, and expanded shore facilities. The extent of such a shift, however, would depend on the criticality of concern for Taiwan and possible intervention by U.S. naval and air forces.

PLAN fleet organization is marked by some interesting factors. First, the different fleets have also been assigned responsibility for specific platforms, such as submarines or amphibious ships, probably for reasons of assigned missions or for ease of maintenance and operation. Second, concentrating all ships of a class in the same fleet simplifies maintenance, training, and support in general of that class, but has the potential to reduce those ships' utility if they have to be assigned to a different fleet. "Type commanders" are apparently not utilized: this system assigns to a rear or vice admiral responsibility for

operations. Still, the primary obstacles to PLAN inter-fleet operations are probably lack of common operational doctrine and non-standard procedures and tactics, along with lack of practice in working together, but western analysts have yet to explore this area.

maintaining and training all the ships in a specific type--destroyers, submarines, amphibious ships, and so on.

Third, as previously noted, the issue of fleet interoperability—the degree of standardization of administrative and operational procedures, communications, tactics, etc.—is not clear. Fourth, the relationships among CMC, PLAN headquarters, MR, and fleet headquarters are often unclear. Fifth, the operating fleets' role in doctrinal development is not clearly understood.

Currently, the East and South Sea Fleets appear to be receiving the bulk of new PLAN ships and aircraft, although accurate counting is difficult. This would be a logical development, given the strategic priority of the Taiwan and South China Sea issues. That said, the presence of the very strong, modern Japanese and South Korean navies means that China will be cautious about diverting too much strength from the North Sea Fleet. In the near-term, the three fleets should remain balanced, with each deploying the surface, submarine, and aviation assets required to accomplish its tasking. Competition for resources among the fleets and, within the fleets among the surface, submarine, and aviation branches will also continue.

Mao Zedong apparently recognized that organizing a navy to extend Beijing's rule to Taiwan required a national effort, to include concentration on amphibious warfare, seaborne logistics, and maritime air power. His campaign to organize such a navy was aborted because of the Korean War and thereafter limited by domestic political events and the international threats China faced. Current evidence suggests that Beijing is still not striving to organize a PLAN capable of more than a defensive effort within about 400 nm of China's coast.

APPENDICES A-I
PLAN Personnel (as of 1 July 2000)

Figure 10.1 PLAN Headquarters

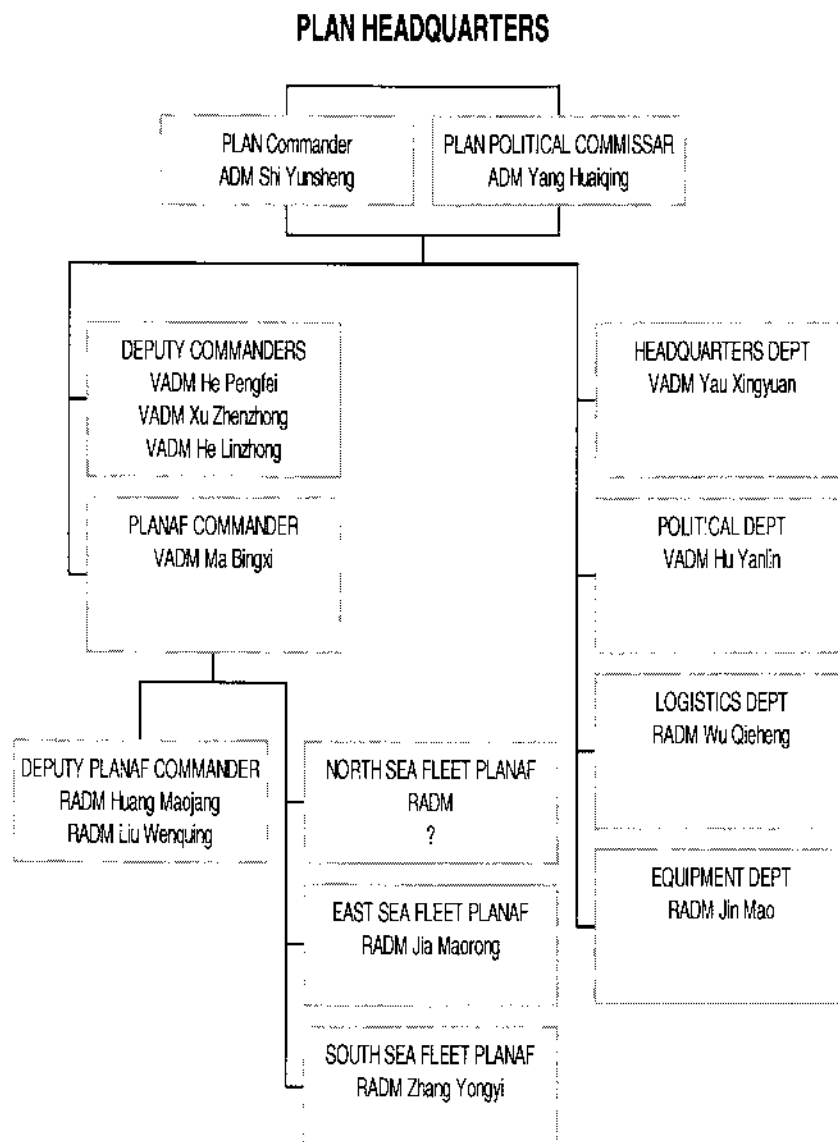


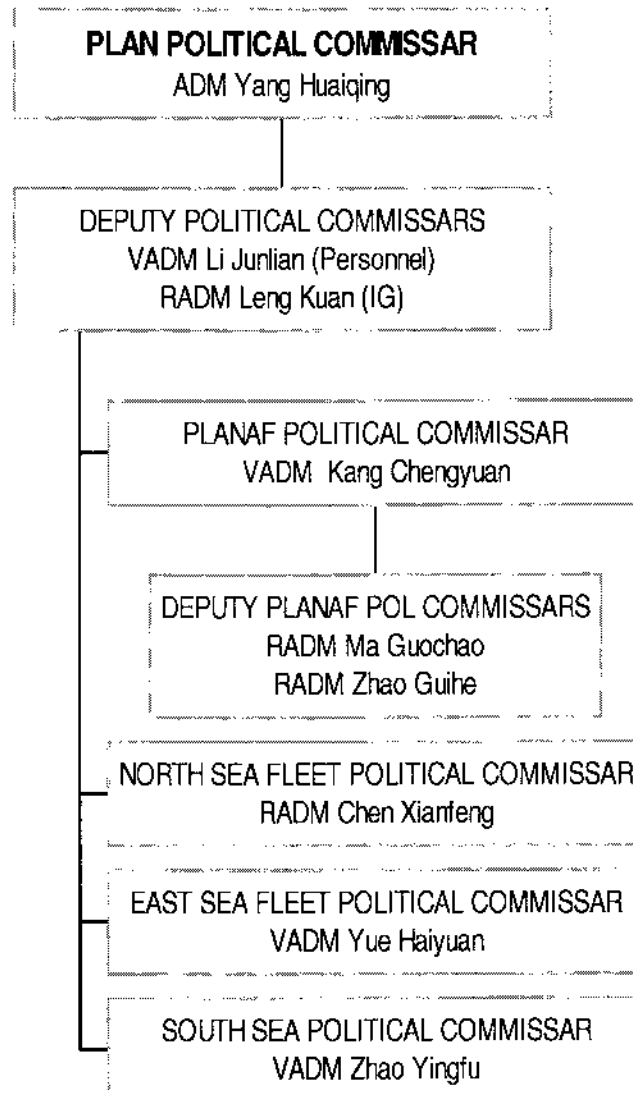
Figure 10.2 PLAN Political Commissar Leadership

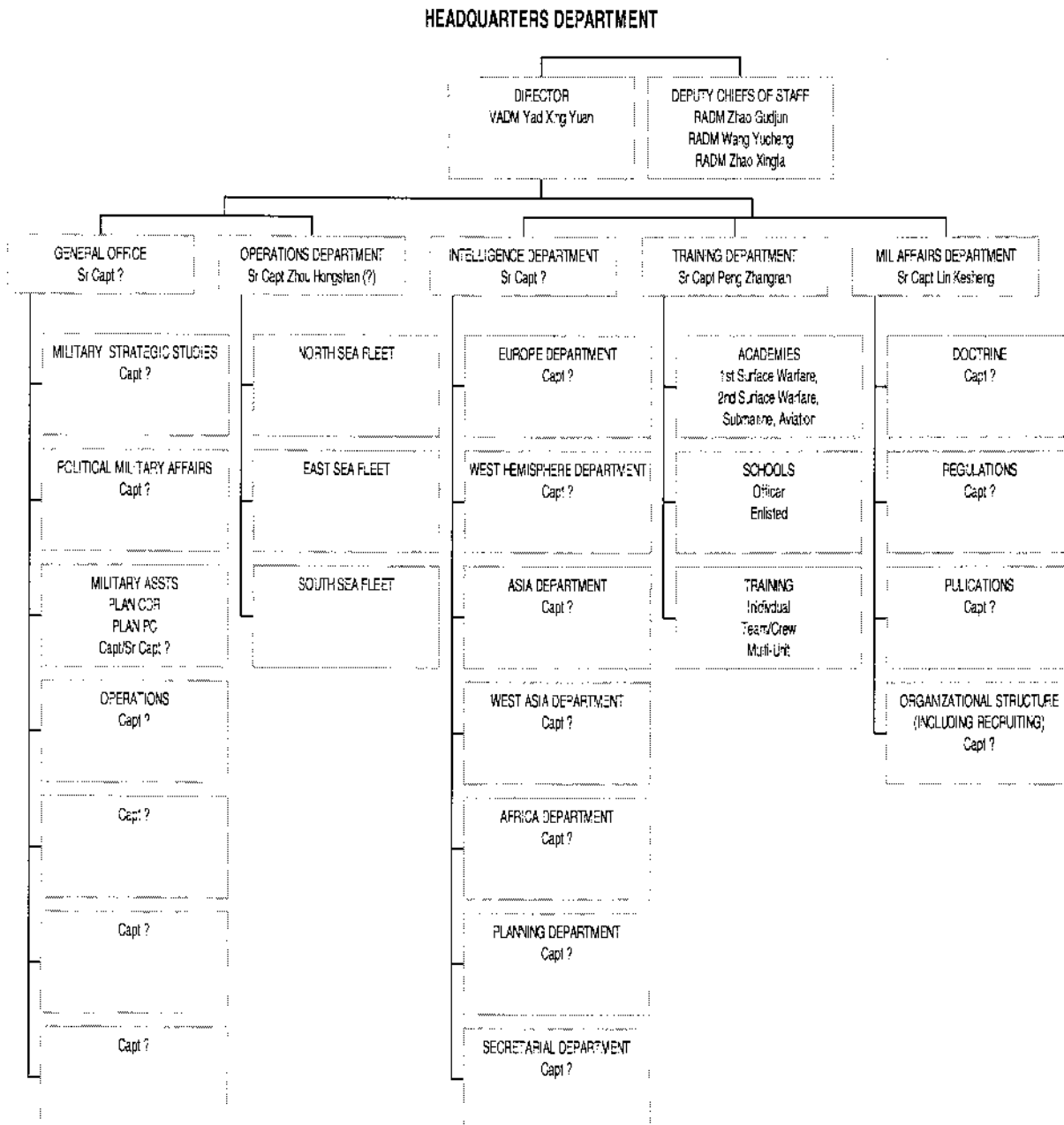
Figure 10.3 PLAN Headquarters Department

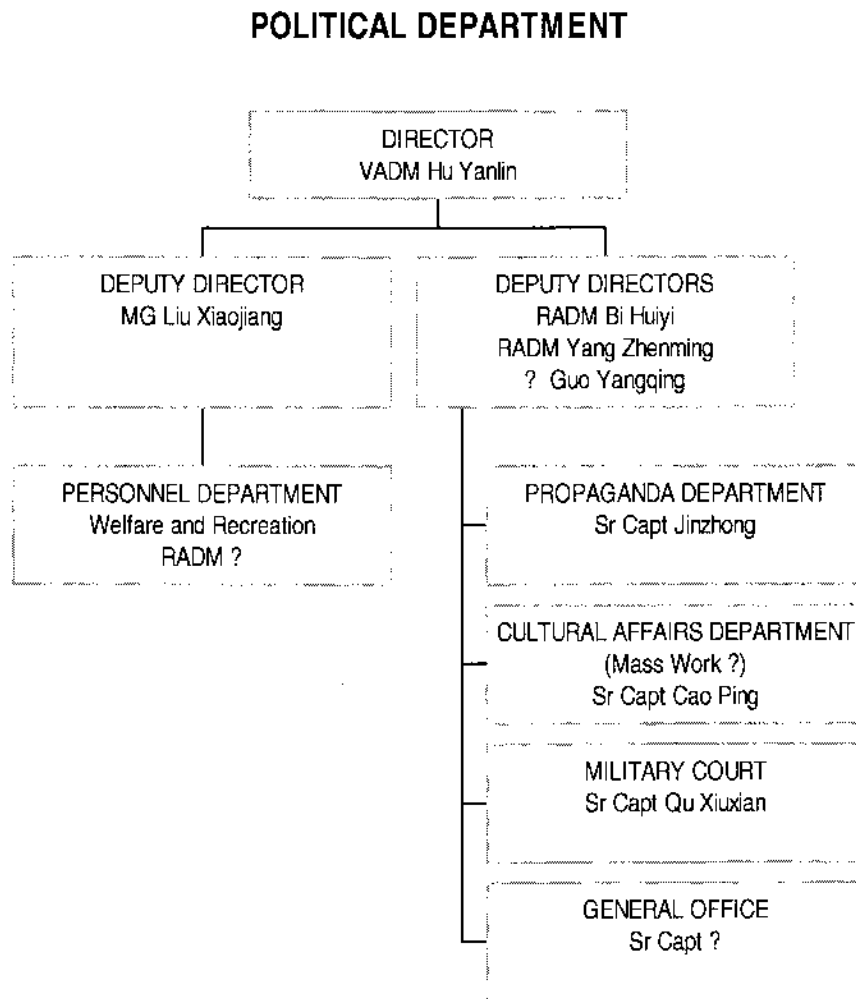
Figure 10.4 PLAN Political Department

Figure 10.5 PLAN Logistics Department

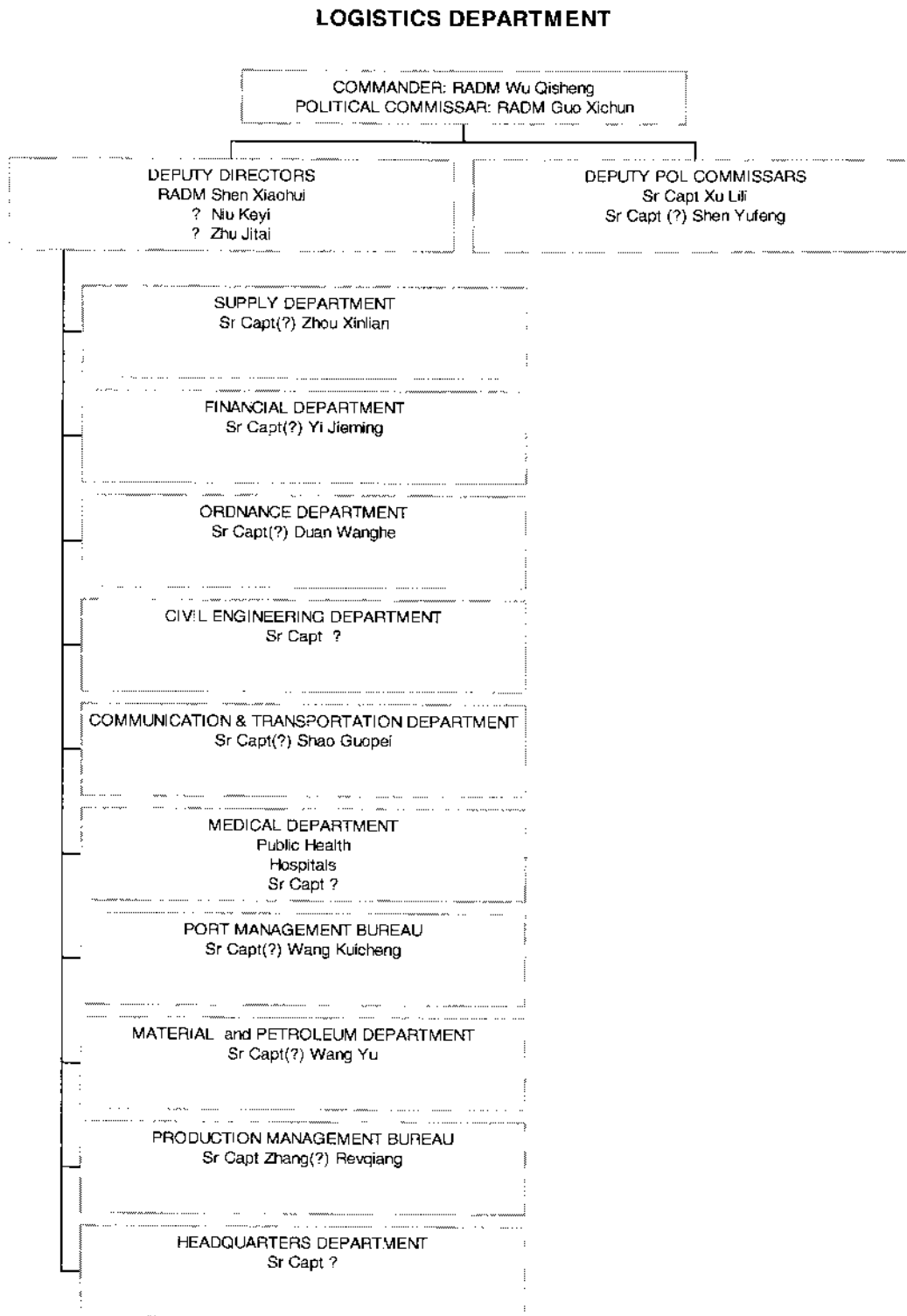


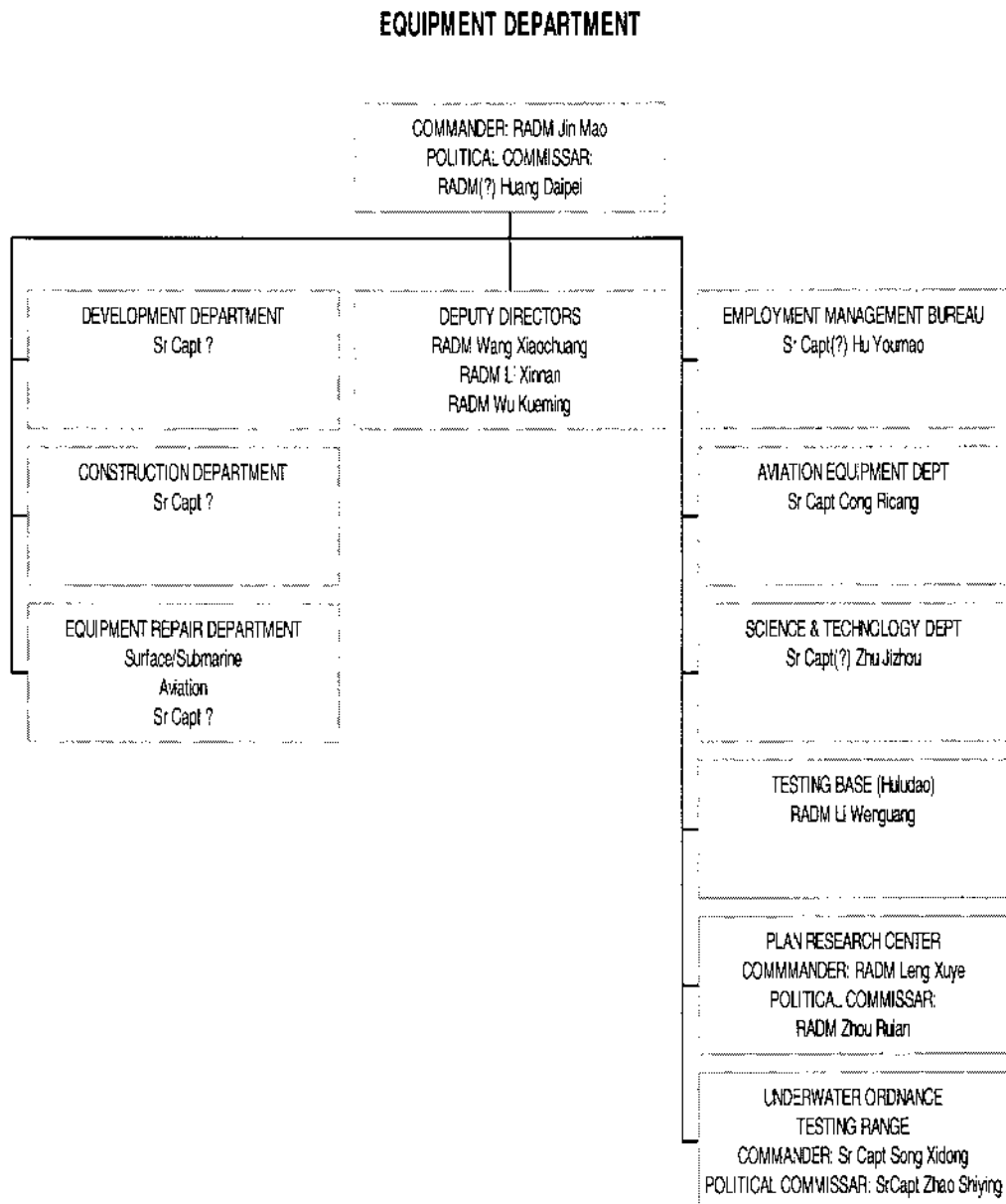
Figure 10.6 PLAN Equipment Department

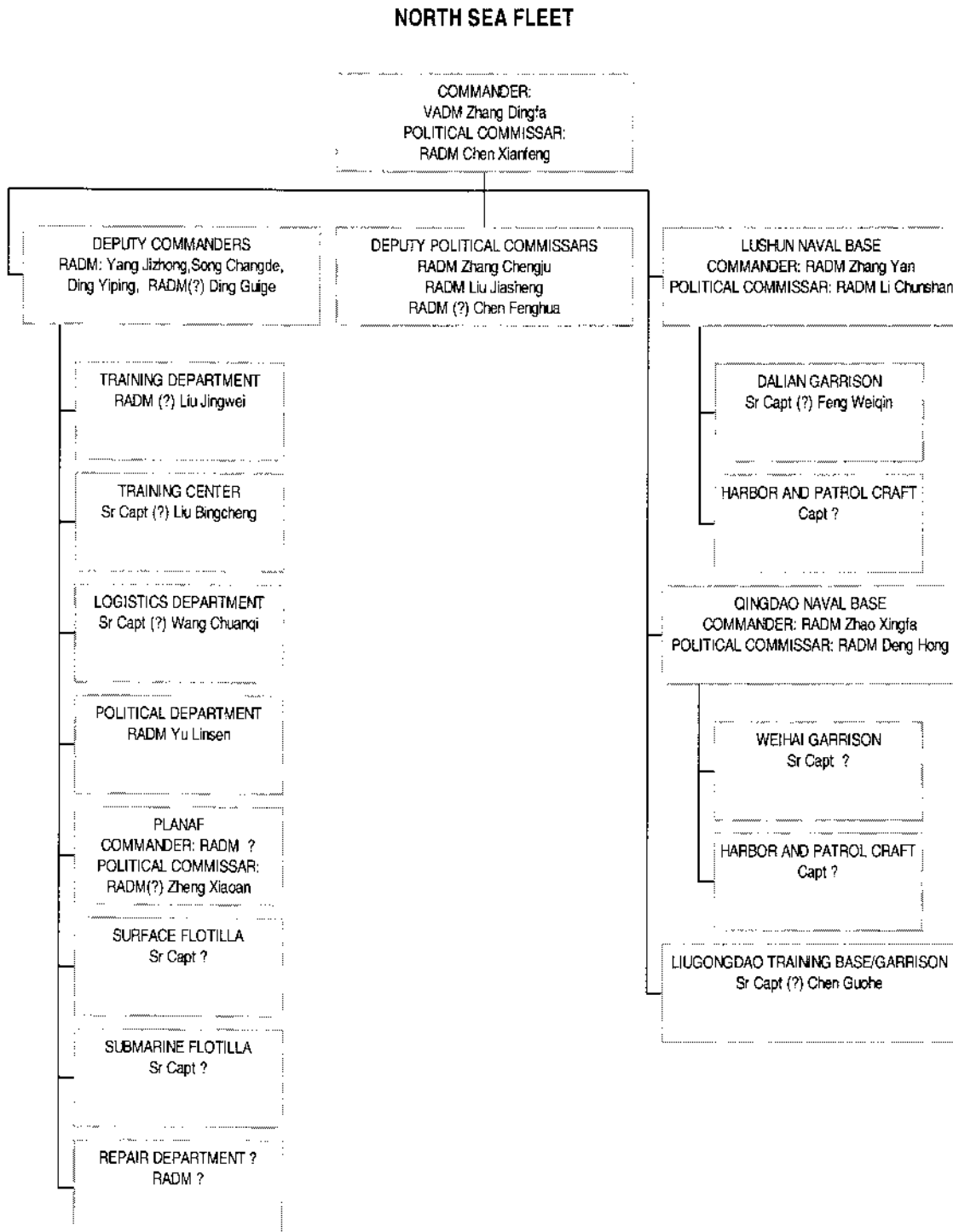
Figure 10.7 North Sea Fleet

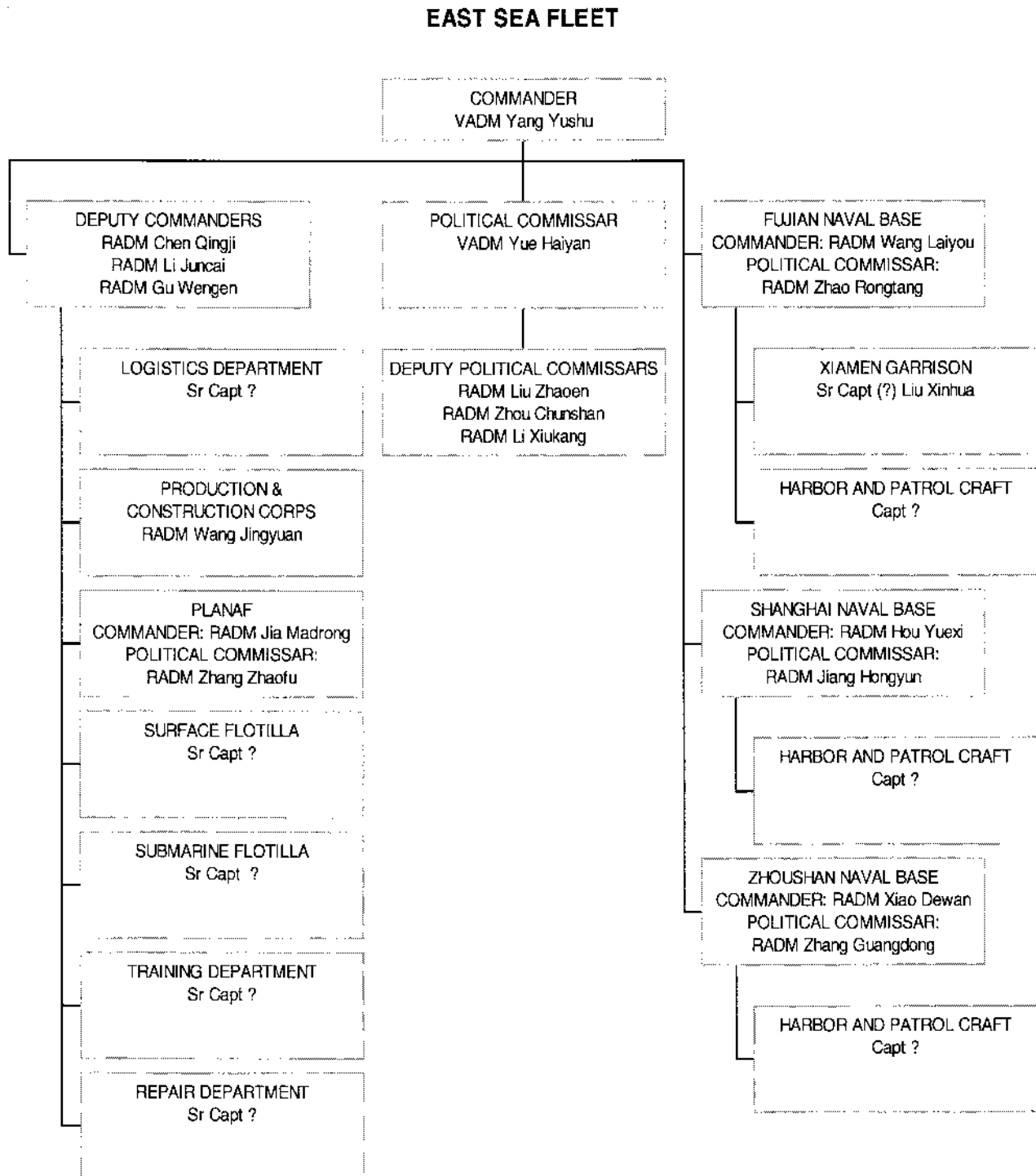
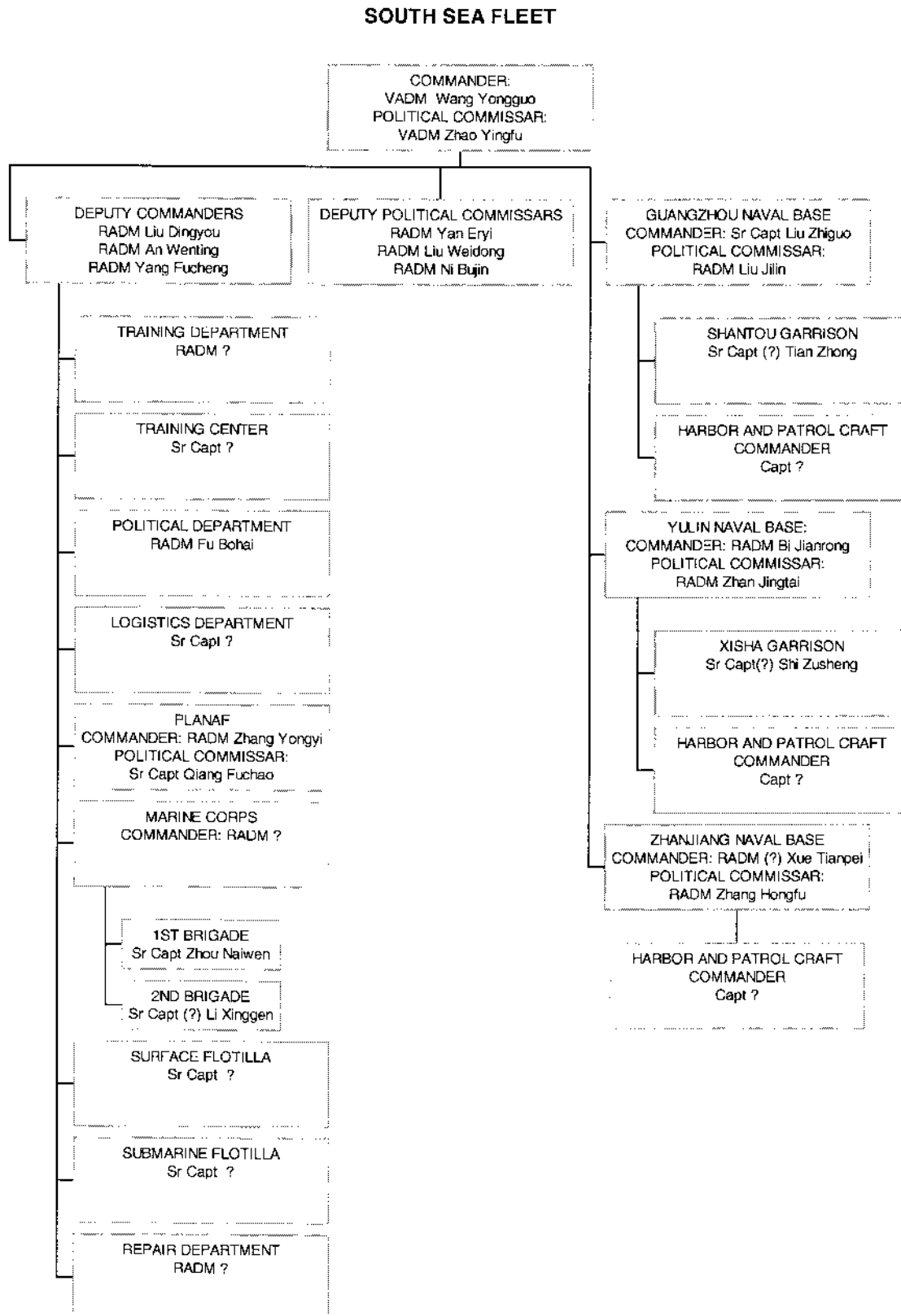
Figure 10.8 East Sea Fleet

Figure 10.9 South Sea Fleet



11. THE CHINESE SECOND ARTILLERY CORPS: TRANSITION TO CREDIBLE DETERRENCE

By Bates Gill, James Mulvenon, and Mark Stokes¹¹⁴²

INTRODUCTION

The concepts, history, organization, force structure, and posture of China's Strategic Rocket Forces (also known as the "Second Artillery" from the Chinese *Dierpaobing*) remain some of the most heavily shrouded and poorly understood aspects of the Chinese military. Yet, as China undergoes a continued qualitative and quantitative modernization of its nuclear and conventional missile forces, to include improved mobility, reliability, accuracy and firepower, concerned analysts are compelled to understand and analyze the Second Artillery more precisely, including its evolving history, organization, and hardware, and their implications for international security.

To date, the most prominent work on these questions has either dwelled primarily on hardware and R&D¹¹⁴³, focused on doctrinal debates¹¹⁴⁴, or described the

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¹¹⁴³ See, for example, Mark A. Stokes, *China's Strategic Modernization: Implications for the United States*, Carlisle Barracks, PA: Strategic Studies Institute, U.S. Army War College, September 1999; Robert S. Norris, Andrew S. Burrows, and Richard Fieldhouse, *Nuclear Weapons Databook, vol. 5, British, French, and Chinese Nuclear Weapons* Boulder: Westview Press, 1994; and Robert S. Norris and William M. Arkin,

technological development of Chinese strategic forces in the form of political-military histories.¹¹⁴⁵ Some past work, now more than ten years old, attempts to weave several of these strands together to present a “cultural” analysis of these issues.¹¹⁴⁶ More recent work from the mid-1990s by Johnston and Xue goes farthest in providing more unifying analyses which carefully draw together aspects of doctrine and force structure, yet this work to requires some reexamination in light of China’s current strategic modernization efforts.¹¹⁴⁷

An updated and more comprehensive framework is needed to understand the Second Artillery’s past, present, and future. Such an analysis would fully pull together China’s declared nuclear principles with an empirical assessment of the Second Artillery’s history, organization, and force structure. Taking such an approach, we reach several key findings on the Second Artillery’s nuclear and conventional posture:

- The organizational history of the Second Artillery appears to be largely shaped by the introduction of *successively more sophisticated missile systems* in its arsenal, necessitating modifications of deployment, command and control, and procedures;
- One important trend in the current organizational structure is the introduction of *conventional missile units* alongside the traditional nuclear forces, suggesting a new tactical dimension to the force’s roles and missions, including greater operational integration with other services of the PLA.
- From a technical perspective, while we agree with analysts who highlight the role of technology in shaping Chinese doctrine, we go beyond the somewhat simplistic understanding that technology drives doctrine. Rather, we see patterns of rational strategic choice made for China’s nuclear posture, though technology limited the realm of the possible for Chinese leaders. Perhaps it

“British, French, and Chinese Nuclear Forces,” *Bulletin of the Atomic Scientists*, November/December 1996.

¹¹⁴⁴ Alastair Iain Johnston, “China’s New ‘Old Thinking’: The Concept of Limited Deterrence,” *International Security*, vol. 20, no. 3, winter 1995/96.

¹¹⁴⁵ See, for example, John Wilson Lewis and Xue Litai, *China’s Strategic Seapower: The Politics of Force Modernization in the Nuclear Age*, Stanford: Stanford University Press, 1994; and John Wilson Lewis and Xue Litai, *China Builds the Bomb*, Stanford, CA: Stanford University Press, 1988.

¹¹⁴⁶ Chong-pin Lin, *China’s Nuclear Weapons Strategy: Tradition within Evolution*, Lexington, Massachusetts: Lexington Books, 1988.

¹¹⁴⁷ Alastair Iain Johnston, “Prospects for Chinese Nuclear Force Modernization: Limited Deterrence Versus Multilateral Arms Control,” *China Quarterly*, June 1996; and Litai Xue, “Evolution of China’s Nuclear Strategy,” in John C. Hopkins and Weixing Hu, eds., *Strategic Views from the Second Tier: The Nuclear Weapons Policies of France, Britain, and China*, New Brunswick, New Jersey: Transaction Publishers, 1995.

could be said that the Chinese made a *virtue out of necessity* in the construction of their nuclear deterrent, accepting the technological constraints of the system and making rational choices under those constraints.

- The evolution over time of China's doctrine and force structure is the story of trying to close the gap between real capability on the one hand, and what one might call "aspirational doctrine" on the other. In the U.S., the appropriate analog would be a comparison of current operational doctrine, as outlined in the Joint Doctrine publications series, with an aspirational doctrine, such as Joint Vision 2010. In the Chinese case, the discontinuity between reality and aspiration is oftentimes referred to as the "capabilities-doctrine gap." At the present stage in the Second Artillery's modernization, China is nearing an historic convergence between doctrine and capability, allowing it to increasingly achieve a degree of *credible minimal deterrence* vis-à-vis the continental United States – a convergence of its doctrine and capability it has not confidently possessed since the weaponization of China's nuclear program in the mid-1960s.
- Looking ahead, the doctrine and force structure of China's Second Artillery should be analyzed at three distinct levels, reflecting a multi-faceted force with very different missions: a posture of *credible minimal deterrence* with regard to the continental United States and Russia; a more offensive-oriented posture of *limited deterrence* with regard to China's theater nuclear forces; and an *offensively-configured, preemptive, counterforce warfighting posture* of "active defense" or "offensive defense" for the Second Artillery's conventional missile forces.

In reaching these findings, the work proceeds in six sections. First, we briefly consider several *declaratory principles* which have traditionally defined the Second Artillery's mission. Second, we provide an *historical overview* of the Second Artillery. In the next two sections, we detail the *operational organization* and *force structure* of the Second Artillery. A final two sections draw this analysis together to reach conclusions about the Second Artillery's *likely future force posture*, and its implications for international security.

CHINA'S NUCLEAR WEAPONS PRINCIPLES

We begin our analysis with an overview of China's traditionally declared nuclear-weapons principles. These principles are as close as China gets to a publicly declared "doctrine" for nuclear weapons. In the absence of an open and official declaration of the Second Artillery's doctrine, we examine these principles as a way to introduce China's conceptual approach to its strategic forces, and to inferentially deduce certain aspects of China's nuclear posture. In addition, a close examination of these principles reveals certain unanswered questions and inconsistencies which open the door to new and evolving missions for the Second Artillery. We consider these declared principles in

three parts: China's no-first-use principle, its negative and positive security assurances, and its declared adherence to nuclear weapon free zone agreements.¹¹⁴⁸

No First Use

Public Chinese statements consistently reiterate the “defensive” purpose of Chinese nuclear weapons to counterbalance foreign threats. Chinese leaders decided to pursue nuclear weapons in January 1955 due to U.S. nuclear threats during the Korean War and Taiwan Straits crisis of the early 1950s.¹¹⁴⁹ In a statement issued on the day of its first nuclear explosion in October 1964, China cited this achievement in its “struggle to strengthen [its] national defense and oppose the U.S. imperialist policy of nuclear blackmail and nuclear threats”:

China cannot remain idle in the face of the ever-increasing nuclear threats from the United States. China is conducting nuclear tests and developing nuclear weapons under compulsion...China is developing nuclear weapons for defense and for protecting the Chinese people from U.S. threats to launch a nuclear war.¹¹⁵⁰

This declared “defensive” nuclear policy has changed little in the subsequent 35-plus years that China has been a nuclear weapon state. In a July 1997 speech to the U.S. Army War College, Lt. General Li Jijun, Vice President of the PLA's Academy of Military Science, reiterated China's public position regarding its nuclear posture:

China's nuclear strategy is purely defensive in nature. The decision to develop nuclear weapons was a choice China had to make in the face of real nuclear threats. A small arsenal is retained only for the purpose of self-defense. China has unilaterally committed itself to responsibilities not yet taken by other nuclear nations, including the declaration of a no-first-use policy, the commitment not to use or threaten to use nuclear weapons against non-nuclear states and in nuclear-free zones...In short, China's strategy is completely defensive, focused only on deterring the possibility

¹¹⁴⁸ The database on China compiled by the East Asia Nonproliferation Project, Center for Nonproliferation Studies, Monterey Institute of International Studies, is particularly helpful in covering the Chinese nuclear principles discussed here.

¹¹⁴⁹ See, for example: Lewis and Xue, *China Builds the Bomb*, pp. 11-34.

¹¹⁵⁰ Statement of the Government of the People's Republic of China, 16 October 1964, found in Lewis and Xue, *China Builds the Bomb*, pp. 241, 242.

of nuclear blackmail being used against China by other nuclear powers.¹¹⁵¹

The cornerstone of this publicly-declared defensive position is China's NFU policy. Since first detonating a nuclear device in October 1964, China has consistently declared an unconditional NFU policy.¹¹⁵² Since that time, China has persistently proposed that nuclear weapon states conclude a no-first-use agreement. The achievement of such an agreement was one of China's initial bargaining points in its CTBT negotiations. Later, China sought to gain such an agreement with the United States in return for a Sino-U.S. detargeting pledge. Neither of these efforts succeeded, though the CTBT was completed and a Sino-U.S. detargeting deal was reached. However, China and Russia signed a bilateral NFU accord in September 1994.

Negative and Positive Security Assurances

Another set of declaratory principles involves both negative and positive security assurances (NSAs and PSAs). As for NSAs, China's declaratory stance is clear:

China undertakes not to use or threaten to use nuclear weapons against non-nuclear-weapon States or nuclear-weapon-free zones at any time or under any circumstances. This commitment naturally applies to non-nuclear-weapon States Parties to the Treaty on the Non-Proliferation of Nuclear Weapons [NPT] or non-nuclear-weapon States that have undertaken any comparable internationally binding commitments not to manufacture or acquire nuclear explosive devices.¹¹⁵³

Of note here is China's pledge not to use nuclear weapons against non-nuclear weapon states (i.e. Japan) under any circumstances; the U.S. NSA, for example, is conditional in retaining the possibility of nuclear weapons use against non-nuclear weapon states who take part in an attack on U.S. territory, armed forces, or allies.¹¹⁵⁴

As for PSAs, China has agreed with the other four major nuclear weapon states (France, Great Britain, Russia and the United States) to work within the Security Council

¹¹⁵¹ Lieutenant General Li Jijun, *Traditional Military Thinking and the Defensive Strategy of China*, Letort Paper No. 1, Carlisle Barracks, PA: U.S. Army War College, 29 August 1997, p. 7.

