

The PLAAF's Evolving Influence Within the PLA and Upon National Policy

试论影响中国空军现代化的传统体制及文化

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The rise of China as a global economic and political power in recent years raises concerns for many policy makers, strategists, and scholars about Chinese military modernization—concerns that might provide a new perspective on global security for years to come.¹ At the center of this concern is that the People's Liberation Army Air Force's (PLAAF) has gained offensive capability by equipping itself with an increasing number of third- and fourth-generation fighters, airborne early warning aircraft, aerial refueling tankers, intelligence collection and jamming aircraft, and long-range anti-aircraft missile systems. But what matters most is not so much the growth of Chinese airpower capability per se; rather, it is how China might use its new military strength, especially its air and naval power. One area of particular interest to defense analysts is the evolving influence of the PLAAF within the PLA and in China's own national policymaking. Airpower and its influence have primarily dominated in Western political thought. Given that China's growing economic and military power as well as changes in China's bureaucratic politics, security interests, and technology, it is logical to examine the PLAAF with such concerns as:

- Its concepts for airpower as an instrument of statecraft
- Its influence within the PLA and in national policymaking
- Its vision of its future roles and missions
- Its organization, leadership, personnel, and doctrine
- Its capabilities
- The political and military implications of all of the above for Taiwan and the United States.

This chapter is inclined to argue that while the PLAAF is transforming, the PLA's political culture and organizational system pose a serious challenge to China's current effort to embrace an air force that is capable of both offensive and defensive operations, and especially, to the PLAAF's own ambition to "bear the brunt of the operations, and play a sustained, independent role" in modern warfare. These include the PLA's and PLAAF's tradition, perception of itself and each other, older way of doing things, outdated organizational structure, and limited funding under the current system. Its current development is about more than changing doctrine and buying advanced systems. An appropriate organizational change is necessary. It will take far longer to nourish an institutional culture that enables the PLAAF to embrace both offensive and defensive capability as an independent strategic force.

The PLAAF's Unique Political Culture

Over the years, the PLAAF developed a unique political culture that has not only influenced its development, but which is crucial to understanding the Chinese air force. The PLAAF is accustomed to use the Chinese leadership's instructions and speeches as guidance to define its doctrine, mission, and force structure in order to maintain political support. This PLAAF tradition continues to influence thinking and efforts to pursue development of a modern air force. Despite their long revolutionary experience, Chinese leaders, particularly Mao Zedong, the founder and strategist of the PLA, had no knowledge of air and naval warfare. Even so, the PLAAF codifies their sporadic instructions as profound military thought guiding the

development of Chinese airpower.² This approach is attributed partly to traditional Chinese filial piety, and partly to the Chinese Communist Party's highly doctrinaire and centralized institutional system.

At the onset of its establishment, the PLAAF used the chairman's message of encouragement to the air force, "creating a powerful air force to eliminate the remnant enemy [the GMD legacy forces that had evacuated the mainland for Taiwan] and consolidate national defense," to characterize the air force's contemporary and future task.³ While recognizing the importance of airpower in national consolidation and development, none of Chinese leaders offered any systematic thinking on the air force and airpower employment. One common view shared by these political and military leaders was the use of air force to ensure command of China's airspace through air defense. Although few of them occasionally talked about the use of bombers to strike deeply into the enemy's rear positions, they never seemed to imply any offensive action beyond China's own territory.⁴

Studies of military thoughts of Chinese leaders on air force and its employment dominated the PLAAF's theoretical inquiry. As a result, for most of its existence until recently, no serious efforts were made to explore the differing means of employing airpower within the framework of China's defense strategy. Even now, PLAAF's current studies still incorporate the military thoughts of these past political leaders in their current pursuit of modern airpower theory. Thus, PLAAF thinking and doctrine is still imbued with the PLA's traditional political jargon. This at-best pseudoscientific approach accounts for the PLAAF's failure to ascribe the military thoughts of the earlier leaders to the PLAAF's longtime perception of itself as a homeland defense force, whose task was, first and foremost, to defend China's airspace and thus maintain only a limited role and modest capability to support the army and navy.⁵ The legacy of the Chinese leadership's minimalist understanding of the actual role that airpower can play is evident in the PLAAF's self-perpetuating view of itself in an unbroken string of memories about victories and heroism in the past, including a claim that it is the only air force in the world to have ever defeated the USAF. The PLAAF's self-aggrandizing depiction, however intellectually dishonest it may be, has nevertheless become important components of its service tradition.⁶