¹¹⁵² China's no-first-use pledge: "China undertakes not to be the first to use nuclear weapons at any time or under any circumstances." See *China's National Statement On Security Assurances*, 5 April 1995.

¹¹⁵³ Ibid.; see also China's white paper entitled *China: Arms Control and Disarmament*, Beijing: Information Office of the State Council, November 1995.

¹¹⁵⁴ As presented by Ambassador Steven J. Ledogar, U.S. Ambassador to the Conference on Disarmament, 6 April 1995.

to take “appropriate measures to provide ... necessary assistance to any non-nuclear weapon State that comes under attack with nuclear weapons.”¹¹⁵⁵ The precise nature of the assistance is not elaborated, and the Chinese statement makes clear that this position does not in any way compromise its desire for a universal NFU pledge and unconditional NSAs, nor does it endorse the use of nuclear weapons.

Of related note, Chinese declaratory policy is particularly critical of the policy of extended nuclear deterrence, or so-called “nuclear umbrellas,” provided by other nuclear weapon states to their allies. In operational terms, this means China officially opposes the deployment of nuclear weapons outside national territories, and states that it has never deployed nuclear weapons on the territory of another country, a point corroborated by open-source evidence. When Japan sanctioned China for continued nuclear testing in 1995 and 1996 during the course of the CTBT negotiations, Beijing derisively dismissed Japanese censure as hypocritical, citing the fact that Japan enjoyed the protection of extended deterrence.

Nuclear Weapon Free Zones

China has signed onto several nuclear weapon free zone (NWFZ) treaties. These are the Treaty of Pelindaba (Africa NWFZ), the Treaty of Raratonga (South Pacific NWFZ), and the Treaty of Tlatelolco (Latin American NWFZ). During the ASEAN Regional Forum Minister’s meeting in July 1999, China stated it would also sign the Southeast Asian NWFZ Treaty. In its 1995 white paper on arms control and disarmament, the Chinese government stated its support for “the establishment of nuclear-free zones in the Korean Peninsula, South Asia, Southeast Asia, and the Middle East.”¹¹⁵⁶

At a conference focusing on a Central Asian NWFZ convened in Tashkent in September 1997, a Chinese Foreign Ministry official heading the Chinese delegation listed seven principles related to the establishment of NWFZs. Among them, China insisted that “any other security mechanism” should not interfere with the non-nuclear status of a nuclear weapon free zone, including military alliance relationships. In addition, perhaps with reference to the South China Sea, the Chinese official declared that NWFZs should not include “areas where there exist disputes over sovereignty of territory or maritime rights.” He also called on nuclear weapon states to commit to an unconditional pledge not to use nor threaten to use nuclear weapons against NWFZs.

In practice, China’s adherence to NWFZ pledges does not greatly affect its nuclear weapon deployments, especially given that it deploys no nuclear weapons abroad. Should China sign and ratify the Southeast Asian NWFZ Treaty, then presumably this would place an added political onus on its ability to threaten or use nuclear weapons against such targets as Vietnam or the Philippines, and, depending on caveats, if any, at the time of its signing, could also affect use in the South China Sea. However, the pledges of nuclear weapon states to adhere to NWFZs are not verifiable, and some include escape

¹¹⁵⁵ See China’s National Statement.

¹¹⁵⁶ See China: Arms Control and Disarmament.

clauses. For example, in signing the Treaty of Raratonga (South Pacific NWFZ), China stated that it could reconsider obligations in the event that other nuclear weapon states or treaty parties violated the treaty.

Conceptual Contradiction and Evolution

In reviewing these principles, we note a number of inconsistencies relevant to China's Second Artillery force modernization and doctrinal evolution.

First, a number of questions attend China's no-first-use (NFU) pledge. First, such a pledge is highly symbolic – it is not verifiable and any violation of the pledge would not be detected until it is too late. Second, as a practical matter, we need to recognize that the NFU pledge is probably less an altruistic principle, and more a simple reflection of the traditional operational constraints imposed on Chinese doctrine by the country's qualitatively and quantitatively limited nuclear arsenal: China maintains an NFU pledge because it fits with the realities of nuclear weapons inventory. As its force structure changes, so too might its NFU principle. Over the years there have been some indications that China's pledge may not be relevant to the first-use of nuclear weapons on Chinese soil. Faced with the threat of a conventional Soviet invasion in the 1980s, Beijing's military strategists argued that the first-use of nuclear weapons on Chinese territory would not have violated its NFU pledge. Similarly, mounting evidence in Chinese military writings and through interviews suggests increased unhappiness within the PLA about the NFU pledge, especially in consideration of the overwhelming stand-off conventional force of countries such as the United States. Revisions to the NFU pledge could advocate launch-on-warning or launch-under-early-attack policies.¹¹⁵⁷

In adhering to its NSAs and PSAs, China's deployments and targeting would presumably be focused only on nuclear weapon states and possibly other states not party to the NPT or similar arrangements (such as India, for example). However, several questions arise about China's commitments, particularly with regard to NSAs. For example, like the NFU pledge, China's NSAs are not verifiable or enforceable. Also, the pledge would not apply to such states as India, Israel and Pakistan, which are not members of the NPT. Even if they joined, the question arises whether China's NSA would apply to a country such as India, which while not officially recognized by China as a nuclear weapon state, certainly has attained such *de facto* status.

In addition, observers question the need for certain Chinese deployments – such as the DF-21 series – insofar as its range and basing means its possible targets largely comprise non-nuclear weapon states. For example, the DF-21's basing and ranges suggest targets in Japan, Korea, Okinawa, the Philippines, or Vietnam, in addition to targets in the Russian Far East and India. If it is true, as asserted by Lewis and Xue, that China's target sets for the DF-3 included U.S. bases in the Philippines and Japan, this also runs contrary to Chinese NSAs. The fact that the DF-3 and-4 series missiles are already capable of reaching Russian and Indian targets raises further questions as to the purpose of the DF-21 series in the context of Chinese NSAs.

¹¹⁵⁷ Johnston, "China's New 'Old Thinking'," pp. 21-23.

We draw a number of points from this discussion of Chinese declaratory principles. First, these traditional principles are generally consistent with a “defensive” posture and a qualitatively and quantitatively limited nuclear arsenal. Given the reality of Chinese nuclear forces, therefore, these pledges come at little to no real “cost” in terms of reductions, disarmament, or dramatic alterations to Chinese nuclear posture overall. Second, with the possible exception of some deployments, such as the DF-21 series ballistic missile, the nuclear principles noted here are consistent with a posture largely concerned with the other major nuclear weapon states (especially the United States and the Soviet Union/Russia), as well as India. Third, nothing in these principles necessarily precludes China’s nuclear weapons modernization program, but might place political limits on targeting and use options. Finally, while these principles may give us an overall understanding about China’s formally stated views about when it would *not* use nuclear weapons, they provide no details about when they *would*.

In the end, we recognize that not only do these principles raise several unanswered questions, but China’s ongoing strategic force modernization introduces pressures to possibly alter and refine them consistent with new strategic realities. Only through an empirical examination of the history, organization, and force structure of the Second Artillery can we address these unanswered questions and better grasp the Second Artillery’s future posture.

HISTORY OF THE SECOND ARTILLERY CORPS

There is little open source information on institutional history of the Second Artillery. Official accounts relate that the service was formally created on 1 July 1966 in Beijing.¹¹⁵⁸ Premier Zhou Enlai reportedly chose the name “Second Artillery Corps” (*Dierpaobing*) for the new force, which he sought to distinguish from the PLA’s traditional artillery corps (*paobing*).¹¹⁵⁹ Zhou also reportedly allocated the national People’s Armed Police headquarters to the force in 1969, when the former was disbanded.¹¹⁶⁰ By 1986, the Second Artillery built its own headquarters in Xishan,

¹¹⁵⁸ Song Shilun, ed., *Zhongguo junshi baike quanshu: junzhi fence (shang)* [Chinese Encyclopedia of Military Affairs: Volume 1], Beijing: Junshi kexue chubanshe, 1995, p. 280.

¹¹⁵⁹ “The Casting of China’s Shield of Peace – A Record of Actual Events in the Development of the Second Artillery,” *Xinhua*, 7 July 1996, in FBIS-CHI-96-137, 7 July 1996.

¹¹⁶⁰ This explains the sometimes-heard misconception that the Second Artillery shielded the PAP from the excesses of the Cultural Revolution. In fact, the national-level PAP was abolished, and its political commissars stayed in place to perform the same role for the new tenant. The authors are grateful to Michael Schoenhals for this insight.

which can be seen from the road to the Badaling section of the Great Wall, northwest of Beijing.¹¹⁶¹

The overall institutional development of the Second Artillery can be divided into four critical phases.¹¹⁶² Phase one was the “implementation of the plan of building strategic weapons in 1962. Phase two, which lasted from 1964 to 1977, centered on was research and development. Phase three, beginning in 1986 and ending in 1993, focused primarily on the replacement of the older generation of weapons. Phase four, which spans 1994 to the present, is principally concerned with the upgrading, development, and preparatory research.

Though the Second Artillery itself was created in 1966, the construction of China’s missile capability and corresponding infrastructure assets began a number of years earlier. In 1956, the Central Committee Secretariat and the Politburo reportedly made the decision to develop guided missiles.¹¹⁶³ In October 1956, the Defense Ministry’s Fifth Academy, China’s first guided missile technology research institute, was established.¹¹⁶⁴ On 9 December 1957, more than 6000 cadres and soldiers from various military units and scientific research institutes reportedly established a ground-to-ground guided missile (*didi daodan*) training brigade.¹¹⁶⁵ In June 1959, the Central Military Commission decided to dissolve the training group and establish two strategic guided missile combat battalions.¹¹⁶⁶ On 18 March 1960, the first of the two proposed battalions was formally established at an artillery school in northwest China, with the hope that it would serve as a “seed unit” (*zhongzi budui*) of officers for the units to follow.¹¹⁶⁷ On 10 September 1960, China successfully launched its first R-2 guided missile, with help from the Soviet

¹¹⁶¹ From “Revealing Secret of China’s Procedure for Pressing Nuclear Button”, in *Tai yang pao* [Hong Kong], 31 January 2000, in FBIS, FTS20000206000049.

¹¹⁶² These demarcations can be found in “Jiang Zemin Defines Position of China’s Strategic Rocket Forces”, *Tai yang pao* [Hong Kong], 17 July, 2000, in FBIS, CPP20000717000021.

¹¹⁶³ Liu Jingzhi, “Proudly Smiling at the Vast Sky – On the 50 Years of China’s Missile Family,” *Guangming ribao*, 14 September 1999, in FBIS, 17 September 1999.

¹¹⁶⁴ *Ibid.*

¹¹⁶⁵ Zhang Jiajun and Zao Zhi, “The Strong Contingent of Secret Rockets – The Historical Course of China’s Strategic Guided Missile Units,” *Xinhua*, 7 July 1996, in FBIS-CHI-96-135, 7 July 1996. The brigade designation of the unit can be found in Zhang Jiajun and Sun Jinhan, “Casting the Shield of Peace – Second Artillery Commander Yang Guoliang and Political Commissar Sui Yongju Talk About Building of Strategic Missile Force,” *Liaowang*, No. 29, 21 July 1997, pp. 4-7, in FBIS, 28 August 1997.

¹¹⁶⁶ Zhang Jiajun and Zao Zhi, “The Strong Contingent of Secret Rockets”.

¹¹⁶⁷ *Ibid.* The term “seed unit” and the brigade designation of the unit can be found in Zhang Jiajun and Sun Jinhan, “Casting the Shield of Peace.”

Union.¹¹⁶⁸ In 1963, the CMC made a decision to establish a strategic guided missile training battleground.¹¹⁶⁹ Then deputy chief of staff Zhang Aiping led an inspection team to find a suitable site. On 28 September 1963 (another account claims autumn 1964), “tens of thousands” of officers and men from 88 army units assembled to construct the first strategic guided missile base.¹¹⁷⁰ In October 1963, the missile battalion launched its first missile.¹¹⁷¹ China’s first atomic bomb was successfully detonated on 16 October 1964, paving the way for the mating of weapon to delivery vehicle.

Other developmental milestones followed the formal establishment of the unit. According to official sources, the missile force in the “mid-seventies” organized a “long-range firing exercise with live warheads,” involving “moving, camouflaging, and launching.”¹¹⁷² The same source reports that this was the first time that the force operated “independently” as well as the first time that it employed “mechanized features,” suggesting mobility. The soldiers fired four missiles in a “very short time” that hit their targets, leading Chinese experts to conclude that China’s missile inventory was moving toward “maturity.” On 18 May 1980, China successfully launched its first intercontinental ballistic missile.¹¹⁷³ In the early 1980s, the missile force reportedly conducted its first “large-scale combined battle exercise” (*hecheng xunlian zhanyi yanxi*). These trends were conducted in parallel with the testing and deployment of an increasingly capable inventory of missiles, explored in much greater detail in the force structure section below. On National Day in 1984, a Chinese strategic missile formation paraded through Tiananmen Square, marking the first public appearance of Second Artillery units.¹¹⁷⁴ A similar appearance was made at the 50th anniversary celebration in October 1999. In the early winter of 1994, the Second Artillery reportedly conducted its first “position survival exercise,” involving emergency nuclear and chemical pollution monitoring and clean-up after being subjected to a surprise nuclear attack and launching a nuclear counterattack.¹¹⁷⁵

¹¹⁶⁸ Liu Jingzhi, “Proudly Smiling at the Vast Sky.”

¹¹⁶⁹ Zhang Jiajun and Zao Zhi, “The Strong Contingent of Secret Rockets.”

¹¹⁷⁰ “The Casting of China’s Shield of Peace – A Record of Actual Events in the Development of the Second Artillery,” *Xinhua*, 7 July 1996, in FBIS-CHI-96-137, 7 July 1996.

¹¹⁷¹ Xu Zuzhi, “China’s Strategic Missile Unit Now Possesses Fighting Capability Under High-Tech Conditions,” *Zhongguo xinwen she*, 1 October 1999, in FBIS-CHI-1999-1002, 1 October 1999.

¹¹⁷² “The Casting of China’s Shield of Peace.”

¹¹⁷³ Liu Jingzhi, “Proudly Smiling at the Vast Sky”.

¹¹⁷⁴ Xu Zuzhi, “China’s Strategic Missile Unit.”

¹¹⁷⁵ *Ibid.*

One of the most significant recent developments for the Second Artillery has been the introduction of conventionally-tipped missiles into its inventory, particularly short-range ballistic missiles aimed at Taiwan such as the Dongfeng-15 (DF-15) missile, known more commonly in the West by its export designation, M-9, or the Pentagon as the CSS-6; and the shorter-range Dongfeng-11 (DF-11), also known as the M-11 or CSS-7. Other systems discussed in the context of a Taiwan scenario are the DF-21 (CSS-5) and other longer-range systems.

From open sources, the DF-15 is judged to have a range of roughly 600km, with a payload of 500kg. It is capable of delivering both conventional and nuclear payloads, as well as chemical, biological, and cluster munition warheads. Estimates of CEP were initially pegged at 600m. This assessment was based on an algorithm that calculated CEP as 1% of range. Since 1996, there have been frequent reports that the Chinese are attempting to improve the guidance of these missiles utilizing the U.S.-built Global Positioning System (GPS) satellite cluster.¹¹⁷⁶ In their 1996 RAND report on GPS-aided guidance for ballistic and cruise missiles, Irving Lachow and Gerald Frost concluded that a hypothetical missile with the DF-15's parameters, aided by GPS correction in the boost phase, could achieve significant improvements in accuracy.¹¹⁷⁷ The M-11 SRBM, also known as the DF-11 or CSS-7, is a mobile, solid-fueled missile with a 300km missile and a 500kg payload. A recent Department of Defense report asserted that the M-11 "has not yet entered the PLA's inventory," though "an improved, longer-range version may be under development."¹¹⁷⁸

ORGANIZATION OF THE SECOND ARTILLERY CORPS

The Second Artillery is China's Strategic Rocket Force, commanding its conventional- and nuclear-tipped missile arsenal. Unlike the Soviet Strategic Rocket Forces, the Second Artillery is not a service branch (*junzhong*), on par with the Ground Forces, Navy, and Air Force (known collectively in Chinese as *luhaikong*). Instead, the Second Artillery is only a service arm (*bingzhong*), which is one-half notch lower in bureaucratic rank.¹¹⁷⁹ This, rather than attempts at deception, probably explains why Chinese discussions of the service branches never includes the Second Artillery.

The Second Artillery, with an estimated 90,000 personnel, consists of headquarters elements, six launch bases (*jidi*), one engineering design academy, four research

¹¹⁷⁶ This analysis can be found in Irving Lachow and G. Frost, "Satellite Navigation-Aiding for Ballistic and Cruise Missiles," Santa Monica, Calif: RAND, RP-543, 1996.

¹¹⁷⁷ Ibid.

¹¹⁷⁸ Secretary of Defense, "The Security Situation in the Taiwan Strait," Report to Congress Pursuant to the FY99 Appropriations Bill, 1 February 1999.

¹¹⁷⁹ For a discussion of service branches versus service arms, see Song Shilun, ed., *Zhongguo junshi baike quanshu*, pp. 141-143. Other service arms include tank, artillery, air defense, engineering, communication, and chemical defense units.

institutes, two command academies, and possibly an early warning unit.¹¹⁸⁰ As key operational strike units, brigades are likely only assigned one type of missile to facilitate command and logistics. The Second Artillery headquarters and subordinate bases oversee warhead and missile storage facilities; maintenance units; and special warhead/missile transportation services.¹¹⁸¹

As a strategic-level asset, the Second Artillery is subject to strict command and control from the center. By necessity, it is therefore a very stove-piped institution, perhaps the most vertically integrated of all units within the People's Liberation Army. At the top of the structure sits the Second Artillery Headquarters, followed by the missiles bases and their subordinate launch brigades and companies.

Headquarters (*Silingbu*)

The headquarters of the Second Artillery shares many of the same organizational features as other headquarters units within the PLA's service branches. The national-level HQ is theoretically the highest command authority, and bears particular responsibility for policy, training and equipping the Rocket Forces. The HQ likely enjoys functional (*yewu*) control over planning, requirements, and budgeting, while the bases exercise administrative (*xingzheng*) control over the units in the field. During peacetime, the HQ likely maintains operational control of the forces, but wartime situations most likely would necessitate ad hoc arrangements. For the conventional forces, Chinese sources suggest a "skip echelon" command structure would be established, with the national command authority in Beijing dealing directly with a temporary "war front" (*zhanqu*) command.¹¹⁸² During a wartime situation, multiple conventional brigades would be subsumed into a conventional theater missile corps (*juntuan*) consisting of a corps command post, a corps logistics command post, and a number of subordinate theater missile brigades each with different types of theater missiles (see Figure 11.1). The corps command post would largely consist of command authorities from Beijing and Huangshan.¹¹⁸³ The theater command center (*zhanyi zuozhan zhongxin*) would direct

¹¹⁸⁰ Bases are located at Shenyang (80301 Unit); Huangshan (80302 Unit); Kunming (80303 Unit); Luoyang (80304 Unit); Huaihua (80305 Unit); and Xining (80306 Unit).

¹¹⁸¹ "The Strategic Nuclear Force Organization," in *Guojia junzhixue* [The Science of the State Military System], undated, p. 3.

¹¹⁸² See Liu Zhenwu, ed., *Xiandai jundui zhihui* [Modern Military Command and Control], 2nd ed., Beijing: National Defense University Press, 1994, pp. 393-394.

¹¹⁸³ *Lianhe zhanyi di erpaobing zuozhan*, p. 4. Another article supports the assertion that conventional Second Artillery units would be subsumed into the theater command structure, but notes that Beijing may direct operations through the Second Artillery chain-of-command. See Li Junsheng, "*Lianhe zhanyi didi changgui daodan budui zuozhan zhihui wenti tantao*" [Inquiry Into Joint Conventional Theater Surface-to-Surface Missile Unit Operational Command Problems], in *Lianhe zhanyi yu*

the missile campaign as one component of a joint strike force that also would include air forces, ground force artillery and tactical missiles, electronic attack assets, and special operations.¹¹⁸⁴ Coordination will be carried out via a firepower coordination cell (*huoli xietiaozu*) within the theater command center.¹¹⁸⁵

For the nuclear forces, the evidence strongly suggests that the national command authority in Beijing would always retain strict control.¹¹⁸⁶ Reportedly, the authority to use nuclear weapons rests collectively with the Standing Committee of the Political Bureau and the Central Military Commission (both groups now headed by Jiang Zemin).¹¹⁸⁷

In peacetime, the Second Artillery HQ staff is led by a primary echelon of comprised of four “first-level” (*yijibu*) departments (see Figure 11.2): headquarters department (*silingbu*), political (*zhengzhibu*), logistics (*houqinbu*), and technical and equipment department (*jizhuangbu*)/armament department (*zhuangbeibu*). These departments have a vertical (*tiao*) relationship with the four general departments in Beijing.¹¹⁸⁸ Other top-level units include the discipline inspection commission (*jilu jiancha weiyuanhui*), which is probably subordinate to the Second Artillery Party Committee and the Central Military Commission’s Discipline Inspection Commission.¹¹⁸⁹

Key personnel at Second Artillery HQ include the commander (*silingyuan*), political commissar (*zhengwei*), deputy commanders (*fusilingyuan*), deputy political commissars (*fuzhengwei*), and department directors. The principal leadership body within

junbingzhong zuozhan, pp. 228-231. Li is from an unidentified (probably Second Artillery) Third Research Institute.

¹¹⁸⁴ Guan Lingen, “Brief Analysis of Combined Fire Assault,” *Jiefangjun bao*, 21 April 1998, p. 6, in FBIS-CHI-0519-98.

¹¹⁸⁵ See Sun Xiaohe, “*Jiaqiang huoli xietiao, fahui zhengti weili*” [Strengthen Firepower Coordination, Give Play to Comprehensive Power], in *Lianhe zhanyi yu junbingzhong zuozhan* [Joint Theater and Service Operations], Beijing: National Defense University Press, 1998, pp. 281-285. Senior Colonel Sun is Deputy Director of the Guangzhou Military Region Service Arms Department.

¹¹⁸⁶ See Michael Swaine, *The Military and Political Succession in China: Leadership, Institutions, Beliefs*, Santa Monica, Calif.: RAND, R-4254-AF, 1992, pp.122-27.

¹¹⁸⁷ See “Revealing Secret of China’s Procedure for Pressing Nuclear Button.”

¹¹⁸⁸ Kenneth Lieberthal and Michel Oksenberg, *Policy Making in China: Leaders, Structures, and Processes*, Princeton, New Jersey: Princeton University Press, pp.141-142.

¹¹⁸⁹ Wang Shiyu, “*Qufen dangji zhengji, shixing kou ban'an* [Differentiate Party Discipline and Government Discipline and Implement with Appropriate Agencies],” *Jiefangjun bao*, 9 December 1987.

the forces is the HQ party committee. Extrapolating from other similar units in the PLA, the political commissar is likely the secretary of the party committee, with the commander serving as deputy secretary. The other leadership personnel listed above would likely form the standing committee (*changwei*) of the party committee.

Headquarters Department (*Silingbu*)

The Headquarters Department manages the organizational structure, plans, deployment, transfer, and battlefield development of the Second Artillery operational and support troops. It is headed by a chief of staff and three deputy chiefs of staff. During a crisis, the apex of the HQ department is likely the Second Artillery Command and Control Center (*Erpao zhihui kongzhi zhongxin*).¹¹⁹⁰ According to reports, a centralized crisis command center was established at Xishan in 1986, with two subordinate command centers set up in Wuwei in the Lanzhou Military Region and in Mianyang, in the Chengdu Military Region. At the time these subordinate centers were under the direction of Yang Dezhi and Yu Qiuli; command for the regional centers was transferred to Hong Xuezhi and Chi Haotian with the ascent of Jiang Zemin to chair the Central Military Commission in 1989. In 1995, three more regional command centers were reportedly established at Taiyuan, Shanxi province, Lushan, Henan province, and Weining, Guizhou province.¹¹⁹¹

Some second-level departments (*erjibu*) can be identified (see Figure 11.3):

- The Political department (*zhengzhibu*) is charged with overseeing political work within the headquarters department. Probably has vertical relationship with the General Political Department and a horizontal relationship with the Second Artillery HQ Political Department. Division likely contains subordinate cadre affairs, party affairs, and propaganda divisions.
- The Communications department (*tongxinbu*) is responsible for the construction and transmission of communications between the Second Artillery headquarters and superordinate and subordinate units. It is known to have an Electronic Countermeasures (ECM) Regiment and a Communications Regiment, as well as a number of communications main stations (*tongxin zongzhan*).
- The training department (*junxunbu*) is probably responsible for developing training policies for subordinate bases and launch brigades.
- The military affairs department (*junwubu*) is probably responsible for general Second Artillery HW affairs, organizational issues, and recruiting.

Two additional likely second-level departments (*erjibu*) are an intelligence department (*qingbaobu*), charged with intelligence analysis, and a schools department (*junxiaobu*), responsible for planning, budget, regulations, facilities, administration,

¹¹⁹⁰ Lu Chunming, “Zhichu zuozhan zhihui zonghe kongzhitai [Integrate Operational Command And Control Platforms], *Jiefangjun bao*, 13 August 1988.

¹¹⁹¹ See “Revealing Secret of China’s Procedure for Pressing Nuclear Button.”

curricula, students, and staff at the Second Artillery's various professional military education institutions. Other incidental units include a mapping unit (*ditu dadui?*), computer center, weather center, and scientific research division (*keyanchu*). The scientific research division reportedly has a technology division (*jishuchu*).¹¹⁹² The mapping unit combines more than 10 types of specialized mapping sub-units, including a terrain squadron (*dizing zhongdui*).

Political Department (*Zhengzhibu*)

The Political Department is charged with political work within the Second Artillery. It is led by a director, four deputy directors, and the directors of the divisions. Along with the party committees (*dang weiyuanhui*, or *dangwei* for short) and the political commissar system (*zhengwei*), the political department (*zhengzhibu*) manages personnel, propaganda, and morale affairs. Known second-level departments (*erjibu*) of the political department itself include (see Figure 11.4):

- The general office (*bangongshi*) is responsible for staff and paperwork within the Second Artillery political department. It likely contains subordinate units responsible for secretaries (*mishuchu*), documents (*guan dang'an chu*), and a confidential bureau (*jiyao*) for couriers and encrypted communications.
- The organization department (*zuzhibu*) is responsible for party affairs, overseeing the party committees throughout the Second Artillery HQ and at lower levels.
- The propaganda department (*xuanchuanbu*) is responsible for the dissemination of propaganda to lower levels, including internal Second Artillery publications like 2nd Artillery's internal newspaper and the *neibu* journal *Changying* [Flying Eagle].
- The security department (*baoweibu*) is responsible for all security affairs, ranging from physical security to counterintelligence.
- The culture department (*wenhuabu*) is in charge of cultural education and recreational affairs, and likely sponsors programs of activities for the rank-and-file.

Other likely second-level departments (*erjibu*) include:

- The cadre department (*ganbubu*) is responsible for personnel matters, including appointments, promotions, demotions. It likely includes a retired cadre bureau (*laoganbuju*).
- The liaison department (*lianluobu*)

¹¹⁹² Zhang Jiajun, "*Chuangzao lianghao keyan huangjing, jiasu guofang keji fazhan* [Building a Quality Research Environment, Enhancing National Defense Development]," *Jiefangjun bao*, 10 April 1989.

- The mass work department (*qungongbu*) is responsible for relations between the Second Artillery headquarters and the local government and population.
- The procurate (*jianchayuan*) investigates disciplinary matters. It likely works closely with the Second Artillery Discipline Inspection Commission.
- The court (*fayuan*) tries personnel accused of crimes. It likely interacts with both the procurate and the Discipline Inspection Commission.

Logistics Department (*Houqinbu*)

The Logistics Department is responsible for all logistics affairs within the Second Artillery, including budgeting, transportation, fuel, equipment, health, armaments, housing, and logistics training and research. Five main second-level departments can be confirmed (see Figure 11.5):

- The General office (*bangongshi*) is responsible for staff and paperwork within the headquarters department. It likely contains subordinate units responsible for secretaries (*mishuchu*), documents (*guan dang'an chu*), and a confidential bureau (*jiyaoju*) for couriers and encrypted communications.
- The transportation department (*yunshubu*) is responsible for the procurement and maintenance of all Second Artillery transportation. It has a materials division (*qicaichu*)
- The materials and petroleum, oils and lubricants department (*wuzibu*) is mainly responsible for supply of all materials, as well as the procurement, storage, distribution of fuel and fuel-related equipment. The sub-units beneath the materials division are divided between those that deal with “common” (*tongyong*) and “special-use” (*zhuan yong*) materials, the latter of which may involve nuclear materials.¹¹⁹³
- The armament department (*junxiebu*)
- The capital construction and barracks department (*yingfangbu*) is responsible for the design, construction, and maintenance of all Second Artillery facilities.
- The health department (*weishengbu*) is responsible for health affairs within the Second Artillery, including medical aid and family planning. It is also likely responsible for the management of all subordinate medical facilities, including hospitals, sanitoriums, and research institutes.

Based on extrapolation from similar units, other likely Logistics Department second-level departments include:

¹¹⁹³ Zhang Jiajun, “*Linghuo, duobian, kexue* [Agile, Varied, Scientific],” *Jiefangjun bao*, 28 September 1988.

- The general office (*bangongshi*) is responsible for staff and paperwork within the Second Artillery logistics department. It likely contains subordinate units responsible for secretaries (*mishuchu*), documents (*guan dang'an chu*), and a confidential bureau (*jiyaoju*) for couriers and encrypted communications.
- The political department (*zhengzhibu*) is charged with overseeing political work within the logistics department. Probably has vertical relationship with the General Political Department and a horizontal relationship with the Second Artillery HQ Political Department. Division likely contains subordinate cadre affairs, party affairs, and propaganda divisions.
- The finance department (*caiwubu*) likely formulates the Second Artillery budget, requests funding from the center, dispenses funds to lower levels, and supervises accounting for units at all levels of the system. It likely contains an audit bureau (*shenjiju*).
- The quartermaster department (*junxubu*) is responsible for the planning, procurement, storage, and distribution of provisions and clothing.

Other ancillary offices likely include the research office (*yanjiushi*), equipment research office (*zhuangbei yanjiushi*), and production management office (*shengchan jingying bangongshi*), which controls farms and other economic units.

Technical and Equipment Department (*Jizhuangbu*)

The Technical and Equipment Department is charged with engineering support, equipment maintenance, repair and overhaul of equipment, procurement, R&D, and storage. Units formerly relied on local factories, but in 1984 began working on “self-reliance.” In 1987, intermediate and depot-level maintenance on 120 items was achieved. One second-level department, the procurement department (*dinggoubu*), has been identified (see Figure 11.6). Three other sub-units can be identified: a science and technology committee, science and technology information center¹¹⁹⁴, and repair and spare parts factories/shops (*xiupeichang/suo*). Other likely second-level departments are a general office (*bangongshi*), which manages staff and paper work within the technical and equipment department, and political department (*zhengzhibu*), which oversees political work within the technical and equipment department.

Base Units (*Jidi*)

Beneath the headquarters, the next important organizational unit is the “base,” or *jidi*. It shares the same four “first-level” departments as the headquarters (HQ, political, logistics, and technical/equipment), as well as most of the second-level departments (see Figure 11.7). These departments, which perform the same roles as their counterparts though at a lower-level, report horizontally to the base leadership, as well as vertically to their superior units at the national headquarters level. Other corps/base support elements

¹¹⁹⁴ Directory of Military Personalities, October 1999, p. 56.

include a reconnaissance unit (*jizhen dadui*); a surveying/mapping unit (*cehui dadui*); a computer center (*jisuan zhongxin*); a weather center (*qixiang zhongxin*); a communications regiment (*tongxintuan*); an ECM regiment (*dianzi duikangtuan*); and an engineering regiment (*gongchengtuan*). Additional engineering, air defense, and anti-chemical units can be assigned as needed.¹¹⁹⁵ Among the units unique to the base level are a set of “equipment assurance units” (*zhuangbei baozhang budui*) which includes a missile/warhead storage unit (*zhuangbei jishu qinwu budui*), a transfer station (*zhuanyunzhan*), and a repair depot (*tezhuang xiulicang*).

Brigade Units (Nuclear)

Replicating most of the higher levels of command, a typical nuclear missile brigade contains four first-level departments, including headquarters, political, logistics, and equipment technology (*jizhuangbu*) departments, as well as most of the second-level departments. These offices, which perform the same roles as their counterparts though at a lower-level, report horizontally to the brigade leadership, as well as vertically to their superior units at the base and national headquarters level during non-crisis situations. During crisis and wartime situations, the nuclear brigades likely report directly to the national command center in the Western Hills (*Xishan*) in Beijing.

Very little is known from open sources about the structure of units for the silo-based nuclear brigades. Extrapolating from our understanding of the structure of mobile conventional theater missile brigades, the unique nuclear brigade elements for mobile forces, such as the DF-21 and DF-31, likely include a mobile brigade command post, a central depot (known as a “technical position” or *jishu zhendi*), a transfer point (*zhuanzai changping*), and an assigned set of pre-surveyed launch sites (*fashe zhendi*), as well as a set of reserve (*daiji*) launch sites. A mobile nuclear missile brigade also likely has a set of “equipment assurance sub-units” (*zhuangbei baozhang fendui*).¹¹⁹⁶ Brigades probably have multiple firing battalions (*fasheyings*), with each battalion assigned multiple companies.¹¹⁹⁷ Companies subordinate to the launch battalion likely would be assigned at least one launcher, an electric power generation vehicle (*fadianche*), a surveying vehicle (*cekongche*), a communications command vehicle (*tongxun zhihuiche*), and a

¹¹⁹⁵ Ibid, p. 5. During peacetime, these units are subordinate to the base headquarters.

¹¹⁹⁶ Ibid, p. 4. The equipment assurance sub-units, the transfer point, and the transport may be the responsibility of a battalion-level “technical unit” (*jishu ying*). A nuclear brigade’s technical battalion manages a warhead station (*dantizhan*), an inspection station (*zhuangjianzhan*), and a technical service station (*jishu qinwuzhan*). See “Guangrong bang [Glorious Honor Roll],” *Chang ying [Flying Eagle]*, undated 2 November 1993, p. 11 (hereafter “Glorious Honor Roll”).

¹¹⁹⁷ For reference to a fourth battalion within a Second Artillery brigade structure, see “Glorious Honor Roll,” p. 10.

missile transport vehicle (*daodan yunshuche*). Battalions and companies would be assigned a zone within which to operate.¹¹⁹⁸

Brigade Units (Conventional)

Replicating most of the higher levels of command, a typical conventional theater missile brigade contains four first-level departments, including headquarters, political, logistics, and equipment technology (*jizhuangbu*) departments, as well as most of the second-level departments. These offices, which perform the same roles as their counterparts though at a lower-level, report horizontally to the brigade leadership, as well as vertically to their superior units at the base and national headquarters level during non-crisis situations. During crisis and wartime situations, the brigade likely reports to the war front command, as discussed earlier in the chapter.

The unique brigade elements include a mobile brigade command post, a central depot (known as a “technical position” or *jishu zhendi*), a transfer point (*zhuanzai changping*), and an assigned set of pre-surveyed launch sites (*fashe zhendi*), as well as a set of reserve (*daiji*) launch sites. A conventional missile brigade also has a set of “equipment assurance sub-units” (*zhuangbei baozhang fendui*).¹¹⁹⁹ Brigades have at least four firing battalions (*fasheyings*), with each battalion assigned at least three-four companies.¹²⁰⁰ Companies subordinate to the launch battalion likely would be assigned at least one launcher, an electric power generation vehicle (*fadianche*), a surveying vehicle (*cekongche*), a communications command vehicle (*tongxun zhihuiche*), and a

¹¹⁹⁸ Senior Colonel Wang Benzhi, “*Didi changui daodan huoli yunyong de jige wenti* [Some Questions Related to the Use of Conventional Surface-to-Surface Missile Firepower],” in *Lianhe zhanyi yu junbingzhong zuozhan* [Joint Theater and Service Operations], Beijing: National Defense University Press, 1998, pp. 236-241. Senior Colonel Wang is the Chief of Staff of the Second Artillery Huaihua Base (80305 Unit). One source states that an operational zone could be 20-40 square kilometers. It is unclear what echelon would operate in this size zone. See Lu Xiaohong, “*Daodan jidong fashe zhuangbei ji dimian shebei weizhuang yu yinshen jishu fenxi* [Analysis of Mobile Missile Launch and Ground Equipment Camouflage and Stealth Technology],” in Xu Dazhe, *Guowai dandao daodan jishu yanjiu yu fazhan* [Study and Development of Foreign Ballistic Missile Technology], Beijing: Astronautics Press, October 1998, pp. 193-202.

¹¹⁹⁹ Ibid, p. 4. The equipment assurance sub-units, the transfer point, and the transport may be the responsibility of a battalion-level “technical unit” (*jishu ying*). A nuclear brigade’s technical battalion manages a warhead station (*dantizhan*), an inspection station (*zhuangjianzhan*), and a technical service station (*jishu qinwuzhan*). See “Glorious Honor Roll,” p. 11.

¹²⁰⁰ For reference to a fourth battalion within a Second Artillery brigade structure, p. 10.

missile transport vehicle (*daodan yunshuche*). Battalions and companies would be assigned a zone within which to operate.¹²⁰¹

Academies and Schools (*xueyuan/xuexiao*)

Within the Second Artillery, three senior professional military education institutions can be identified. The Second Artillery Command College (*Erpao zhihui xueyuan*) in Wuhan prepares officers for leadership positions within headquarters elements and launch brigades. The Second Artillery Engineering College (*Erpao gongcheng xueyuan*) - Xi'an¹²⁰² educates technicians associated with equipment and technology departments at various headquarters and field units.

The Artillery Missile School (*Paobing daodan xueyuan*) brings together ground force and missile force officers, facilitating the deployment of ground-to-ground missiles such as the DF-11 Mod 1 with group armies.

Research Institutes (*yanjiusuo*)

The Second Artillery has one engineering design academy and four research institutes. The First Institute (*Dierpao diyisuo*) addresses problems associated with operations, TELs, and logistics, while the Second Institute (*Dierpao diersuo*) appears to have some interest in telecommunications.¹²⁰³ The Third Institute (*Dierpao disansuo*) conducts research on command automation, targeting, and mapping, and at least two researchers at the institute have written on deception issues in an internal volume.¹²⁰⁴ The precise focus of the Fourth Institute is unknown (*Dierpao disisuo*). The Engineering Design Research Institute (*Gongcheng sheji yanjiusuo*)¹²⁰⁵ was established in 1977, and performs engineering work on emplacements, command structures, barracks, and other

¹²⁰¹ Wang Benzhi, "Some Questions Related to the Use of Conventional Surface-to-Surface Missile Firepower," pp. 236-241; and Lu Xiaohong, "Analysis of Mobile Missile Launch and Ground Equipment Camouflage and Stealth Technology," pp. 193-202.

¹²⁰² Zhang Jiajun, "Zunshi zhongjiao xingcheng zhidu [Respecting Teachers and Effective Teaching Forms a System]," *Jiefangjun bao*, 9 September 1988.

¹²⁰³ Shi Qing, "Erpao yanzhi chu xinxing chengkong dianhua jiaohuanji [Second Artillery Corps' Research Has Produced a New Type of Computerized Switchboard]," *Jiefangjun bao*, 14 August 1988.

¹²⁰⁴ Yuan Zaijiang and Deng Mihui, Second Artillery 3rd Institute, "Junshi qipian jiqi dui zhanju de yingxiang [The Influence of War Conditions Upon Military Deception]," in *Wojun xinxi zhan wenti yanjiu* [Our Military's Information Warfare Studies], Beijing: Guofang daxue chubanshe, 1999, pp. 155-157.

¹²⁰⁵ Zhang Jiajun, "Baochi zhiliang zuofeng, reqing wei budui fuwu [Maintain a Good Work Ethic and Enthusiastically Support the Army]," *Jiefangjun bao*, 20 February 1989.

support infrastructure.¹²⁰⁶ There is also some evidence that the institute, also known as the Academy of Engineering Design, is involved in missile and warhead engineering design.

SECOND ARTILLERY FORCE STRUCTURE

In the next two sections we take a careful look at China's nuclear force structure and hardware, draw inferences from this empirical data to clarify questions about China's doctrine and capabilities, and reach understandings about the Second Artillery's future strategic posture from the vantage point that means most for strategic policy: how does the posture of the Second Artillery actually affect the security balance in strategic, theater and conventional terms?

History

According to Chinese sources, the Chinese Missile Research Academy (also known as the Fifth Research Academy) was established in October 1956 under the direction of Qian Xuesen.¹²⁰⁷ Ten research institutions were set up under the Fifth Academy to focus on the development of China's ballistic missiles. China began "copy production" of its first ballistic missile – a Chinese copy of a Soviet R-2 missile – in October 1958, and the missile was first tested three times in November and December 1960. Since that time the exact number of missile tests is difficult to discern through open sources, but by the end of the 1960s, China had conducted at least 30 MRBM (the DF-2 and -2A missiles) tests at ranges of up to 1500 kilometers. Major milestones in China's nuclear force modernization are noted over the following pages.

DF-2 and -2A. After a failed flight test on 21 March 1962 – in which shortly after take off, the missile erratically flew with its engine on fire before crashing near the launch pad -- the Chinese successfully tested the DF-2 numerous times in June and July 1964 following the first success on 29 June 1964. Following a February 1965 decision to increase the range of the DF-2, an increase of 20 percent in the range was achieved for the DF-2A, beginning with its first successful tests in November 1965. On 27 October 1966, the Chinese launched a DF-2 with an armed, live nuclear warhead from the Shuangchengzi to an impact area in the Lop Nur testing area.¹²⁰⁸ The DF-2 series, with ranges of 1000 and 1250km respectively and a yield of 20Kt, was "sited in Northeast

¹²⁰⁶ Chen Dechun, "Erpao gongcheng sheji yanjiusuo 10 nian we budui [The Second Artillery Corps Engineering and Design Research Institute have Defrayed Engineering Costs by 50 Million Yuan in 10 Years]," *Jiefangjun bao*, 14 June 1987.

¹²⁰⁷ Unless otherwise noted, this section draws from Xie Guang, et al., eds., *Dangdai Zhongguo de guofang keji shiye* [Contemporary China's Defense Science and Technology Undertakings], vol. 1, Beijing: Dangdai Zhongguo chubanshe, 1992, chaps 8, 9, and 10.

¹²⁰⁸ Robert Norris, et al, *Nuclear Weapons Databook*, pp. 377-78.

China and targeted on cities and U.S. military bases in Japan.”¹²⁰⁹ China was believed to have produced a total of 100 missiles between 1965 and 1971¹²¹⁰, deploying approximately 50 missiles at one time.¹²¹¹ Retirement of the system reportedly began in 1979 and was completed by 1990.¹²¹²

DF-3/3A. The DF-3 was China’s first indigenously developed ballistic missile.¹²¹³ Official calls for an intermediate-range missile began in the summer 1964, with formal approval to commence the R&D process granted in May 1965. After the difficulties with the DF-2’s “volatile liquid oxygen fuel,” the DF-3 was reportedly the first of a series of Chinese missiles designed to utilize storable liquid fuels.¹²¹⁴ The more stable fuels were also meant to improve readiness, since the Cuban Missile Crisis had illustrated that missiles with non-storable fuels (such as the SS-3s and SS-4s on Cuba) were ineffective in international crises, since they took long to prepare for launch and could not be maintained at high alert levels for extended periods of time.¹²¹⁵ The missile was first successfully flight tested on 26 December 1966¹²¹⁶ though it was not until a third flight test in May 1967 that the Chinese were fully satisfied. It took several years for the missile to be deployed, though the exact deployment date is in dispute. The *IISS Military Balance* lists a 1970 deployment, while the *Nuclear Weapons Databook* asserts a May 1971 deployment.¹²¹⁷ The DF-3 was designed to carry a 2,150 kg warhead to a distance of 2,650 km (intended, when first conceived in the early 1960s, to hit U.S. military bases in the Philippines). Perhaps as many as 36 of these missiles were sold to Saudi Arabia in the late 1980s, as the slightly longer-range (2,850 km) DF-3A was

¹²⁰⁹ Lewis and Hua, *China Builds the Bomb*, p. 212.

¹²¹⁰ General Dynamics, *The World’s Missile Systems*, 8th ed., Pomona, CA: General Dynamics, August 1988, p. 52.

¹²¹¹ Joint Chiefs of Staff, United States Military Posture FY 1982, p. 109.

¹²¹² Lewis and Hua, “China’s Ballistic Missile Programs,” p. 9.

¹²¹³ Norris, et al., *Nuclear Weapons Databook*, p. 380. The DF-3 may have drawn in part from research and development conducted on the DF-1 which was originally based in part on the Soviet R-12 (NATO code name SS-4 or “Sandal”), which, like the DF-3, had a cluster of four engines, and which Chinese rocket scientists had learned about during training in Moscow in the 1950s. See Lewis and Hua, “China’s Ballistic Missile Programs”, p. 13.

¹²¹⁴ Jane’s Strategic Weapons Systems.

¹²¹⁵ Center for Defense Information, Nuclear Weapons Database: Chinese Arsenal.

¹²¹⁶ Lewis and Xue, *China Builds the Bomb*, p. 213.

¹²¹⁷ See Norris, et al., *Nuclear Weapons Databook*, p. 381; Lewis and Hua, “China’s Ballistic Missile Programs”, p. 16, also provides the May 1971 date.

tested in December 1985 and January 1986, and commissioned in that year to replace the DF-3.

DF-4. The Chinese intermediate-range ballistic missile (IRBM) DF-4 was a more difficult undertaking. With a required range of up to 4000 km (“to strike the B-52 base on the U.S. island of Guam”¹²¹⁸), the Chinese formally authorized development of the missile in May 1965. This was to be China’s first two-stage rocket (using the DF-3 as the first stage), and required technical breakthroughs in such areas as engine reliability in the near-vacuum of the upper atmosphere, developing high-altitude test simulator beds, developing more heat-resistant materials, and improved guidance systems for the longer-range missile. The first flight test of the missile failed in November 1969 – the second stage was not ignited/separated and the missile self-destructed – but the missile was successfully tested in January 1970. According to Lewis and Hua, because of the Sino-Soviet Ussuri River clashes in late 1969, the range of the missile was subsequently raised to 4500 km (and eventually attained a 4750 km range) in order to reach Moscow.¹²¹⁹ According to Norris, et al., it “was initially planned to be deployed in silos but recognition of its vulnerability lead to reconsideration of rail-mobile basing.”¹²²⁰ From 18 September to 2 October 1975, the Chinese conducted DF-4 rail-mobile tests over 8000km in ten provinces.¹²²¹ In 1977, the Chinese finally chose a deployment plan based on cave storage, whereby the missiles would be brought out of the cave for erecting, fueling, and firing.¹²²² A full-range test flight occurred on 2 August 1980.¹²²³

DF-5 and DF-5A. China formally began development of the intercontinental ballistic missile (ICBM) DF-5 in March 1965, and its progress was also delayed by the exigencies of the Cultural Revolution. A first flight test was conducted on 10 September 1971, though this test – entirely within Chinese territory -- had to be conducted across a shorter range and different trajectory than the missile was designed for. It was not until 18 May 1980 – a full fifteen years after the missile began development – that the Chinese could conduct a full-range flight test from the mainland into the Western Pacific. This test was followed by a second full range test on 21 May 1980.

Solid-fuel missiles. According to Chinese sources, work on solid fuel missiles in China date back as far as October 1956, when Qian Xuesen was first setting up the Fifth Research Academy.¹²²⁴ First strides were made by the late 1950s and early 1960s in

¹²¹⁸ Lewis and Hua, “China’s Ballistic Missile Programs”, p. 17.

¹²¹⁹ Ibid.

¹²²⁰ Norris, et al., *Nuclear Weapons Databook*, p. 383.

¹²²¹ Lewis and Hua, “China’s Ballistic Missile Programs,” p. 24.

¹²²² Norris, et al., *Nuclear Weapons Databook*, p. 383.

¹²²³ Ibid., p. 382.

¹²²⁴ This section draws from “China’s Solid Propellant ICBM Research,” in *Dangdai Zhongguo de guofang keji shiye*.

developing and testing prototype solid propellant. Static tests were made with 300mm diameter engines in 1965 and on 1400 mm diameter engines in December 1966.

Initially work was conducted with the intention of using solid fuels for a single-stage rocket. But, deeming such missiles' ranges as too short, in March 1967 Chinese military-technical authorities decided to go forward in the development of two-stage, "medium range" solid fuel surface to surface strategic missiles, to be mated with the ongoing nuclear submarine under development (the submarine-based missile was later to evolve into the DF-21 land-based system). However, again owing to the exigencies of the Cultural Revolution, Chinese sources note that serious work on the solid-fuel missile program did not begin until August 1978.¹²²⁵ However, it was not until launch equipment tests in April and May 1984, followed by launch tests in May 1985 (DF-21) and May 1987 (DF-21A), that these systems became fully operational in the early 1990s. This culminated a nearly 30-year development effort.

Another version of the DF-21, the submarine-launched JL-1, was first tested from a submerged conventionally-powered Golf-class submarine on 7 October 1982, but this launch failed as the missile lost control soon after ignition and self-destructed. On 12 October 1982 the missile was successfully launched from the submerged Golf submarine. As for launching from China's nuclear-powered submarine, the missile failed its first test on 28 September 1985, again turning over and self-destructing. It was not until three years later, on 15 September 1988, that a fully successful JL-1 launch took place from the submerged Xia-class nuclear submarine; a second successful test was conducted on 27 September 1988, culminating a difficult 30-year development process for Chinese SLBMs dating back to the late 1950s. According to open sources, China has not since 1988 test launched its JL-1 from the Xia-class nuclear submarine.

By the early 1990s, China had also tested and began deployment of two short-range, nuclear-capable ballistic missiles, the DF-15 (CSS-6/M-9) and 300 kilometer-range DF-11 (CSS-X-7/M-11).¹²²⁶ Both missiles were originally developed for export and it was only after China pledged not to export these missiles that they were incorporated into the Second Artillery.¹²²⁷ The DF-15 has been operational since 1994,¹²²⁸ and was tested approximately 10 times as part of the missile exercises China

¹²²⁵ Lewis and Hua note that problems in warhead miniaturization, nuclear submarine development, and bureaucratic turf battles also slowed the program.

¹²²⁶ The nuclear capability of these missiles is cited in U.S. Department of Defense, "Selected Military Capabilities of the People's Republic of China," report to Congress pursuant to Section 1226 of the FY98 National Defense Authorization Act, October 1998.

¹²²⁷ The authors are indebted to Evan Medeiros for this point.

¹²²⁸ U.S. Department of Defense, "Selected Military Capabilities of the People's Republic of China," report to Congress pursuant to Section 1226 of the FY98 National Defense Authorization Act, October 1998.

conducted around the Taiwan Strait in July-August 1995 and March 1996.¹²²⁹ The CSS-X-7/M-11 was not believed to be deployed with Chinese forces as of October 1998,¹²³⁰ though some foreign sources familiar with the PLA believe that the 300km DF-11 has already been fielded by at least two PLA group armies.¹²³¹ The 1999 *DoD Report to Congress on the Security Situation in the Taiwan Strait* reported that an improved, longer-range version of the DF-11 might be under development,¹²³² a fact that was later verified by the 1 October 1999 military parade in Beijing.¹²³³

Testing. China's 32-year testing program is the smallest of the five major nuclear powers, with 45 tests between 1964 and 1996. By comparison, the United States tested more than 20 times as much, with over a thousand blasts over a more than 50-year program. This static examination of the total number of tests gives us evidence of comparative scale, but changes in annual averages can also signal intent. The amount of Chinese testing increased marginally after 1979 from 1.3 to 1.7 tests per year, but it is important to note that American testing between 1979 and 1992 averaged 13.6 detonations per year.

By previous standards, Chinese testing accelerated significantly in the mid-1990s, though this intensified program was likely linked to China's stated intention from early 1994, at the outset of CTBT negotiations, to conclude a test ban by the end of 1996. This timeline suggests that a political decision to sign the treaty in principle had been made by 1993 or earlier, and may have intensified in the face of increasing international condemnation of China's test program, which continued throughout the CTBT negotiation process.¹²³⁴ The pace of Chinese testing certainly intensified over the

¹²²⁹ On the 1995 and 1996 Taiwan Strait missile tests, see "China Announces Missile Launch Testing," *Executive News Service*, 19 July 1995; and "Taiwan Detects Chinese Missiles," *Executive News Service*, 8 March 1996.

¹²³⁰ U.S. Department of Defense, "Selected Military Capabilities of the People's Republic of China," report to Congress pursuant to Section 1226 of the FY98 National Defense Authorization Act, October 1998.

¹²³¹ Reported in Mark Stokes, "PLA Strategic Warfighting in the 21st Century: Space and Theater Missile Development," (paper presented at the Conference on the People's Liberation Army, 10-12 September 1999, U.S. Army War College, Carlisle Barracks, Pennsylvania).

¹²³² 1999 DoD Report to Congress on the Security Situation in the Taiwan Strait, Washington, DC: Government Printing Office, 1999, p. 4.

¹²³³ See *Jane's Defense Weekly* coverage of the parade.

¹²³⁴ An informal testing moratorium among four of the nuclear weapon states – Soviet Union/Russia, the United States, France and the United Kingdom – had already been in place for several years. The Soviet Union's last test was in October 1990; the newly independent state of Russia has not since tested; the last U.S. test was in September 1992; the last U.K test was in November 1991. France had participated in the

period 1994-96. China's six tests over a twenty-five month period (June 1994-July 1996, which overlapped with the negotiations of the CTBT) more than doubled China's average testing pace. It was also the only time in Chinese history that nuclear weapons were tested twice in three successive years.¹²³⁵ Also, this period marked the only time in Chinese testing history that blasts occurred in either July or August – outside the typical Chinese testing “season” – which also indicates a sense of urgency within the military and nuclear scientific communities.¹²³⁶ Finally, it seems likely that the initial bargaining positions put forth by China – such as on verification and inspection procedures and leaving the door open to peaceful nuclear explosions – both offered the military the possibility of further testing, and may have succeeded in stalling the negotiation process to grant China's testing program more time. Almost immediately after China announced in early June 1996 that it would have one more test, it stepped away from its objections to the treaty allowing the negotiations to come to a conclusion.

The Cox Report strongly suggests that the combination of nuclear espionage and the intense series of underground tests described above has accelerated the PRC's attainment of advanced, MIRVable small warheads, but some important caveats must be offered. First and foremost, the warheads employed by U.S. nuclear forces are highly complicated devices that are extremely difficult to build. They are the product of decades of dedicated research and development, using some of the most advanced techniques available. As such, there are limits on the amount of benefit that can be wrought from simply obtaining the designs for these weapons.¹²³⁷ As one sober observer writes,

China's theft of the W-88 design used for the U.S. Navy's *Trident* missile warhead, for example, does not allow its engineers to reconstruct the thousands of parts and electronic components that form the completed weapon. Even the computer codes China may have obtained are mathematical models of the physical characteristics of a nuclear explosion. They cannot be used to design and manufacture a warhead. Chinese

moratorium for nearly four years, from late 1991 until late 1995, when it resumed its final series of six tests which ran from September 1995 to January 1996.

¹²³⁵ With 45 tests over a period of 381 months (October 1964 through July 1996), China averaged about 0.118 tests every month, or 2.95 tests on average for a 25-month period. Comparably intensive testing for China occurred over the period October 1975 to December 1978, when China tested nine times over a 38 month period, and four times in 1976 alone.

¹²³⁶ Thirty-two of China's 45 tests – more than 70 percent – took place in either May-June or September-October.

¹²³⁷ This line of argument is most credibly presented by Richard Garwin and Wolfgang Panofsky. See Richard L. Garwin, “Why China Won't Build U.S. Warheads,” *Arms Control Today*, April/May 1999, pp. 28-31; and Wolfgang K.H. Panofsky, “Assessing the Cost vs. Benefit of U.S.-Chinese Nuclear Cooperation,” *Arms Control Today*, April/May 1999, pp. 28-31.

engineers may well have obtained some useful information, but they lack the data and experience required to design and build replicas of sophisticated U.S. warheads from the stolen information.¹²³⁸

This line of reasoning is supported by the damage assessment by the intelligence community, which concluded that China had not deployed any operational system using the stolen designs, despite a lapse of more than 10 years since the alleged espionage.¹²³⁹ Passage of the CTBT could have locked this situation in place for the foreseeable future, though its defeat in the Senate should prepare us for the likelihood of a resumption of Chinese testing and thus the possible conquering of important developmental hurdles in the area of smaller warheads.

Current Force Structure

As a result of this historical progression, one of the most intriguing aspects of China's nuclear weapons program has been its quantitatively and qualitatively limited nature over time. These limitations are characterized in practice by a relatively small number of warheads, technically and numerically limited delivery vehicles, an overwhelming reliance on land-based systems, persistent concerns over the arsenal's survivability, reliability and penetrability, and a limited program of research, development and testing.

China's current nuclear weapons arsenal totals about 400 devices, 300 of which consist of warheads and gravity bombs for use on its strategic "triad" of land-based ballistic missiles, bomber and attack aircraft, and one nuclear-powered ballistic missile submarine (SSBN)(see Table 1).¹²⁴⁰ According to the U.S. Defense Department, over 100 warheads are deployed for use on China's ballistic missiles, with additional warheads in storage.¹²⁴¹ The Chinese SSBN is thought to deploy 12 single-warhead missiles. The remaining warheads reportedly consist of about 100 tactical nuclear weapons, including bombs for tactical bombardment, artillery shells, atomic demolition munitions, and

¹²³⁸ Paul Godwin, "China's Nuclear Forces: An Assessment," *Current History*, September 1999.

¹²³⁹ The Intelligence Community Damage Assessment on the Implications of China's Acquisition of U.S. Nuclear Weapons Information on the Development of Future Chinese Weapons, 21 April 1999.

¹²⁴⁰ See, for example, Robert S. Norris and William M. Arkin, "British, French, and Chinese Nuclear Forces," *Bulletin of the Atomic Scientists*, November/December 1996, p. 66; and Robert S. Norris and William M. Arkin, "Global Nuclear Stockpiles, 1945-1997," *Bulletin of the Atomic Scientists*, November/December 1997, p. 67.

¹²⁴¹ Office of the Secretary of Defense, *Proliferation: Threat and Response*, Washington, D.C.: U.S. Government Printing Office, November 1997, online version.

possibly short-range missiles.¹²⁴² China has the capability to increase the size of its nuclear arsenal using its existing stockpile of fissile material. One source indicates that China has an inventory of between two and six tons of plutonium and 15 to 25 tons of highly enriched uranium.¹²⁴³ Iain Johnston estimates that China has enough fissile material to double or triple its arsenal.¹²⁴⁴ However, according to the U.S. Defense Department, "China is not currently believed to be producing fissile material for nuclear weapons, but it has a stockpile of fissile material sufficient to increase or improve its weapon inventory."¹²⁴⁵

In addition to ballistic and cruise missiles, according to the U.S. Defense Department, "China also has a variety of fighters, bombers, helicopters, artillery, rockets, mortars, and sprayers available as potential means of delivery for NBC [nuclear, biological, and chemical] weapons."¹²⁴⁶ China is working to modernize its capabilities in terms of ballistic and cruise missiles, bombers, and multi-role aircraft, but relies upon deterrent systems and technologies which are at least 20 years behind the capabilities of the four major declared nuclear powers. According to Chinese sources, the overall capabilities of the strategic rocket forces have advanced in recent years owing to better, more modern training, the development of strategic missile simulator training, improvements in technical reconnaissance, weather forecasting, geographical surveying, anti-chemical warfare and logistics support, and the introduction of some "1000 technological research results."¹²⁴⁷ Estimates of Chinese nuclear-capable ballistic missile forces are shown in Table 1. Estimates vary as to the exact number of these missiles, but China benefits from a large, well-developed infrastructure for the development and production of ballistic missiles.

¹²⁴² Norris, et al., *Nuclear Weapons Databook*, pp. 370-371. Beijing has not acknowledged possession of tactical weapons. See Jonathan D. Pollack, "The Future of China's Nuclear Weapons Policy," in John C. Hopkins and Weixing Hu, eds., *Strategic Views from the Second Tier: The Nuclear Weapons Policies of France, Britain, and China*, New Brunswick: Transaction Publishers, 1995, p. 160.

¹²⁴³ David Albright, Frans Berkhout, and William Walker, *Plutonium and Highly Enriched Uranium 1996: World Inventories, Capabilities, and Policies*, New York: Oxford University Press, 1997, pp. 77, 129.

¹²⁴⁴ Johnston, "China's New 'Old Thinking'," p. 36.

¹²⁴⁵ Office of the Secretary of Defense, *Proliferation: Threat and Response* (online version).

¹²⁴⁶ Ibid.

¹²⁴⁷ *Xinhua*, 23 May 1996, in Foreign Broadcast Information Service, *Daily Report: China*, FBIS-CHI-96-105, 23 May 1996.

Table 11.1 Range of Estimates of Chinese Nuclear Weapon Delivery Vehicles

Delivery vehicle (Western designator)	Range (km)	Nuclear Weapons Databook (1994)	Military Balance (98-99)	Jane's Strategic Systems (9/98)	Various
<i>Land-based missiles</i>					
DF-3A (CSS-2)	2850	50	38+	60-80	40-80 ¹²⁴⁸
DF-4 (CSS-3)	4750	20	10+	20-35	10-20 ¹²⁴⁹
DF-5A (CSS-4)	13,000+	4	17	15-20	4-10 ¹²⁵⁰ , 20 ¹²⁵¹
DF-21A (CSS-5)	1800	36	8	35-50	25-50 ¹²⁵²
DF-15/M-9 (CSS-6)	600	N/A	4	400	160-200 ¹²⁵³
DF-11/M-11 (CSS-7)	300	N/A	N/A	200	
DF-11A (CSS-7 Mod 2)	300	N/A	N/A	N/A	32 ¹²⁵⁴
DF-31**	8000	0	0	0	0
DF-31A**	12,000	0	0	0	0
<i>Aircraft</i>					
H-6 (B-6/Tu-16)	3100	N/A	N/A	N/A	100-120
Q-5 (A-5/MiG-19)	400	N/A	N/A	N/A	100+
<i>SLBMs</i>					
JL-1 (CSS-N-3)	1700	24	12	12	12
JL-2 (CSS-N-4)**	8000	0	0	0	0

Notes:

** According to Stan Norris, a nuclear weapons expert in Washington, D.C., the DF-41 is now known as the DF-31A. The DF-31, DF-31A, and JL-2 are under

¹²⁴⁸ Dunbar Lockwood, "The Status of U.S., Russian, and Chinese Nuclear Forces in Northeast Asia," *Arms Control Today*, November 1994, p. 24.

¹²⁴⁹ Ibid.

¹²⁵⁰ Ibid.

¹²⁵¹ National Intelligence Council, "Foreign Missile Developments and the Ballistic Missile Threat to the United States Through 2015," September 1999, p. 11.

¹²⁵² Lockwood, "The Status of U.S., Russian, and Chinese Nuclear Forces", p. 24.

¹²⁵³ Department of Defense, "The Security Situation in the Taiwan Strait," Report to Congress Pursuant to the FY99 Appropriations Bill, 26 February 1999.

¹²⁵⁴ Two future brigades of 16 launchers each was first reportedly in Bill Gertz, "China Points More Missiles at Taiwan; U.S., in Turn, Helps Island Boost Defenses," *Washington Times*, 23 November 1999, p. A1; and Bill Gertz, "Second Chinese Missile Base Detected Near Taiwan: Report," *Washington Times*, 8 December 1999, p. A1.

development, and are not expected to be in service until the early 2000s or later (DF-31 and JL-2) or until approximately 2010 (DF-31A); the DF-31 was flight-tested in August 1999 and a computer simulation on the DF-31A was reportedly conducted recently.

Sources: Adapted from Robert Norris, et al, *Nuclear Weapons Databook*, p. 377-78; *The Military Balance 1998/99*, London: Oxford University Press, October 1998, p. 178; *Jane's Strategic Systems*, September 1998; Robert S. Norris and William M. Arkin, "Appendix 11A. Tables of nuclear forces," in *SIPRI Yearbook 1997*, Oxford: Oxford University Press, 1997, Table 11A.5, p. 401; and National Intelligence Council, "Foreign Missile Developments and the Ballistic Missile Threat to the United States Through 2015," September 1999.

From Table 11.1, it is clear that the Chinese nuclear force structure is primarily land-based, relying on a range of missile systems. On the short-range end of the land-based missile spectrum, China reportedly possesses several hundred DF-11s and DF-15s, which have ranges of 300km and 600km, respectively. The DF-15 can deliver a 500-kilogram payload to a maximum range of 600 kilometers, with a CEP of 600m.¹²⁵⁵ The DF-11 reportedly has an 800kg warhead and a 150m CEP.¹²⁵⁶

In the medium- to -intermediate range inventory, the PRC fields three types of missiles (DF-3A, DF-4, and DF-21). Deployed in caves and valleys to increase its survivability, China's liquid-fueled DF-3As have a range of 2800km and reportedly carry a single warhead with an estimated yield of 1-3 megatons.¹²⁵⁷ The liquid-fueled DF-4s, with a range of 4850-5500 kilometers, are deployed in silos and tunnels and have a single warhead with an estimated yield of 1-3 megatons.¹²⁵⁸ The solid-fueled, mobile DF-21As have a range of 1800km and a 600kg warhead with a yield of 200-300Kt.¹²⁵⁹

In the ICBM category, China's DF-5 ICBMs can reach targets in all of the United States.¹²⁶⁰ Each silo-based missile carries a single warhead, with an estimated yield of 3-5 megatons.¹²⁶¹

In its weaker second leg of the triad, China has deployed 12 single-warhead JL-1s, a submarine-launched ballistic missile (SLBM) with a range of 1700 kilometers aboard

¹²⁵⁵ We suspect that the CEP of the DF-15 is now much lower than 600m. Lower estimates of the DF-15's CEP have been discussed in the Hong Kong and Taiwan media, but 600m is the only verifiable number in open sources.

¹²⁵⁶ Stokes, "PLA Strategic Warfighting," pp. 10-11.

¹²⁵⁷ Lockwood, "The Status of U.S., Russian, and Chinese Nuclear Forces", p. 24.

¹²⁵⁸ Ibid.

¹²⁵⁹ Ibid.

¹²⁶⁰ National Intelligence Council, "Foreign Missile Developments and the Ballistic Missile Threat to the United States Through 2015," September 1999, p. 11.

¹²⁶¹ Lockwood, "The Status of U.S., Russian, and Chinese Nuclear Forces", p. 24.

its one *Xia*-class nuclear submarine.¹²⁶² These missiles have faced operational difficulties, and it was not until 1988 that they were first test-launched successfully from the *Xia*-class submarine. According to Paul Godwin, “this troubled ship has spent most of its time docked or in local waters and is not considered operational.”¹²⁶³ The limited range of the missile, the problems it has had in deployment and operation, and the limited experience of the Chinese in long-range submarine operations limits the value of this system as a strategic weapon. Beijing may also have learned some valuable negative lessons from the experience of the Soviet Union, whose SSBN force was forced to retreat to bastions by a superior U.S. attack submarine fleet.

China’s bomber and ground-attack fleet is made up of two aircraft, both of which are based on 1950s Soviet designs: the *Hong*-6 (H-6) bomber (Soviet Tu-16 design) and the *Qian*-5 (Q-5) ground attack aircraft (a redesign of Soviet MiG-19). Given the nascent state of China’s in-flight refueling capability, the maximum ranges of these aircraft are approximately 3,000 and 800 kilometers, respectively. China reportedly halted production of the H-6 in 1982, and now deploys between 100 and 120 H-6s (some in a nuclear role). China deploys over 400 Q-5 aircraft (perhaps 30 currently in nuclear role).¹²⁶⁴

Towards An Organic View of Chinese Nuclear Force Structure

Viewed as an organic whole, the Chinese nuclear force structure defies simple categorization as either a limited or minimal deterrent. Instead, the multi-faceted force is made up of strategic, theater, and tactical systems of varying range, accuracy, and yield. The small ICBM force, anchored by the DF-5 family of missiles, appear to be second-strike minimal deterrence forces. The theater systems are unlikely to be used in a second-

¹²⁶² There is a discrepancy among analysts as to how many *Xia* class submarines China has. Some analysts state that China has two such vessels. The Jane’s Information Group, however, notes that “To maintain one submarine on continuous patrol takes a minimum of three, and, to be absolutely safe, and optimum number of five hulls. Because of this known requirement, there has been a tendency in the West to exaggerate the Chinese [nuclear-powered ballistic missile submarine] programme, both in terms of numbers and timescales”. Richard Sharpe, ed., *Jane’s Fighting Ships 1994-95*, Coulsdon, Surrey: Jane’s Information Group, 1994, p. 114.

¹²⁶³ Godwin, “China’s Nuclear Forces”.

¹²⁶⁴ *The Military Balance 1997/98*, London: Oxford University Press, October 1997, p. 178; Robert S. Norris and William M. Arkin, “Appendix 11A. Tables of nuclear forces,” p. 401. According to the *Military Balance*, China still deploys over 200 of the older H-5 bombers in a conventional role. For information on Chinese military aircraft production, see Randall Forsberg, ed., *International Fighter Study*, Cambridge, Mass.: Institute for Defense and Disarmament Studies, January 1994, Table 3.5; and Kenneth W. Allen, Glenn Krumel, and Jonathan D. Pollack, *China’s Air Force Enters the 21st Century*, Santa Monica, California: RAND, 1995.

strike, minimal deterrent role following a preemptive strike. Instead, theater systems look like offensive systems meant to strike U.S. forces and bases in Asia to degrade conventional capability. The short-range, ballistic missile forces, which are also nuclear capable, further confuse the situation by serving a variety of conventional warfighting and nuclear warfighting roles. Perhaps the best way to understand the nature of this multi-function force structure is to deductively infer the purpose of each element in the force by examining range and deployments, payloads and CEP, readiness, and C4I structure.

Ranges, Deployments, and Targets. The Chinese nuclear force inventory encompasses a wide variety of ranges, and the deployment of these forces offer a wide variety of potential targets. The basing of China's missiles is summarized in Table 11.2 below.

Table 11.2 Suspected Chinese Strategic Missile Bases (derived from open sources)

Base #	Base MUCD	Base and Selected Brigade Locations	Reported Missile Types
51 Base	80301	<i>Headquarters:</i> Shenyang, Jilin Province <i>Brigades:</i> Tonghua (DF-3A and DF-21), Dengshahe (DF-3A)	DF-3A (CSS-2) DF-21 (CSS-5)
52 Base	80302	<i>Headquarters:</i> Huangshan (Tunxi), Anhui Province <i>Brigades:</i> Leping (DF-15), Lianxiwang (DF-3A), Yongan (DF-11A), Xianyou (DF-11A)	DF-15 (CSS-6) DF-3A (CSS-2) DF-11A (CSS-7 Mod 2)
53 Base	80303	<i>Headquarters:</i> Kunming, Yunnan Province <i>Brigades:</i> Chuxiong (DF-21), Jianshui (DF-3A)	DF-3A (CSS-2) DF-21 (CSS-5)
54 Base	80304	<i>Headquarters:</i> Luoyang, Henan Province <i>Brigades:</i> Luoning (DF-5), Sundian (DF-4)	DF-4 (CSS-3) DF-5 (CSS-4)
55 Base	80305	<i>Headquarters:</i> Huaihua, Hunan Province <i>Brigades:</i> Tongdao (2	DF-4 (CSS-3)

		brigades of DF-4)	
56 Base	80306	<i>Headquarters:</i> Xining, Qinghai Province <i>Brigades:</i> Datong (DF-3A), Delingha (DF-4), Da Qaidam (DF-4), Liujihou (DF-3A) ¹²⁶⁵	DF-3A (CSS-2) DF-4 (CSS-3)
N/A	80310	<i>Headquarters:</i> Baoji, Shanxi Province	Warhead storage facility
N/A	N/A	<i>Headquarters:</i> Yidu, Hubei or Shandong Province	DF-3A (CSS-2)

Note: In addition, reports also cite the following launch sites:
DF-5: Jiuquan (war reserves), Wuzhai (war reserves)

Sources: Mark A. Stokes, *China's Strategic Modernization: Implications for U.S. National Security*, Maxwell, AL: Air Force Institute for National Security Studies, October 1997; Leonard S. Spector, Mark G. McDonough, with Evan S. Medeiros, *Tracking Nuclear Proliferation: A Guide in Maps and Charts*, Washington, D.C.: Carnegie Endowment for International Peace, 1995, pp. 52-56; Bill Gertz, "New Chinese missiles target all of East Asia," *Washington Times*, 10 July 1997, p. A1; Bill Gertz, "China Points More Missiles at Taiwan; U.S., in Turn, Helps Island Boost Defenses," p. A1; and Bill Gertz, "Second Chinese Missile Base Detected Near Taiwan: Report," p. A1. The MUCDs have been collected from open sources, including assorted *neibu* Second Artillery publications.

From the locations of these bases and the ranges of their deployed missiles, several inferences can be drawn about the likely target for these missiles. The DF-3As and DF-21s of Base 80301 are likely targeted on Japan, Korea, Okinawa, or the Russian Far East. The DF-15s of Base 80302 are almost certainly aimed at Taiwan. The DF-3As and DF-21s of Base 80303 are likely targeted against countries south and southwest of China, including the Philippines, Vietnam, and India. The DF-5s of Base 80304 are the major CONUS-oriented systems, while the DF-4s of both Base 80304 and Base 80305 might be aimed at Hawaii. Finally, it seems likely that the DF-3As and DF-4s of Base 80306 are targeted at sites in the former Soviet Union, including Moscow, or possibly also India.

How did the structure evolve to this arrangement? Lewis and Hua maintain that China's nuclear weapons program "proceeded without such strategic guidance" and that "until the early 1980s, there were no scenarios, no detailed linkage of the weapons to

¹²⁶⁵ The Liujihou brigade was not listed with the other brigades of Base 80306, but its proximity to Qinghai suggests that it should be part of this base.

foreign policy objectives, and no serious strategic research.”¹²⁶⁶ They even go so far as to say that neither the “Chinese leader nor his senior colleagues on the Central Military Commission considered, communicated, or authorized the investigation of the broader strategic purposes of the program.”¹²⁶⁷ As Lewis and Hua predicted, we have difficulty believing this to be true. From an examination of the sources of their collected works, no one can doubt the authors’ access to critical personnel or documents from China’s nuclear programs or missile programs, though the level of citation from central leadership documents is considerably lower. While we doubt that the first generation of leaders, especially Mao, understood the scientific or technical aspects of nuclear combat, they were at least able to articulate the strategic targets for these weapons and task the weapons complex accordingly. Indeed, the authors seem to contradict themselves when they relate stories wherein researchers are told the specifications for specific missiles (i.e., range, payload, etc...) by central authorities, who then later change the range and payload requirements for individual missiles to reflect new strategic goals. For example, they assert that the military commission in 1970 commanded that the range of the DF-4 be increased from 4,000km to 4,500km, “bringing Moscow within range of bases in Da Qaidam, Qinghai Province.”¹²⁶⁸ This story, along with others in the narrative about the sequential development of missiles capable of hitting the Philippines, Guam, Hawaii, and the U.S., suggest that someone, somewhere at a central level was making decisions about the strategic purpose and direction of various missile systems, which was then reflected in the seemingly logical pattern (defined as matching geographic location with range to target) of base and missile deployments.

One important dilemma that confronts any analyst trying to understand the overall nature of the Chinese nuclear force posture is reconciling the mixture of strategic and theater systems with claims of either minimal or limited deterrence. However, comparative cases of nuclear force structure evolution offer clues about China’s intentions. In the Soviet case, it is important to note that Moscow did not draw a sharp distinction between their strategic and theater nuclear weapons systems. The best example of this was the road-mobile SS-20, which was developed to de-couple the U.S. from its allies in Europe and Asia by holding theater targets at risk and preventing Washington from defending allies. The Soviets referred to this combination of strategic and theater nuclear weapons as the “seamless web of deterrence.” Is the same thing happening in China? Clearly, China and the former Soviet Union share some commonalities in their strategic environment and goals. Like the Soviets, China seeks to de-couple the U.S. from its allies in the region, especially Japan and Korea, by using the threat of theater nuclear weapons. In recent years, this threat has become particularly important in a Sino-U.S. conflict over Taiwan, which could escalate to the point where it threatens to split the U.S.-Japan defense alliance. However, the United States withdrew its theater nuclear forces in 1991. How has this changed the rationale for the DF-21A and

¹²⁶⁶ Lewis and Hua, “China’s Ballistic Missile Programs”, pp. 6-7.

¹²⁶⁷ Ibid., p. 6.

¹²⁶⁸ Ibid., p. 17.

other Chinese theater nuclear forces, since they no longer have a second-strike role?¹²⁶⁹ To explicate this situation, a deconstruction of the Chinese force is required.

Payloads, CEP, and Targeting. Until the DF-31 comes online, the Chinese strategic nuclear forces is dominated by missiles with high yield warheads and large CEPs. For example, the DF-4 ICBM has an estimated yield of 1-3 megatons and a CEP of almost a mile.¹²⁷⁰ The mainstay of the Chinese ICBM force, the DF-5, is more accurate, but still has a yield of 3-5 megatons and a CEP of more than a quarter-mile. This combination of high yield with low accuracy suggests that the force is designed for countervalue, or “city-busting” attacks against “soft” targets such as concentrated population centers, and other locations of political and economic value.¹²⁷¹ Counterforce warfighting, by contrast, requires far more accuracy than offered by these systems.

Readiness and Survivability. In the past, the limited numbers, low level of readiness, and slow response times of China’s land-based missiles and bombers left China vulnerable to an overwhelming and incapacitating first-strike. China does not currently have space-based or land-based early warning assets. A senior U.S. intelligence official has confirmed that Chinese missiles are usually unfueled and unmated to their warheads.¹²⁷² Furthermore, the process of loading the liquid fuel tanks and installing the warheads can take two to four hours.¹²⁷³ Because of the lengthy pre-launch exposure times of more than 2 hours for the DF-3A, decisions were taken which led eventually to

¹²⁶⁹ Of course, it must be recognized that the Chinese may not believe the 1991 withdrawal took place.

¹²⁷⁰ Claire Hollingsworth, “China’s Growing Missile Might,” *Defense and Foreign Affairs*, March 1985, p. 28.

¹²⁷¹ See, for example, Institute for National Strategic Studies, *Strategic Assessment 1997*, Washington, D.C.: National Defense University, 1997, p. 50; Godwin and Schulz, “Arming The Dragon,” p. 6; and Xue, “Evolution of China’s Nuclear Strategy,” pp. 173-76.

¹²⁷² Robert Walpole, National Intelligence Officer for Strategic and Nuclear Programs, briefing to Carnegie Endowment for International Peace, 17 September 1998. In discussing command and control concepts, a Chinese source writes: “The most crucial aspect of preventing a nuclear accident [*yiwai shigu*] is to take the utmost care in designing safeguard measures when developing nuclear weapons. ... [S]imply separating the nuclear parts from the other parts and storing them separately is actually the best safeguard measure against a nuclear accident.” See Liu Zhenwu, ed., *Xiandai jundui Zhihui* [Modern Military Command and Control], 2nd ed., Beijing: National Defense University Press, 1994, pp. 395-96.

¹²⁷³ Godwin, “China’s Nuclear Forces.”

operating the DF-4 from caves and the DF-5 from silos.¹²⁷⁴ While cave- and silo-basing reduces pre-launch exposure, the basing mode could not significantly reduce the overall preparation time for launch, including fuelling, arming, positioning (in case of non-silo-basing), targeting and range-setting, and other preparatory checks.¹²⁷⁵ Given these time-constraints, the Chinese DF-3A, DF-4, and DF-5A in today's arsenal may still take from 1 to 2 hours to launch. From this incomplete data, we tentatively infer that the Chinese nuclear force is incapable of launch-on-warning or launch-under-attack. This readiness and survivability level is consistent with a minimal deterrent posture.

China has also sought to improve survivability by establishing a credible triad. As early as the mid-1950s, China began developing a sea-based deterrent, though this small program continues to face a number of serious technological obstacles.¹²⁷⁶ China has held only one known SLBM test from the *Xia*-class submarine, and the existence of only a single boat obviates the possibility of regular patrolling.¹²⁷⁷ Efforts to further integrate Chinese bombers into the triad have been impeded by the vulnerability of PRC airfields and the high cost of modern aircraft capable of penetrating advanced air defenses.¹²⁷⁸ In addition, Chinese nuclear-capable bombers are limited in range and are highly vulnerable to sophisticated air defenses, making it unlikely that the bomber force would be effective in a nuclear delivery role against either Russia or U.S. forces in the Western Pacific region.¹²⁷⁹ Despite strenuous efforts, therefore, the sea-based and bomber-based legs of China's triad are still relatively unreliable, especially in the context of intercontinental nuclear combat with the United States. As a result, China has been forced to focus on ensuring the survivability of its land forces by deploying road-mobile, solid-fuel systems.

¹²⁷⁴ On 23 October 1978, the DF-3 was able to achieve a response time of 2 hours, 32 minutes. See Lewis and Hua, "China's Ballistic Missile Programs", pp. 22-24.

¹²⁷⁵ Report of the Select Committee on U.S. National Security and Military/Commercial Concerns with the People's Republic of China, Washington, DC: U.S. Government Printing Office, 1999, p. 192 (hereafter Cox Report), citing testimony by Robert Walpole, states that "the intercontinental CSS-4s [DF-5s] are deployed in their silos without warheads and without propellants during day-to-day operations."

¹²⁷⁶ Lewis and Xue, *China's Strategic Seapower*.

¹²⁷⁷ Estimates vary as to the minimum number of submarines necessary for sustained patrolling, ranging from 4-6 hulls.

¹²⁷⁸ Harlan Jencks, "PRC Nuclear and Space Programs," in Richard H. Yang, ed., *SCPS Yearbook on PLA Affairs 1987*, Kaohsiung, Taiwan: Sun Yat-sen Center for Policy Studies, National Sun Yat-sen University, 1987, p. 110.

¹²⁷⁹ Robert G. Sutter, *Chinese Nuclear Weapons and Arms Control Policies: Implications and Options for the United States*, CRS Report 94-422S, Washington, D.C.: Congressional Research Service, 25 March 1994, p. 7.

C4I Structure. The Second Artillery is tasked with implementing the reliable and secure command and control of China's nuclear and conventional missile forces.¹²⁸⁰ The Second Artillery was formally established in 1966, based upon a "special" artillery corps formed in 1958 following the Chinese decision to develop nuclear weapons. The Second Artillery is a separate service arm, distinct from the army, navy, and air force. The central command and control center for all Chinese forces, including SAC, is located in Xishan, in the hills west of Beijing, where strategic operational orders originate. Direct communication with China's six launch bases would be passed through the SAC headquarters and its communications regiment. It is important to note that this system bypasses China's military region commands, and connects directly to base commands. Base commands in turn communicate with their respective launch brigades. The SAC reportedly operates about six launch bases each led by a major general. Each base has two to three missile brigades each commanded by a colonel, with each brigade operating one type of missile. These brigades consist of up to four launch battalions (see Table 2).

At a political level, ultimate authority to use nuclear weapons is "subject to the unified command of the Central Military Commission. Only the commission's chairman [currently Jiang Zemin, who is also head of the Chinese Communist Party and the Chinese President] has the power to issue an order to use such weapons after top leaders reach a consensus on the issue."¹²⁸¹ However, it is likely that such a decision would require a consensus decision within the Central Military Commission and other senior military elders.¹²⁸² In wartime, a "skip echelon" system would be in effect, with the central command communicating directly with launch bases. According to at least one Chinese author, at the launch command level, two individuals must independently check a launch order, cross-confirm each other's order, and both must agree to launch.¹²⁸³

As for the technical aspects of Chinese nuclear C4I, little is available in open sources as to the precise systems employed to assure safe and reliable communication between the central leadership and the launch bases. However, increasingly in recent years, reports have surfaced in the open literature describing various new technologies and systems that help strengthen China's command and control system. In some cases the "breakthroughs" reported suggest that the past level of command and control structures was not particularly advanced. For example, the official People's Liberation Army Daily in early 1998 noted that the SAC "after three years of arduous work" developed a new digital microwave communications system which now allows for a

¹²⁸⁰ This section relies in part on Mark A. Stokes, *China's Strategic Modernization*, especially the section on the Second Artillery.

¹²⁸¹ Xue, "Evolution of China's Nuclear Strategy", p. 180; and Lewis and Xue, *China's Strategic Seapower*, p. 325, fn. 31.

¹²⁸² For an excellent analysis of Chinese command and control of its military forces, see Michael Swaine, *The Military and Political Succession in China: Leadership, Institutions, Beliefs*, Santa Monica, Calif.: RAND, R-4254-AF, 1992, pp. 119-39.

¹²⁸³ Liu Zhenwu, *Xiandai jundui zhihui*, p. 395.

secure “all-weather” communications for missile launch. “With the new system” the article notes, “the Second Artillery will no longer be affected by natural conditions such as weather.”¹²⁸⁴

At the same time, however, the Pentagon reports that “China has made significant efforts to modernize and improve its command, control, communications, computers, and intelligence infrastructure.”¹²⁸⁵ Given the importance of nuclear weapons to Chinese security, we assume that similar advances in C4I modernization have occurred in the strategic rocket forces. There is some evidence, for instance, that the Second Artillery seeks to connect much of its infrastructure with secure, landline fiber-optic cable.¹²⁸⁶ Moreover, open source reports detail the deployment of an “automated command and control system.”¹²⁸⁷ From these changes, we can infer desire for greater survivability and positive control of nuclear weapons. They probably also reflect a greater desire for operational security, as well as enhanced denial and deception against other countries’ increasingly advanced national technical means.¹²⁸⁸ By itself, however, the modernization of Chinese nuclear C4I does not automatically imply that the force is transitioning to a flexible response, counterforce footing. The changes might signal desire for eventual launch under attack (LUA) capability, but the current inventory of missiles and the next generation of replacements are not capable of the reaction times necessary for such a capability. Instead, it is more likely that the C4I modernization program is meant to improve the credibility of China’s minimal deterrent posture in the short- to medium-term.

¹²⁸⁴ “*Daodan shixian ‘quantianhou’ tongxin baozhang* [Missile Launch ‘All-Weather’ Communications Guaranteed],” *Jiefangjun bao*, 5 January 1998, p. 2.