More Political than Military in its Decision-making

The West tends to see the PLA as having too much autonomy in China's civil-military relations. In fact, as commanders of a Party-controlled armed service, senior PLA leaders, socialized by the unique Party-army relationship that has also rewarded them with promotion to the higher ranks, are unlikely to seek greater autonomy. Thus the PLA's political culture subordinates the military to the Party leadership for decisions at the time when the force is considered to be used. It is interesting to note that Chinese military thought today still regards the primary use of airpower for deterrence, deferring to the political leadership sole authority to determine whether, in fact, airpower should be used. The role the Air Force can play is thus more as a tool to serve for national policy than as a component of national policymaking.

There have been three major occasions in the PLAAF's history during which the Chinese leadership has had to contemplate the employment of the air force and airpower beyond Chinese-controlled territory. The first was during the Korean War in February 1952. In that case, Zhou Enlai personally cancelled a PLAAF bombing mission aimed at Kimpo airfield near Seoul only

minutes before takeoff. Zhou feared a Chinese raid south of the 38th Parallel would upset an implicit mutual understanding that the U.S. would not extend its bombing campaign north beyond the Yalu River into Chinese territory.⁷

The second incident occurred during 1958 Taiwan Straits crisis when the Chinese leadership was very uncertain about the PLAAF's strike capability. Again, Zhou raised concerns about potential Nationalist bombing retaliation against the mainland should the PLAAF undertake an air bombardment of Jinmen island. He felt that the inability of the PLAAF to reciprocate by bombing Taiwan in return would signal Chinese weakness to the world. He thus strongly advised the CMC not to bomb Jinmen.⁸

The last came during China's invasion of Vietnam in 1979, when the PLAAF engaged in a brief combat action against its southern neighbor. Despite several instances where the PLA ground forces requested air support, Beijing authorities refused to grant such permission lest the use of air power likely escalate the conflict; instead the General Staff ordered the army to rely exclusively on artillery fire support.⁹

These three episodes merit careful analysis for any inquiry into what role the PLAAF could potentially play in national policymaking. Political concerns and the insufficient capability of the air force constitute the true reason for the PLAAF to have undertaken no offensive roles in military actions since its establishment. Further examination suggests that the real problem was the Chinese leadership's failure from the creation of the PRC in 1949 to appreciate the centrality of airpower in modern warfare and, hence, the critical role it could play. The PLA's subsequent war experience in Korea seemingly confirmed the leadership's position that airpower could have, and in fact had, only little impact on the victory claimed by China in that war. We should thus not be surprised that Chinese political and military leaders have long maintained the view that war will continue to be conducted in the context of dominant ground operations, with airpower used in a supporting role, to supplement the power of the army.

Furthermore, given their confidence in the human factor—that men could overcome weapons, a belief reinforced by their own guerrilla war experience—Chinese leaders were convinced that their ground forces could overwhelm any opponent and win any war. Consequently, the PLAAF had long argued that ground operations would determine the air force's contribution to final victory. The development of such thinking was supported by the objective reality confronting the PLAAF. While the PLAAF was one of the world's largest air forces, its equipment was outdated, limited in capability, and not even equal to that of some countries surrounding China. Since the creation of the PLAAF, to address technological deficiencies and maintain the air force's overall combat capabilities, China favored an air force based on quantity instead of quality.¹⁰ When it did engage in combat development, the aircraft produced were outright copies or simple derivatives or extrapolations of Soviet designs such as the Ilyushin Il-28, Tupolev Tu-16, and the Mikoyan-Gurevich MiG-17, -19, and -21.¹¹ The sheer numerical superiority of the PLAAF compared to its potential regional opponents convinced the Chinese that the PLA had built an adequate and credible air defense force capable of deterring and, if necessary, resisting any attack into Chinese air space.