¹²⁸⁵ U.S. Department of Defense, “Selected Military Capabilities of the People’s Republic of China,” report to Congress pursuant to Section 1305 of the FY97 National Defense Authorization Act, April 1997.

¹²⁸⁶ Ge Xinqing, Mao Guanghong, and Yu Bo, “*Xinxizhanzhong daodan budui mianlin de wenti yu duice* [Questions and Answers Facing Missile Units in Information Warfare],” in *Junshi xueshu*, ed., *Wojun xinxizhan wenti yanjiu*, pp.189-192.

¹²⁸⁷ Han Tiejun and Li Qinsuo, “*Didi changdui daodan budui zuozhan de jiben yuance* [Fundamental Principles of Conventional Surface-to-Surface Missile Unit Operations],” in *Lianhe zhanyi yu junbingzhong zuozhan*, pp. 232-235.

¹²⁸⁸ For a detailed Chinese discussion of the need for more advanced and survivable nuclear weapons command, control, and communication, see Lin Zhenwu, ed., *Xiandai jundui zhihui*, pp. 393-416.

Future Nuclear Posture

Doctrine. Over the past decade, certain indicators suggest that these long-held aspects of Chinese nuclear weapons doctrine may be undergoing some reconsideration.¹²⁸⁹ As Paul Godwin argues,

Minimum deterrence, which uses a single countervalue punitive strike on cities to deter, is seen by many Chinese strategists as passive and incompatible with what they see as a future requirement for more flexible nuclear responses.¹²⁹⁰

Recent reports suggest a high-level, ongoing debate over the future of Chinese strategic forces. Out of this debate has come Jiang Zemin's statement of "five musts" which provide ample flexibility and nuance to guide the Second Artillery toward a more complex, capable and forward-leaning force in the future. Jiang is quoted as saying the "five musts" are: (1) China "must own strategic nuclear weapons of a definite quality and quantity in order to ensure national security; (2) China "must guarantee the safety of strategic nuclear bases against the loss of combat effectiveness from attacks and destruction by hostile countries"; (3) China "must ensure that our strategic nuclear weapons are at a *high degree of war preparedness*"; (4) "when an aggressor *launches* a nuclear attack against us, we must be able to *launch nuclear counterattack and nuclear re-attack* against the aggressor"; (5) China "must pay attention to the global situation of strategic balance and stability, and, when there are changes in the situation, *adjust our strategic nuclear weapon development strategy* in a timely manner."¹²⁹¹

As a result, one observer argues that some Chinese military planners are considering a shift to a "limited" deterrent posture, which could include the introduction of limited war-fighting capabilities, improved command and control and early warning systems, smaller, survivable, mobile, more accurate, and diverse cruise and ballistic missile nuclear delivery systems, possible abandonment of the NFU policy, missile defenses, and the addition of counterforce targets.¹²⁹² This view has gained backing in other detailed research which notes that "China's strategic modernization R&D [research and development] support this shift toward a limited warfighting approach to nuclear

¹²⁸⁹ For a Chinese perspective on this issue, see Yang Huan, "China's Strategic Nuclear Weapons," in Michael Pillsbury, ed., *Chinese Views of Future Warfare*, Washington, DC: National Defense University Press, 1997, pp. 131-135.

¹²⁹⁰ Godwin, "China's Nuclear Forces."

¹²⁹¹ From "Jiang Zemin Defines Position of China's Strategic Nuclear Weapons", in *Tai yang pao* [Hong Kong], 17 July 2000, in FBIS CPP20000717000021 (emphasis added).

¹²⁹² Johnston, "China's New 'Old Thinking'."

warfare.”¹²⁹³ Such a capability would allow China to respond to “any level of nuclear attack, from tactical to strategic.”¹²⁹⁴

However, as the previous pages suggest, from a strictly doctrinal perspective, it is likely that such a shift must await shifts in the domestic political hierarchy and its view of the outside world, factors which have consistently driven Chinese doctrinal choices. Moreover, as noted in the previous section on force structure, technological constraints will remain one of the foremost drivers determining the direction of doctrine in the near-term.

Rather than force a stark analytical choice between *either* a doctrine of “minimal deterrence” *or* one of “limited deterrence”, it makes more sense to draw out two important nuances to better understand this debate. First is to recognize the differences between “operational doctrine” and what we might call “aspirational doctrine” in the Chinese context. Second is to recognize that the Second Artillery – which oversees strategic nuclear, theater nuclear, and conventional missiles – more likely operates on three levels of doctrine: *credible minimal deterrence* with regard to the continental United States and Russia; *“limited deterrence”* with regard to China’s theater nuclear forces; and an *offensively-configured, preemptive, counterforce warfighting posture* of “active defense” or “offensive defense” for the Second Artillery’s conventional missile forces.

Force Structure. Various governmental reports suggest that Chinese nuclear force structure will increase in numbers and quality. In 1995, then-Secretary of Defense William Perry stated that China “has the potential to increase the size and capability of its strategic nuclear arsenal significantly over the next decade.”¹²⁹⁵ According to the U.S. Department of Defense in 1997, “China probably will have the industrial capacity, though not necessarily the intent, to produce a large number, perhaps as many as a thousand, new missiles within the next decade.”¹²⁹⁶ General Hughes, then Director of the DIA, testified in 1999 that “the number of Chinese strategic missiles capable of hitting the United States will increase significantly during the next two decades.”¹²⁹⁷ Publicly released estimates of the number of ICBMs capable of reaching the U.S. range from “tens”¹²⁹⁸ to the Cox

¹²⁹³ Mark A. Stokes, *China’s Strategic Modernization*, p. 96.

¹²⁹⁴ Godwin, “China’s Nuclear Forces.”

¹²⁹⁵ Secretary of Defense William Perry, *Annual Report to the President and the Congress*, Washington, DC: Government Printing Office, 1995, p. 83.

¹²⁹⁶ U.S. Department of Defense, “Selected Military Capabilities of the People’s Republic of China,” report to Congress pursuant to Section 1305 of the FY97 National Defense Authorization Act, April 1997.

¹²⁹⁷ General Patrick M. Hughes, Director of the Defense Intelligence Agency, Senate Armed Services Committee hearings on “Current and Projected National Security Threats,” 2 February 1999.

¹²⁹⁸ National Intelligence Council, “Foreign Missile Developments and the Ballistic Missile Threat to the United States Through 2015,” p. 11.

Committee's ambitious estimates of "up to 100" ICBMs with 1000 MIRVed warheads by 2015.¹²⁹⁹ According to the Pentagon, "China plans to begin production and deployment of at least one solid-propellant ICBM that will provide China's strategic nuclear forces [with] improved mobility, survivability, accuracy, and reliability."¹³⁰⁰ Reportedly, Chinese sources also confirm the modernization program. At a July 2000 work conference of the Central Military Commission in Xishan, strategic nuclear force development for the period 2001-2009 was characterized as, "further replacement of the older generation of weapons, further upgrading, and further development."¹³⁰¹

There are two principal impetuses behind the modernization of the Chinese nuclear force structure. The first is the predictable process of replacing aging weapons systems with more modern counterparts. Most of China's operational missile forces, especially the CONUS-capable ICBMs, are 1950s-vintage liquid-fueled systems. As General Hughes has testified, "China's strategic nuclear force is small and dated, and because of this, Beijing's top military priority is to strengthen and modernize its strategic nuclear deterrent."¹³⁰² This effort has been assisted and accelerated in part by the ready access to technologies now available from Russia. The second driving factor behind Chinese modernization is a rising concern about the survivability of its nuclear deterrent, particularly given the prospect of the Strategic Defense Initiative in the 1980s and now the deployment of theater and national missiles defenses by the United States. Chinese perceptions about the survivability of its force were also undermined by DESERT STORM, which highlighted the ability of U.S. conventional forces to destroy fixed targets with precision-guided munitions and the concomitant inability of those same forces to destroy mobile targets. This realization no doubt reinforced the perceived desirability of modern, road-mobile nuclear forces.

The two principal programs in this modernization effort will be the DF-31 and the DF-31A.¹³⁰³ The mobile, solid-fuel DF-31 will have a range of 8,000 kilometers, and carry a payload of 700 kilograms. The origins of this missile are controversial. Lewis and Xue argue that the First Academy drew up plans beginning in 1974 to develop not only the JL-1 SLBM, but three other solid-propellant missiles as well over the subsequent decade, namely the DF-21, DF-21A, and the JL-2 SLBM.¹³⁰⁴ Another source claims that the DF-31 missile was an outgrowth of the DF-23 road-mobile, solid-fueled program,

¹²⁹⁹ *Cox Report*, pp. 185-86.

¹³⁰⁰ *Ibid.*

¹³⁰¹ See "Jiang Zemin Defines Position of China's Strategic Nuclear Weapons."

¹³⁰² General Patrick M. Hughes, Director of the Defense Intelligence Agency, Senate Armed Services Committee hearings on "Current and Projected National Security Threats," 2 February 1999.

¹³⁰³ Department of Defense, "Selected Military Capabilities of the People's Republic of China."

¹³⁰⁴ Lewis and Xue, *Strategic Seapower*, p. 181.

which began development in 1978 as a land-based missile, and was then modified to also serve as the basis for a submarine-launched SLBM, known as the JL-2. To confuse matters even further, a different Lewis article asserts that the R&D for the DF-23 began in August 1970, during “a particularly tense moment in Sino-Soviet confrontation.”¹³⁰⁵ Regardless of its development path, the DF-23 was renamed the DF-31 in January 1985, although the designation JL-2 was not changed. In August 1999, China publicly declared the first full flight test of the DF-31.¹³⁰⁶ It is expected that the DF-31 will be deployed perhaps by the early 2000s.

The planned follow-on to the DF-31, the DF-31A, was officially initiated in July 1986.¹³⁰⁷ The three-stage, solid-propellant ICBM will have a range of 12,000 kilometers, thus making it capable of striking all targets in the CONUS. It is therefore the logical replacement to China’s aging DF-5 force, which it will begin replacing around 2010. According to Lewis and Hua, the final basing mode for the DF-31A is still unclear, though it will be stored in caves and will likely be deployed on a road-mobile TEL.

Some reports indicate that China will launch a major effort to develop and construct a follow-on to the *Xia*-class nuclear ballistic missile submarines to be deployed after 2000. The next generation submarine, the 09-4, would probably deploy 16 of the new JL-2 SLBM, with a range of about 8000 kilometers.¹³⁰⁸ However, political and technological constraints may delay or even suspend the deployment of this boat.¹³⁰⁹

Implications. These future nuclear posture trends have significant implications for mobility, fuels, C4I accuracy, force size, warhead size, and the relative importance of conventional vs. nuclear missiles in the Chinese arsenal.

Mobility. Despite yeoman effort, the Chinese have largely failed to field a credible triad. Instead, the force remains highly unbalanced, with land-based missiles predominant over bombers and SLBMs, especially in the intercontinental category. As a result, Beijing has been forced to improve the survivability of its land-based missiles. Apart from the addition of solid fuels and improved C4I infrastructure, the Chinese began to move from silos and caves to a road-mobile force with missiles loaded on transporter-erector-launchers (TELs) as early as the 1970s.¹³¹⁰ With the planned deployments of the DF-31 and DF-31A ICBMs over the next ten to twenty years, the Chinese nuclear inventory will thus become increasingly mobile over time. This move will have the effect of enhancing the credibility of China’s minimal deterrent posture, as long as such a large

¹³⁰⁵ Lewis and Hua, “China’s Ballistic Missiles,” p. 27.

¹³⁰⁶ National Intelligence Council, “Foreign Missile Developments and the Ballistic Missile Threat to the United States Through 2015,” p. 11.

¹³⁰⁷ Lewis and Hua, “China’s Ballistic Missile Programs,” p. 29.

¹³⁰⁸ Office of Naval Intelligence, *Worldwide Submarine Challenges 1997* February 1997, p. 22.

¹³⁰⁹ Lewis and Xue, *China’s Strategic Seapower*, pp. 236-37.

¹³¹⁰ Lewis and Hua, “China’s Ballistic Missile Programs,” p. 25.

force size asymmetry exists between China and the larger nuclear powers. Moreover, the deployment of the DF-31 and DF-31A theoretically increases deterrence stability with other nuclear powers by making China's force more survivable.

Solid Fuel. One impediment to greater flexibility and survivability in the Chinese force were the hazards associated with volatile liquid propellants.¹³¹¹ The move to solid fuel increases the credibility of the Chinese force by improving reaction times, thus raising its overall readiness level. As Godwin points out, however, solid fuels also "contain less thrust than liquid fuel, requiring China to develop smaller, lighter warheads with much better yield-to-weight ratios than its older weapons."¹³¹²

C4I Modernization. Speaking in 1999, the then-Director of the Defense Intelligence Agency General Patrick Hughes testified to Congress that China was actively engaged in "upgrade programs" for its nuclear C4I.¹³¹³ Overall, the modernization of Chinese nuclear C4I increases the credibility of the Chinese force by strengthening command and control. Specifically, it enhances the leadership's positive control over the force, increasing the probability that the NCA could survive an attack and respond. In the paradox of nuclear strategy, this development actually increases deterrence stability between China and other nuclear powers.

Accuracy. There is reason to believe that the Chinese Second Artillery is attempting to improve the accuracy of its strategic rocket forces. Pre-surveyed launch sites increase the potential accuracy of the new mobile systems. Chinese research institutes are reportedly attempting to increase precision by developing better gyros and inertial measurement units.¹³¹⁴ According to the Pentagon, China is using the Global Positioning System to make "significant improvements" in its missile capabilities. As an example, the DOD cites the use of GPS for midcourse guidance correction to improve missile accuracy, and also asserts that such satellite updates will "increase the operational flexibility of China's newer mobile missiles."¹³¹⁵ A RAND study on this subject concluded that GPS-aiding of ballistic missile guidance could improve accuracy by 20-25

¹³¹¹ The struggles over the transition from liquid to solid-fuel are well documented in *ibid.*

¹³¹² Godwin, "China's Nuclear Forces".

¹³¹³ General Patrick M. Hughes, Director of the Defense Intelligence Agency, Senate Armed Services Committee hearings on "Current and Projected National Security Threats," 2 February 1999.

¹³¹⁴ Stokes, *China's Strategic Modernization*, p. 91.

¹³¹⁵ U.S. Department of Defense, "Selected Military Capabilities of the People's Republic of China," report to Congress pursuant to Section 1305 of the FY97 National Defense Authorization Act, April 1997.

percent.¹³¹⁶ Greater accuracy might signal a desire for eventual counterforce capabilities, though force size will be an important constraint on successful transition to a more offensive posture.

Greater Numbers. The Cox Report and other analyses predict that the Chinese nuclear force structure will likely increase in size, and therefore pose a greater threat to the United States.¹³¹⁷ Why would the Chinese force increase in size? An increase in missiles would make it more difficult for an opposing force to “decapitate” the Chinese force, which has been a prevailing fear since the beginnings of the program and has only become more frantic in an age of growing American predominance in space-based reconnaissance. More Chinese missiles might signal a possible shift from a retaliatory countervalue posture to an offensive counterforce posture, particularly if accompanied by necessary improvements in accuracy. According to Godwin, a sufficient number of weapons could permit China for the first time to attempt intrawar escalation control, since Beijing would retain enough forces to respond at a higher level if the aggressor chooses to escalate a nuclear exchange.¹³¹⁸

An increase in missiles is also the logical response to the deployment of theater and national missile defenses among the United States and its allies, which the Chinese view as an organic whole rather than separate programs (as one Chinese arms controller put it, “two sides of the same coin”). Proponents of TMD/NMD point out that the Chinese are already modernizing their missile forces, so defenses are not to blame for increases in the quality and quantity of the Chinese force. This is probably true, but must also be accompanied by an honest recognition that TMD/NMD deployment will likely accelerate this effort and push the Chinese to spend more money on relatively cheap anti-missile defense accessories, such as countermeasures and decoys. Perhaps the only good news is that limited increases in Chinese missiles would paradoxically increase deterrence stability between China and other nuclear powers and allow China to maintain a no-first-use principle by reducing the likelihood that the PRC’s force could be destroyed in an all-out pre-emptive attack.

At the same time, we must also entertain the definite possibility that the new generation of missiles are meant only to replace the aging veterans of the fleet, particularly the DF-4 and DF-5. If the Chinese eventually exchange the road-mobile, solid-fueled DF-31s and DF-31As for these liquid-fueled, silo- and cave-based missiles on a one-to-one basis, or even two-to-one basis, then the net result is *ceteris paribus* an increase in the credibility of China’s previously suspect minimal deterrent, not necessarily a fundamental shift to an offensive posture. Moreover, as the significant delays in the IOCs of past systems and the inaccurate estimates of DF-31/DF-31A/DF-25 deployments in Lewis and Hua’s 1992 article attest, we should not be overly optimistic about the

¹³¹⁶ Scott Pace, et al., *The Global Positioning System: Assessing National Policies*, Santa Monica, Calif.: RAND, Critical Technologies Institute, MR-614-OSTP, 1995, p. 68.

¹³¹⁷ *Cox Report*, pp. 185-86.

¹³¹⁸ Godwin, “China’s Nuclear Forces”.

production timelines or output estimates offered by the Chinese for the rollout of the next generation of missiles, but should instead maintain a sober view of the impressive but sometimes erratic production cycles in the Chinese missile system.

MIRVing? Since the late 1980s, China has conducted a series of smaller-yield tests, apparently intended to develop smaller, lighter warheads with an improved yield-to-weight ratio,¹³¹⁹ though this trend could be traced as far back as 1970.¹³²⁰ Most analysts agree that the likely purposes was to develop new warheads for single placement on China's next generation solid-fuel ICBMs (DF-31 and DF-31A), as well as ensure the safety and reliability of new warhead designs.¹³²¹ The antecedents of the DF-31 and DF-31A programs, which were initiated in the early 1970s, were move to mobile forces required the development of smaller missiles, which in turn required smaller warheads.

Others have added an additional, controversial motivation for the testing of smaller warheads – the development of a multiple warhead capability, possibly MRV or even MIRV.¹³²² The Cox Committee, for example, concluded that “the PRC has demonstrated all of the techniques that are required for developing a MIRV bus, and that the PRC could develop a MIRV-dispensing platform within a short period of time after making a decision to proceed.”¹³²³ Often, this desire is linked to a perceived future Chinese intent to develop flexible response, counterforce-oriented nuclear forces, though the smaller warheads could also be used as MIRVs on the existing DF-4s and DF-5As. There is significant evidence to suggest that the Chinese have been actively interested in developing multiple warhead technology for more than 20 years.¹³²⁴ However, the current small size of the Chinese force and the mainstream projections of the size of the

¹³¹⁹ Banning N. Garrett and Bonnie S. Glaser, “Chinese Perspectives on Nuclear Arms Control,” *International Security*, vol. 20, no. 3, Winter 1995/96, pp. 55-56; Godwin and Schulz, “China and Arms Control,” p. 9; Robert S. Norris, “Nuclear Arsenals of the United States, Russia, Great Britain, France and China: A Status Report,” presented at the 5th ISODARCO Beijing Seminar on Arms Control, Chengdu, China, 12-15 November 1996, p. 5; and Norris and Arkin, “British, French, and Chinese Nuclear Forces,” pp. 66-67.

¹³²⁰ Lewis and Hua, “China's Ballistic Missiles,” p. 21.

¹³²¹ Dingli Shen, “The Prospects For A Comprehensive Test Ban Treaty: Implications Of Chinese Nuclear Testing,” in W. Thomas Wander, Eric Arnett, and Paul Bracken, eds., *The Diffusion of Advanced Weaponry: Technologies, Regional Implications, and Responses*, Washington, D.C.: American Association for the Advancement of Science, 1994, pp. 272-273.

¹³²² Cox Report.

¹³²³ Ibid.

¹³²⁴ The Intelligence Community Damage Assessment on the Implications of China's Acquisition of U.S. Nuclear Weapons Information on the Development of Future Chinese Weapons, 21 April 1999 (hereafter The Intelligence Community Damage Assessment).

future force make it unlikely that China seeks multiple warheads for counterforce purposes. Instead, an examination of the timelines for MIRV research in China suggest that the focus of the multiple warhead effort is anti-BMD. Lewis and Hua assert that the Chinese began to study MRVs and MIRVs in 1970 as a response to U.S. deployment of multiple warhead systems, but lowered the priority of the effort in March 1980 after more than a decade of problems.¹³²⁵ Work on multiple warheads was resumed on 10 November 1983, however, when the First Academy included them in the DF-5A modification program.¹³²⁶ Some reports suggest that missile tests undertaken between fall 1986 and late 1987 were for the development of multiple-warhead missiles, including at least one such test for the DF-5A ICBM.¹³²⁷

Why the renewed interest after years of difficulty? Lewis and Hua give us no clues, but the U.S. announcement of the Strategic Defense Initiative in March 1983 seems too great a coincidence to ignore. If we assume that U.S. SDI and now NMD research is driving the current round of Chinese efforts to develop multiple warheads, then a number of potential implications can be offered. The first critical variable is the status of Chinese nuclear testing. Despite allegations of nuclear espionage, Chinese accession to the CTBT would significantly impair China's ability to make progress in this area, particularly given the conclusion of the Jeremiah Commission that China has not deployed a MIRV on its ICBMs.¹³²⁸ Even if we assume that the Chinese have already achieved a level of miniaturization necessary for MIRVing or will do so in the near future, a second critical variable will be the size of the future Chinese nuclear force posture, particularly the CONUS-capable forces. If China maintains a relatively small ICBM force, eventually replacing its several dozen DF-4s and DF-5As with a comparable number of DF-31s and DF-31As, respectively, then Chinese MIRVing along with robust decoys and countermeasures is likely meant to try and overwhelm the proposed 100- or 200-interceptor NMD system, not necessarily perform offensive counterforce attacks. A larger force of ICBMs makes this distinction murkier, but the overwhelming, triadic force asymmetry of the United States vis-a-vis China for the foreseeable future severely reduces the possibility that China could hope to achieve its goals with a preemptive strike.

Increased reliance on conventional missiles. Given China's immediate security contingencies vis-à-vis Taiwan, the Second Artillery over the past 10 years has dramatically restructured its force to give conventional missiles – such as the DF-11 and DF-15 – far more weight in its overall posture. Looking ahead, it is likely that more effective, conventionally-armed land-attack cruise missiles (LACMs) will also be integrated into the Second Artillery force structure, doctrine, and operational

¹³²⁵ Lewis and Hua, "China's Ballistic Missiles", p. 21.

¹³²⁶ *Ibid.*, pp. 21-22.

¹³²⁷ Lin, *China's Nuclear Weapons Strategy*, p. 51; Stockholm International Peace Research Institute, *SIPRI Yearbook 1987: World Armaments and Disarmament*, Oxford: Oxford University Press, 1987, p. 34.

¹³²⁸ *The Intelligence Community Damage Assessment*, 21 April 1999.

planning.¹³²⁹ As one researcher at China's National Defense University has written, "nuclear retaliation remains the solid foundation of the Strategic Rocket Forces ..." But given events such as the Desert Storm and the U.S.-led NATO effort against Yugoslavia, "the particular features of world military combat and China's peripheral situation demands that the Second Artillery develop its conventional ballistic missile capability." The author argues the Second Artillery shift conceptually from "nuclear retaliation" (*he bao fu*) to "nuclear /conventional, two roles" (*he chang liang yong*).¹³³⁰ The discussion above on China's build-up of conventional missiles provides ample physical evidence of this shift in how the Second Artillery will approach its mission in the future.

CONCLUSIONS

Based on a review of Chinese nuclear principles, and an empirical study of the history, organization and force structure of the Second Artillery, we reach a number of important findings. We conclude that the operational survivability of China's nuclear retaliatory capability vis-à-vis major nuclear powers was and probably still is open to question, particularly in the context of an all-out preemptive strike. At best, then, China's minimal deterrent was primarily psychological, though the potency of this aspect of the deterrent should not be underestimated. The PRC's missile modernization program, therefore, has been a quest to increase the credibility of this deterrence posture by improving the readiness and survivability of the force. Measures being implemented are a transition from volatile liquid fuels to more stable solid fuels, a transition from fixed basing to mobile basing, and the construction of a robust C4I infrastructure. As of yet, the Chinese have not operationally deployed any of either of their planned solid-fueled, road-mobile ICBMs, though the shorter range DF-31 seems to be nearing IOC after more than 30 years of work. When these systems come online, the Chinese will have finally succeeded in fielding a much more credible minimal deterrent force, whose mobility and readiness theoretically increase the chances that some percentage of the force could survive a first strike and thus effectively deter potential attackers.

At the same time, however, the Chinese force has grown to encompass more than simply minimal deterrent forces, including theater and tactical systems. Viewed in its totality, the Chinese nuclear force structure seems to defy simple categorization as either minimal or "limited" deterrence. The multi-faceted force is made up of strategic, theater, and tactical systems of varying range, accuracy, and yield, reflecting the very different

¹³²⁹ Mark Stokes, "China's Military Space and Conventional Theater Missile Development: Implications For Security In The Taiwan Strait," in Robert Sutter, ed., and Bates Gill, "China's Second Artillery: Transition to Credible Deterrence," in *China and Weapons of Mass Destruction: Implications for the United States*, Washington, DC: Government Printing Office, 5 November 1999.

¹³³⁰ Sun Kuaiji, "Cong 'he bao fu' dao 'he chang liang yong' [From 'Nuclear Retaliation' to 'Nuclear/Conventional Two Roles']," *Ban Yue Tan* [China Comment], no. 1, 2000.

missions it is required to perform. The small ICBM force, anchored by the DF-5 family of missiles, appear to be second-strike minimal deterrence forces. The theater systems, by contrast, are unlikely to be used in a second-strike, minimal deterrent role following a preemptive strike. Instead, theater systems look like offensive systems meant to strike U.S. forces and bases in Asia to degrade conventional capability. The short-range, ballistic missile forces, which are also nuclear capable, further confuse the situation by serving a variety of conventional warfighting and nuclear warfighting roles. For the future, the doctrine and force structure of China's Second Artillery must be analyzed at three distinct levels: a posture of *credible minimal deterrence* with regard to the continental United States and Russia; a more offensive-oriented posture of "*limited deterrence*" with regard to China's theater nuclear forces; and an *offensively-configured, preemptive, counterforce warfighting posture* of "active defense" or "offensive defense" for the Second Artillery's conventional missile forces.

How did the Chinese force evolve into this arrangement? First, our analysis tends to confirm the arguments of Lewis, *et al.* of the *importance of technology as a determinant of Chinese doctrine*. The progression of missile systems, with their gradually expanding ranges and capabilities, defined the limits of the possible for the Chinese leadership. However, we disagree that technology alone determined the nature of the Chinese nuclear force posture. Central guidance on ranges and payloads, while admittedly vague, appears to conform with strategic-level perceptions of threats and goals in the external security environment, especially when matched with the corresponding logical deployment pattern outlined in section three. Perhaps it could be said that the Chinese made a *virtue out of necessity* in the construction of their nuclear deterrent, accepting the technological constraints of the system and making rational choices under those constraints.

In the end, however, we question whether China ever actually achieved a fully credible minimal deterrent. Thus, our attention has focused on the discontinuity between reality and aspiration, which is oftentimes referred to as the "capabilities-doctrine gap." At the present stage in the Second Artillery's modernization, China is nearing an historic convergence between doctrine and capability, allowing it to increasingly achieve a degree of *credible minimal deterrence* vis-à-vis the continental United States – a convergence of its doctrine and capability it has not confidently possessed since the weaponization of China's nuclear program in the mid-1960s.

But what about "limited deterrence"? Recent studies find that since at least the late-1980s, Chinese military writings have promoted the need for China to develop a "limited deterrence" – as opposed to a "minimal deterrence" – doctrine. While these writings are not considered official declarations of doctrine, the fact that they are written by military analysts and appear in officially-sanctioned military publications gives them a special salience which deserves further scrutiny. In analyzing these writings, Johnston observes the emergence of "more comprehensive and consistent doctrinal arguments in favor of developing a limited flexible response capability" and that "Chinese strategists

have developed a concept of limited deterrence ... to describe the kind of deterrent China ought to have.”¹³³¹

In general and specific terms, these Chinese writings call for limited, counterforce, war-fighting capabilities “to deter conventional, theater, and strategic nuclear war, and to control and suppress escalation during a nuclear war.”¹³³² According the Chinese analysts, such a posture requires:

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 defense to improve the survivability of the limited deterrent; space-based early warning and command and control systems; and anti-satellite weapons (ASATs) to hit enemy military satellites.¹³³³

Because such a posture would require a significant increase in Chinese capabilities, Johnston correctly highlights the gap between this proposed doctrine on the one hand, and actual capabilities on the other. As Godwin points out, the lack of any space-based reconnaissance or early warning systems means that Beijing’s command and control system does not have the ability in real time to determine the size and origin of the attack, making it difficult to determine what kind of response is required - an essential component of the more sophisticated versions of limited deterrence found in Chinese military journals.¹³³⁴ Johnston also notes that actually achieving such a deterrent posture is not an inevitable outcome, owing to a number of possible constraints.

We have little basis for questioning the findings of Johnston about internal military writings on nuclear deterrence, especially the striking lack of discussion of the term “minimal deterrence.” There are a number of possible explanations. Paul Godwin suggests that Mao Zedong’s death in 1976 and the implementation of Deng Xiaoping’s military reforms in the late 1970s permitted China’s military analysts to explore issues of doctrine and strategy “free from the stultifying requirement to verify everything they wrote with a literal interpretation of Mao’s writings and statements.”¹³³⁵ Second, Godwin points to the increased battlefield nuclear weapons threat on the Sino-Soviet border, which “raised the salience of strategic deterrence and nuclear warfighting to a level it had never before achieved,” encouraging Chinese military analysts to read

¹³³¹ Johnston, “China’s New ‘Old Thinking’,” p. 5.

¹³³² *Ibid.*, p. 19.

¹³³³ *Ibid.*, p. 20.

¹³³⁴ Godwin, “China’s Nuclear Forces”.

¹³³⁵ *Ibid.*

extensively in Western theories and journals.¹³³⁶ Johnston himself offers some additional explanations in the last few pages of his *International Security* article.¹³³⁷ Many of the PLA authors explicitly contrast limited and minimal deterrence, obviating the possibility that they have simply renamed the previous doctrine for bureaucratic purposes. The authors appear to be well-placed to affect the operational doctrine of the Second Artillery, removing the possibility of a disjuncture between academic and military writings, as occurred between the writings of RAND strategists and the war-winning strategy of General LeMay at Strategic Air Command. If limited deterrence is defined as flexible response, counterforce warfighting, then perhaps limited deterrence is the *aspirational* doctrine for a future Second Artillery, though the past production timelines of the missile industry should sober our expectations of its appearance anytime soon.

We would add three more caveats to interpret the emergence and meaning of an ostensible limited deterrence posture in China. First, assuming a continued adherence by China to its testing moratorium, and the possibility that it will ratify the CTBT in the future, we question the ability of China to confidently develop smaller, lighter, and more accurate nuclear warheads (including potential MRV and MIRV capability) consistent with the limited deterrent aspirations described by Chinese analysts in the late-1980s and early 1990s.

Second, it is possible that the tripartite system we describe is a confirmation of Johnston's conclusions about limited deterrence, and we have simply come to the same place from a different direction. Perhaps the Chinese, when they looked at the multifunctional force structure they created, felt that minimal deterrence no longer could encompass all of the various defensive and offensive, long-range and short-range systems in their arsenal. Borrowing from Confucius, they may have concluded that harmony could only be restored when the name of the thing matched the nature of thing, and the product of this *zhengming* was "limited deterrence."

Third, however, even if we accept limited deterrence as an overarching *aspirational* goal of this multi-faceted system, we still reject the misinterpretation of Johnston's writings by some, such as the Cox Committee and others, to mean that the Chinese are unquestionably engaged in an aggressive modernization of their missile forces meant to enable counterforce warfighting. Indeed, as we have outlined in this paper, there are legitimate, alternative explanations for many of the hardware trends in China. Reforms in mobility, readiness, and C4I infrastructure are readily and more comprehensively explained as an attempt to increase survivability from foreign attack – simply the long-sought confidence of a credible deterrent, notwithstanding Chinese analytical differentiation between "limited" and "minimal" deterrence -- and not necessarily to achieve a warfighting, war-winning strategy. Moreover, as long as the numbers of the force stay beneath a certain level, increases in accuracy and multiple warheads do not pose a threat to American and Russian overwhelming nuclear superiority. American strategic nuclear forces, we must remember, still number around

¹³³⁶ Ibid.

¹³³⁷ Johnston, "China's New 'Old Thinking'," pp. 35-36.

8,000 deployed on 575 ICBMs, 102 strategic bombers, and 17 SSBNs. Indeed, a single *Trident* SSBN, carries more missiles (24) than the entire Chinese ICBM inventory.

The troubling countertrend involves the introduction of theater and national missile defenses into the equation, dramatically complicating China's strategic environment. Whereas China previously faced a world marked by the threat of offense racing, the post-BMD world will be marked by the unpredictable interactions of offense racing, defense racing and countermeasure/decoy racing. In this environment, China would be acting rationally if it accelerated the desultory pace of its missile modernization, spending more money on relatively cheap countermeasures and decoys. In order to develop smaller warheads for penetrating missile defenses, it would be acting in its self-interest by opting out of CTBT and resuming testing. Finally, China might even seek to foil missile defenses by proliferating its countermeasures technology to other emerging nuclear states. All of these trends would reduce the security of the United States. It is our hope that a sober understanding of the nature and purpose of Chinese nuclear force modernization and doctrinal evolution could forestall such an outcome.

**Figure 11.1 National Wartime Second Artillery Command Structure
(Conventional Weapons)**

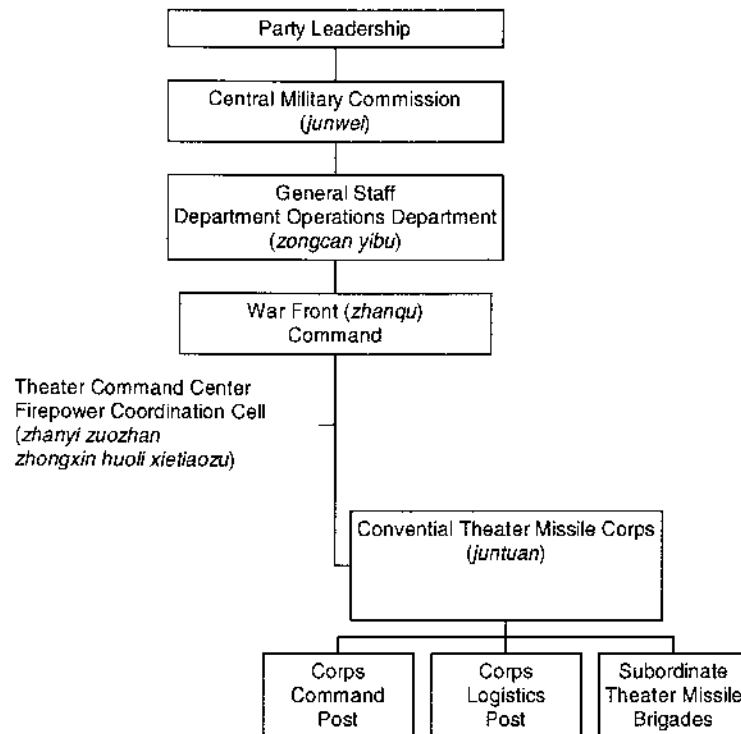


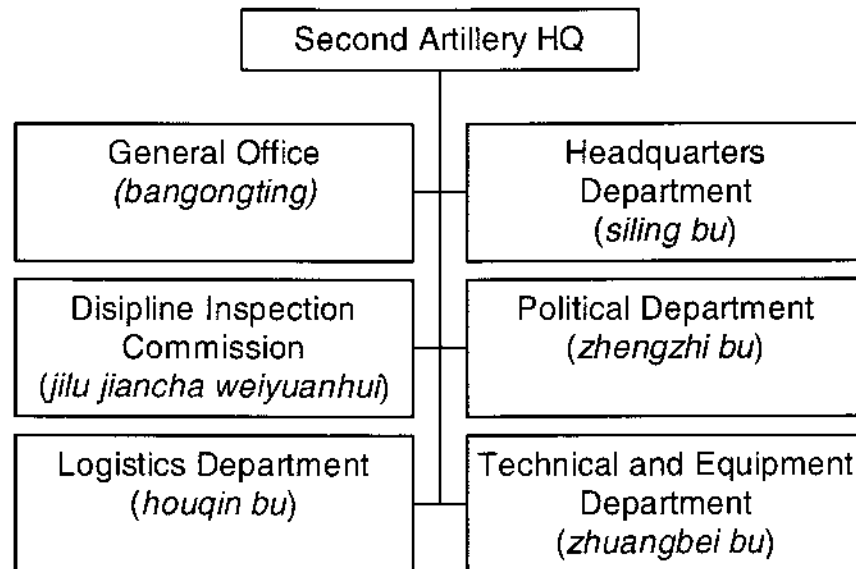
Figure 11.2 Known Second Artillery Headquarters Units

Figure 11.3 Known Second Artillery Headquarters Department Units

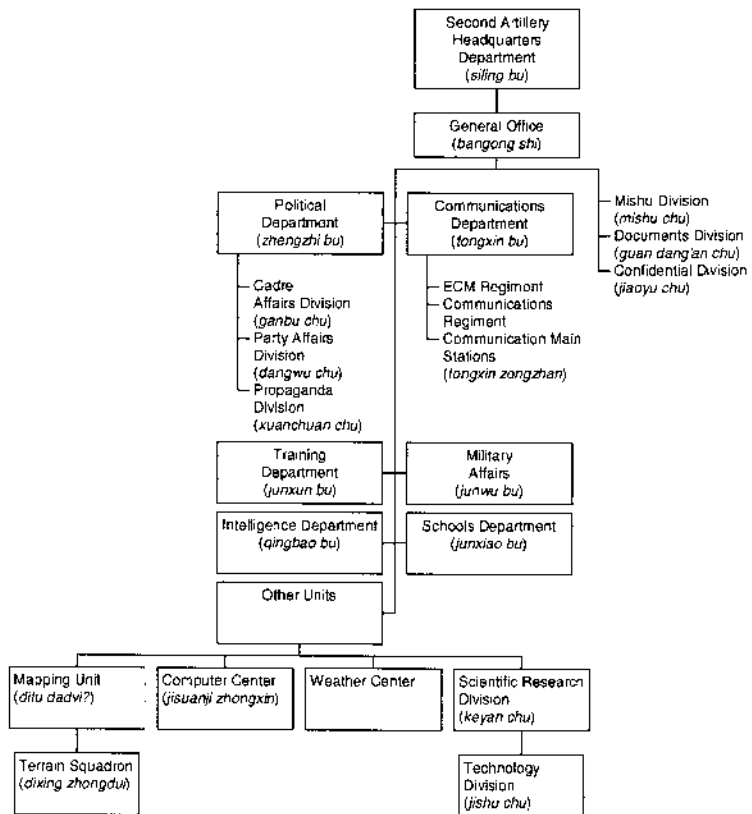


Figure 11.4 Known Second Artillery Political Department Units

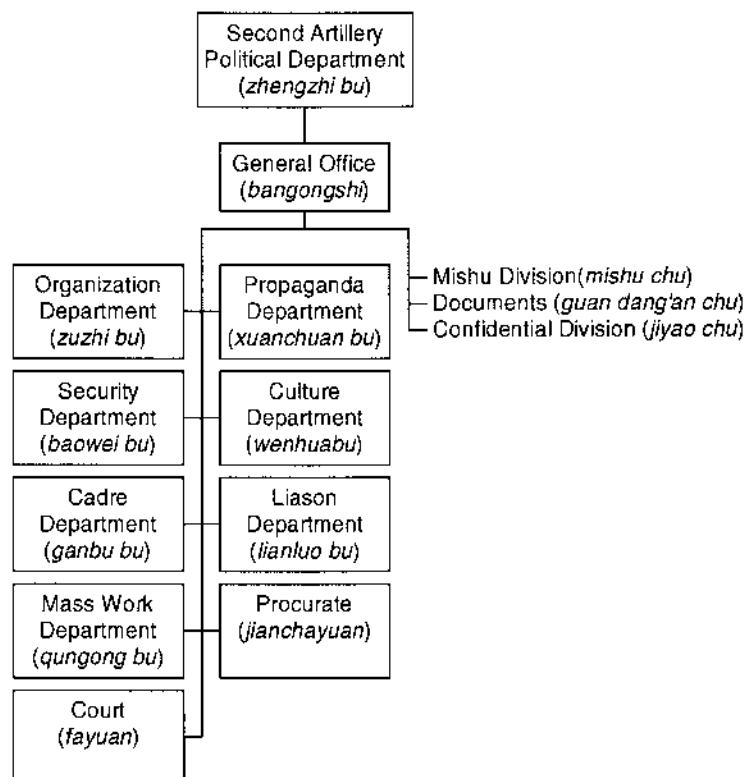


Figure 11.5 Known Second Artillery Logistics Department Units

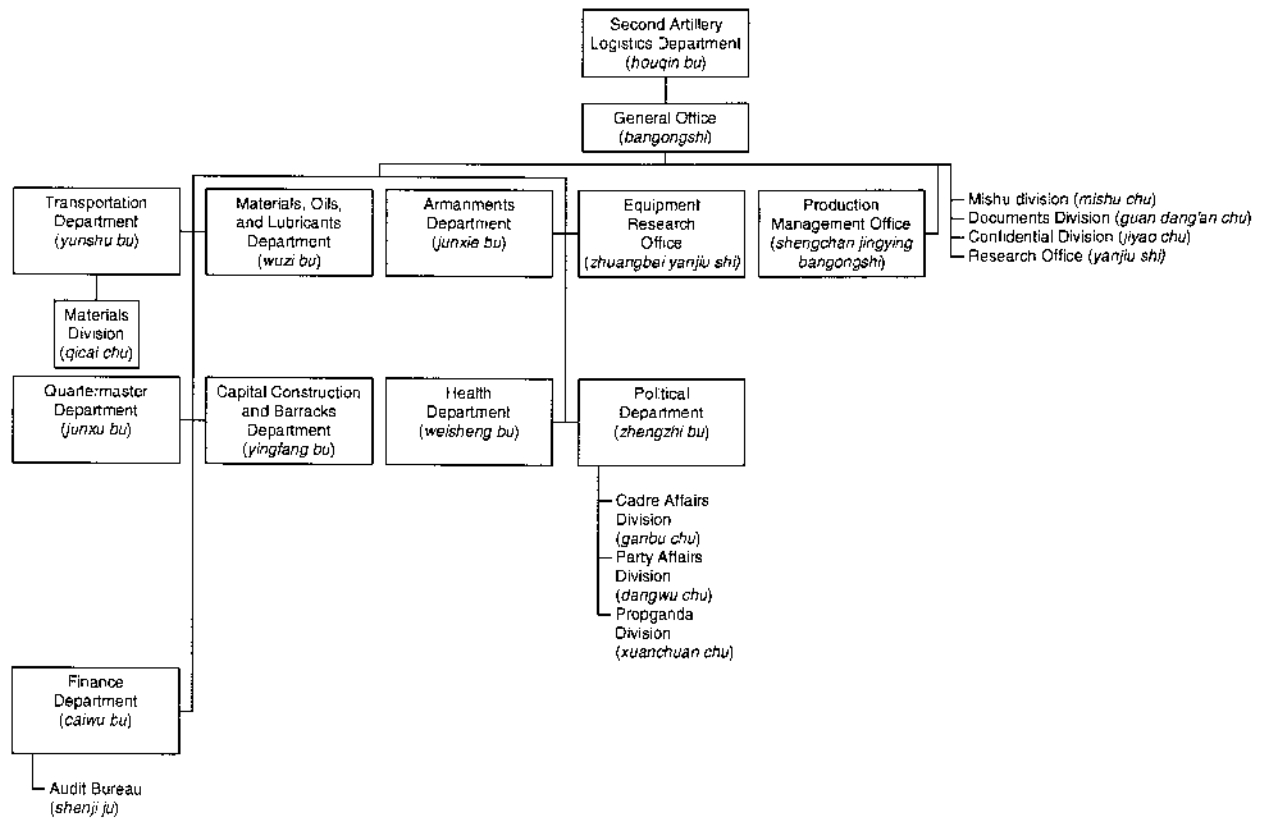


Figure 11.6 Known Second Artillery Technical and Equipment Department Units

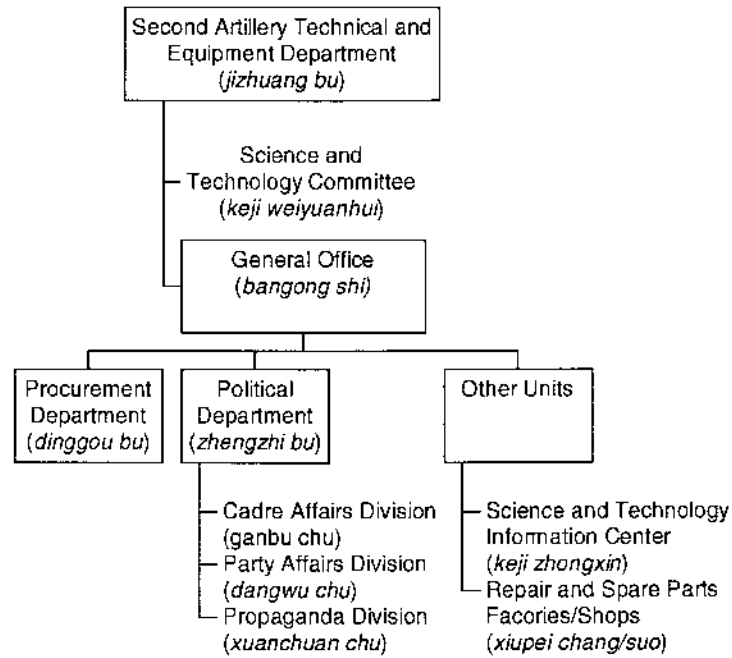


Figure 11.7 Known Base Unit Headquarters Units Second Artillery

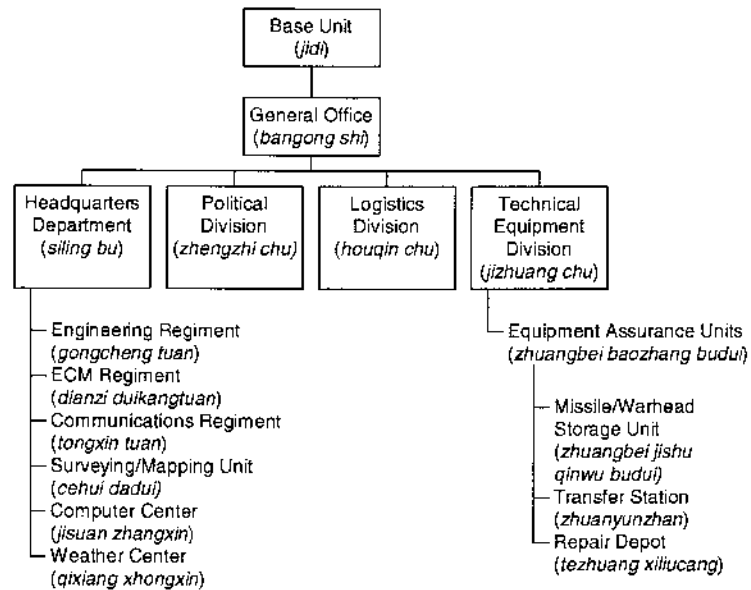


Figure 11.8 Base Headquarters Department (silingbu) Second Artillery

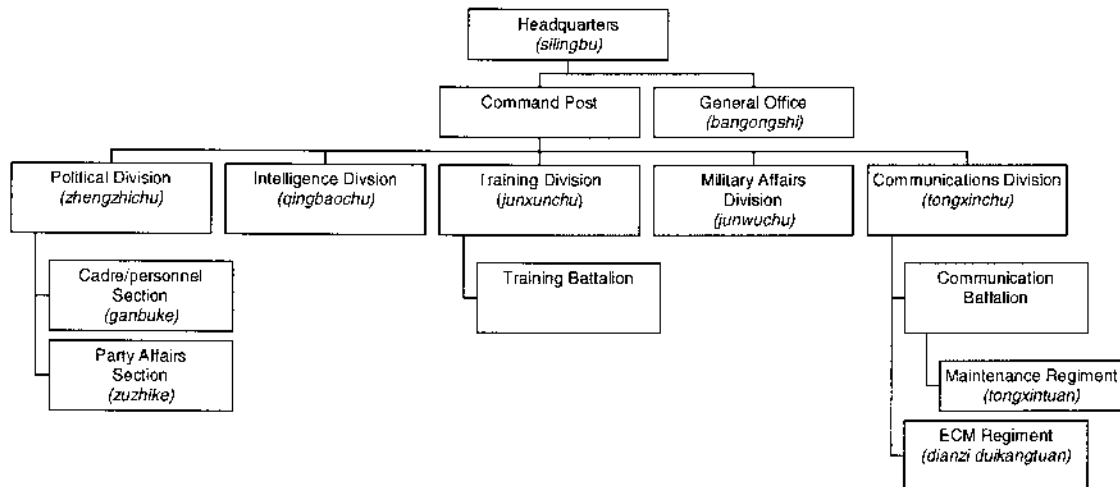


Figure 11.9 Known Base Political Division Units (*zhengzhi chu*) Second Artillery