Such a view was shattered by the dominant role airpower played in Desert Storm and the military conflicts since the 1991 Gulf War. Even so, one political legacy remains: the latest PLA

campaign theory holds that the employment of airpower is more a political matter than a military one, subordinate to the needs of China's political and diplomatic struggles. If its use is required, it will be the political, not military, leadership that will make the decision. This perhaps explains why the development of the air force still requires the personal involvement of the Chinese political leadership.¹² The question remains whether fourth and fifth-generation Chinese political leaders, unlike their predecessors, will not hesitate to throw the air force into harmful situations.

The PLAAF's Evolving Thinking on Airpower

The early 1990s awakened the PLAAF to the realization that China had fallen far behind the West in both technology and doctrinal thinking about airpower. Time and space were no longer the allies of those who were once so confident that China's existing air defense systems could prevent any attacks deep into the nation's heartland. Serious doubts were raised about the traditional interpretation of China's defense capabilities, including the common belief that an inferior force could overcome a superior enemy. Drawing on lessons learned from Iraq's defeat in the 1991 Gulf War, the Chinese central military leadership pointed out that "a weaker force relying solely on the defensive would place itself in the position of having to receive blows," and that only by "taking active offensive operations" could the weaker now seize the initiative.¹³

China's evolving security interests, including the long-standing prospect of a decisive confrontation with Taiwan, also favored consideration of augmenting the PLAAF's offensive capabilities. Since 1993, Beijing has adopted a new military strategy, placing an emphasis on fighting and winning a future regional war under high-technology conditions along China's periphery. The momentum of the independence movement in Taiwan was simultaneously viewed as an increasingly serious challenge to China's sovereignty and security.¹⁴ The central military leadership made the proper readjustment to the air force's strategic missions, requiring it to maintain strong capabilities not only for defensive operations, but also for offensive ones.

The Air Force's new mission requirements include securing air dominance over China's own airspace, supporting the army and the navy, and directing paratrooper operations, as well as carrying out independent air campaigns. In an offensive campaign, it should be able to launch attacks against the enemy's air assets on the ground in a potential local conflict along China's coast.¹⁵

In early March 1999, Jiang Zemin, former secretary-general of the CCP and president of China, explicated the air force's strategic objective: to transform gradually from a homeland air defense force to one that was capable of both defensive and offensive operations. He then charged the air force to "bear the brunt of, and be employed throughout the entire course" of the conflict, and "to complete certain strategic missions independently."¹⁶ To achieve these objectives, China later that year adopted a three-step implementation strategy for air force development over the next several decades.¹⁷

According to its 2008 Defense White Paper, China expected to lay a solid foundation for the development of the PLA into a more high-tech and more balanced network-centric joint force by 2010, to accomplish mechanization and make major progress in informatization by 2020, and to reach the goal of modernizing national defense and the armed forces by the middle of the twenty-first century.¹⁸ This constituted a logical follow-on to a strategic vision the PLAAF introduced in

2004. That year, the PLAAF enunciated a new strategic vision calling for the development of a long-range strategic air force and the active involvement of integrated air and space [*kongtian yiti*] operations with information and firepower systems [*xinxi huoli yiti*].¹⁹

Under the guidance of such a developmental strategy, the PLAAF embarked on a two-stage transformation. The first stage is laying a framework for a force capable of both offensive and defensive operations, by increasing the number of high-performance offensive aircraft, combat support aircraft and advanced surface-to-air missile systems. The second stage is wielding fighter aircraft, surface-based defense, and command, control, communication, and intelligence elements into an integrated operational system that is able to conduct both air offensive and defensive operations under “informatized” conditions.