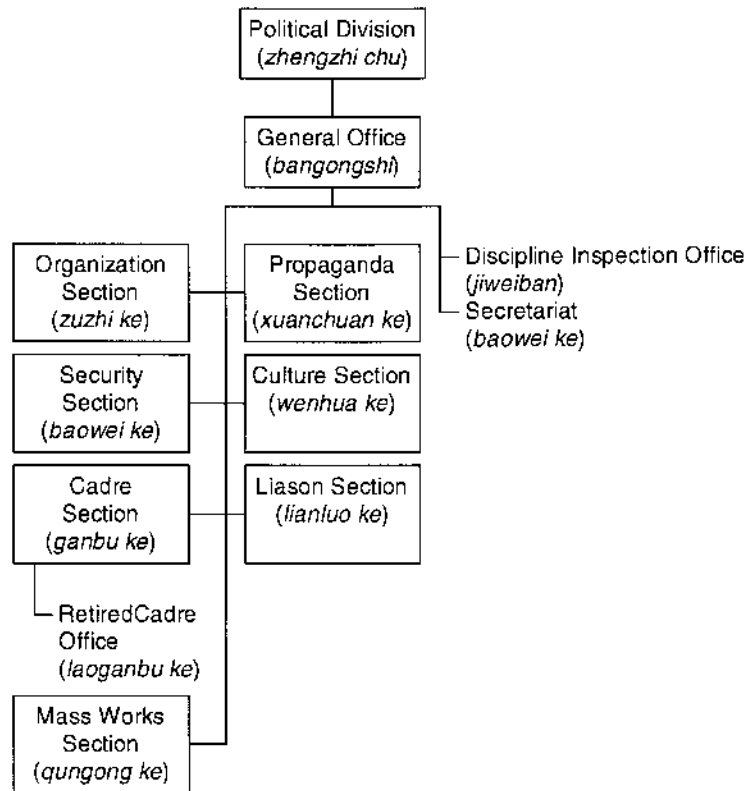
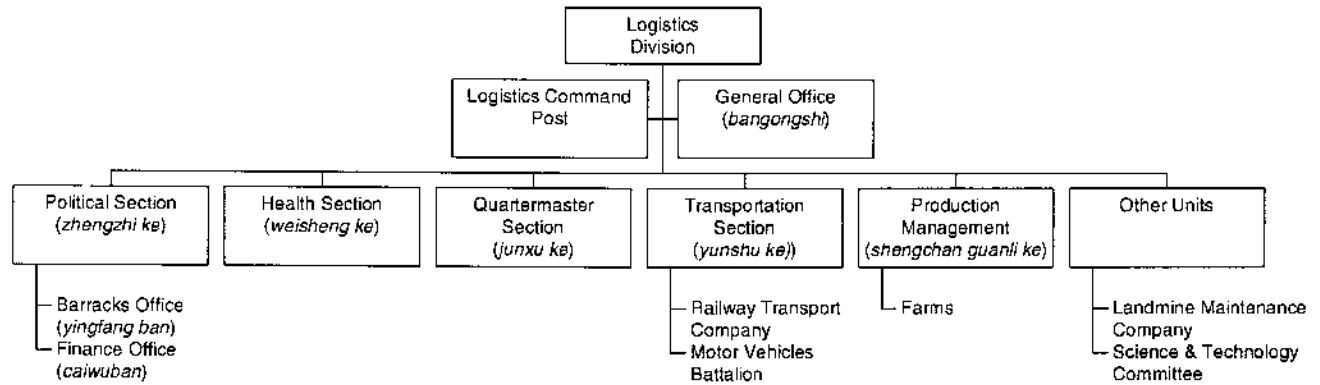


Figure 11.10 Known Base Logistics Department Units (*houqin chu*) Second Artillery



**Figure 11.11 Known Base Technical & Equipment Division Units (*jizhuang chu*)
Second Artillery**

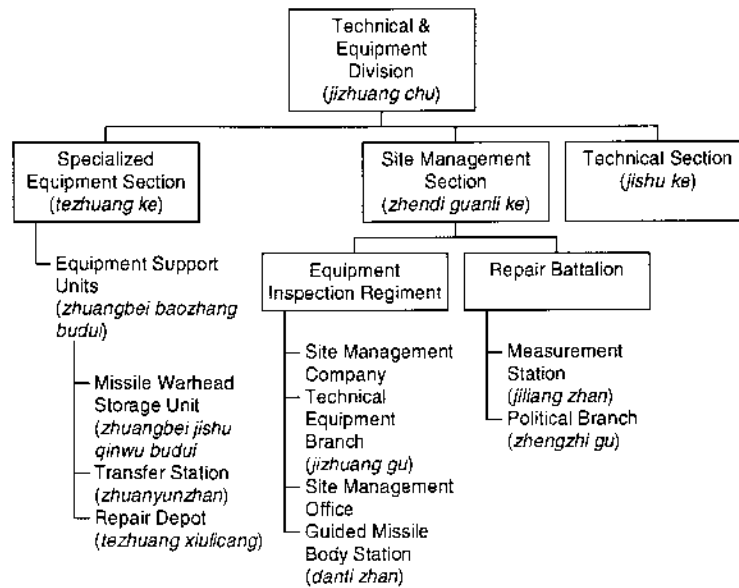


Figure 11.12 Known Nuclear Missile Brigade Units

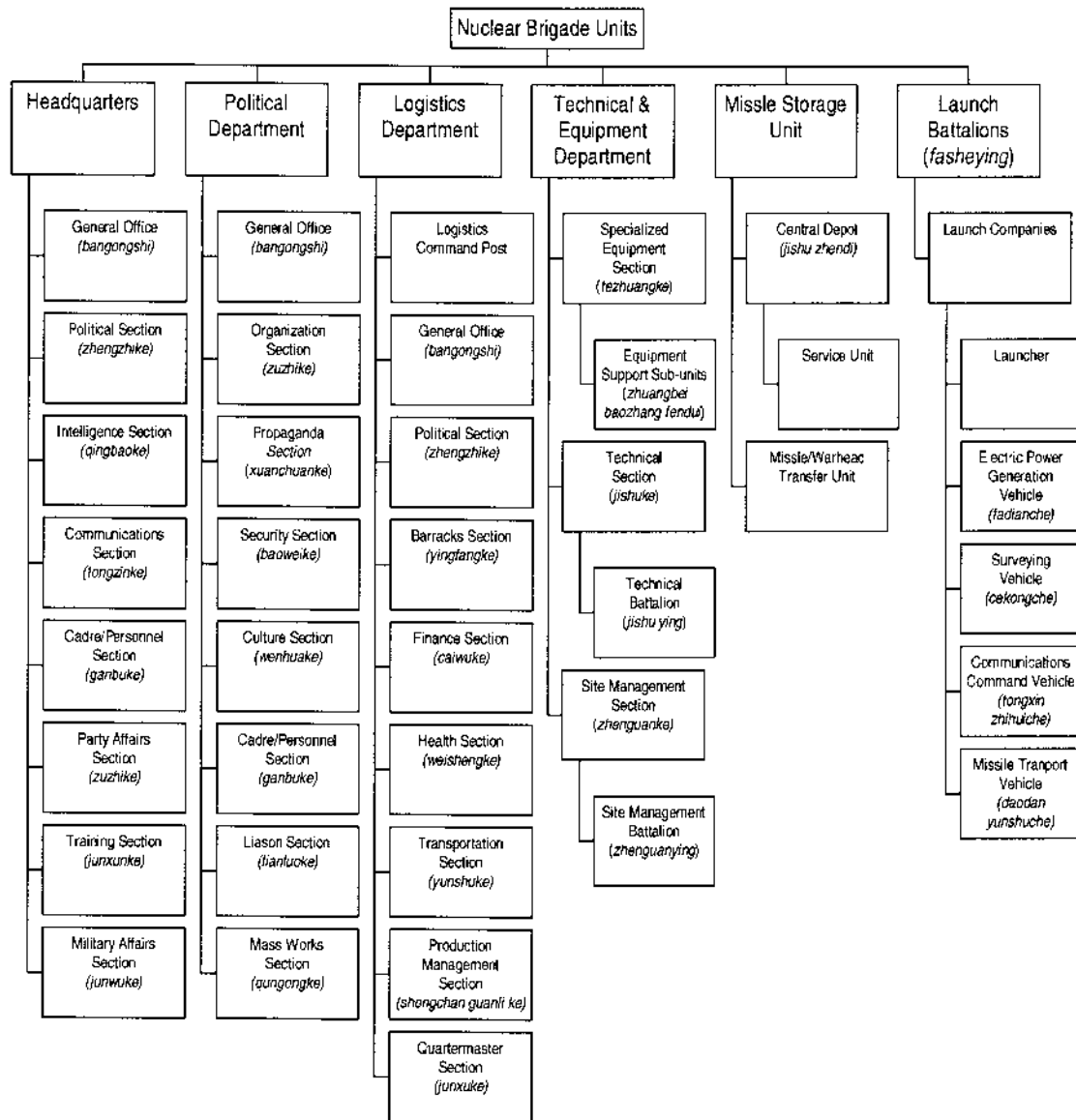
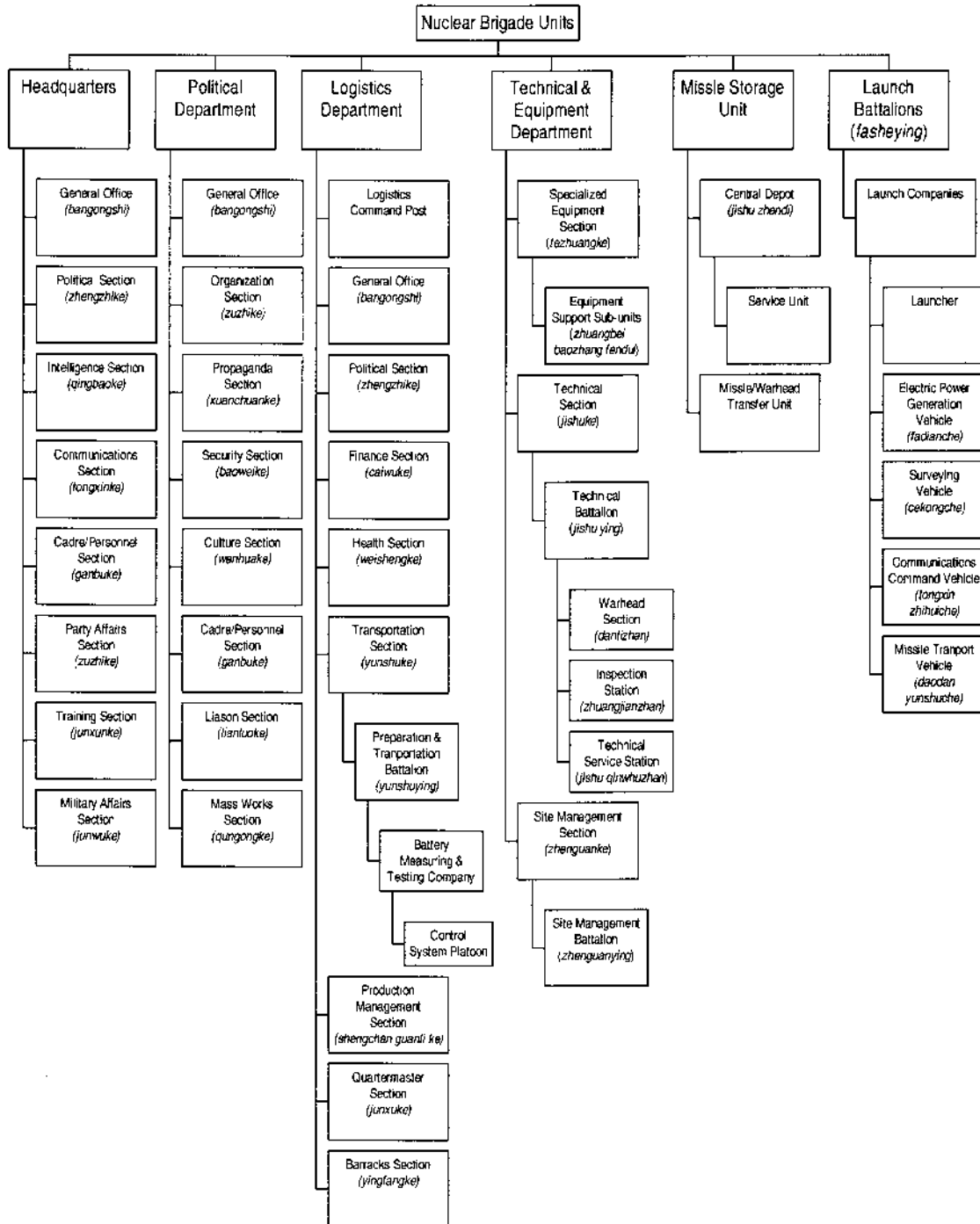


Figure 11.13 Known Conventional Missile Brigade Units



APPENDIX: Known Second Artillery Military Unit Cover Designators (MUCDs)

Number Translations:

80XXX is also known as an MUCD (E) designator, with each number matched to a corresponding letter, 8 equals M and so on.

803XX series are base-level units. The last number corresponds to the base designation, ie. 80301 is also known as the 51 Base, and 80302 is also known as the 52 Base.

80401-80416 Series are the basic launch units (launch brigades)—this number will increase as the 2nd Artillery expands its conventional force. The last two digits (D and E) denote the brigade designation. For example, 80401 denotes the 801st Missile Brigade.

8043X- 8045X series are probably more specialized units at the regiment level. They may be used for testing or experimental purposes. Two of the units in this series end in 1, (80431, 80451) and the other three are all located in the 80310 Base.

805XX series are engineering or construction units of regimental size. At 80590 level and beyond, the units appear to be special engineering units. It may be that these units are formed only for a special project and are officially disbanded when the project is over, with some of the officers remaining behind with the newly-established missile site units. For example, see the Sub-unit 13, described in Base 54, as 80591.

807XX Series are regiments or battalions that support the various bases. The third or “C” digit (7) indicates that the unit is a missile support unit. The fourth digit in the 807XX series corresponds to the base. For example, the 80713 unit is subordinate to the 80301 Unit (51 Base) in Shenyang. The last digit denotes the type of unit. For example, the 807X1 units have been identified as training battalions, the 807X3 units are warhead battalions, and the 807X4 are repair battalions. The 807X3 warhead battalions may be called “technical units” (*jishu ying*). This is apparently different from the *jishu ying* at sub-battalion level, such as in 80408 in Base 53.

808XX series may be training or transport units directly under the 2nd Artillery headquarters to deal with some special warhead and missile storage facilities, maintenance units, and special warhead/missile transportation services. It may include a communications engineering regiment, surveying/mapping “group” (*da dui*), which has a subordinate 2nd company and satellite battalion.

Base 51: 80310 (Shenyang, Liaoning Province)

Launch complexes at Tonghua and Deshengua.

-Three launch brigades and three support units identified, as well as the following:

- (1) Political Department
 - Discipline Inspection Office
- (2) Logistics Department
 - Barracks Office
 - Motor Vehicle Battalion
 - Radio Station
- (3) 101 Sub-Unit
- (4) Bei'an Farm in Helongjiang

80406: 806 Missile Brigade (Hancheng City, Shaanxi)

- (1) Technical and Equipment Dept., Specialized Equipment Office (*tezhuang chu*)
- (2) First Launch Battalion
- (3) Logistics Department
 - Finance Section

80410: 810 Missile Brigade (Dalian, Liaoning)

- (1) Technical and Equipment Dept.
- (2) 3rd Launch Battalion
- (3) 2nd Battalion, includes Sub-Units: 213, 253, 242, 250

80451: (as of 1995 the 80451 unit was an experimental unit for the introduction of the DF-21 in the Tonghua area)

- (1) Technical and Equipment Office
- (2) Specialized Equipment Section (*gu*)
- (3) 1st Launch Battalion (EM says 1 Launch Battery at Company level)

80714: Repair battalion

- (1) Measurement Station (*jiliang zhan*)

80711: Training battalion

80713: Equipment Inspection Regiment (possibly specializing in warhead inspection, also possibly known as "warhead battalion" or "technical unit")

- (1) Technical and Equipment Office, Site Management Section (*gu*) according to MS,
- (2) Guided missile body-station (*Danti zhan*)

Base 52: 80302, Huangshan, Anhui (not Jiangxi, as MS claims, right?) Province
One launch complex near Lianxiwang , with both nuclear and conventionally-armed missiles

- (1) Unit has total of three launch units and 4 support units, as well as the following:

Logistics Department

- Barracks Office
- Sanlong Tree Farm

- (2) Science and Technology Committee

Engineering Battalion

Landmine Maintenance Company

128 Sub-Unit

133 Sub-Unit

80302:

- (1) Technical and Equipment Dept.
- (2) Site Mgmt. Office

80407: 807th Missile Brigade

- (1) Technical and Equipment Dept.
- (2) Specialized Equipment Section
- (3) Site Location Brigade

80411: 811 Missile Brigade (Shitai, Anhui Province)

- (1) Technical and Equipment Dept.,
- (2) 2 Launch Battalions
- (3) 3rd and 4th Battery
- (4) 4th Battalion includes Sub-Units: 190, 233, 242, 252, 272,

80415: DF-15 Brigade (Leping, Jiangxi Province)

80724: Support Unit for Base 52, (Xiuning, Anhui), Repair battalion

- (1) Political Office (at regiment level)
- (2) 2nd Car rooms (*Er che jian*)

80723: Support Unit for Base 52 (warhead battalion)

- (1) Sub-unit 410 (Jingdezhen, Jiangxi Province)
- (2) Sub-unit 420

80721: Support Unit (training battalion)

- (1) Political Office (at regiment level)
- (2) Logistics Office (at regiment level)

80722: Support Unit

Base 53: 80303 (Kunming, Yunan Province)

-Two launch units and two support units identified to date

- (1) Political Department
 - Secretariat
- (2) Logistics Department
 - Finance Office
 - Railway Transportation Company
- (3) Motor Vehicles Battalion
- (4) Number 70
- (5) Sub-Unit 112
- (6) Telephone Operators Platoon

80303:

- (1) Technical and Equipment Dept., Site Management Office

80402: 802 Missile Brigade, (Jianshui, Yunan Province)

- (1) Technical and Equipment Dept.
- (2) Specialized Equipment Section
- (3) First Launch Battalion
- (4) Political Dept., Propaganda Section
- (5) Armaments Dept.

80408: 808 Missile Brigade

- (1) Technical and Equipment Department
- (2) Technical Battalion (*Jishu ying*)

80733 Warhead battalion

- (1) Technical Service Station

80734 Measurement Station (*Jiliang zhan*), repair battalion**Base 54:** 80304 (Luoyang, Henan Province)

-Has 7 launch units and 5 engineering units identified to date.

- (1) Headquarters Department
 - Directly Subordinate Work Office
 - Communications Battalion
 - Maintenance Company
 - Anti-Chemical Warfare Company
 - Directly Subordinate Guard Company
 - Engineering Office
- (2) Political Department
 - Organization Office
- (3) Combat Service Office
- (4) 111 Sub-Unit

80304: Technical and Equipment Dept., Site Management Office

80401: 801st Missile Brigade (Nanchao, Lingbo City, Henan)

(1) Technical and Equipment Dept.

(2) Technical Section (*Jishu ke*)

(3) 3rd Launch Battalion

(4) 2nd Battalion

-Sub-units 216 and 262

80404: Formerly 804 Brigade, now believed to be "First Asia Brigade," located in NW plateau

(1) Technical and Equipment Dept.,

(2) 1st Launch Battalion

(3) Preparation/Transportation Battalion

-Measuring and Testing Battery (at Co. level)

-Control System Platoon

(4) 1st Battery (Co. level)

(5) 6th Battery (Co. level)

80413:

(1) Technical and Equipment Dept., Specialized Equipment Section

(2) 1st Launch Battalion

-Technical Support Co.

80741: Training battalion

(1) 3rd Battalion

(2) Training unit

80742: Support unit, located in western Henan

80743: (Western Henan)

(1) 2nd Equipment Inspection Station (*zhuangjian, er zhan*)

(2) Technical and Equipment Office (*chu*, at regiment level)

80744: (Luoyang, Henan)

(moved from Luanchuan, Henan to Luoyang in 1997)

(1) 2nd Car Rooms (*er che jian*)

(2) Dispensary

80590: Engineering Technical Unit

(1) Political Dept.

(2) Organizational Section

(3) Logistics Dept.

(4) Armament Dept.

80591: 1st Installation Regiment, Second Artillery Engineering Technical General Unit (western Henan)

- (1) Sub-unit includes # 13, located in Jingzhou County, Hunan.

80592: 2nd Installation Regiment, Second Artillery Engineering Technical General Unit (Luoyang, Henan)

- (1) 2nd Installation Company
- (2) 5th Company
- (3) Sub-units include 626

80593: 3rd Installation Regiment (engineering technical general unit)

- (1) Processing Company

80596:

- (1) Machine repair shop, and the shop dispensary

Base 55: 80305 (Huaihua, Hunan Province)

-Two launch battalions, one support battalion and one engineering battalion

- (1) Political Department
 - Propaganda Office
- (2) Logistics Department
 - Motor Vehicle Battalion
 - 1st Company
- (3) Anti-Chemical Warfare Company
- (4) Communications Company
 - Telephone Platoon
- (5) Repair Shop
- (6) Cultural Center
- (7) 124 Sub-Unit
- (8) Anti-Epidemic Station
- (9) Qianjing Farm

80305:

- (1) Technical and Equipment Dept.
- (2) Site Management Office

80403: 803rd Missile Brigade, (Jingzhou, Miao-Dong Autonomous County)

- (1) Equipment and Technical Dept
- (2) 2nd Battalion
- (3) Medical Unit
- (4) Technology Battalion,
- (5) Radio Co.

80405:

- (1) 2nd Car Room (*er che jian*)
- (2) Sub-unit 731

80753: Warhead battalion

- (1) 2nd Inspection Station

80504: Engineering Unit (at least one of these units is located at the 55 Base)

- (1) 1st Battalion, 3rd Co, (western Hunan)
- (2) Installation Co.

Base 56: 80306 (Xining, Qinghai)

-Three launch battalions, 2 support units,

80306:

- (1) Technical and Equipment Dept.
- (2) Specialty Equipment Office

80409: (Datong, Qinghai)

- (1) Technical and Equipment Dept.
- (2) Technical Support Office

80412: (Wulan (or Ulan), Qinghai)

- (1) Technical and Equipment Dept.
- (2) Specialty Equipment Office
- (3) Site Management Battalion
- (4) Logistics Dept., Finance Section
- (5) Sub-Unit 122

80431: Experimental or testing unit

- (1) Technical and Equipment Office
- (2) Site Management Section
- (3) 1st Equipment Inspection Station (*jian yi zhan*)

80761 Training battalion

80764

- (1) 2nd Car Room (*Er che jian*)

80310: Storage unit (Baoji, Shanxi Province).

- (1) Technical and Equipment Dept.
- (2) Technical Office
- (3) 1st Office of the Equipment Inspection Station

80435:

- (1) Technical and Equipment Office

(2) Site Management Section

80436:

- (1) Equipment and Management Office
- (2) Railroad Transportation Battalion
- (3) Road Transportation Battalion

80438:

- (1) Second Car Room (*Er che jian*)

80437

80414: 814 Missile Brigade (Yizheng City, Shandong)

- (1) 2nd Technical Support Co.

No location or subordination available for:

80424

80469

80470- (this unit includes a Medical Unit at the Brigade/Regiment level)

80502: (this was an engineering unit noted from 1987-1990 at an UI missile base.

- (1) Engineering section (at regiment level)
- (2) Sub-units of 1st and 6th company

80505

80507 Medical unit, at regiment level

80509

80512:

- (1) Sub-units include 1st and 3rd Company and 3rd Battalion. This unit was reported to have engaged in important national defense construction work in mountains in recent years.

80520: Sub-unit 606

80529: Sub-unit 4th Company

80522:

- (1) Political Office (at regiment level), with sub-unit 634

80597

Hospitals:

Each missile base has an on-site base hospital numbered 531-536. The last digit of the hospital corresponds with the last digit of the missile base and its MUCD.

Post Script

1 March 2001

The October 2000 Revision of Second Artillery Military Unit Cover Designators (MUCDs)

Ellis Melvin and Harlan Jencks

The PLA system of Military Unit Cover Designators (MUCD's, *junshi danwei daihao*) is an operational security measure. It was instituted in the 1950's to provide a minimal level of concealment for the true designations of PLA units and organizations. MUCD's appear in the open press, on unit letterheads, on the signboards of entrances to units' headquarters, on unit buildings such as division hospitals, on scrolls awarded to units, and even on athletic uniforms. Analyses of MUCDs in this open source material can enable foreign analysts to identify units in many articles, aid in identifying unit leaders, help in finding unit locations and movements, and may yield information on individual units' tables of organization and equipment. It is possible in many instances to determine the echelon of an organization from the numbering scheme; identifying an MUCD as army, division, brigade or regiment-level.

Because MUCD's are so widely used, they inevitably become compromised over time. The MUCD system has undergone revisions over the years, most recently in 1975, following its complete compromise during the 'Great Proletarian Cultural Revolution'. Because it was used for so long, the 1975 number scheme was thoroughly compromised.

Natural disasters, such as the floods in 1998, also caused military units to sometimes appear in the clear. This was particularly true in the Shenyang Military Region in civilian news articles about military units fighting the flood in Heilongjiang. The MUCD system that went into effect on 1 Oct 2000 not only remedies the problem of compromised MUCD's in the old system but also remedies problems within the old system caused by changes within the PLA. Under the old system, the abolished Fujian Military Region, Kunming Military Region, Wuhan Military Region and Urumqi Military Region all had their own blocks of numbers. The Air Force was split into two distinct blocks and the General Staff Department and new General Armament Department took over the units that used the old COSTIND block. Three group armies have been abolished, some divisions and their subordinate regiments have been put into the People's Armed Police, downgraded to brigades with the subordinate regiments abolished, or have been made reserve units, or have even been abolished. The intent of the new MUCD system was not only to remedy security problems, but also to reflect the current structure of the PLA.

On 1 October 2000, the MUCD numbering scheme was completely revised for The entire PLA. All GAD units now have new MUCD's in the 63000-series. The Strategic Rocket Force (Second Artillery) has a new set of MUCD's in the 96000-series. While the new Second Artillery scheme is not nearly as transparent as the old one, it has been worked out (mostly) in less than five months, thanks to the availability of a plethora of open source Chinese publications and web sites. Collection was done mostly by SEROLD Hawaii (publishers of the Directory of P.R.C. Military Personalities) and by Ellis Melvin. He and Harlan Jencks collaborated in analyzing the new system, with

assistance from Kenneth Allen and Dennis Blasko. Table 1 presents both the new and old MUCD's for Strategic Rocket Force missile and warhead units, including the launch brigades. Some information on other SRF support units is presented, but these units are still mostly unidentified.

Table 1

Second Artillery MUCDs

Notes: New MUCDs in effect as of 1 October 2000 Old MUCDs in effect 1975
2000

Base/Army-level units in bold

New MUCD	True Name/Designation	Old MUCD
96101	Missile Base 51	80301
96111	Missile Brigade 806	80406
96113	Missile Brigade 810	80410
96115	Missile Brigade 816	80416
96121	UI Support Regiment	
96122?	UI Support Regiment?	
96123?	51 Base Warhead Regiment	80713
96124?	UI Support Regiment?	
96125?	UI Support Regiment?	
96151	Missile Base 52	80302
96161	Missile Brigade 807	80407
96163	Missile Brigade 811	80411
96165	Missile Brigade 815	80415
96167	Missile Brigade 817	80417
96169	UI Missile Brigade?*	
96171	UI Support Regiment	
96172?	UI Support Regiment?	
96173?	52 Base Warhead Regiment	80723
96174?	UI Support Regiment?	

96175?	UI Support Regiment?	
96201	Missile Base 53	80303
96211	Missile Brigade 802	80402
96213?	Missile Brigade 808	80408
96221	UI Support Regiment	
96222?	UI Support Regiment?	
96223?	53 Base Warhead Regiment	80733
96224?	UI Support Regiment?	
96225?	UI Support Regiment?	
96251	Missile Base 54	80304
96261?	Missile Brigade 801	80401
96262	Training Regiment?	
96263	Missile Brigade 804	80404
96265	Missile Brigade 813	80413
96271?	UI Support Regiment?	
96272	UI Support Regiment	
96273?	52 Base Warhead Regiment	80743
96274?	UI Support Regiment?	
96275?	UI Support Regiment?	
96301	Missile Base 55	80305
96311	Missile Brigade 803	80403
96313	Missile Brigade 805	80405
96315	Missile Brigade 814	80414
96321?	UI Support Regiment?	
96322?	UI Support Regiment?	
96323	55 Base Warhead Regiment	80753
96324?	UI Support Regiment?	
96325?	UI Support Regiment?	
96351	Missile Base 56	80306
96361	Missile Brigade 809	80409
96362	Training Regiment?	
96363	Missile Brigade 812	80412
96371?	UI Support Regiment?	

96372?	UI Support Regiment?	
96373	56 Base Warhead Regiment	80763
96374	UI Support Regiment?	
96375	UI Support Regiment?	
96401	Baoji Test & Training Base	80310
96421	Support Unit	
96438	Transport Regiment?	80438
96451	SRF Training Base	80310
96501	UI SRF Army-level Unit	
96512	Subordinate Brigade	
96514	Engineer Regiment in Xinjiang	80552
96516	Subordinate Unit	
96518	Subordinate Unit	
96522	Subordinate Unit in Luoyang, Henan	
96531	UI Engineer Tech General Unit	80590
96542	1st Installation Regiment	80591
96544	2nd Installation Regiment	80592
96546	3rd Installation Regiment	80593
96548	Probable Subord. Regiment	80594?
96552		80596
Unmarked entries have been observed in Chinese publications		
? indicates data deduced from the pattern		

How the System Works: Blocks of Fifty

Second Artillery Headquarters is MUCDs 96000. Units internal to the Headquarters may be numbered 960xx, although none have been reported.

Base/Army-level units, beginning with the Missile Armies, have blocks of 50 numbers, beginning with 51st Missile Army (96101), followed by 52nd Missile Army (96151), 53rd Missile Army (96201), 54th Missile Army (96251), 55th Missile Army (96301), and 56th Missile Army (96351). Missile Armies are followed by other Army-level units, also with blocks of fifty numbers.

Brigade-level units are numbered within their respective Bases/Armies. Missile Launch Brigades use odd numbers only, beginning with the Army MUCD plus ten. Thus, 51st Missile Army controls Missile Launch Brigades 96111, 96113, and 96115.

For the analyst, the good news about the new system is that the MUCD of a Missile Launch Brigade indicates the Army to which it is subordinate (e.g., 9611x brigades all

belong to 51st Army). The bad news is that, in contrast to the old system, the new Brigade MUCDs give no clue as to their true names/numbers. We have to already know (thanks to the old system) that 51 Base controls Brigades 806, 810, and 816.

If the reader finds this system confusing, that is exactly what the Chinese intended.

12. THE INSTITUTIONAL LESSONS OF DISASTER: REORGANIZING THE PEOPLE'S ARMED POLICE AFTER TIANANMEN

By Murray Scot Tanner¹³³⁸

The purpose of this paper is to analyze and evaluate the organizational development of the Chinese paramilitary police forces—the People's Armed Police Corps (*renmin wuzhuang jingcha budui*)—in particular the corps' development and reorganization since the popular demonstrations of 1989.¹³³⁹ After the Beijing leadership's disastrous, bloody mishandling of the demonstrations made martyrs of the students, many in the leadership immediately made scapegoats of the PAP and the regular public security forces—and these forces were universally castigated for their failure to contain and disperse the demonstrators with minimal bloodshed at an early stage of the protests. After Tiananmen, wide-ranging debates broke out among senior Party leaders, police and military officials, over “why the PAP had failed”, what the proper institutional “lessons” of that failure were, and how the PAP should be improved and reorganized to prevent such failures of social control in the future.

Although a good deal of this paper is devoted to describing the PAP's organization, its three central analytical themes concern the following: 1) the internal debates over the various competing “institutional lessons” of the organizational disaster which was Tiananmen; 2) how Chinese leaders have drawn on these perceived lessons to restructure and build the PAP into a powerful, effective, modern, professional paramilitary police force, and; 3) how effective these reforms have been in building up the PAP's new leadership structure, strengthening its political leadership and discipline, and enhancing its personnel, equipment and tactics to transform it into an effective paramilitary corps.

It is hardly a revelation to note that the institutional battles over the PAP that broke out after Tiananmen were powerfully influenced by the “future” political issue of the

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¹³³⁹ For helpful comments and assistance on this chapter the author wishes to thank the conference participants, especially Dennis Blasko, John Corbett, Ellis Joffe, Ellis Melvin, James Mulvenon, David Shambaugh, Michael Swaine, Tai Ming Cheung, Larry Wortzel, and especially the discussant, Cynthia Watson. Wang Jianfeng provided excellent research assistance on the PAP training school structure.

struggle to succeed Deng Xiaoping—and the shifting contest that Jiang Zemin ultimately won over the likes of Yang Baibing, Qiao Shi and others is a crucial thread running through the story of the PAP over the past decade. But the institutional spectre of the past was no less important. Dating back to the early 1930s the Chinese Communist Party (CCP) has witnessed a long, tense, and occasionally bloody institutional struggle over which of three powerful organizational systems should control the CCP's various paramilitary forces—local Party (and later government) leaders, the Party-state's intelligence and public security forces, or the People's Liberation Army (PLA). The institutional fears and prejudices of those historical struggles have exerted a powerful impact on the post-1989 reorganization, and helped determine the organizationally ambiguous compromise leadership system that has emerged after 1995. To set the stage for the changes that follow, this chapter begins with a brief organizational history of the CCP's paramilitary forces from the 1930s to the formal reorganization of the new PAP in 1983, stressing the constant tension among local Party leaders, intelligence-police officials, and the PLA that produced an almost incessant series of reorganizations between 1949 and 1983.

Most journalistic analyses of the PAP's reorganization since 1989 have caricatured it as somewhere between a complete PLA take-over and a transformation of the PAP into Jiang Zemin's personal million-man Praetorian Guard. This chapter by no means disputes that both the PLA and President Jiang have greatly strengthened their influence over the PAP. But a careful review of the available evidence of the PAP's organization reveals a leadership system that is much more complex, stratified, and balkanized than the image of "PLA take-over from the public security system" suggests. Most importantly, local Communist Party Secretaries and governments at the provincial, prefectural and county levels retain significant influence over the PAP—its use and deployment, its funding and logistics, and very possibly its lower level leadership as well. To be a successful leader, Jiang Zemin must keep the support of the PLA; but provincial Party leaders are no less vital a support base for him (particularly financially), and he has fashioned a PAP system that in vital ways protects their interests as "prefects" over their regions. The public security system has, without question, been the biggest loser in the ten-year struggle to control the PAP. But the police have clung to a good deal of control over several portions of the PAP that are vital to several of its missions, and even retains some capacity to command PAP anti-riot forces in combined police-PAP operations.

This chapter will begin by sketching out PAP organizational development to 1989. It will then examine the impact of the Tiananmen disaster. In the institutional development of any nation's security forces, one of the key processes is the highly politicized battles that occur over how to interpret the proper "institutional lessons" to be drawn from key battles over social order control. Next, this chapter will briefly sketch the battles over these lessons that followed Tiananmen—breaking these debates down analytically into three major categories: 1) the PAP's leadership and command structure; 2) the PAP's political-ideological work and loyalty, and 3) a variety of technical and logistical issues including manpower, budgets, weapons and tactics. In turn, this chapter will then analyze and evaluate how the PAP has been reorganized and restructured to try to strengthen it in each of these three categories. The conclusion will attempt an overall evaluation of the PAP's changes since 1989.

ORGANIZATIONAL HISTORY TO 1989

The roots of the tensions among Party secretaries, police-intelligence officials, and the PLA over control of the paramilitary forces date back to shortly after the CCP's flight from the cities in 1927.¹³⁴⁰ The scattered revolutionary groups organized numerous paramilitary policing units to police cities seized in uprisings (such as Nanchang), pacify base areas, guard senior leaders and key meetings, and carry out intra-party purge operations. Their organizational structure increasingly reflected the emerging divide between the fledgling Red Army and the intelligence services that were increasingly modelled on Stalin's NKVD. In the Jiangxi Soviet, the Ministry of Public Security's (MPS) infamous predecessor, the State Political Security Bureau (SPSB), established its own powerful paramilitary units that undertook a number of brutal operations against other Red Army and Party units during the intra-Party purges of the early-mid 1930s.

¹³⁴⁰ The author has analysed many of the early organizational battles over the history of the CCP intelligence and police organs in "Who Wields the Knife? An Historical-Institutional Analysis of Chinese Communist Police and Intelligence Organs, 1927-1950" (ms. forthcoming). Much of the analysis in this section draws on this paper, which is available from the author. Unless otherwise noted, the information in this organizational history is derived from the following several sources: Liu Shaohua, "Wujing Budui: Zhongguo baiwan teshu wuzhuang [The PAP Corps: China's One Million Man Special Armed Force], *Guang jiao jing* [Wide Angle Mirror], April 1998, pp. 42-47 (hereafter *Guang jiao jing*); Yan Li, Li Zhao, and Wang Zhimin, eds., *Zhongguo gongan yewu quanshu* [China Public Security Professional Encyclopaedia], Beijing: Zhongguo renmin gongan daxue chubanshe, 1996 (hereafter ZGGAYWQS), esp. pp. 1302-1304; Zhou Yushu and Xu Shouceng, "Fayang guangrong geming chuantong, baochi zhongcheng weishi bense, jianshe juyou youliang junzheng suzhi de wujing budui [Develop its Glorious Revolution Tradition, Defend its Basic Nature as a Loyal Guard, Construct an Armed Police Corps Possessing Excellent Military and Political Qualities]," in Li Juntong and Yang Jinhe, eds., *Zhongguo wuzhuang lilian tonglan* [An Overview of China's Armed Forces], Beijing: Renmin Chubanshe, 1992, pp. 48-64 (Hereafter "Zhou Yushu"); *Junqi piaopiao* [The Military Flag Flutters], Beijing: Jiefangjun chubanshe, 1999, pp. 646-662; Du Shuyun, "Zhongguo tese de wuzhuang jingcha budui [An Armed Police Corps with Chinese Special Characteristics]," in Chinese Police Society, ed., *Lun Zhongguo tese de gongan* [On Public Security with Chinese Special Characteristics], Beijing: Qunzhong chubanshe, 1998, pp. 121-129 (hereafter Du Shuyun); Wang Jianying, ed., *Zhongguo Gongchandang zuzhishi ziliao huibian: lingdao jigou yange he chengyuan minglu (zengding ben)* [Compendium of Materials on CCP Organizational History: Namelists of the Evolution and Membership of Leadership Organs (Expanded Edition)], Beijing: Zhonggong zhongyang dangxiao chubanshe; *Zhongguo renmin jiefangjun de qishi nian* [Seventy Years of the Chinese People's Liberation Army], Beijing: Junshi kexue chubanshe, 1997, esp. pp. 627-628; *Zhongguo renmin gongan shigao* [Draft History of Chinese People's Public Security], Beijing: Jingguan jiaoyu chubanshe, 1997 (hereafter *Gongan shigao*).

Years later, Marshal Peng Dehuai and other PLA leaders bitterly recalled the damage these paramilitary intelligence units wreaked on thousands of loyal Party and army members. Official Party and police history still criticizes the SPSB for its excessive centralization and vertical leadership (*chui zhi ling dao*), for infiltrating and spreading terror within the Party and army, and for becoming “divorced” from the leadership of local Party committees. Strong evidence indicates that these charges were overstated, but the organizational suspicions and official “lessons” they created endured. From 1939 forward to the present the Party has firmly rejected the NKVD/KGB organizational model, and firmly subordinated public security units to local Party secretaries and governments at all levels. The SPSB’s successor, the Central Social Affairs Department (SAD) also established paramilitary units, including the Central Guards Regiment that protected the Party leadership.¹³⁴¹ But the establishment of independent paramilitary security corps within numerous Red Army units during the 1940s very likely reflected the Red Army commanders’ lingering concerns about these Party-state security troops.

At the risk of oversimplifying, after 1949 these three groups perceived the paramilitary forces very differently. Local secretaries, who are evaluated in large measure on the management of social order and success of campaigns in their regions, want quick, unfettered access to the paramilitary forces in their regions for a variety of security, civil defence, and other coercive missions (and, increasingly, as sources of employment). Moreover, since local governments have historically been responsible for a large part of the budgets of these forces, they feel entitled to use the forces they help pay for. Public security officials want to be able to activate paramilitary forces to quell disturbances, apprehend armed criminals, and perform other duties without having to wait for the approval of distant military units. Another enduring desire of many police officials has been to forge a more centralized, professional paramilitary force well-versed in police investigatory work, under public security leadership, and less subject to unprofessional abuses by local Party and government officials. Control of paramilitaries by the PLA has usually been perceived as a source of unified vertical discipline of a type not possible under China’s public security system, stricter training and better equipment budgets. But in periods when professionalism has been stressed in the PLA, the army has sought to distance itself from the paramilitaries’ social order, economic construction, and civil defense missions. These forces have also been seen as a sap on PLA funding and training time.

These cross-pulling institutional tensions led to near-constant reorganization of the paramilitary forces between 1949 and 1983. The PAP has shifted back and forth among four different leadership systems since 1949. These include “vertical leadership” (*tiao tiao ling dao* or *chui zhi ling dao*) under the military system, “horizontal” or “local leadership” (*kuai kuai ling dao*) under the public security and local Party Committee

¹³⁴¹ On the SAD’s leadership of the Central Guards Regiment at Yanan, see the memoir article by former SAD Secretary General Luo Qingchang, “The Spirit of Serving the People Will Shine Forever”, *Renmin ribao* (RMRB), 5 September 1994, p. 5, in FBIS.

systems, management divided between military and public security (*tiaokuai fenge*), and “dual leadership combining vertical and horizontal” (*tiaokuai jiehe, shuangchong lingdao*).¹³⁴²

The Communist Party’s return to the cities in 1948-49 greatly expanded the need for paramilitary units to establish a transitional armed police presence, ensure leadership security, and undertake counterrevolutionary suppression. In September 1949 the Central Military Commission (CMC) established the Chinese People’s Central Public Security Column (*zongdui*). Wu Lie, who headed the SAD’s Central Guards Regiment (CGR) in Yanan was appointed Commander and Zou Yan was named Commissar. One official source reports that the Column was “subordinate to the Ministry/Department of Public Security” (*Gongan Bu*), although this probably refers to the transitional department established under the CMC in mid-1949 rather than the state police ministry established later that year.¹³⁴³ The Central Column initially consisted of two divisions and one regiment, and, like the CGR, its duties included guarding Central leaders and leadership meetings, and helping to maintain social order in the capital. It reportedly provided meeting site security for the first meeting of the People’s Consultative Congress, the founding ceremony for the PRC, and assisted Li Kenong and the other SAD leaders in guarding Mao Zedong and Zhou Enlai during their trips to the Soviet Union.

Initial efforts to reorganize and standardize the various paramilitary forces under Social Affairs/Public Security and PLA leadership began at the winter 1949 first National Conference on Public Security Work. Initially, control was ceded to the public security units, and over the next five months, SADs/Public Security Bureaus (PSBs) at all levels gradually took over and reorganized the units within their regions. The new forces were now called “The Chinese People’s Public Security Corps” [PSC] (*Gongan Budui*). In addition to the Central Column units noted above, these widely scattered forces included three Public Security Divisions (*shi*), twelve Public Security Regiments (*zongdui*), one Public Order Regiment (*jiucha zongdui*), one Guards Regiment (*jingwei tuan*), three provincial Regiments (*tuan*), and “several” battalions, *zhongdui*, and *dui*.¹³⁴⁴

¹³⁴² Du Shuyun, “Zhongguo tese de wuzhuang jingcha budui,” p. 123.

¹³⁴³ Zhou Yushu, p. 53. Zhou also claims that this unit was established in August, not September, under “Public Security Ministry/Department” (*Gongan Bu*) Leadership. This apparently refers to the transitional “Public Security Department” (*Gongan Bu*) established under the Central Revolutionary Military Council on July 6, 1949 on the basis of the former CCP North China Bureau and Central Social Affairs Departments (with Luo Ruiqing as Department Chief). The state Ministry of Public Security (also *Gongan Bu*) was not officially formed out of the Party’s former Social Affairs Department (SAD) until after October 1 (apparently Oct. 19). The changeover from Party SADs to state Public Security Bureaus (PSBs) varied from place to place, based on the timing of liberation, and according to some sources regional and local SADs continued to exist as late as 1951 or 1952. See *Gongan shigao*, esp. pp. 189, 216, 243-249.

¹³⁴⁴ Zhou Yushu, pp. 53-54.

Separately, the Public Security/Social Affairs departments also began to establish Border Management departments and corps.

The early efforts at reorganization were pulled in opposite directions by the desire for a unified, standardized corps, on the one hand, and the demands of local flexibility and power consolidation, on the other. As early as the end of 1950, China was beginning to see the emergence of a tripartite division of paramilitary duties that would have enduring influence down to the present day, comprised of: 1) the more centralized and militarized forces at Center and at the level of the large Military Regions (MRs); 2) the local Party/Public Security-controlled paramilitary police forces, and; 3) the Central/Provincial public security-controlled Border Defense forces. In September 1950, the Central People's Government and the CMC began trying to unify and standardize the leadership, manpower allotments (*bianzhi*), unit designator codes, supply systems and weaponry of these units under the new name of the Liberation Army Public Security Corps (*Jiefangjun Gong'an Budui*). Minister of Public Security Luo Ruiqing was appointed Commander and Chief Commissar, with Cheng Shicai as Deputy Commander, Wu Lie as Chief of Staff, Li Tianhuan as Deputy Commissar and Ouyang Yi as Political Bureau Chief. The "regular" units at the Center were subordinate to the CMC's Public Security Headquarters (*junwei gongan silingbu*). The leadership of these forces was strengthened by the reassignment of a number of troops from the PLA 20th army corps (*bingtuan*).

To further unify military command over the Central and MR-level forces, the CMC in September established vertical leadership structures similar to the rest of the PLA, with General Staff, Political Work, Logistics, and Cadre Management systems. Next, corresponding leadership organs were established in the Central-South, East China, Northeast, Northwest, and Southwest Military Regions, and in the Railway Public Security Corps (reflecting the capital's sensitivity, the Beijing and North China units remained under the direct control of the CMC Public Security Headquarters).

But for forces below this level, power was being decentralized. A December 1950 CMC/Government Affairs Council joint order placed PSC forces at the provincial and prefectural levels and below under the local Party and government organs at the same level. PSC Headquarters offices within the local Public Security Bureaus commanded these forces and were responsible for their military training, administration and personnel management, and political work.

The third portion of the system, the Border Defense forces, apparently remained independent of the MRs, under Public Security control.¹³⁴⁵ Public security control over much of the border management portion of the armed police corps gradually became established as a tradition, even during most periods when the PLA has dominated this corps. Though the available sources give no direct explanation of this, such an arrangement certainly facilitates merging border inspections with two of the police's other principal organizational duties: residency management and the issuance of passports

¹³⁴⁵ *Zhongguo gongan yewu quanshu* (ZGGAYWQS) p. 1303; Zhou Yushu pp. 55-56; and *Guang jiao jing*, p. 43.

and visas.

Nonetheless, one official military analysis—reflecting a classic military critique of civilian police control over paramilitary forces—has criticized the tripartite organizational structure that emerged at this time. The author argues that even though the system was convenient for carrying out local public security operations, its organization and chain of command were insufficiently unified and smooth, and the locally controlled Public Security Corps “were lacking in strict management.”¹³⁴⁶ In response to such problems, beginning in September 1951 the CMC and the MPS began issuing a series of orders to further unify military control over the PSC, making all internal guards, border defense, and local PSC units’ part of the PLA/PSC. The entire corps was incorporated into the military system with a unified vertical command system.

According to one well-researched Hong Kong account, by late 1951 the “regular” PSC corps under Central and MR leadership was organized into 20 divisions (*shi*) and three regiments (*tuan*), with a total manpower of 188,000. In addition, the PSC included some 322,000 troops under local public security control, for a nation-wide total of 500,000 men. Of the 20 regular divisions, four were Beijing-based infantry divisions that were converted into the Central Public Security Guards Division (*zhongyang gongan jingwei shi*), plus three Public Security Divisions. The rest of the forces were distributed among the Northwest Region (two divisions), the Southwest (three divisions), the Central South (four divisions), the Northeast (one division), the Nanjing/East (*ningdong*) region (five divisions), and the Railway Security Corps (two divisions and three regiments)¹³⁴⁷

A new CMC plan for the corps, signed by Mao in January 1952, attempted to further centralize PLA control over the PLA/PSC’s corps-building system, order of battle, units designators and personnel allotments.¹³⁴⁸ It also attempted to clarify leadership relations and the supply system. The total corps, which had apparently swelled in size, was now greatly streamlined (one source states that the total force was reduced from 630,000 to 580,000 troops. Another states the new number was about 100,000 troops, though this probably refers only to the “regular” forces).¹³⁴⁹ To smooth relations with Public Security units, however, the local PSB chiefs at all levels were designated the political commissars of local PSC units. Perhaps more importantly, all PSC units were ordered to establish a system of Party Committees (*dangwei*), and PSC Party Committees at prefectural and county levels were principally under the leadership of the local CCP Committee. Since local PSB chiefs by this time were also increasingly under the control of local CCP Committees, this would suggest that in the case of the PAP, the PLA’s historical tensions between commander and commissar would have resonated as a

¹³⁴⁶ Zhou Yushu, pp. 53-54. The fact that PAP Commander Zhou restated this classic argument for military centralization of the PAP just two years after Tiananmen suggests it is hardly of mere historical interest.

¹³⁴⁷ *Guang jiao jing*, p. 43.

¹³⁴⁸ Zhou Yushu, p. 54.

¹³⁴⁹ *Guang jiao jing*, p. 43; Zhou Yushu, p. 54.

cleavage between the vertical military influence of PAP commanders and the horizontal influence of local Party Committees.

Official historiography stresses that by 1955 the PRC's "changed circumstances" encouraged yet another reorganization of the corps—in particular, the CCP had successfully consolidated control over social order and China's borderlands, land reform had succeeded, the economy had recovered, and a surprisingly smooth socialist transformation had been achieved in agriculture and industry. The simultaneous moves for PLA professionalization and the strengthening of state legal organs throughout the system formed the backdrop for the Party Center, State Council and CMC to order a reorganization of the PSC.

In July 1955 the Ministry of Defense transformed the Central, MR and provincial/municipal-level PSC units into the "PLA Public Security Army" (*gongan jun*), and named it one of the PLA's five main armies. All units, leading organs and training institutes underwent a corresponding name change. Provincial-level PSC leadership organs were abolished and provincial MRs began simultaneously to serve as "Public Security Headquarters" (*gongan silingbu*). Key border guard units were subordinated to the MR system. By the end of 1955 the Public Security Army totalled 400,000 troops nation-wide, including several Internal Guards divisions, Garrison divisions, and Border Defense Main Posts (*zong zhan*).

At the same time, the PSC units at the Special District (prefectural) and County levels were returned to the control of local governments and Public Security Bureaus, and were transferred from PLA personnel allotment (*bianzhi*) to public security *bianzhi*. These units were renamed, for the first time in PRC history, as the "People's Armed Police." The MPS and provincial PSBs established PAP Bureaus or Offices. One public security source states that with the reassertion of local public security control over prefectural and county PAP units, "the system had basically returned to what it had been before 1952."¹³⁵⁰

In the wake of the Eighth Party Congress' call to streamline the military and improve its quality, the CMC in January 1957 convened an expanded meeting that decided to reduce the PLA's "five major armies" to three. In September, the Public Security Army's unit designation was abolished, and it was temporarily transformed into the "Garrison Department" (*jingbei bu*) under the General Staff Department. Luo Ruiqing, however, remained as Commander and First Commissar, and Li Tianhuan continued in the chief of staff role, now called "Department Chief" (*buzhang*). Between March and August the Public Security Army's leading organs at the military region level were also abolished.¹³⁵¹ A few of the PSA divisions were handed over to the provincial military regions or to urban garrison commands, while many of the local units guarding

¹³⁵⁰ Zhongguo gongan yewu quanshu, p. 1303.

¹³⁵¹ Zhou Yushu (p. 55) notes that the Beijing, Shenyang, Jinan and Lanzhou MRs established Garrison Offices (*jingbei chu* or *weishu qinwu chu*) in lieu of the PSA offices, while the other MRs ran their internal guards units from their Warfare or Intelligence Departments.

detention centers reverted to the control of local PSBs.

Beginning in early 1958, the wholesale decentralization of power to local Party Committees that accompanied the onset of the Great Leap Forward accelerated this most recent reorganization of the PSC, prompting its return to local Public Security control. In August the Party Center approved the CMC's "Report on the Question of Reorganizing the Public Security Corps". By year's end, the entire Corps was renamed the "People's Armed Police." The GSD Garrison Department, barely a year old, was closed and merged with the Ministry of Public Security's Sixteenth Bureau to form a new MPS Fourth Bureau responsible for the PAP. But overall, the system was organized along local leadership (*kuaikuai lingdao*), not Ministry of Public Security leadership. Provincial and local PSBs formed their own Armed Police Corps and took charge of the internal guard units responsible for guarding prisons, most factories, ports, schools, and even the borders with other socialist countries. The PLA, however, kept control over the internal guards units responsible for Central and provincial bodyguard duty, disaster relief, important factories and bridges, and sensitive ports and international borders.¹³⁵²

In the wake of the Great Leap Forward disaster, a partial recentralization and remilitarization of the forces was undertaken in November 1961. As in 1951-52, strengthening leadership and discipline was given as a justification. The Party Center established a dual public security-military leadership system. The CMC and PLA general departments took charge of all corps-building activities, but police professional work and all public security duties and operations were led by public security organs. The PAP also remained within the public security system. In December, the State Council appointed a new PAP leadership. Continuing past practise, recently appointed Minister of Public Security Xie Fuzhi was jointly appointed Commander and Chief Commissar. However, Luo Ruiqing's longtime subordinates Li Tianhuan and Wu Lie remained, now as Second Commissar and Chief of Staff. The fact that Premier Zhou Enlai (and not Mao as CMC Chairman) officially signed these appointments suggests that PAP cadre management also remained primarily within the state (e.g. public security) system rather than the military system. In February 1963 the PAP was again renamed the Chinese People's Public Security Corps, though no further reorganizations were undertaken at that time.

On the eve of the Cultural Revolution, in February 1966, Mao personally ordered yet another reorganization of the PSC, and by July it had been abolished as an independent unit. Its leading organs were placed under the control of the PLA's Second Artillery. Not surprisingly, its official leadership lines became more confused than ever. Official military and public security sources indicate that the PSC was now within the infantry system, and that nation-wide its subordinate forces were "under the leadership of provincial military regions system". Many units were reorganized as "independent divisions, regiments, companies, etc. and county-level *zhongdui*." These fell under the leadership of the provincial military regions and municipal garrison commands. Former PAP Commander Zhou Yushu, however, insists that these forces were still under the

¹³⁵² *Zhongguo gongan yewu quanshu*, p. 1303; and Zhou Yushu pp. 55-56.

Party Center's unified leadership and the "dual leadership of the military system and local Party Committees", and that in their guard and public security duties they remained under the command of local public security organs.

As with the public security organs and the PLA as a whole, the twisted tale of the PSC's collapse during the Cultural Revolution would require a separate book to analyze. As the political-legal organs came under attack and were ultimately destroyed between 1966-68, the various local PSC units seem to have been absorbed by a variety of competing local military units. In Beijing, for example, the CMC ordered the PSC taken over by the Beijing Garrison Command.¹³⁵³

The reorganization of the current People's Armed Police Corps occurred in stages from 1979-85, and was driven by a number of forces. From a military perspective, the PAP's reformation reflected Deng's desire to streamline and rectify a bloated PLA that was involved in far too many aspects of government and society. From the public security perspective, this move must be seen as part of a much broader effort to reorganize, civilianize, and professionalize internal security, intelligence, and legal coercion.¹³⁵⁴ One of the first steps toward forming the new PAP was the gradual reassertion of the public security system's traditional leadership over border management. The April 1979 National Border Defense Work Conference was called to readjust border security to meet the needs of the new "open door" policy. By the end of the year the State Council and CMC had approved a greater unification of the Central and local border security armed police forces, under the leadership of a new MPS Border Defense Security Bureau (holding the rank of an Army) and similar organs under provincial PSBs.

The major transfer of paramilitary units occurred in June 1982, in response to an MPS request for a full-scale reorganization of the armed police. The State Council and CMC ordered control over the PLA's Internal Guards Duty Forces and the various local PLA units assigned to internal security work transferred to the Public Security departments. These included most of the garrison units from Beijing and many major cities, many of which had been transferred from public security units to the PLA during the early GPCR. Indeed the PAP's new commander, Li Gang, was the former Beijing Garrison Vice-Commander.¹³⁵⁵ These units were soon combined with the original public security active service border defense, armed police, and fire-fighting units to form

¹³⁵³ *Zhongguo gongchandang beijingshi zuzhishi ziliao*, 1921-1987, pp. 778, 784-5.

¹³⁵⁴ This complex process was much more than just a strengthening of the public security forces at the expense of the regular military. Only one portion of this was the post-Cultural Revolution removal of a vast array of civilian functions from PLA control. During the same period (1979 to 1983), the Party leadership also removed a number of judicial functions from public security control (reestablishing the procuracy and handing over most of the prison system to the revived Ministry of Justice system); and transferring civilian intelligence work from the Party to the state (converting the Central Investigation Department to the Ministry of State Security).

¹³⁵⁵ *Xinhua*, 27 April 1983, trans. BBCSWB.

the new People's Armed Police Corps, which was formally established on April 5, 1983.¹³⁵⁶ Over the next two years--in part due to the million man cut in the PLA--several specialized security units from the PLA Capital Construction Corps (for Gold, Water & Electric Power, and Transportation), and the Armed Forestry Police were also absorbed into the PAP. The PAP Headquarters, plus special bureaus for Guards (*jingwei*) work, Border Defense, and Fire-Fighting were established within the Ministry of Public Security to oversee some of these specialized units.¹³⁵⁷

Officially, the new PAP was under the joint unified leadership of the Party Center, State Council, and CMC; it was simultaneously regarded as "one of the armed forces (*wuzhuang liliang*) of the Party and state" (along with the PLA and militia) and "a constituent part of the public security departments". Its Main Corps (*zongbu*) was organized under the MPS, and the PAP personnel allotments and finances were both "under the unified management of the MPS PAP Main Corps."¹³⁵⁸ Reflecting its public security leadership the PAP was, and still is, organized according to state administrative units rather than large military regions. In fact, the sources reviewed for this paper indicate no PAP presence at the MR level, though occasional reports suggest the MR's may have some role in PAP training.¹³⁵⁹ Reportedly, the PAP Main Headquarters originally held a "deputy military region" (*fujunqu*) military rank, and during the mid-1990s was promoted to the full MR (*zhengjunqu*) level.¹³⁶⁰ Provincial-level PAP "General Corps" (*zongdui*) initially held the rank of a division (*shi*), although since the PAP Main Headquarters' promotion, an unspecified number of these units have reportedly been promoted to the "deputy military region" rank. PAP units at the provincial, prefectural/municipal, and county levels were under the leadership of local Party Committees and Public Security departments, and superior level PAP corps. The system was called "unified planning, with management and command divided by levels" (*tongyi guihua, fenji guanli, fenji zhihui*), indicating strong local Party Committee and public security control, especially over the crucial area of personnel hiring, dismissal and promotion. The PAP corps combined forces under conscript and voluntary service, and

¹³⁵⁶ *Gongan shigao*, pp. 413-414.

¹³⁵⁷ *Guang jiao jing*, p. 44.

¹³⁵⁸ *Gongan shigao*, p. 414; *Zhongguo renmin jiefangjun de qishi nian*, p. 628 on budget and *bianzhi*.

¹³⁵⁹ An interesting indication of this point is the "Rules on the Use of Force to Cope with Turmoil and Riots" issued by the NPC Standing Committee, CMC and State Council in early January 1994. These rules were relayed to provincial-level public security and PAP units, provincial military districts and party committees of garrison commands—but not to the large MRs. See *Cheng ming*, 1 March 1994, p. 21.

¹³⁶⁰ The rank is cited in *Guang jiao jing*, pp. 45. This rank is strongly suggested by protocol evidence. In recent years when the PAP Headquarters is cited in official press it is usually grouped with the Military Regions.

was supposed to follow PLA rules and regulations.¹³⁶¹ PAP forces were also supposed to enjoy the same salaries, benefits and treatment as regular PLA forces, which would in principle place them on a somewhat higher scale than regular public security forces.¹³⁶²

The basic organizational structure of the PAP laid down at this time largely endures today, and is summarized in Table 12.1 (below). Equivalent PAP and PLA units are summarized here.

Table 12.1 Basic Organizational Structure of the PAP

State Administrative Unit	PAP Unit	Equivalent PLA Unit
Central Province (inc. Autonomous Regions and Directly Administered Cities)	Main Corps (<i>zongbu</i>)	Military Region (<i>zheng junqu</i>) ¹³⁶³
	General Corps (<i>zongdui</i>)	Some: Dep. Milit. Reg (<i>fujunqu</i>) other equal to a Division (<i>shi</i>) ¹³⁶⁴
Prefecture/Municipality	detachment (<i>zhidui</i>)	regiment (<i>tuan</i>) ¹³⁶⁵
County	battalion (<i>dadui</i>)	battalion (<i>ying</i>) ¹³⁶⁶
	or company (<i>zhongdui</i>)	company (<i>lian</i>) ¹³⁶⁷

Although nearly all available sources currently estimate the total PAP Corps at approximately one million men, accurate and complete estimates of the total number of PAP detachments (*zongdui*) in each province are not possible on the basis of the available evidence.¹³⁶⁸ Several official sources state that during the 1980s and 1990s, “each”

¹³⁶¹ Gong'an shigao, p. 414; Zhongguo renmin jiefangjun de qishi nian, p. 628 on budget and bianzhi.

¹³⁶² Back to the early years of the PRC, the official standard for public security forces has been that they should enjoy salaries, benefits and treatment “a bit higher than other administrative cadres in the area, and a bit lower than the PLA.”

¹³⁶³ Equivalent PLA ranks, *Guang Jiao Jing*, p. 44.

¹³⁶⁴ Ibid.

¹³⁶⁵ Ibid.

¹³⁶⁶ Ibid.

¹³⁶⁷ Ibid.

¹³⁶⁸ Tai Ming Cheung, “Guarding China’s Domestic Front Line: The People’s Armed Police and China’s Stability” *China Quarterly*, No. 146, June 1996 p. 525-547. Page 531 provides data culled from *Renmin wujing bao* [People’s Army Police] for nine provincial level General Corps, circa 1995.

government administrative unit from the Center to the country-level has established its own PAP units. Since most of these were established during the period of public security leadership of the PAP, we might, in principle, want to use the total number of public security departments at these various levels as a very rough base from which to start making estimates of PAP units. These figures are available for 1995 from internal Public Security sources:

**Table 12.2 Public Security Departments by Geographical/Administrative Level
(1995)¹³⁶⁹**

<i>Provincial level</i>	30
<i>Prefectural/Municipal level</i>	345
<i>County level</i>	2,845

But the total number of PAP units is far more complex than a simple function of the total number of public security or other government administrative units at these various levels. As in most countries, police resources in China are terrifically skewed by region, and local government administrative units vary greatly in terms of the number of police units they are authorized or can afford to establish within their territory. Regular public security police and PAP concentrations (relative to population) are much higher in densely populated cities, wealthier regions, and politically or ethnically “sensitive” regions. The Central government has devoted massive resources to ensuring the capital’s security; Beijing was until recently the only provincial-level unit in China with more than one PAP General Corps (*zongdui*) (the second, created by the transfer of martial law PLA forces to the PAP in 1989, was merged with the original *zongdui* in 1999), and the capital enjoys a ratio of regular public security police to citizens that is almost fifty percent higher than the second most densely policed city (Shanghai).¹³⁷⁰ Provincial level General Corps, moreover, are not only in charge of the PAP units under lower-level

¹³⁶⁹ Ministry of Public Security Public Security Research Institute, comp., *Qicao renmin jingchafa cankao ziliao xiexuan* [Selected Reference Materials for Drafting the People’s Police Law], Beijing: Qunzhong Chubanshe, 1997, p. 3.

¹³⁷⁰ On the two Beijing PAP *zongdui*, see the meticulous account by Dennis J. Blasko and John F. Corbett, Jr., “No More Tiananmens: The People’s Armed Police and Stability, 1997,” *China Strategic Review*, Volume III, Issue 1, Spring 1998, pp. 80-103, esp. pp. 81. For more recent confirmation, see the 1998 article authored by an officer in the Beijing No. 2 *zongdui* in *Renmin wujing bao*, 1 August 1998, p. 3. I am grateful to Dennis J. Blasko for noting their recent merger to me in a personal communication, July 2000. In 1995 the ratio of public security police per 10,000 citizens in Beijing was 35:10,000, in Shanghai it was 26.9:10,000, in Tianjin 23:10,000, and the falloff from there to other regions is dramatic. This data is from the internal circulation volume *Gongan renshi guanli* [Public Security Personnel Management], Beijing: Qunzhong chubanshe, 1998, pp. 67-68.

government administrative units within their territory (e.g. the various prefectural *zhidui* and county *zhongdui* and *dadui*), they also command a number of directly subordinate detachments that are not tied to lower-level administrative units. Other sources note, moreover, that some county-level PAP corps have established a single PAP battalion or company, while others have several.

For Western analysts, one PAP organizational issue of great interest has been the buildup of PAP numbers through the transfer of several divisions of PLA forces since the mid-1990s. By meticulously analyzing a new series of four-digit PAP unit numbers (all between 8610 and 8750), and examining the PLA career backgrounds of several officers within these units, Blasko and Corbett have provided convincing evidence that by late 1996, fourteen new division-sized units (probably numbering around 150,000 troops) were very likely converted *en masse* into new PAP divisions (equivalent to *zongdui*). In addition to the more obvious motivation of beefing up the PAP's internal security capacity, these authors argue that the transfer would have permitted to PLA to reduce its redundant manpower substantially by hiving-off presumably inferior troops onto the PAP, where much of their budget would come from non-Central, non-PLA sources.¹³⁷¹ A variety of subsequently published PLA and PAP sources indicate that at least several of these units have become PAP mobile divisions, and they have been stationed in a number of locations around the country, including Xinjiang, Hebei, Yunnan, and the Chengdu Military Region.¹³⁷²

Tiananmen and Struggles Over Its Lessons

Inevitably, in the wake of the crisis, waves of conflicting analyses were put forward as to why the PAP and public security forces failed to maintain control over the demonstrators, why the PLA-led suppression was so bloody, and how the paramilitary police corps should be reorganized to prevent future such disasters. Just as inevitably, from the very start these “professional” debates over strengthening the PAP were intertwined with longstanding institutional struggles for control of China's various security forces, and with leadership succession politics.

Analytically, these arguments over how best to strengthen the PAP can be usefully broken down into three major categories: issues of political work, loyalty and ideology; issues of organization and command structure; and issues of equipment, budgets and training. At the same time, it will become clear that a number of these categories are tightly intertwined. For example, the seemingly distinct issues of how to strengthen Party leadership, how to tighten military command structures, and how to guarantee adequate budgets all reflect one of the most persistent debates in CCP security history: is it best for internal security forces be controlled “vertically” by security “professionals”, or “horizontally” by local Party and government “generalists”.

A wide array of powerful critiques swirled around the failure of political-

¹³⁷¹ Blasko and Corbett, “No More Tiananmens”, esp. pp. 82-87.

¹³⁷² The source of this information is various reports from *Liberation Army Daily*, *People's Armed Police Daily*, and other PLA publications.

ideological work in the PAP and public security forces. At the level of ideology and social order strategy, debate raged over whether or not police leaders had made an ideological error in underestimating the “planned, conspiratorial nature” of the demonstrations. In the spring of 1989 senior Public Security officials had criticized local police officials in Nanjing for their excessively harsh handling of recent student demonstrations, charging that they turned a small problem into a major one.¹³⁷³ After Tiananmen, hard-line police, intelligence and military officials countered that the police had been far too tolerant and “soft-handed” in dealing with the Beijing crowds. Referring to pre-1989 internal debates on police reform, they also hammered reformist political-legal leaders for who had argued that during the reform era, class enemies were less of a threat, and the “weapon of dictatorship” needed to be weakened or used less.¹³⁷⁴ Many critics also charged that the failure of ideological training had also contributed to demonstrations by making the masses angry at public security and PAP forces that were corrupt, greedy, and indifferent.

At the level of organizational ideology, debates raged over whether or not the PAP possessed the “unconditional” ideological commitment to the Party leadership and the military-style discipline necessary to put down such popular demonstrations. These forces had been far too susceptible to appeals from the demonstrators, and far too slow to follow orders to suppress them. Speaking several months after the crisis, Minister of Public Security Wang Fang conceded that “there is no denying” that ideological work in the corps had suffered greatly in recent years—but he quickly laid the blame for this mistake squarely at the feet of the regime’s newest designated scapegoat, reformist ex-General Secretary Zhao Ziyang. Wang Fang insisted that making ideological and political work more “revolutionary” and strengthening Party loyalty and Leninist discipline was *the most important change* required in the wake of Tiananmen.¹³⁷⁵

The collapse of European Leninism between 1989 and 1991 provided hard-line

¹³⁷³ This was at the National Political-Legal Work Meeting. See MPS Vice Minister Yu Lei’s speech published in *Renmin ribao*, cited by *Reuters*, 24 January 1989; also Qiao Shi’s speech excerpted in *Shehui zhi’an zonghe zhili zhengce fagui huibian* [Collected Policy Documents on the Comprehensive Management of Social Order] Beijing: Qunzhong chubanshe, 1992, p. 60.

¹³⁷⁴ The author has analyzed internal debates over public security policy during this period in Murray Scot Tanner, “Ideological Struggle Over Police Reform, 1988-1993” in Edwin A. Winckler, ed., *Transition for Communism in China*, Boulder, CO., Lynne Reinner, 1999, pp. 111-130.

¹³⁷⁵ Wang Fang, “Zai quanguo gongan zhengzhi gongzuo zuotanhui shang de jianghua [Speech at the National Forum on Political Work in Public Security],” *Renmin gongan bao*, 12 September 1989, p. 1, in FBIS-CHI, 4 October 1989, pp. 15-20; also Wang Fang, “Zai quanguo gongan zhanxian zhizhi shehui dongluan, pingxi fangeming baoluan qinggong biao Zhang dahui shangde jianghua, [Speech at the National Public Security Front’s Commendation Rally for Ending the Social Turbulence and Pacifying the Counterrevolutionary Riot],” 21 July 1989 in *Renmin gongan bao*, 25 July 1989, pp. 1.

Leninists with more rhetorical ammunition for their attacks on the Western bourgeois notion of a “non-party police force”. PAP officials have drawn on Russia’s post-Soviet social order problems to drive home this point. One PAP leader has pointed to attitudinal surveys taken among the Paramilitary forces of the Russian Interior Ministry that show only minority support for fighting the war in Chechnya even among the officers. He blames this shocking loss of fighting morale on the abolition of the Party Commissar system and the deterioration of Party leadership. Were it not for the Party’s long-time leadership and concern with the PAP forces, he argued, the PAP would not have been able to achieve whatever success they did enjoy in 1989.¹³⁷⁶

The issue of ideology and discipline soon telescoped into a more general organizational struggle over whether or not the PLA should reassert leadership over the PAP’s personnel, training, and discipline. The PAP leadership, especially Commander Li Lianxiu, faced considerable internal criticism for their “weak and lax” command in the face of demonstrations. During the martial law period, these problems were reportedly exacerbated by a series of personal clashes between PAP and regular PLA officers.¹³⁷⁷ Initially, the PLA, public security organs, and local Party organs were all ordered to “strengthen leadership” over the PAP. But soon, a growing debate emerged among police and security specialists that involved a profound criticism of the failures of the decades old CCP system of local Party Committee dominance over police organs. Although by 1990, public security officials had failed to significantly strengthen vertical professional police control of public security units, the debate helped reframe the issue of what to do about the PAP into a question of how to *centralize* its leadership system, something that

¹³⁷⁶ Du Shuyun, “Zhongguo tese de wuzhuang jingcha budui,” in *Lun Zhongguo tese de gongan*, Beijing: Qunzhong chubanshe, 1998, p. 121-129.

¹³⁷⁷ As I have noted above, such criticism is implicit in the article by PLA Staff College official Guo Shenggui, “Reflections on the Theory of Countering Riots Under the People’s Democratic Dictatorship,” *Renmin gongan bao*, 22 September 1989, p. 3. Among others reporting such leadership criticism of the PAP are Tai Ming Cheung, *China Quarterly*, July 1996; Willy Wo-lap Lam, *China After Deng Xiaoping*, New York: Wiley, 1995, pp. 256-261, and more generally pp. 202-211; Gao Xin, *Qiao Shi*, Hong Kong: Shijie Shuju, 1996; Nan Chien, “The Present Situation of the Armed Police Force After the ‘June 4’ Incident,” *Tang Tai* [Contemporary] (Hong Kong), 20 January 1990, pp. 10, 41, in FBIS-CHI, 30 January 1990, pp. 15-17; Willy Wo-Lap Lam, “Armed Police Leadership in Loyalist Hands,” *South China Morning Post*, 16 February 1990, p. 11, in FBIS-CHI, 16 February 1990, pp. 8; Ho Po-shi, “Purge Within the Armed Police Force,” *Tang tai* [Contemporary] (Hong Kong), 17 February 1990, p. 8, in FBIS-CHI, 26 February 1990, pp. 24-25; “Chinese Armed Police Force Changes its Organizational System and is put Directly Under Central Military Commission,” *Ming Pao* (Hong Kong), 25 February 1990, p. 18 in FBIS-CHI, 26 February 1990, pp. 25-26; Willy Wo-Lap Lam, “Major Shuffle of Police Leadership Planned,” *South China Morning Post*, 5 March 1990, p. 1, in FBIS-CHI, 5 March 1990, pp. 17-18; and Ho Pin and Kao Xin (Gao Xin), “Enigmatic Qiao Shi,” *Tang tai* [Contemporary] (Hong Kong), 15 January 1993.

is far more possible in the PRC's military system than it is in the public security system.¹³⁷⁸ The other force exacerbating the debate over militarization of the PAP was the post-Deng leadership succession struggle among Yang Baibing, Jiang Zemin, Qiao Shi, and Li Peng—each of whom apparently saw control of the PAP by the organizational systems they dominated as a significant prize in the succession sweepstakes.

Another school of thought focused on the demonstrations as a “technical” issue—and stressed the need for “modernizing” PAP and public security crowd control tactics and anti-riot equipment. It was also widely accepted that the corps was far too small and lacked the kind of non-lethal demonstration control skills to contain large crowds. Both the size and sudden growth of the demonstrations had caught the MPS and PAP off guard. A review of public security officials' statements in early 1989 make clear that they never anticipated a major series of demonstrations. After Tiananmen, Minister of Public Security Wang Fang admitted quite frankly that they had greatly underestimated the potential size of the crowd.

Of course, even the most technically oriented debate still had powerful ideological assumptions behind it. Hard-line and moderate recommendations on anti-demonstration strategy turned on their varying interpretations of the motivations of the demonstrators. Those who uncritically accepted the “planned conspiracy” interpretation of the demonstrations wanted to intimidate China's foes, and were not necessarily interested in minimizing the power or even the lethality of the security forces' response. One tough-minded PLA Staff College official, Guo Shenggui, argued in *People's Public Security Daily (Renmin Gong'an Bao)* that since the demonstrations were tightly organized and led by conspirators, the Party and state's responses must first focus on ideological “prevention” of protests. But failing that, a swift, decisively repressive response was necessary to deter future such demonstrations. Guo's preventive techniques stressed greatly improved infiltration and surveillance of dissidents and illegal groups, in addition to ideological-moral mass education, Party building, and more careful control of economic dislocations. A decisive response required Central-level leadership coordinating groups, strict control over mass media to limit popular involvement, and better use of mass anti-riot organizations throughout government and work units. Guo also implicitly criticized both the Center and the MPS and PAP for their slow, controlled response to the Spring demonstrations by stressing that in future “riots,” the Center should make its views more clear, move quickly to declare martial law, and swiftly employ Public Security, PAP, and PLA forces to repress the demonstrations.¹³⁷⁹

¹³⁷⁸ These issues of central/provincial/local control over public security in China are analyzed in some detail in Shu Huai, Murray Scot Tanner, and Wang Jianfeng, “Central-Local Relations and State Legal-Coercive Power: Decentralized Policing, Social Control, and Rule by Law in China” draft article presented at the 2000 Midwest Conference on Asian Affairs, Bloomington, IN, 6 October 2000.

¹³⁷⁹ Guo Shenggui, “*Dui renmin minzhu zhuanzheng xia fangbao lilun de sikao*, [Reflections on the Theory of Countering Riots Under the People's Democratic Dictatorship], “*Renmin gongan bao*, 22 September 1989, p. 3.

This forceful prescription has met with strong disagreement from some MPS officials. Much of this counterattack was reminiscent of early-Spring 1989 MPS critiques of the mishandling of December 1988 Nanjing university demonstrations by local officials.¹³⁸⁰ Police scholar Du Shuyun wrote that “armed interference” in suppressing riots “...may lead to two possibilities: one is the successful suppression of the riot. But the other is the occurrence of even bigger riots and their negative effects.”¹³⁸¹ In stark contrast to Guo’s demand for greater forcefulness, Du Shuyun laid out six “principles” of dealing with riots which add up to a scathing attack not only on Guo, but also on the PLA’s handling of the June 3-4 operation. Du contended that in using force, officials should adhere to the principles of “being cautious”, “maintaining good public relations”, “being humane”, “letting *those who understand the crowd* give orders [implicitly, this would seem to refer to local Party and police officials]”, “taking the overall situation into account,” and “upholding laws and policies.” His support for a professional, controlled, low-violence policing operation was clear.

Succession Politics and the Restructuring of PAP Leadership and Management

The efforts to strengthen CMC and PLA leadership over the PAP soon became inextricably intertwined with leadership politics, in particular the contest between Jiang Zemin, then-CMC Secretary General Yang Baibing, and security chief Qiao Shi. As a result of their competition, the PAP leadership underwent at least two major leadership reshuffles between 1989 and 1995, apparently in tandem with PLA leadership purges. The efforts of CMC member Yang--and later Jiang--to strengthen their position also provided a major motive force for the PLA’s assertion of power over the PAP.

Throughout late 1989 and 1990, Yang Baibing pushed to strengthen the CMC’s (and his own) control over the PAP’s political work, command structure, and leadership at the expense of public security leaders. Yang’s success in PAP personnel matters was considerable, albeit short-lived. In February 1990 the entire PAP leadership was fired, and Yang was reportedly able to place a number of officers close to him in high-ranking PAP positions.¹³⁸² Commander Li Lianxiu was replaced by Zhou Yushu, a commander

¹³⁸⁰ See the comments at the Spring 1989 Public Security Work Conference by Vice Minister Yu Lei, reported by *RMRB* cited by *Reuters*, 24 January 1989.

¹³⁸¹ Du Shuyun, “Superficial Views on the Principles Concerning the Use of Force in Coping with Riots,” *Renmin gongan bao*, 17 November 1989, p. 3, in FBIS-CHI, 28 November 1989, pp. 18-19.

¹³⁸² “State Council Appoints New Armed Police Chiefs” *Xinhua*, 13 February 1990, in FBIS-CHI, 13 February 1990, p. 14. Gao Xin, in his biography of Qiao Shi, argues that none of the four officers dismissed was reassigned, and interprets this as a particularly harsh attack on officers with ties to Qiao Shi and Wang Fang. That they were not reassigned appears to be confirmed by a comparison of the men’s biographies in the 1990 and 1994 editions of *Who’s Who in Current Chinese Leaders*, Beijing: Foreign Languages Press. All four men---Li Lianxiu, Zhang Xiufu, Fan Zhilun and Zhang

of the Beijing Military Region's 24th Army Group, which was commended for valour in suppressing the 1989 demonstrators.¹³⁸³ All of the new PAP leaders but one were career PLA officers, not PAP or Public Security officials. The turnover also coincided with the transfer of several tens of thousands of PLA forces into the PAP as martial law was being lifted in Beijing.¹³⁸⁴

It is far less clear, however, how successful Yang was in taking organizational control of the PAP. Although several Hong Kong press sources reported in 1990 that under Yang the PAP was removed from Public Security control and placed under direct leadership of the CMC, that point is incorrect.¹³⁸⁵ The newly available materials reviewed for this chapter provide much greater support for the view that the CMC won more modest, unspecified influence over the PAP in late 1989. The real expansion of the PLA's organizational power over the PAP took place between 1993 and 1995 when Yang Baibing was long gone.