The development of China’s air force capabilities focuses upon four areas:²⁰

- offensive capability that is capable of protecting national security and national interests from the air and space
- integrated air defensive and anti-missile capability that is capable of monitoring both air and space flying objects and attacking them
- superior capability over its main opponent (presumably Taiwan) and certain counter-information capability against its strategic opponent (presumably the United States); and
- strategic airlift capability that is capable of conducting both airlift and airdrop operations

The Development of the New Air Force

China pursued a “walking on two legs” policy to modernize the air force through purchases of foreign systems and development of domestic technology. China has historically sought to be self-reliant in military production through either reverse-engineering or incorporating foreign technology. Since the early 1990s, such foreign purchases have been perceived as a stopgap measure for the PLAAF to create a sizeable fleet of fourth generation aircraft, exemplified by acquisition of the Russian-made Sukhoi Su-27 and Su-30, and co-produced J-11 fighters. After years of effort, the development of domestic systems has borne fruit thanks to the J-10 and JH-7 that have entered service in the PLAAF since 2004. It appears that since 2005, one regiment of PLAAF or Navy Aviation will transition into the JH-7A, J-10, and J-11B.²¹

With its entry into the 21st Century, the PLAAF has become smaller. The U.S. Department of Defense reports on Chinese military power registered 5,300 tactical fighters, bombers, and support aircraft in both the PLA Air Force’s and Naval Aviation’s inventory in 2000. That number reduced to 2,300 in 2010.²² As early as 2003, the PLAAF’s operational air divisions had declined to just 29 divisions, with some of them having only two air regiments.²³ Accompanied with this reduction and restructuring, the PLAAF established an additional transport division and one special aircraft division attempting to enhance its long-range airlift and airborne early warning (AEW) capabilities. Thus, if getting smaller, the Chinese Air Force has become much better equipped and much more technologically sophisticated.²⁴

Like the United States Air Force and the Royal Air Force previously, the PLAAF’s leadership seeks to create a mixed force blending limited quantities of high-performance fighters and larger quantities of less expensive fighters. The ongoing procurement of J-7G and J-8F/H, which are

upgraded versions of obsolete second-generation J-7/8s, provides the Chinese air force with less-expensive, less-capable aircraft to serve alongside J-10 and J-11 in a “high/low” combination.²⁵ One problem which seems to have bothered the PLAAF is that the initially purchased Su-27s and the subsequently assembled Chinese J-11s are not true multirole fighters capable of supporting the increasingly diverse mission requirements of the PLAAF, particularly the increased emphasis on offensive as well as defensive roles.²⁶ The real change of its offensive capabilities will only come as a significant number of J-10s and J-11Bs enter operational service over the next five to ten years.

For the past ten years increasing focus has been placed on informationalization as a leapfrog measure to close the PLAAF’s cyber and electronic warfare (EW) gap with the United States and Western Europe. The development of sophisticated communications, command and control (C3), or intelligence, surveillance, and reconnaissance (ISR) capabilities has been PLAAF’s most urgent priority.²⁷ Following earlier experimental trials using an obsolete Soviet-legacy Tupolev Tu-4 modified with turboprop engines and rudimentary search radar in a saucer dome, China has developed two “high-low” versions of an indigenous AWACS (Airborne Warning and Control System): the high-end KJ-2000 based on the Russian IL-76MD airframe; and the low-end KJ-200 based on the Y-8F-200 transport platform. These platforms were handed over to the PLAAF in 2005 and 2006, respectively, to coordinate fighters and bombers via secure datalinks. Simultaneously, China developed seven other different types of EW aircraft, the High New (*Gaoxin*) series, likewise based upon the Y-8. Integration of these systems is well underway across the services to increase PLA’s joint operational capability.²⁸

In retrospect, though the U.S. government successfully pressured Israel to cancel the sale of the Phalcon AWACS system to the PLA in 1999, China appears to have pulled together sufficient talents and resources to build its own system despite this seeming setback. The chief engineer and designer of the Chinese AWACS project recently claimed that China’s radar technology has reached the same level of leading foreign countries and in some areas that it is even better.²⁹ Efforts by the United States and European countries to prevent China from obtaining high-tech weapons similarly do not seem to have succeeded.