Although there were several unconfirmable reports at the time that Jiang had supported Yang's plan for a PLA take-over, the available evidence suggests that Jiang was less committed at this point, and instead tried to strike a balance between the interests of PLA leaders and provincial Party secretaries. Between 1989 and 1995 Jiang kept his views flexible, forming tactical alliances against different adversaries at different times. Official sources indicate that immediately after 1989, when Jiang's position vis-à-vis the Yang brothers on the CMC was weaker, he spoke up in defence of local Party secretaries' interests and declined to support a wholesale military take-over of the PAP. In 1990 Jiang, drawing on his experiences as a provincial secretary, argued that local Party committees and governments needed to be able to "activate" and "employ" the PAP quickly and flexibly in response to local needs. Excessive centralization would mean that during emergencies, situation reports and requests for PAP backup would have to travel up too many levels of civilian and military bureaucracy, dangerously delaying effective response.¹³⁸⁶ Jiang may have been forming a tactical alliance with provincial secretaries

Haitian--are listed in the 1990 edition, and only Zhang Xiufu appears in the 1994 edition. Moreover, Zhang was not appointed to his first post-PAP position (in Qiao and Wang's political-legal sector as Vice Minister of Justice) until 1991.

¹³⁸³ Kuo Wen-hsing in *Ming pao* (Hong Kong), 27 October 1992, p. 5.

¹³⁸⁴ Tai Ming Cheung, *China Quarterly*; and Willy Wo-Lap Lam, *China After Deng Xiaoping*.

¹³⁸⁵ Among the sources reporting or suggesting this change are Tai Ming Cheung, "Security Shuffle", *Far Eastern Economic Review*, 1 March 1990, p. 20. Mr. Cheung's later *China Quarterly* article, based on extensive PAP interviewing, seems to amend this interpretation. Other sources claiming a complete CMC takeover include Willy Wo-Lap Lam, *China After Deng Xiaoping: The Power Struggle in Beijing After Tiananmen*, Hong Kong: P. A. Professional Consultants, Ltd., 1995, p. 257.

¹³⁸⁶ Jiang Zemin's 1990 speech is discussed in Xu Yongqing, "Xinshiqi wujing budui jianshe de zhongyao zhidao sixiang, [Important Guiding Ideology for Building the

as well as Qiao Shi and the public security leaders, who were seeking somewhat more centralized control over PAP forces, but within a civilian control structure.

However successful Yang was for a time, by 1992 he and his brother had overplayed their hands badly, sparking the kind of broad opposition that the late Soviet specialist Al Meyer once labelled a "struggle *against* power." Many senior military and Party leaders grew far more fearful of the Yang brothers' power-building efforts than they were of similar efforts by Jiang Zemin. In a backlash, many senior Party leaders and senior PLA officers severally petitioned Deng Xiaoping to remove Yang Baibing from his military posts at the fall 1992 Fourteenth Party Congress.¹³⁸⁷

Three Congress decisions--to sack Yang Baibing; to give Qiao Shi charge over the increasingly influential National People's Congress; and to replace Qiao as Political-Legal Group Secretary with the far less influential Ren Jianxin--seem to have cleared the way for Jiang Zemin to expand his power over internal security in general, and over the PAP in particular. After the Spring 1993 first meeting of the new NPC, Jiang helped lead a major new reshuffle of the military leadership, in particular the PAP leadership. In a wide-ranging purge, numerous PLA and PAP followers of Yang Baibing were removed. PAP Commander Zhou Yushu was replaced by Ba Zhongtan, who had commanded the Shanghai Garrison while Jiang was coping with the 1989 demonstrations.¹³⁸⁸

Soon after the PLA/PAP leadership turnover, Jiang and the CMC reportedly adopted Yang Baibing's former recommendation, previously blocked, to place the PAP under the PLA's General Departments.¹³⁸⁹ Nevertheless, he has continued to voice understanding for local Party secretaries' desire to be able to deploy the PAP in their regions during an emergency, and a realistic understanding of the "political economy" of local PAP funding.¹³⁹⁰

The current balance of control among military and local forces was codified in the March 3, 1995 "Decision of the State Council and Central Military Commission on

PAP During the New Period]," *Qiushi*, 1997, No. 20, pp. 35-37; see also Xu's virtually identical article "Xinshiqi wujing budui jianshe de zhongyao yiju [An Important Basis for Building the PAP During the New Period]," *Zhongguo junshi kexue* [China Military Science] 1997, No. 4, pp. 23-27.

¹³⁸⁷ A number of sources report that the PAP issue contributed to Yang Baibing's ouster, but was not the major issue. These reports often differ significantly on the details of the struggle. See *Ming pao* (Hong Kong), 27 October 1992, p. 5; Lo Bing "Notes on a Northern Journey" *Cheng ming* (Hong Kong), 1 November 1992, pp. 6-8; and Lam, *China After Deng Xiaoping*, pp. 211-213, 257-263.

¹³⁸⁸ Hsia Hsiao-tan, "Law and Order: Armed Police Brought Back Under PLA Control," *Ming pao* (Hong Kong), 16 June 1993, p. 8.

¹³⁸⁹ *Ibid.*

¹³⁹⁰ Xu Yongqing (1997) *op. cit.*

Adjusting the Leadership Structure of the Chinese People's Armed Police Corps."¹³⁹¹ The Decision finally confirmed the weakening of public security control that had been going on since Tiananmen. The PAP remains under the joint leadership of the State Council and the Central Military Commission, but it is no longer a "constituent part of the public security departments". The formal leadership system was changed from "unified planning, with management and command divided by levels" (*tongyi guihua, fenji guanli, fenji zhihui*) to the much more centralized "unified leadership and management, with command divided by levels" (*tongyi lingdao guanli, fenji zhihui*). The great significance of changing "management" from being "divided by levels" to "unified" is that PAP cadres now fall under the PLA's more centralized management system rather than the public security system's much more localized system. Curiously, however, PAP manpower falls within the personnel allotment hierarchy (*bianzhi xulie*) of the State Council—a system which presumably means that even though the military gets to select and promote most PAP personnel, PAP salaries still come primarily from Central and local governments rather than from military budgets.¹³⁹² To the extent this is the case at local levels, it suggests a major potential tension between PAP/PLA leaders who choose the PAP personnel, and local governments who pay at least a significant portion of their salaries. The CMC and the State Council are also jointly responsible for the political and professional development of the PAP. Of course, as with the 1983 reorganization, the PAP is still supposed to follow PLA rules and regulations regarding political work, administrative management, and logistics.

¹³⁹¹ This document has not yet been openly published. Its contents are briefly discussed in the following official sources: *Xiandai Wujing suzhi* [The Quality of the Contemporary PAP], Beijing: Qunzhong Chubanshe, 1996, esp. pp. 3-7; Xu Yongqing, "Xinshiqi Wujing Budui Jianshe de zhongyao zhidao sixiang [Important Guiding Ideology for Building the PAP During the New Period]," *Qiushi*, 1997, No. 20, pp. 35-37; see also the very similar article by Xu Yongqing, "Xinshiqi Wujing Budui jianshe de zhongyao yiju [An Important Basis for Building the PAP During the New Period]," *Zhongguo junshi kexue*, 1997, No. 4, pp. 23-27; and Li Donghuan, "Qieshi jiaqiang dang dui Wujing Budui de juegui lingdao [Deeply Strengthen the Party's Absolute Leadership Over the PAP Corps]," *Zhongguo junshi kexue*, 1999, No. 4, pp. 98-101. Two other excellent recent sources do not mention the document by name, but use language quoting the document and describe additional detailed information about the system: *Jingbei gongzuo lilun yu shiwu* [Theory and Reality of Garrison Work], Beijing: Guofang daxue chubanshe, 1998, pp. 227-234; and Du Shuyun, "Zhongguo tese de wuzhuang jingcha budui [An Armed Police Corps with Special Chinese Characteristics]," in Chinese Police Studies Society, ed., *Lun Zhongguo tese de Gong'an* [Public Security with Special Chinese Characteristics], Beijing: Qunzhong Chubanshe, 1998, pp. 121-129.

¹³⁹² The most detailed discussion of personnel management and *bianzhi* under the new system is in Du Shuyun, "Zhongguo tese de wuzhuang jingcha budui" pp. 123-124.

Even though the 1995 State Council/CMC Decision greatly weakened public security control at the expense of the PLA, it still made significant concessions to the interests of local Party committees and governments, who continue to pay a large portion of the PAP's bills. Local Party and government leaders are permitted to "activate" (*tiaodong*) and "employ" (*shiyong*) the PAP units within their administrative regions in the event of emergencies. And in order to ensure that the PAP units work effectively with other local security officials, the Decision stated that when PAP units are involved in local public security operations, they are supposed to accept the "leadership and direction" of the local governments and public security departments in charge of such operations.

THE PAP'S SPECIALIZED SUBUNITS¹³⁹³

The recentralized, more militarized PAP leadership system, however, apparently applies primarily to the PAP's largest subunit, the Internal Guards (*neiwei*) Corps. The PAP is presently subdivided into at least eight other identifiable subunits (see Figure 12.1): the Border Defense corps (*bianfang budui*), Guards corps (*jingwei budui*), Fire-Fighting Units (*xiaofang budui*), Hydropower Corps (*shuidian budui*), Gold Corps (*huangjin budui*), Transportation Corps (*jiaotong budui*), and Forestry Police Corps (*linye jingcha* and *wuzhuang senlin jingcha*). There is also the well-known "Special Police" corps (*tezhong jingcha* or *tejing*), which is very likely subordinate either to the Internal Guards or the Guards corps in the regions where they are located. Further, the PAP also includes a State Guests Protection Corps (*guobin huwei budui*), responsible for guarding foreign dignitaries on Chinese soil. While its subordination is also unclear, it is most likely either a part of the Guards corps or perhaps a portion of the Special Police.¹³⁹⁴

These other PAP subunits all have different leadership structures dominated far more by the other State Council departments that oversee these forces (inc. the Ministries of Public Security, Transportation, Electric Power, Non-Ferrous Metals, and Forestry). They also have separate command organs within the Central and provincial-level governments and PAP Headquarters. The PAP Main Headquarters "does not constitute a direct leadership relationship" with these seven subunits.¹³⁹⁵ As their specialized names imply, most of these units have organizational predecessors that date back to the 1950s or 1960s, and were originally at least partially subordinated to a wide variety of bureaucratic units. Several of them are still at least under the "dual leadership" of a bureaucratic system other than the PLA or Public Security forces. Most significantly, these other departments are responsible for a significant share of the budget for these PAP units. In this sense, these units seem to be an internal security manifestation of the time-honored tendency of Chinese bureaucracies to try to be "large and complete" and

¹³⁹³ The main sources on the leadership and organizational structures of these PAP subunits are Zhou Yushu, pp. 58-63; and *Jingbei gongzuo lilun yu shiwu*, pp. 231, 233-234.

¹³⁹⁴ *Junqi piaopiao*, pp. 648-9.

¹³⁹⁵ *Jingbei gongzuo*, pp. 231, 233-234.

diminish their own dependence on other departments for any significant need—in this case, even including security forces. Although the focus of this paper is on the largest and politically most sensitive PAP forces—the Internal Guards, Special Police, Guards, and Border Defense forces—the organization and duties of these other units merits a brief note as it illustrates the rather balkanized nature of a significant part of the PAP.

The Forestry Police corps is comprised of two parts: public security forestry police (*linye jingcha*) and the PAP armed forestry police (*wuzhuang senlin jingcha*). These forces are responsible for guarding state forestry resources and parks, ensuring production security in these areas, and, most famously, for fighting the frequent and often horrific fires that break out in these regions.¹³⁹⁶ Their organizational roots lie in special local units established in the Northeast and Southwest during the late 1940s-1950s. In 1988 the units in the Northeast Forestry Region (principally Jilin, Heilongjiang and Inner Mongolia) were all officially converted into active duty (*xianyi*) PAP units.¹³⁹⁷ A 1995 source states that all the PAP units are in this area, though later sources indicate they are now stationed in Yunnan and other regions as well.¹³⁹⁸ The size of this corps, though still small, has apparently grown significantly, from a mere 500 in the mid-1960s to about 30,000 in the early 1980s. While it is unclear how many of these are PAP, at least 3,000 PAP forestry personnel are stationed in Inner Mongolia alone.¹³⁹⁹

The leadership and funding of these units has been rather localized and bewilderingly complex, although it may at last be undergoing reorganization. As of 1998 at least the non-PAP portion of these units were still primarily under the dual leadership of public security and forestry departments, but the exact mix of this leadership varies from locale to locale. In some areas, local public security organs play the major role, while in others it is the Forestry departments. Their manpower allotments count against the totals of the Forestry departments' at each level, but the establishment of Forestry Police offices falls under control of the public security hierarchy. The armed forestry police are considered part of the PAP hierarchy, but according to a 1998 PLA text, they are supposed to be under the "leadership and direction" of the Ministry of Forestry Industry (MFI).¹⁴⁰⁰ Finally, the expenses for these forces are paid out of the budget of

¹³⁹⁶ Zhou Yushu notes that through 1989 these units had extinguished over 4,000 fires and lost 32 police in the line of duty.

¹³⁹⁷ Zhou Yushu, p. 62.

¹³⁹⁸ *Jingcha shiyong zhishi quanshu*, pp. 24-25.

¹³⁹⁹ *Xinhua*, 23 May 2000, in FBIS. If the Inner Mongolia, Jilin and Heilongjiang PAP units are assumed to be the largest and approximately equal in size, this suggests an estimate of 9-15 thousand PAP forestry police may be reasonable.

¹⁴⁰⁰ *Jingbei gongzuo*, pp. 231, 233-234.

the MFI and, presumably, provincial and local government coffers.¹⁴⁰¹ In August 1999 *Xinhua* reported that the State Council and CMC had reorganized the PAP Forestry Police as a separate division with a new administrative system and a separate headquarters. While the report provided no details of how this may have changed the MFI's leadership role, this may indicate the establishment of a separate "Command Department" (*zhihuibu*) for the forestry police similar to those that have long existed for several other specialized PAP units.¹⁴⁰²

The PAP Gold Corps was originally established in March 1979 as part of the PLA Capital Construction Corps, and was transferred into the PAP system in 1985. It is now the largest gold prospecting and mining concern in China, with major mining and refining cites in more than twenty provinces, including Tibet, Sichuan, Gansu, Shaanxi, Xinjiang, Ningxia, Qinghai, and other provinces. It is also responsible for managing "some of the masses' gold-prospecting work." As of 1992 it was a separate PAP corps under the joint leadership of the MPS and the Ministry of Non-Ferrous Metallurgy (MNFA), but recent PLA sources indicate it is supposed to be under the "leadership and direction" of the MNFA and its departments within local governments.¹⁴⁰³ Its headquarters is the PAP Gold Command Department (*huangjin zhihui bu*), with the PAP providing the customary leadership of military training, political and logistical work. The Gold Corps' size is unknown, although it is large enough to include at least one division-level unit (*zongdui*) and several subordinate units. In recent years this corps has announced the discovery of a number of new mines, and has been given a significant role in the economic development of several impoverished, but mineral rich, interior regions. There is no way of knowing how much money the PAP makes off of gold mining, but recent reports noted that two new Tibetan mines alone had a potential value of over \$US 36 million. There have apparently been some turf disputes between the Gold Corps and local governments over control of the gold the PAP finds (at some unspecified point after discovery and opening, the PAP is *supposed* to turn the mines over to the local governments), and one purpose of the PRC Mineral Resources Law was to set ownership rules for such cases.¹⁴⁰⁴

Like the Gold Corps, the PAP Transportation Corps and Hydropower Corps were both originally established as part of the PLA Capital Construction Corps in August 1966, and both were transferred to the PAP in 1985. They are led, respectively, by the PAP Transport Command Department (*jiaotong zhihui bu*) and Hydropower Command Department (*shuidian zhihuibu*). Through at least 1992 these corps were under the joint leadership of the MPS and the Ministries of Transportation and Energy/Water Resources & Electric Power, but again, a 1998 PLA source indicates that they are under the

¹⁴⁰¹ See *Jingguan shouce*, pp. 208-210. Zhou Yushu's detailed 1992 account (p. 62) suggests a more standardized leadership system with forestry departments and local governments playing the leading role, particularly in fire-fighting and other operations.

¹⁴⁰² *Xinhua*, 4 August 1999.

¹⁴⁰³ *Jingbei Gongzuo*, pp. 231, 233-234.

¹⁴⁰⁴ Zhou Yushu, pp. 60-61; and *Xinhua*, 3 February 2000.

“leadership and direction” of these State Council ministries rather than the PAP Headquarters.¹⁴⁰⁵ Although local PAP units participate extensively in the lucrative work of traffic management, official sources indicate that the PAP Transportation Corps is overwhelmingly concerned with the construction and guarding of major highways, in particular highways in remote and border regions. Likewise, the Hydropower Corps is responsible for capital construction, engineering, and security work on energy projects, particularly in remote locations. The funding of these two corps is unclear, though one source indicates that the Hydropower Corps’ budget and accounting are independent from the rest of the PAP.¹⁴⁰⁶

Three of the specialized PAP units—Border Defense, Guards, and the Fire-fighting Corps—may all still fall primarily under the professional leadership of the Ministry of Public Security. This arrangement has endured despite the PLA’s greatly expanded control over the PAP in recent years, and reflects the long-established bureaucratic division of labour that defines these as police duties rather than military duties. All still have bureaus within the MPS that are part of the PAP *bianzhi*, and available sources indicate that unlike the other specialized PAP units, they do not have separate “command departments” (*zhihuibu*) within the PAP Main Headquarters.

Unfortunately data is not available on the manpower distribution among these various subunits and the PAP’s Internal Guard Units since 1995. The combined total of Internal Guards, Border and Fire-fighting units numbered around 500,000 at the time of the PAP’s establishment in 1983, and the addition of other specialized economic guards units three years later had only raised its total strength by around 100,000 troops.¹⁴⁰⁷ Statistics unearthed by Tai indicate that in 1995 the Internal Guards units accounted for about 63% of the PAP’s total 696,000 personnel.¹⁴⁰⁸ If that percentage held, and the standard estimate of total PAP manpower at one million is correct, then the Internal Guards alone would number about 630,000. But if all or nearly all of the approximately 150,000 new PAP troops transferred from the PLA around 1996 were assigned to the Internal Guards, then the Internal Guard’s proportion of total PAP manpower would certainly have risen substantially in the past five years.¹⁴⁰⁹

1405 *Jingbei gongzuo*, pp. 231, 233-234.

1406 Zhou Yushu, pp. 60-62.

1407 *Guang jiao jing*, p. 44.

1408 Tai Ming Cheung, *China Quarterly*, p. 530.

1409 Blasko and Corbett, “No More Tiananmens,” esp. pp. 83-86.

Table 12.3 PAP Subunit Leadership Relations

PAP Subunit	Department Providing “Leadership and Direction”
Internal Guards Corps	PAP Main Headquarters
Border Defense Corps	Ministry of Public Security
Fire-Fighting Corps	Ministry of Public Security
Guard Corps	Ministry of Public Security
Hydropower Corps	Ministry of Electric Power
Transportation Corps	Ministry of Transportation
Gold Corps	Ministry of Non-Ferrous Metallurgy
Forestry Corps	Ministry of Forestry Industry

The extraordinary bureaucratic and political complexity of these military/government command relations becomes apparent in regard to directing PAP urban “garrison work”—which explicitly includes the corps’ social order control duties. The PAP headquarters of provincial-level and some smaller municipalities must establish a “Garrison Command Office” (*jingbei zhihui bu*) that incorporates the local heads of local Public Security units, the various PAP units, and all of the other concerned government offices that have PAP units within them. In performing garrison work, all PAP units are bound to follow the “Garrison Work Regulations” of the PLA, which require them to accept the “direction” (*zhidao*) of the local PLA Garrison Command Headquarters. The local PAP units, however, are responsible for “organizing the concrete implementation of the Garrison Command Headquarters’ orders.” One PAP leader notes that this lack of direct leadership relations over all the PAP units and the “joint leadership” (*lianhe lingdao*) system “makes organizing PAP garrison work very complex”.¹⁴¹⁰

Obviously, exactly what this system of “joint government-military leadership” means in local political reality is still ambiguous. There seems to be no avoiding the conclusion of one Western military expert familiar with the PAP leadership—that the personal relationships among individual local Governors, PAP and PLA commanders, and local Public Security chiefs becomes crucial in determining how the PAP will respond in a crisis.¹⁴¹¹ At a minimum, these sources suggest that any notion that local PLA commanders exercise unfettered control over PAP internal security deployments are oversimplified at best.

The stipulation that local governments may activate the PAP and local Public Security units may command them raises even more questions of command. Several Public Security officials, however, have expressed concern about the problems the new

¹⁴¹⁰ *Jingbei gongzuo*, pp. 231, 233-234.

¹⁴¹¹ Interview, Beijing, 1998.

system may create for quickly deploying the PAP and maintaining effective coordination between PAP commanders and local Public Security officers in the event of sudden outbreaks of social disorder.¹⁴¹² In probably all major cities, Public Security Patrol Police (*xunluo jingcha* or *xunjing*) are likely to be the first forces on the scene at demonstrations or riots, and would be the first to assess whether or not PAP forces were needed to restore order. But recent internal police manuals on patrol work say virtually nothing about the rules, circumstances, or even the formal procedures under which regular public security units would seek to activate PAP forces or how local Public Security leaders are supposed to exercise their command powers during “sudden incidents.” In recent years, the MPS and many municipal Public Security Bureaus have rapidly expanded the public security anti-riot forces under their direct command. This may represent an effort by the public security system to allow it to handle more serious problems with “in-house” forces and try to avoid having to resort to PAP units that are increasingly beyond their direct organizational control.

Alternatively, many police scholars have complained in recent years that the “excessive” power of local Party and government leaders over public security and PAP forces (particularly in rural areas at and below the county level) has tempted these officials to see these forces as their personal “all-purpose organs of dictatorship.” These forces have often been abused by local officials for a variety of “improper” tasks including appropriating grain, applying pressure in economic disputes, enforcing birth control regulations, and generating local revenues by establishing improper “traffic management stations.” Many police officials have expressed great anger over the negative impact these abuses have on their reputations and on police-citizen relations. But they also complain that, given the focus on strengthening “Party leadership” over the police and military in recent years, local security officials who attempt to resist such abusive deployments have often been accused of “negating Party leadership.”¹⁴¹³ It seems reasonable to speculate that one motivation for the 1995 CMC-State Council Decision may have been to try to distance the PAP forces from this complex political equation by giving provincial-level military officials a somewhat greater say over the PAP’s deployment.

STRENGTHENING PLA INFLUENCE OVER POLITICAL WORK AFTER TIANANMEN

A powerful reassertion of the PLA’s leadership over political work was among the earliest moves toward greater PAP militarization after 1989, occurring much earlier than the formal 1995 reorganization. To keep the post-Tiananmen re-militarization of political work in proper perspective, however, it is important to stress that going all the way back to its reorganization in 1983, the PAP’s political work has *always* been subject to an

¹⁴¹² Interviews: senior public security analyst, Beijing 1999; and senior criminal investigation scholar, Beijing 1998.

¹⁴¹³ For a detailed analysis of internal police sources making these claims, see Shu, Tanner, and Wang, “Central-Local Relations and State Legal-Coercive Power.”

ambiguous mixture of guidance from three different organizational systems—1) superior-level PAP and PLA Political Departments and Party Committees, 2) Public Security Political Departments and Party Committees at the same level, and, indirectly, 3) local Party Committees at the same level.¹⁴¹⁴ Even before 1989 PAP political work was at least formally considered one of its more centralized work systems, officially stressing the “unified planning and management” system as opposed to the “management divided by levels” that dominated most other PAP and public security work. Even when the PAP was officially under public security leadership, official police sources noted that “PAP political work is a part of PLA political work...this is one of the special characteristics of the PAP corps.”¹⁴¹⁵ The PAP political work system has always been organized like the PLA commissar system rather than the public security political work system. At the level of setting central policy, the unofficial balance of influence oscillated between the PLA and the Party’s Central Political-Legal leadership, and depended on the relative power of the individual leaders involved. In the PAP’s first years PLA leaders such as General Political Department (GPD) Chief Yu Qiuli and Chief of the General Staff Yang Dezhi, as well as CMC Vice Chairman Yang Shangkun played an important role in setting nation-wide PAP political work policies and criticizing political and discipline problems in the corps.¹⁴¹⁶ Between about 1986 and 1989, however, civilian political-legal leaders such as Qiao Shi, Peng Zhen and Chen Pixian were more dominant in setting these policies.¹⁴¹⁷ Throughout this period, moreover, some Provincial level Party Secretaries have also frequently involved themselves in PAP political work—particularly in sensitive

¹⁴¹⁴ The overlapping nature of political leadership over the PAP is captured well in a 1990 PAP Discipline Inspection Committee report. Even after the GPD had begun its takeover of the PAP Party system, the PAP DIC Secretary notes that at various times his office must accept leadership from a variety of organizational superior, including the PAP Party Committee, and the Discipline Inspection Committees of the Party Center, the MPS, and the CMC. See Lu Shouyan (PAP DIC Chief), “Nuli zuohao wujing budui de jilu jiancha gongzuo [Work Hard and Do a Good Job of the PAP Corps’ Discipline Inspection Work],” in CCP CDIC General Office, ed., *Zenyang gaohao dangfeng dangji he lian Zheng jianshe* [How to Do a Good Job of Building Party Style, Party Discipline, and Clean Government], Beijing: Zhongguo Fazhi Chubanshe, 1991, esp. pp. 276-277.

¹⁴¹⁵ ZGGAYWQS, p. 1324.

¹⁴¹⁶ See for example Yu Qiuli’s speeches to the PAP, *Xinhua* 19 May 1984, 31 May 1984, 18 April 1985, all trans. BBCSWB; Yang Dezhi’s speeches cited in *Ming Bao*, 24 January 1985, trans. BBCSWB; also Yang Shangkun’s speeches *Xinhua*, 13 June 1987 and *Xinhua*, 23 February 1988, trans. BBCSWB. Unless otherwise noted all BBCSWB sources cited were accessed on Lexis-Nexis.

¹⁴¹⁷ “Peng Zhen Addresses Armed Police Leaders”, *Xinhua*, 10 January 1985, BBCSWB; “Qiao Shi on Leadership Changes and Military Training in Armed Police,” *Xinhua*, 2 December 1985, BBCSWB; and “Peng Zhen at Party Meeting of Armed Police HQ”, *Xinhua* 12 January 1987, BBCSWB.

areas such as Tibet, Xinjiang, and Beijing where local Party officials are intensely scrutinized for their ability to control social order.¹⁴¹⁸

Thus, it appears that when the PLA reasserted its leadership over PAP political work after 1989, this was accomplished more by a reassertion of informal influence within the existing system rather than a formal organizational change. As Shambaugh and others have detailed, GPD Director Yang Baibing launched this drive to tighten PLA Party control and ideological education at the November 1989 All-Army Political Work Conference.¹⁴¹⁹ A month later, on December 25, that drive was extended to the PAP at a six-day long PAP Party Committee Enlarged Work Meeting attended by over 200 delegates (which, appositely, opened on the very day that Nicolae Ceaucescu was executed by his own military forces).¹⁴²⁰ The theme of the meeting was “grasp political construction and being prepared for dealing with sudden incidents.”¹⁴²¹ At the meeting the new CMC leadership ordered PAP leaders to “study the guidelines laid down by the recent enlarged CMC session and the Political Work Conference” and “place itself under the absolute leadership of the Party and obey its every order.”¹⁴²² The CMC demanded that PAP leaders undertake the “important and pressing tasks” of strengthening the PAP Party structure, “ensuring the Party’s absolute leadership over the police force”, and “guaranteeing that all police units are forever politically qualified.”¹⁴²³ The senior civilian political-legal leader at the time, Qiao Shi, did not even attend this enlarged PAP Party Committee meeting, nor did he speak at a similar Party Committee meeting in March.¹⁴²⁴

¹⁴¹⁸ See, for example, Lhasa Tibet regional service 28 December 1985 and 1 October 1988, BBCSWB.

¹⁴¹⁹ An excellent source on this is David Shambaugh, “The Soldier and the State in China: The Political Work System in the People’s Liberation Army,” *China Quarterly*, No. 127, September 1991, pp. 527-568.

¹⁴²⁰ James Miles notes that this act so stunned the CCP leadership that the official Chinese press did not even acknowledge it for days. See Miles, *The Legacy of Tiananmen: China in Disarray*, Ann Arbor, University of Michigan Press, 1996.

¹⁴²¹ Lu Shouyan (PAP DIC Chief), Work Hard and Do a Good Job of the PAP Corps’ Discipline Inspection Work], pp. 276-283.

¹⁴²² *Xinhua*, 30 December 1989, in *FBIS-CHI*, 3 January 1990, pp. 27-28.

¹⁴²³ See the report on Li Lianxiu’s speech in *Xinhua*, 30 December 1989, in *FBIS-CHI*, 3 January 1990, pp. 27-28.

¹⁴²⁴ Qiao is not among the attendees noted by *Xinhua*, 28 December 1989, in *FBIS-CHI*, 28 December 1989, p. 14 or by *Xinhua*, 30 December 1989, in *FBIS-CHI*, 3 January 1990, pp. 27-28. On the March meeting, see “Jiang, Li Peng Receive Armed Police Cadres,” *Xinhua*, 30 March 1990, in *FBIS-CHI*, 3 April 1990, pp. 40-41. Qiao also did not discuss the PAP forces at the National Political-Legal Work Conference in January.

The General Political Department soon became the principal—and by about 1991 the sole—source of nation-wide political work policies for the PAP. This tie was cemented by the replacement of PAP Political Commissar Zhang Xiufu—who had served for decades in the Zhejiang Public Security apparatus—with a career PLA political commissar—Xu Shouzeng—who had risen in rank while Yang Baibing headed the GPD.¹⁴²⁵ Even though the Ministers of Public Security have continued to serve as PAP First Commissar, they have faded away into silent partners, with the soldier Directors of the PAP Political Department apparently exercising the real influence.¹⁴²⁶ It is especially noteworthy that despite evidence of the PAP beginning to establish its own independent corporate identity in recent years, there is no evidence that the PLA GPD has loosened its leadership over the PAP's Party and political work.¹⁴²⁷

Still, despite this strong assertion of military leadership over political work at the Central level, the available evidence suggests that provincial and local Party Committees have continued to play a significant role in PAP political work. In early-mid January 1990, right after the PAP Political Work Conference, a Central Document was issued calling on localities to strengthen construction of the Armed Police, including political work.¹⁴²⁸ Within two weeks, provincial Party Committees throughout the country

¹⁴²⁵ On Xu Shouzeng, see Tai Ming Cheung, *China Quarterly*; Willy Wo-Lap Lam, *China After Deng Xiaoping*; and Nicholas D. Kristof, "China Shuffles Armed Police Leadership," *New York Times*, 15 February 1990, p. A3. See also Willy Wo-Lap Lam, "Armed Police Leadership in Loyalist Hands," *South China Morning Post*, 16 February 1990, p. 11, in FBIS-CHI, 16 February 1990, p. 8; and Ho Po-shi, "Purge Within the Armed Police Force," *Tang tai* [Contemporary] (Hong Kong), 17 February 1990, p. 8, in FBIS-CHI, 26 February 1990, pp. 24-25. On Zhang Xiufu, see Gao Xin *Qiao Shi*; also Foreign Languages Press, *Who's Who in China's Current Leaders*, Beijing, 1990, pp. 673, 958, which suggests long, close ties between Zhang and outgoing Minister of Public Security Wang Fang.

¹⁴²⁶ Computer searches of the Lexis-Nexis and FBIS databases indicate that, despite the fact that the Minister of Public Security serves as PAP Chief Political Commissar, no Minister of Public Security has made a major speech on political work to the PAP since Wang Fang's closing speech to the December 1989 PAP Party Committee meeting. That speech was reported in *Renmin gongan bao*, 5 January 1990, p. 1.

¹⁴²⁷ For continued close GPD guidance of PAP political and Party-building work, see, for example, "Circular Urges Army, Police to Study Ideological Work", *Xinhua*, 22 February 2000; "Army Issues Edict on Boosting Ideological Work" *Xinhua*, 9 November 1999; and "Army Makes New Achievements in Enhancing Party Branches" *Xinhua*, 16 February 1997, all translated by the BBC Summary or World Broadcasts, accessed on Lexis-Nexis.

¹⁴²⁸ Nan Chien, "The Present Situation of the Armed Police Force After the 'June 4' Incident," *Tang tai* [Contemporary] (Hong Kong), 20 January 1990, pp. 10, 41, in FBIS-CHI, 30 January 1990, p. 16.

convened enlarged meetings of their own PAP Party Committees to communicate the message of the three meetings and the Central Document, and insist on strengthening Party control, ideological-political work, and PAP loyalty and discipline.¹⁴²⁹ In the years since a number of provincial Party Secretaries have given major addresses and issued documents on party-building and political work in local PAP units.¹⁴³⁰

The organization of the PAP Party Committee and Political Work system is virtually identical to that in the regular PLA. In PAP units at and above the detachment (*zhidui*) level, the Party has established Party Committees and political work organs with commissars who head these organs as well as taking charge of the day-to-day work of the Party organization at the same level.¹⁴³¹ Commissars are also responsible for political work and party organs in subordinate units. Curiously, according to multiple sources, PAP regulations also grant Party committees and secretaries leadership over commercial and production ventures within their units.¹⁴³²

The Party establishes Party Branches (*zhibu*) in units at the *zhongdui* level (equal to the PLA *lian*) that have three or more regular CCP members, and this constitutes the basic level of Party and political work organization. The Party Committee/Branch Secretary and Deputy Secretary head up the Committee's Secretariat (in smaller *zhongdui*, this is done by the Political Director [*zhengzhi zhidaoyuan*]). PAP Party Committees and Political Departments are supposed to organize internal subcommittees that parallel those established at the Central level (see Table 12.3). Party Branches that

¹⁴²⁹ These provincial-level meetings seemed to have varied widely in how hard they insisted that the PAP needed to strengthen its loyalty to the Party. For reports on several of these meetings, see the following: "Li Zemin Addresses Zhejiang Armed Police," *Zhejiang Ribao*, 14 January 1990, p. 1, in FBIS-CHI, 1 February 1990, pp. 12-13; "Chen Guangyi Greets Fujian Armed Police," *Fuzhou, Fujian Provincial Service*, 16 January 1990, in FBIS-CHI, 31 January 1990, pp. 33-34; "Hunan's Chen Urges Reinforcing Armed Police," *Changsha, Hunan Provincial Service*, 13 January 1990, in FBIS-CHI, 24 January 1990, pp. 35-36; and "Yang Xizong Calls on Henan Armed Police Cadres," *Zhengzhou Henan Provincial Service*, 18 January 1990, in FBIS-CHI, 26 January 1990, p. 48.

¹⁴³⁰ For examples, see *Hunan Provincial Service*, 30 December 1991; "Socialist Education for Tibet Armed Police in Preparation for 'Sudden Incidents'," *Tibet Television*, 2 June 1990; "Tibet Party Secretary Hails Police and Army Work," *Xizang ribao*, 24 August 1995, p. 1; "Xinjiang Party Chief Urges Armed Police Vigilance Against Instability," *Xinjiang People's Broadcasting Station*, 24 August 1998, all trans. BBCSWB; also Liu Huaqing's comments on the importance of provincial Party support in PAP building during his Shanxi inspection, *Jiefangjun bao*, 13 September 1994, p. 1.

¹⁴³¹ ZGGAYWQS, p. 1327.

¹⁴³² Ibid., p. 1327. The secretaries share this leadership with relevant "professional departments" at the next higher level. This point is also noted by Geng Xianyou, "Wujing budui caiwu gongzuo."

are too small to form subcommittees or appoint “commissars” (*weiyuan*) to handle organizational, propaganda/cultural¹⁴³³, youth league (CYL), discipline inspection¹⁴³⁴, security¹⁴³⁵, judicial¹⁴³⁶, masses, letters and visits, and other areas of work.¹⁴³⁷ Party Committees and Political Departments at and below the *zhongdui* level are also supposed to establish Soldiers’ Committees (*junren weiyuanhui*). Along with the CYL group, these are regarded as the other “mass organs” within the PAP, and are responsible for “democratic leadership”, managing the troops’ activities, and maintaining *esprit* and unity among the corps. These units are under joint leadership of the Party Branch and the Commander and Commissar, usually number 5 to 7 men, and are supposed to have five subgroups (*zu*) for political democracy, economic democracy, “military democracy”, cultural, women’s work, and physical education, and masses work.

A major focus of post-Tiananmen PAP political work has been the expansion and strengthening of Party organizations in those lower level units where they have been undermanned or non-existent.¹⁴³⁸ Because PAP units are often, alternatively, either geographically very dispersed and isolated, or tightly mixed into urban society, senior

¹⁴³³ In addition to their regular propaganda work, these departments are apparently also responsible for soldiers’ clubs and other entertainment activities.

¹⁴³⁴ These Discipline Inspection Committee are responsible for investigating corruption cases and ensuring Party discipline. In principle, all units at the detachment (*zhidui*) level and above are supposed to establish both DI committees and special DI secretaries responsible for work at their own level and in subordinate units. Below the detachment level no specialized DI organs are established, but the Party organization is supposed to designate a DI commissar. A 1990 speech by the PAP DIC Chief indicated that these units tend to be rather short on personnel and budgets, even at the Central, provincial and detachment levels. When the PAP DIC was founded at the Central level in 1984 it only had seven people. By 1990 its General Office still only had 17 personnel. Provincial PAP Corps DIC general offices were allotted a *bianzhi* of 5-7, but the majority only had 4-5, and many had only 2-3. Most detachment level DICs at this time had only one full-time discipline inspection official, and many detachments had only a part-time official. Lu Shouyan, “Work Hard,” pp. 276-283

¹⁴³⁵ Security Departments (*baowei bumen*) are in charge of crime-fighting, protecting secrets, social order and safety, legal education, and fighting spies and counterrevolutionaries. These offices may be part of the Secretariat, and are apparently distinct from the various security, intelligence and secrets protection offices under the PAP unit’s Headquarters.

¹⁴³⁶ The existence and functions of judicial departments is noted in *Fazhi ribao*, 21 October 1999, translation BBC Summary of World Broadcasts (hereafter BBCSWB).

¹⁴³⁷ This internal organization system is detailed in *ZGGAYWQS*, esp. pp. 1327, 1339-40, 1342-45.

¹⁴³⁸ See the comments of GPD Deputy Director Zhou Wenyan, *Xinhua*, 12 January 1991, translated in BBCSWB.

military and police leaders have periodically suggested that strong basic-level Party Committee/political work units are perhaps even more crucial for guaranteeing PAP discipline and loyalty than is the case for regular PLA units.¹⁴³⁹ In response to CMC orders, the PAP Discipline Inspection Committees in early 1990 also undertook an investigation of the Party style and discipline of the Party Committee leaders in 120 detachments (*zhidui*) nation-wide—and evaluated less than half of them as “good”.¹⁴⁴⁰ In the intervening years the PAP, sometimes in tandem with the regular PLA, has undertaken wave after wave of campaigns to strengthen lower-level Party organizations. Still, numerous reports and comments by senior leaders indicate that they have found the results disappointing.¹⁴⁴¹ Amidst the massive embarrassment of a PAP bodyguard’s 1996 robbery-murder of NPC leader Li Peiyao, however, Jiang Zemin again criticized PAP political discipline, and the new corps leaders launched yet another investigation of Party committees, but this time focusing at and above the detachment level.¹⁴⁴²

Maintaining PAP loyalty in the face of growing urban unemployment, rural instability, and the lure of spiritual groups like the Falun Gong has heightened the demands on PAP Party/political work officers. In January, 2000 a Chongqing PAP Major was arrested as a Falun Gong follower, and Amnesty International arrest records indicate rather dramatically the significant penetration of that organization throughout all of

¹⁴³⁹ For example, this argument about Party Committees has been made rather forcefully by CMC Vice Chairman Zhang Zhen. See *Jiefangjun bao*, 27 October 1995, p. 1.

¹⁴⁴⁰ Lu Shouyan, “Work Hard,” pp. 276-283, esp. p. 278.

¹⁴⁴¹ Note, for example, the continued problems noted in grass-roots Party building noted in the following reports: “Conference on Grass Roots Party-Units in Armed Police: Provinces Report Problems,” *Xinhua*, 30 June 1984; “Grass-Roots Work Forum on Causes of ‘Offences and Incidents’ in Army Units,” *Jiefangjun bao*, 9 March 1994, p. 2; “Ba Zhongtan, Zhang Shutian Address Armed Police Party Building Meeting,” *Renmin Ribao*, 29 October 1994, p. 4; “Armed Police ‘Fighting On Front Lines’ of Social Stability,” *Xinhua*, 21 January 1995; and “Army Makes New Achievements in Enhancing Party Branches” *Xinhua*, 16 February 1997, all trans. BBCSWB. In the June 1994 report, Shaanxi PAP officials note that only one third of their Party branch secretaries have undergone training and of them, 85% are “proficient” in their political work. The April *Jiefangjun bao* report, which is about both PLA and PAP, notes the weak quality of some Party members and committees, and also criticizes the use of corporal punishment against troops. In the *Renmin ribao* report, PAP Commissar Zhang Shutian is still insisting that people recognize the “urgency” of building Party organizations, and in the January 1995 report, the continued shortage of qualified, educated Party members in the PAP is still noted as a problem.

¹⁴⁴² Willy Wo-Lap Lam, “Jiang Talks Tough to Paramilitary Police”, *South China Morning Post*, 18 July 1996, p. 10; and “Armed Police Force to Strengthen Management and Education of Cadres,” *Xinhua*, 19 July 1996.

China's military and political-legal organs.¹⁴⁴³ Frankly recognizing that many PAP soldiers have relatives who have lost their jobs as a result of state enterprise reform, PAP political officers have worked overtime to reassure troops that the reforms are, in fact, "socialist" and not "capitalist",¹⁴⁴⁴ that the temporary pain of reform is in the long-term interest of society,¹⁴⁴⁵ and that the PAP must be willing to obey the Party's orders without question in the event these policies lead to unrest. Some PAP officials have also argued that the "strong localist nature" of the corps creates a special political challenge. The fact that most PAP troops serve in their home area, often for long periods of time, creates many opportunities for improper or corrupt ties to the local community. It also raises doubts in these officials' minds as to whether or not local PAP forces have sufficient emotional detachment to enforce social order.¹⁴⁴⁶

LOGISTICAL ISSUES: THE ORGANIZATION OF PAP FINANCES AND BUDGETS

The regime's goal of building an effective, professional paramilitary corps necessitates long-term stable increases in funding that some experts believe were not possible under the pre-1989 organizational system. The differences between China's highly decentralized funding system for public security and the much more centralized funding system for the PLA make it crucial that Western analysts better understand just how much the PAP has become like the regular PLA in the past decade. Since the early 1950s public security forces have relied on local government budgets—not central coffers—for the vast majority of their finances. In the past decade, public security scholars have become increasingly blunt in their criticisms that local government funding has been a crucial obstacle to building the police corps—producing chronic, serious underfunding, massive interregional imbalances in funding and manpower, and pressures for police to generate much of their own budgets through fines, fees, extrabudgetary business activities, extortion and corruption. As a "constituent part of the public security system", the pre-1990 PAP apparently also relied primarily on local government funding and extrabudgetary revenue.

¹⁴⁴³ "PRC Armed Police Officer Held Over Falungong Protest," *AFP*, 13 January 2000. See also the running list of alleged Falungong detainees posted at AI's website (www.amnesty.org), that includes numerous legal and security officials.

¹⁴⁴⁴ "*Guanjian kan kongguquan zhangwo zai shei shoul* [The Pivotal Point is to See Whose Hands Control Equity Rights]," *Renmin wujing bao*, 1 August 1998, p. 3. This article is just one of an entire page of articles encouraging PAP troops to embrace the Party's enterprise reform policies despite the widespread pain created by unemployment.

¹⁴⁴⁵ "*Dang he zhengfu xinxi xiagang zhigon* [The Party and Government's Concern for Unemployed Staff and Workers]," *Renmin wujing bao*, 1 August 1998, p.3.

¹⁴⁴⁶ *Jingbei gongzuo lilun yu shiwu*, 1998, pp. 231-232.

Although the impact that post-1990 “militarization” of the PAP may have had upon its budgets and equipment is a major issue, it is one about which very little hard information is available. A 1996 study by Shandong PAP financial official Geng Xianyou, however, provides a number of fascinating insights about the PAP funding system. Geng contends that the various PAP units now rely on funding from a mixture of three major sources: 1) “State finances” (“*guojia caizheng*”—a category that apparently includes the Central government, the PLA, and the various central government departments that maintain specialized PAP units); 2) “local finances” (the provincial, municipal/prefectural and county governments in a given PAP unit’s region), and 3) the PAP’s own extrabudgetary (*yusuanwai*) funding sources—a category that explicitly includes PAP-run businesses, and probably also includes income from fines and security fees charged from government units and enterprises the PAP guards. Alluding to recent calls by Jiang Zemin and others for military and political-legal departments to rely more on official funding sources, this study indicates only that the various government sources (rather than the extrabudgetary income) account for the bulk of these finances: “Basically [the PAP] rely on ‘eating the Emperor’s grain’”.¹⁴⁴⁷ Of course, this claim tells us little about the central vs. local mix of funding, since government funding *from any administrative department or level* could, in principal, be considered “the emperor’s grain”.

Official Central and provincial budgetary reports provide only a little help in figuring out the central/local balance. Several facts suggest that at the Central level, the PAP still occupies a budgetary line distinct from the regular PLA. Both the Finance Minister’s Budgetary Report and the Premier’s Government Work Report treat PAP spending separately from PLA funding (grouping it with government public security and state security departments). And official sources note that even after the 1995 reorganization, the PAP *bianzhi* remains under the State Council rather than the PLA, a fact that usually implies that the State Council would be responsible for PAP personnel salaries and benefits, at least at the central level.¹⁴⁴⁸ Historically, those government administrative departments that have led or employed the PAP and its various specialized

¹⁴⁴⁷ Ibid., “Tan wujing budui caiwu gongzuo [On Financial Affairs in the PAP Corps],” *Junshi caiwu gongzuo*, 1996, (Issue number unavailable), pp. 67-71, copy available from the author.

¹⁴⁴⁸ In Premier Zhu Rongji’s 2000 Government Work Report, he devoted considerable time to discussing “strengthening national defense and building up the army.” At the end of this section he shifted gears, saying “Furthermore, the people’s armed police and the public security and state security organs should be strengthened.” See *Xinhua*, 16 March 2000, in FBIS. Finance Minister Xiang Huaicheng also treats the PLA, the PAP, and the various political-legal departments as distinctive budgetary units. See “Xiang Huaicheng: PRC Defense Expenditure Increases 12.7%,” *Xinhua*, 6 March 2000, in FBIS. Some analysts refer to PAP funding as one of the various forms of “hidden spending” on national security. See “Balancing the Books,” *Janes Defence Weekly*, 19 February 1994, p. 35.

police units (e.g. the departments of public security, justice, forestry, transportation, non-ferrous metals, etc.) have all been expected to make significant contributions toward the PAP's funding, so portions of the PAP's finances are hidden throughout the central government budget.¹⁴⁴⁹

Several sources suggest, however, that the gradual militarization of the PAP's leadership since 1990 has not been accompanied by a major change in its funding sources, and that local governments are still responsible for a substantial share of its budget. A 1997 Taiwan source contends that "local finances are used to pay for equipping and paying (PAP) units."¹⁴⁵⁰ Official provincial government reports partially confirm this claim, stating that at least some increases in PAP personnel have been funded provincially, just like the personnel from public security, state security, judicial, and other government "administrative" departments.¹⁴⁵¹ PAP financial officer Geng Xianyou has confirmed this impression of a relatively decentralized formal system, describing the central-local balance this way: The major sources of financing for each PAP unit are supposed to be upper-level government units at various levels, while the PAP General Headquarters is supposed to set most major financial expenditures. Party Committees and governments at the same level are supposed to provide an unspecified "fixed amount" of funding for their local forces—an amount that varies according to the localities' relative wealth and development. Another official PLA source encapsualizes this system with the phrase "unified leadership, responsibility according to levels, management divided by levels, and financial matters reverting to those departments 'tongyi lingdao, anji fuze, fenji guanli, caiwu guikou'."¹⁴⁵² If PAP units encounter "important activities or construction projects" that they cannot cover, they are supposed to "seek support" from various local Party Committees and governments.¹⁴⁵³ Geng

¹⁴⁴⁹ In Tai Ming Cheung, *China Quarterly*, June 1996, p. 533, Table 4 cites estimates that attempts to break down the various sources of PAP financing. This source estimates that of total 1995 "appropriations" of 10.4 to 15.5 billion RMB, about 1.6 to 2.25 billion RMB may have come from local government budgets. The text of Cheung's article treats any such estimates with appropriate caution, however. The source of these estimates is unclear, in particular the origins of the estimate for PAP "income for production and business"—a figure that the PLA may very well not know with great certainty.

¹⁴⁵⁰ "The Military—Questions Concerning Troop Reductions and Military Specialist Cadres", *Inside China Mainland*, 1 November 1997, accessed on Lexis Nexis.

¹⁴⁵¹ For example: "We further reinforced the ranks of the people's armed police, public security, state security, and judicial administration." See "1995 Jiangsu Government Work Report," *Xinhua ribao* (Nanjing), 3 March 1995, pp. 1-3, in FBIS.

¹⁴⁵² See *Zhongguo junshi jingfei guanli* [Chinese Military Financial Expenditures Management], Beijing: Jiefangjun Chubanshe, 1995, the section on PAP finances is pp. 338-350.

¹⁴⁵³ Geng Xianyou, pp. 70-71.

strongly implies that local PAP units spend a good deal of time shopping around for money from local governments at many different levels. He also suggests that these units trade favours and obedience to these governments in return for greater funding, and indicates there is a “squeaky wheel gets the grease” quality to the politics of PAP funding, and has called for much greater centralization of financing in order to ensure that keypoint localities and keypoint security problems get sufficient funding.¹⁴⁵⁴

In discussing the internal administration of PAP’s finances, Geng argues that the system has not been properly adapted to the new challenges and possibilities of China’s much more market-based economy, and at times reflects the irrationalities of both excessive centralization and excessive decentralization. The purchase of some supply items, he charges, is “managed too centrally, managed to death”, and items that local PAP corps could purchase on the market more cheaply are still subject to the “unified purchase” requirements of the old centrally-planned economy. In many other areas, however, financial control is far too dispersed and egalitarian, and many of the key equipment purchases needed to build the most vital units of the corps are regularly sacrificed to a variety of more parochial interests. For the PAP, the CMC’s official financial principle “first, guarantee living expenditures; second, guarantee equipment” means focusing on equipment for “sudden incidents”, major disaster relief, and supporting units in distant border areas and minority regions. It is these that Geng suggests are not getting adequate funding. “Some units willy-nilly demand funds up and down the government ladder, and then, when they get them, don’t use them for building up the corps, but instead spend them to buy cars and build housing.”¹⁴⁵⁵

An even more serious problem is that at lower levels, there is little or no double-checking or legal-administrative oversight of financial matters, and “what one person say, goes.” The result is not only the “chaotic expenditure and chaotic use” of funds, but also a number of PAP Party Committees, professional departments and local units engaging in improper financial practises. Geng calls for truly enforcing the official rule that PAP Party Committees at each level are supposed to exercise “unified leadership over financial work” at each level, and much stronger legal oversight of PAP financing.¹⁴⁵⁶

Although the PAP’s extrabudgetary involvement in business has not received a fraction of the attention devoted to the regular PLA, it is still a major source of concern. Geng Xianyou is highly critical of numerous “non-standard” sources of funds that are completely outside of normal financial control channels---the so-called “funds with 10,000 uses.” PAP enterprises and production management departments in many cases simply defy CMC financial regulations that they are supposed to turn their funds over to their units’ financial departments and Party Committees for accounting and expenditure. Upper level PAP financial and auditing (*shenji*) departments reportedly exercise very loose oversight of production departments, in many cases failing to make even quarterly

¹⁴⁵⁴ Geng Xianyou, pp. 69-70.

¹⁴⁵⁵ Geng Xianyou, pp. 69-71, the quote is from page 71.

¹⁴⁵⁶ *Ibid.*, pg. 69.

or annual inspections of their ledger books.¹⁴⁵⁷ Nevertheless, despite Geng Xianyou's often brutal criticisms of extrabudgetary financial mismanagement, he insists that official state budgetary funding will never be sufficient for the PAP's needs (until China is a "developed" country), and thus PAP units still need to be more entrepreneurial and self-reliant in earning income from outside market activities.

The amounts of extrabudgetary income are difficult if not impossible to estimate, although in at least some areas they are clearly substantial. In 1994, for example, the Party Committee of just one detachment of the Shanghai PAP Corps was able to expend 230,000 *yuan* of its profits accumulated from production to set up a "relief and awarding fund" for cadres in financial difficulties. Ironically, at the time, this was seen as a positive example of "Party leadership" by PAP political officers.¹⁴⁵⁸ Even harder to estimate have been the funds generated by the massive corruption of many PAP units, in particular the Border Defence and Maritime Police units that have engaged in smuggling and other crimes for over a decade. In 1995, for example, more than 4,100 PAP officers were removed or forced to resign, mostly for corruption, and more than 1,730 were under criminal investigation.¹⁴⁵⁹

In May 2000 Vice President Hu Jintao claimed that "most of the work had been achieved" in getting the PLA, PAP and political-legal departments to withdraw from business, but he admitted that "leftover" problems still remained and sternly warned these department not to resume their commercial activities later.¹⁴⁶⁰ In a January 2000 report Central Discipline Inspection Committee Secretary Wei Jianxing reported that more than 19,000 businesses run by PLA, PAP and political-legal departments had been shut down and more than 6,400 turned over to local governments, but there is no way to estimate the number or value of those belonging just to the PAP.¹⁴⁶¹ Recent analyses by well-connected journalists have contended that Beijing has enjoyed a "qualified success" in this effort (though most reports focus almost exclusively on PLA businesses, saying little

¹⁴⁵⁷ Ibid., pp. 69-70.

¹⁴⁵⁸ "Conference on Grass-Roots Party Building in Armed Police" *Xinhua*, 30 June 1994, in BBCSWB.

¹⁴⁵⁹ See for example, "Zhuhai Border Guards Smuggling Prostitutes," *Ming pao* 21 July 1990, p. 2, in FBIS-CHI, 24 July 1990, pp. 25-26; and "'Law Enforcers' Should Be Set In Order," *Inside China Mainland* (Taipei), July 1996, pp. 37-41. A particularly striking incident occurred in Guangdong in 1996 when PAP forces guarding a smuggling operation engaged in a firefight with regular Public Security officials attempting an arrest. See "Wushi guofa de zui'e xingjing [An Evil Path Disregarding State Law]," *Renmin wujing bao*, 7 August 1998, p. 3.

¹⁴⁶⁰ "Vice President Warns Army, Police to Stay Out of Business" *Xinhua*, May 25 2000, in BBCSWB.

¹⁴⁶¹ *Xinhua*, 12 January 2000, in FBIS .

about the PAP or public security).¹⁴⁶² But the question remains how the government can realistically make up the money the PAP has reportedly lost by unloading its businesses, while simultaneously continuing a major expansion in PAP manpower and extensive improvements in expensive anti-riot equipment? If official sources are any indication, this major increase in “the emperor’s grain” will not be coming from the central budget. The 2000 Central Budget claims that a mere 5.6 billion *yuan* in additional expenditures was budgeted to make up for lost business revenue for the PLA, PAP, public security, procuratorial, court, and justice departments combined.¹⁴⁶³ From the PAP’s perspective, such figures strongly suggest that the Party Center still expects them to make up most of these “lost” financial sources and build the corps through other extrabudgetary sources and from the “local magistrate’s grain” rather than from the “emperor’s grain.”

TECHNICAL-LOGISTICAL ISSUES: ANTI-DEMONSTRATION WEAPONRY AND TACTICS

For many PAP and Public Security leaders, the key lessons of June 1989 were technical and logistical: in contrast to the neighboring developmental states in Japan, South Korea, Taiwan and elsewhere, China’s security forces lacked a dedicated, trained, professional anti-riot force with the right tools and training to handle the job quickly and with minimal lethality. Authors touting this view subtly bucked the heavily ideological flavour of most PAP critiques by treating demonstration control as a largely technical matter. Implicitly, they accepted the argument of many security reformers and neo-authoritarians that dealing with demonstrations was simply one of the inevitable professional duties that the police and military would have to handle. Note, for example, the palpable professional detachment in the words of this PAP analyst’s interpretation of 1989:

When mobile forces dealt with eventualities (sic), a prominent problem was that their equipment and technical means were not suited to the needs of their tasks...most weapons and technical means used by the mobile forces were designed for military operations and were strongly lethal. They lacked anti-riot capabilities and non-lethal and defensive weapons.¹⁴⁶⁴

In the West, few Chinese Government claims about the massacre have been greeted with more contempt than the assertion that the Chinese government had no choice

¹⁴⁶² Susan V. Lawrence, “Excising the Cancer,” *The Far Eastern Economic Review*, 20 August 1998.

¹⁴⁶³ “Xiang Huaicheng: PRC Defense Expenditure Increases 12.7%,” *Xinhua*, 6 March 2000.

¹⁴⁶⁴ Bai Changqin, “My Views on Technical Equipment for Mobile Forces,” *Jiefangjun bao*, 2 December 1989, p. 2, in FBIS-CHI, 28 December 1989, p. 26.

but to shoot because its police didn't have enough rubber bullets, tear gas and water cannons. The implicit moral/policy judgement of this claim—that when demonstrations cannot be peacefully suppressed, massacring unarmed protestors is by far preferable to negotiating with them—surely merits contempt. But there is strong evidence that before 1989 the PAP had developed a very limited repertoire of non-lethal crowd-control techniques. An examination of PAP/Public Security handling of the largest demonstrations in 1986-1989 reveals just a few rather ham-fisted techniques: standing aside and ignoring the protests, wading in and beating the protestors with night-sticks, flashlights or cattle prods, or firing limited volleys of tear gas followed by warning shots and then opening fire with live ammunition. It was occasionally reported that PAP forces responded to stone throwing by simply throwing the stones back, or that anti-riot actions sometimes failed, and police were compelled to fall back.¹⁴⁶⁵

After Tiananmen, soldiers and police further complained that their communications, command and control equipment were ill suited to the flexibility required to cope with the rapid movement of urban unrest. Moreover, even though Chinese society is overwhelmingly unarmed, ever since the 1983-86 anti-crime campaign the PAP and public security forces have increasingly discovered that society was far more dangerous than in Maoist times. These forces and their vehicles also lacked protection from the growing number of guns, knives, and other weapons in circulation: "In the action of rounding up the thugs, the mobile forces often paid a bloody price for [their] lack of bullet-proof clothing."¹⁴⁶⁶

Increasingly, Chinese paramilitary forces have seen their South Korean, Taiwanese and Japanese counterparts in action against demonstrators, and they have developed a long and expensive shopping list for the leaders: high-speed and collision-resistant vehicles with puncture-proof tires and plexi-glass windows to protect occupants from lynching by enraged crowds, rubber clubs, rubber bullets, ample supplies of tear gas and gas masks, bullet-proof vests, and bullet- and rock-proof shields. But Ministry of Public Security sources indicate that their research and domestic production of non-lethal weapons technology did not even begin in earnest until 1982-83, and seems to have focused principally on the apprehension of criminals rather than crowd control.¹⁴⁶⁷ At

¹⁴⁶⁵ A review of press reports of pre-Tiananmen Chinese demonstrations reveals virtually no use of tear gas before about 1987, and even several comments condemning the practise as fascistic or "foreign" to China's socialist police. The major exception, not surprisingly, was Tibet, where tear gas, cattle prods, and even "water cannons" were used against protestors during demonstrations in February 1986, October 1987, March 1988, and February 1989. See for example, *New York Times*, 9 September 1987, p. A10; *The Guardian*, 8 September 1987, p. 1; *Toronto Star*, 10 October 1987, pg. D1; *Washington Post*, 27 October 1987, p. A22; Jane MacCartney, *UPI*, 6 March 1988; *Washington Post*, 7 March 1988, p. A1; *Associated Press*, 30 June 1988; K. Wilhelm, *Associated Press*, 8 March 1988 and 9 March 1988.

¹⁴⁶⁶ Bai Changqin, *Jiefangjun bao*, 2 December 1989, p. 2.

¹⁴⁶⁷ Dangdai Zhongguo de gongan gongzuo, pp. 416-418.

least in the short term, these pressing equipment demands would require extensive imports of foreign equipment.

The effort to strengthen the PAP's armaments, however, seems to have proceeded much more slowly than moves for its political reorganization. Nineteen-ninety three appears to have been the pivotal year for efforts to begin upgrading equipment. In April the PAP Main HQ Technology and Armaments Department established a new Science and Technology Development Department, reportedly the PAP's first such scientific research institute.¹⁴⁶⁸ The new institute was headed up by Yang Junsheng—the daughter of late PLA Acting COGS Yang Chengwu. Yang Junsheng's work in promoting PAP technical development resulted in her promotion as the PAP's first female major general. In November first National PAP Equipment Work Conference convened in Wuhan and developed long-term guidelines and plans for upgrading the corps armaments and equipment.¹⁴⁶⁹ Shortly after the conference, Commander Ba Zhongtan, pleading poverty, laid out a broad-ranging shopping list in an interview with *Liberation Army Daily*:

Overall, our equipment falls far short of task requirements. For example, we do not have effective means to pursue and capture fugitives and subdue criminals and we do not have night-vision equipment...It is hoped that we can be equipped with various vehicles, ships and boats and helicopters...shields, helmets, gas masks, bullet-proof jackets, car-stopping tacks and better cars...various nonlethal and lethal weapons, cars and installations with attacking power and awesome devices for propaganda to improve our assault-launching capability...telescopes, night-vision instruments, mine-sweeping apparatuses, toxicity-sensitive instruments, locators and strong searchlights...confidential communication equipment...cooking cars, refuelling trucks, ambulances, repair trucks, cooking utensils, and stretchers.¹⁴⁷⁰

Ba closed, however, with a sobering note to those who hoped for major improvements in PAP equipment anytime soon, noting quite flatly that “there will not be drastic increases of funds allocated to the armed police.”

In 1998 the PAP attempted to strengthen its technical infrastructure through a major reorganization of its Xian-based Technology Research Institute. The Institute was renamed the PAP Engineering Institute, and its departments were reorganized to focus on R & D and training in the use of police weaponry, electronics, investigatory equipment,

¹⁴⁶⁸ “Profile: Yang Junsheng,” *Inside China Mainland*, 1 August 1999.

¹⁴⁶⁹ Wuhan Hubei People's Broadcasting Service, 20 November 1993, in FBIS.

¹⁴⁷⁰ “Commander of Armed Police Says Equipment ‘Falls Far Short of Task Requirements’,” *Jiefangjun bao*, 5 December 1993, p. 2, in BBCSWB.

construction, and military economics. The Institute's overall faculty and staff were also greatly expanded.¹⁴⁷¹

In the years since 1993 the PAP, public security organs, and other firms in several regions have significantly increased their domestic capacity to produce moderately advanced police and anti-demonstration equipment, in many cases through joint ventures with US and other foreign firms. Bullet-proof apparel and vehicles, not surprisingly, have been a major focus. One part of the 1996 Sino-US Police Training Conference was an agreement that Allied Signal Corporation would assist Chinese firms in production of bullet-proof vests.¹⁴⁷² In 1998 China Worldbest Development Corporation completed a new joint venture factory with Dupont that was expected to expand its production of Kevlar by 40 percent.¹⁴⁷³ The following year a Ningbo chemical fibre firm opened a major new production line, in part to produce bullet-proof vests.¹⁴⁷⁴ In July 2000 Xinhua touted a new, lighter-weight, more flexible line of such vests produced by a Chongqing materials research institute.¹⁴⁷⁵ Other recent joint ventures include one in Hebei with Amortech to produce explosion- and bullet-proof vehicles.¹⁴⁷⁶ In addition to bullet-proof equipment, recent reports have indicated considerable PAP pride over their development of a new WJ-94 model armoured car, police barricade vehicle, riot-control grenade launchers, high precision sniping rifles, and various unspecified 'anti-terrorist equipment.'¹⁴⁷⁷ It is also interesting to note that in 1996---seven years after Li Peng's claim that China lacked sufficient supplies of tear gas to bloodlessly suppress the Tiananmen demonstrations---China could now produce sufficient supplies of tear gas-related chemicals to export them to Iran.¹⁴⁷⁸

In recent years, Chinese munitions publications have revealed significant interest in much more advanced police and anti-demonstration equipment, in particular non-lethal crowd control devices. These analyses helped introduce security officials to various non-lethal grenades (including "stingballs", "beanbags", "sticky shockers", etc), concussion grenades, launchers, pepper sprays, rubber and wooden bullets, caltrops, sticky foams, and even laser illuminators. Analysts have shown particular interest in non-lethal grenades, carefully comparing the nature of their projectiles, their effective ranges,

¹⁴⁷¹ Zhongguo falu nianjian, 1999, pg. 990.

¹⁴⁷² Xinhua, 7 October 1996, in BBCSWB.

¹⁴⁷³ "Dupont buys Elastaine Fabrics from Tongkook," *Chemical Market Reporter*, 7 September 1998, pp. 1, 16.

¹⁴⁷⁴ Chemical Business Newbase, 2 September 1999.

¹⁴⁷⁵ Xinhua, 20 July 2000.

¹⁴⁷⁶ Financial Times Asia Info Daily China News, 7 January 1999.

¹⁴⁷⁷ "Profile: Yang Junsheng," *Inside China Mainland*, 1 August 1999.

¹⁴⁷⁸ *The Iran Brief*, 5 May 1997; *Deutsche Presse Agentur*, 12 November 1996, both citing a CIA report.

potential for injury, and the history of their use in places such as Somalia. None of these articles, however, provide any information about China's efforts to acquire these more advanced items.¹⁴⁷⁹

Despite reported increases in production capacity and efforts to improve engineering quality, the available evidence suggests that the PAP and public security organs continue to rely overwhelmingly on imports for more advanced police equipment. One senior provincial security official told a U.S. supplier in late 1996 that specialized police equipment was now being produced in China, "but the quality is not like here."¹⁴⁸⁰ For several years, export agents in the U.S. and elsewhere have arranged purchasing tours of top Western police equipment factories for Central and provincial PAP and MPS officials, and some provinces have had the funds to make major purchases. Despite great increases in domestic body armor production, for example, the futuristic "Robocop"-style anti-riot uniforms unveiled in Beijing on the eve of the Tiananmen anniversary this year were French imports originally designed for the 1998 World Cup.¹⁴⁸¹ In October 1998 the Shanghai PSB cohosted two enormous international exhibitions of police equipment—"China Police, '98" and "Securex China '98"—whose stated goal was to allow security equipment firms to discover the "huge market" for security equipment in China. Targeted technologies included biometric identification, anti-terrorist and anti-riot equipment, electric batons, and eavesdropping and surveillance equipment.¹⁴⁸²

But the key question remains whether or not PAP troops have actually been able to train with or employ such equipment, and how much PAP equipment and tactical improvements have incorporated the "lessons" of 1989. The question was begged again just before the tenth anniversary of Tiananmen, when long-time propaganda official Zhu Muzhi, repeated Li Peng's 1989 claim that lethal military force was necessary because the CCP leadership never anticipated the demonstrations and police were technically unprepared for non-violent suppression.¹⁴⁸³

¹⁴⁷⁹ "Xinqide jingyong tezhong wuqi [Noteworthy New Specialized Police Weaponry]," *Xindai bingqi*, November 1997, pp. 32-34; "Feizhimingxing wuqi zai suomali baoguang [Exposing Non-Lethal Weapons Use in Somalia]," *Xiandai bingqi*, April 1997, pp. 31-32; and "Xinxing tezhong feizhimingxing wuqi suxie [A Quick Review of New Models of Specialized Non-lethal Weapons]," *Xiandai bingqi*, January 1997, pp. 40-41.

¹⁴⁸⁰ Dan Weissman, "New Jersey Executive Builds Business with China Police," *Star-Ledger*, 28 February 1997.

¹⁴⁸¹ *AFP*, 31 May 2000, citing *China Daily* report.

¹⁴⁸² "Security: China Police '98/Securex '98," *Intelligence Newsletter*, Indigo Publications, 4 June 1998.

¹⁴⁸³ John Leicester, "Ex-Official: Poor Preparation Forced Troops to Open Fire at Tiananmen," *AP*, 9 April 1999.

The available evidence suggests very strongly that despite the PAP's clearly stated intention of modernizing and professionalizing its demonstration control tactics and equipment, very few of these improvements have made it to street level. A review of PAP operations against protestors in the past decade reveals patterns almost eerily reminiscent of its pre-Tiananmen style of policing. It appears that in many operations outside of major cities, PAP units fire tear gas (perhaps a good deal more than in the past, though there is no way of judging¹⁴⁸⁴), and usually beat a number of protestors severely, often with batons, belts, or cattle prods—sometimes to death. If this fails, the PAP fire warning shots over the heads of demonstrators.¹⁴⁸⁵ The only new non-lethal weaponry added to PAP tactics is the occasional use of water cannons.¹⁴⁸⁶ Computerized press

¹⁴⁸⁴ *The Financial Times*, 25 May 1993, p. 4, reports that while suppressing demonstrators in Lhasa, PAP forces fired tear gas "for two hours."

¹⁴⁸⁵ The Information Center on Human Rights and Democracy cites sources that China witnessed 60,000 demonstrations in 1998, and about 100,000 in 1999. See *AFP*, 16 May 2000. So any sample of demonstrations and PAP responses can only be of uncertain representativeness. Examples include Shenzhen August 1992 (see *The Guardian*, 12 August 1992, p. 8; and *Financial Times* 10 August 1992, p. 4); Lhasa, May 1993 (*Ming bao*) 28 May 1993, p. 7; also Geoffrey Crothall, *South China Morning Post*, 25 May 1993, pg. 1; "Tibetans Try Third Day of Protest, City Reported Quiet," *UPI*, 26 May 1993; *Financial Times*, 25 May 1993, p. 4); Xinning, Qinghai (Nick Driver, "Troops Quell Largest Uprising in China Since 1989," *UPI*, 29 October 1993); Yining, Xinjiang, 1997 ("Two People Shot Dead as Police Foil Rescue Bid" *Reuters* report cited in the *Toronto Star*, 29 April 1997, p. A18; Charles Hutzler, "10 Dead in Muslim Riot in West China, Government Says," *AP*, 12 February 1997; and Patrick Tyler, "In China's Far West, Tensions with Ethnic Muslims Boil Over in Riots and Bombings," *New York Times*, 28 February 1997, pg. A8); Panzihua, Sichuan, October 1999 ("Crowd Clashes with Police in China; 41 Injured, Rights Group Says," *Deutsche Presse Agentur*, 9 October 1999); Yangjiazhangzi, Liaoning, February 2000 (John Pomfret, "Miners Riots Reveal the Pain of Change in China," *International Herald Tribune*, 6 April 2000, p. 1; and James Kynge, "Chinese Miners Riot Over Severance Pay," *Financial Times*, 5 April 2000, p. 9); Xian, July 2000 (Anthony Kuhn, "Fan Violence Rears its Angry Head at Chinese Soccer Match," *Los Angeles Times*, 21 July 2000, p. A1; and "Chinese Police Use Tear Gas to Quell Major Football Riot," *AFP*, 17 July 2000).

¹⁴⁸⁶ Reported use of water cannons has been rare, but appears to be increasing. One of the earliest reports of their use was against Muslim demonstrators in Yining in February 1997, against rioting Xi'an soccer fans in July 2000, and deployed in reserve to prevent Falun Gong demonstrations in Beijing in July 1999. See Mark Landler, "China Said to Prepare Ban on Sect; Protests Go On," *New York Times*, 22 July 1999, pg. A1; Patrick Tyler, "In China's Far West, Tensions with Ethnic Muslims Boil Over in Riots and Bombings," p. A8; Anthony Kuhn, "Fan Violence Rears its Angry Head at Chinese Soccer Match," p. A1; "Chinese Police Use Tear Gas to Quell Major Football Riot," and "Police Use Tear Gas to End Riot By Football Fans," *Deutsche Press Agentur*, 18 July

searches of the past several years reveal no reported PAP or public security use of even such modestly advanced non-lethal weapons as pepper spray/pepper gas or rubber bullets, let alone concussion grenades, stingballs or beanbags, foaming chemicals or laser illuminators.¹⁴⁸⁷ Pepper spray has been employed by Hong Kong anti-riot police against Chinese migrants protesting for residency.¹⁴⁸⁸

Reports indicate that in recent years PAP forces have resorted to live fire in several cases, in particular against Muslim protestors.¹⁴⁸⁹ There have also been reported cases of ineptitude, such as the May 1993 death of one PAP soldier and wounding of two others during a Lhasa protest, when a misloaded tear gas canister exploded in one soldier's hands. In several reported incidents, initial PAP operations have not only failed to contain the protests; they have apparently touched off greater mob violence than the PAP had difficulty suppressing.¹⁴⁹⁰ Among the most ominous examples of PAP

2000. This source cites the *China Daily* as reporting that the China Football Association "has dealt with 42 riots over several years, with eight incidents in Xian, including two this year."

¹⁴⁸⁷ This is based on a search of the Lexis-Nexis database (Asia/Pacific News Sources) for any reported use of these weapons between January 1998 to August 2000. Except for Hong Kong, this search revealed absolutely no report—confirmed or otherwise—of Chinese police or PAP using any of these weaponry.

¹⁴⁸⁸ "Clashes Leave 12 Injured in Hong Kong Deportation Protest," *AFP*, 26 June 2000.

¹⁴⁸⁹ Among reported incidents of PAP using live fire: the retaking of the Dongguan Mosque in Xinning, Qinghai in 7 October 1993; and clashes with Uighur militants in Aksu, Xinjiang in January, 2000. There is disagreement over whether PAP forces opened fire on a crowd in Yining, Xinjiang in April, 1997; or whether, PAP forces fired on a Shenzhen brawl in December 1995. See Nick Driver, "Troops Quell Largest Uprising in China Since 1989," John Pomfret, "Ethnic Unrest Continuing in China, Despite Crackdown," p. 4; "Two People Shot Dead as Police Foil Rescue Bid," *Reuters* report cited in the *Toronto Star*, 29 April 1997, p. A18; Charles Hutzler, "10 Dead in Muslim Riot in West China, Government Says", "Police 'Fire on Boom Town Riot'," *Financial Times*, 7 December 1995, pg. 6; Many reports on the 1997 Yining riots assert that the PAP forces beat and tear gassed the crowd, but do not report them directly firing on the crowd. They do report assertions that security forces may have secretly executed as many as 31 young Muslim men. See Patrick Tyler, "In China's Far West, Tensions with Ethnic Muslims Boil Over in Riots and Bombings," p. A8

¹⁴⁹⁰ The three PAP casualties are reported in *Ming bao* (Hong Kong), 28 May 1993, p. 7; also Geoffrey Crothall, *South China Morning Post*, 25 May 1993, pg. 1; and "Tibetans Try Third Day of Protest, City Reported Quiet," *UPI*, 26 May 1993. Another example suggesting poor coordination between public security and PAP units occurred in Beijing in 1994 when it took PAP forces well over an hour to respond to reports of a

ineffectiveness was an enormous February 2000 demonstration by miners who were being laid off in Yangjiazhangzi, Liaoning. First regular police, then “heavily armed” PAP reinforcements, failed to contain the demonstrations for a day or two, and regular PLA troops from nearby towns ultimately had to come in and fire warning shots before the demonstrations were suppressed.¹⁴⁹¹ These cases provide little evidence to suggest that the PAP has greatly improved its skills, tactics, or equipment for dealing with demonstrations since Tiananmen.

CONCLUSIONS: ASSESSING THE “REORGANIZED” PAP

The program of reorganization and re-militarization of the PAP since 1989 was driven by several analyses of the lessons of the Tiananmen failure. The most comprehensive was a belief that the leadership system needed to be restructured to make it more vertical and streamlined, so that the PAP would never again respond indecisively during a crisis. Relatedly, strengthening political work and Party building were intended to ensure the PAP’s absolute, unconditional loyalty to the Party Center. A more technically-oriented analysis stressed expansion of personnel and budgets and a dramatic improvement in equipment and tactics—*a la* South Korea, Taiwan, and Japan—to produce a modern, professional paramilitary force with the large scale non-lethal crowd control and anti-riot skills to maintain social control without producing dissident martyrs.

How should we evaluate this reorganization? To be sure, the PAP has quickly put down hundreds or even thousands of demonstrations since 1989, most, apparently, with great speed. Nevertheless, it is impossible to ignore significant shortcomings and failures in the effort to reorganize and professionalize the PAP. Notwithstanding the common claim that “the PLA has taken over the PAP” since Tiananmen, this article has provided a good deal of evidence that the re-organized leadership structure still suffers from problems of ambiguity, complexity, stratification, and a certain amount of balkanization. The CMC and PLA general departments have much greater control over PAP personnel and political work than before. But longstanding “turf” issues with local Party/government officials and police-intelligence officers concerning control of the PAP endure despite the reorganization. These organizational tensions could easily threaten future social control operations, especially if they are compounded by 1989-style leadership division over how to handle large-scale semi-organized demonstrations that increasingly feature not students or ethnic minorities, but unemployed workers enraged at corruption. Very little open source material is available on these detailed issues of

deranged serviceman randomly firing an assault rifle just blocks from the Jianguomenwai diplomatic compound.

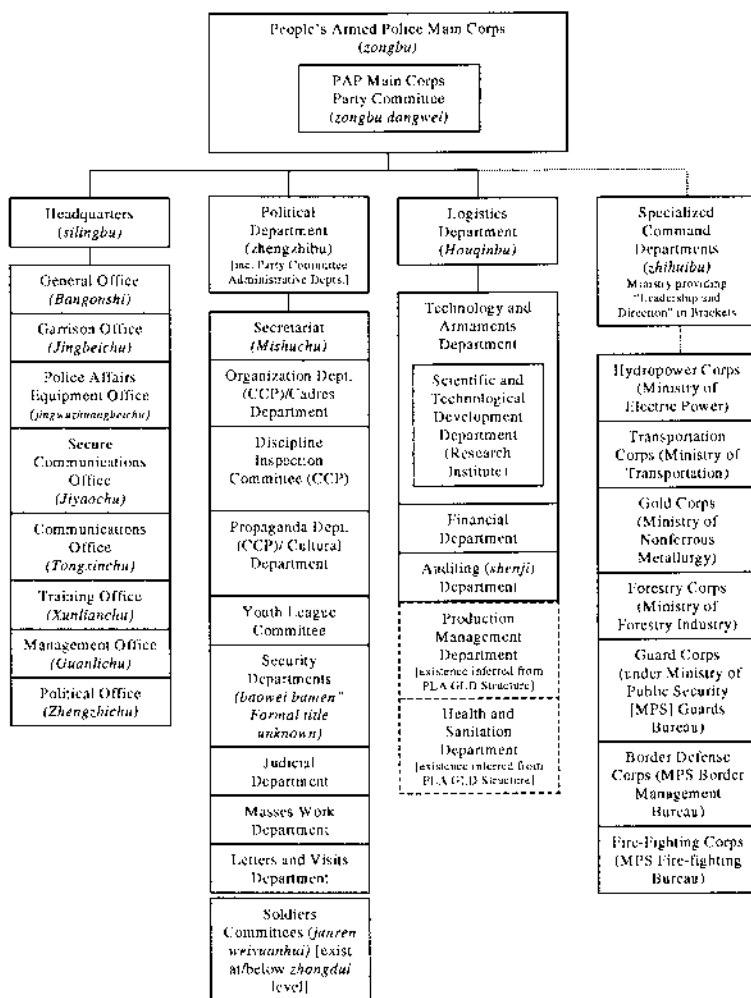
¹⁴⁹¹ For two carefully checked reports on this demonstration, see John Pomfret, “Miners Riots Reveal the Pain of Change in China,” p. 1; and James Kynge, “Chinese Miners Riot Over Severance Pay,” p. 9. In a personal communication, Mr. Pomfret has kindly noted that “many local interview sources” confirmed the use of regular PLA forces after the failure of PAP forces to put down the demonstration.

command relations among PLA and local Party and government officials. But Western analysts of the PAP, Public Security forces, and social order control must pay greater attention to the possibility that weak, ambiguous coordination systems may contribute to slow PAP response to some threats to social order. Conversely, we may also lower-level military commanders may become increasingly irritated and resistant to demands for "improper" deployment of PAP forces to bail out inept and corrupt local Party officials.

There is also little evidence to suggest that the PLA's take-over (and here, that word seems appropriate) of PAP political-ideological work has produced a better disciplined, more loyal, or ideologically more committed PAP corps. Western military analysts have disparaged the troops of the PLA divisions transferred to the PAP in recent years, labelling them "the dregs". Commentaries by PAP political work officials suggest that in addition to widespread corruption problems, the PAP faces significant threats to loyalty and discipline from a variety of social sources, ranging from cross-membership in organizations like the Falun Gong, to the worrisome home situations of PAP friends and relatives who have borne the brunt of economic reform and unemployment.

Logistical and funding issues are also far from being resolved, and the legacy of a decade of PAP involvement in business may have made some of them worse. The post-1989 effort to streamline command relations runs up against a financial system that is opaque, corrupt, and bureaucratically fragmented among Central/ministerial/local and PAP self-generated funds. While much more work needs to be done on PAP financing, the information reviewed in this article suggests strongly that those who formally appoint and command PAP personnel are not, for the most part, the same officials who pay the PAP's bills—another threat to efforts to streamline and clarify command relations. The success of Jiang Zemin's efforts to get the PAP out of business merit as careful research as PLA business efforts have received. An analysis of demonstration equipment and techniques do not reveal an enormous improvement over pre-1989 PAP efforts, particularly in the realm of advanced non-lethal crowd control equipment (other than tear gas and water cannons), and PAP units still run the risk of either failing to contain major demonstrations or exacerbating mass violence by producing martyrs. After eleven years of reorganization, it is difficult to believe that the leadership of the Party and PLA can rest entirely secure that "the next time, the PAP will be there"—and the regular PLA will not have to be.

Figure 12.1 PAP Organizational Structure¹⁴⁹²



¹⁴⁹² Main sources include from *Zhongguo Gong'an Yewu Quanshu*, pp.1305-1309, Beijing Xinhua Domestic Service (BXDS), 9 January 2000 and Zhou Yushu pp. 59-62.

Name of School	Location	Year Established	Faculty & Staff Total	Faculty Teaching	Other Technical Staff	Students Total	Bachelors Degree Students	Specialist Degree Students	Academy Commandant (as of 1994)	Academy Commissar (as of 1994)
PAP [Main] Academy	Langfang, Hebei	1981		318	134	1524			Sun Zhongguo	Li Zhenjun
PAP Technical Academy	Xian, Shaanxi	1984	3629	485		1779	597	1182	Ding Shiyong	Zhang Guoguang
PAP Medical Academy	Tianjin	1984		203	258	3000			Wei Jitong	Gao Jun
PAP Specialist School	Xixian, Shanxi	1980		188		1300				Li Jun
PAP Beijing Command School	Beijing	1984				800				
PAP Tianjin Command School	Tianjin	1984				440				
PAP Shijiazhuang Command School	Shijiazhuang, Hebei	1983				650				
PAP Hohhot Command School	Sohotol, IMAR	1983		54		600				
PAP Shenyang Command School	Shenyang, Liaoning	1985				600				
PAP Changchun Command School	Changchun, Jilin	1985				600				
PAP Harbin Command School	Suhua, Heilongjiang	1984				600				
PAP Shanghai Command School	Shanghai	1984				590				
PAP Nanjing Command School	Nanjing, Jiangsu	1990				n/a				
PAP Hangzhou Command School	Hangzhou, Zhejiang	1984				600				
PAP Hefei Command School	Hefei, Anhui	1984				450				
PAP Fuzhou Command School	Fuzhou, Fujian	1985				600				
PAP Nanchang Command School	Nanchang, Jiangxi	1984				400				
PAP Jinan Command School	Jinan, Shandong	1984				580				
PAP Zhengzhou Command School	Zhongzhou, Henan	1983				600				
PAP Wuhan Command School	Xiaogan, Hubei	1990				n/a				
PAP Changsha Command School	Changsha, Hunan	1984				500				
PAP Guangzhou Command School	Guangzhou	1984				600				
PAP Nanjing Command School	Nanjing, Guangxi	1983				600				
PAP Chengdu Command School	Chengdu, Sichuan	1984				800				
PAP Guiyang Command School	Guiyang, Guizhou	1987				600				
PAP Kunming Command School	Kunming, Yunnan	1983				800				
PAP Xian Command School	Xian, Shaanxi	1984				480				
PAP Lanzhou Command School	Yuzhong, Gansu	1985				500				
PAP Xining Command School	Huazhong, Qinghai	1984				400				
PAP Taiyuan Command School	Taiyuan, Shanxi	1985				600				
PAP Urumqi Command School	Urumqi, Xinjiang	1985				600				
PAP Tianjin Medical Specialist School	Tianjin	1984	40			1000				
PAP Special Police (Tajing) School	Beijing	1985				60				
PAP Coast Guard School	Ningbo, Zhejiang	1983				400				

Source: Directory of Chinese Public Security Educational Institutes (Beijing, Qunzhong Chubanshe, 1994)

This volume is the product of a conference, jointly sponsored by the RAND Center for Asia-Pacific Policy (CAPP) and the Taiwan-based Chinese Council of Advanced Policy Studies (CAPS). The meeting was held at Airlie House in Warrenton, Virginia from 3-6 August 2000, and brought together many of the nation's top experts to evaluate issues of structure and process in the Chinese People's Liberation Army (PLA). The resulting volume is a pathbreaking reference work on PLA organization.

ISBN 0-8330-3303-4



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