Yet, the downside of this success in improving the cutting edge of offensive and defensive forces has actually worked to delay the PLAAF’s acquisition of transport aircraft and transport-related R&D. Russia’s failure to deliver thirty-four IL-76MDs as scheduled in 2008 has kept the PLAAF’s newly created transport division underequipped.³⁰ In the meantime, most of the Y-8 platforms manufactured by Shanxi Aircraft Factory have been committed to the production of the high priority High New series, and development of the Y-9, whose first prototype was begun in 2006, was delayed. (Recently, some sources suggest that the Y-9 project has resumed with first flight expected in 2011). It was not until May 2009 that the new transport division has received its first Y-8C aircraft.³¹ Again, this reflects how the PLAAF is restricted by numerous constraints and obstacles that confront all aspects of its development.

The PLAAF’s Political and Organizational Culture as Constraints

A conventional academic consensus is that instituting change in military organization is at best difficult. It is perhaps even more challenging to institute change in the PLA organization. In their 2007 study, Saunders and Quam look at tradeoffs in current PLAAF modernization efforts

and future force structure including the allocation of roles and missions among services and branches, the balance between domestic and foreign procurement, the mix of low-technology and high-technology systems, and the relative proportions combat aircraft and support aircraft.³² But the PLA's political cultural tradition, systematic constraints, and the emergence of service cultures are also influential to the pace of modernization and the size of the air force.

Graham Allison and Phillip Zelikow note that organizational culture is a factor influencing leaders to favor maintenance of the status quo.³³ China's Party-army relationship, a relic from its founding, demands the PLA's absolute loyalty to the Party. The PLAAF is no exception to this. The current and future development of the air force is obligated to be framed within the ideological bounds of the military thinking of the Chinese leadership.

As aforementioned, the PLAAF leadership has always maintained a pseudoscientific attitude to characterize their leadership's sporadic instructions as profound military thought on airpower, and ensuing used those instructions as guidance. "Being prepared for offensive and defensive operations" had been long debated by the air force theorists since the late 1980s. It was not until 1999 that Jiang Zemin endorsed the expression. The PLAAF felt itself officially blessed and subsequently claimed it to justify the strategic goal of the air force, and, furthermore, to characterize it as a vital piece of his military thought on airpower.³⁴

Chinese leaders are accustomed to devoting significant personal, autonomous attention to defense projects. Their involvement influences the allocation of resources as well as air force procurement decisions. The PLAAF, reportedly, has been unenthusiastic about the J-8 as its air superiority fighter, and would prefer to suspend its procurement as the J-10 becomes available. But the late leader, Jiang Zemin, personally took charge of this focal-point project, calling the J-8 an aircraft was a credit to the China's aviation industry.³⁵ Since then, the air force has had little choice but to continue purchasing upgraded versions of J-8 fighters, though in limited numbers.

Currying favor with the leadership is a cultural phenomenon in any political system dominated by absolute authority and arbitrary decisions by key individuals. It represents not only air force subordination to the Party (strongly entrenched in Chinese military culture), but also demonstrates the political reliability and loyalty of the air force to individual senior Party leaders. In return, the PLAAF leadership could be confident that, when it brought its requests to the Party leadership's personal attention, they would receive favorable approval. Nothing should upset the continuity of this entwining Party/Military bondage of mutual support.

Another well-known organizational constraint goes to the so-called "great land army" complex (*da lunjun qinjie*), which refers to Army-centric thinking and leadership that has long dominated the Chinese military system.³⁶ The four general departments—the General Staff Department, General Political Department, General Logistics Department, and General Equipment Department—serve concurrently as the PLA's joint staff, and as the headquarters for all services, namely the ground force, navy, air force, and Second Artillery force. These departments are still staffed primarily by army officers. Because there is no general headquarters for ground forces, the General Staff Department is assigned to perform the functions of ground force headquarters. Its overarching army bias has inevitably influence all military aspects from force size, structure, and command and control to logistics, equipment, R&D, and procurement.³⁷

Nowadays, increasing numbers of personnel from other services are assigned to “joint” positions at headquarters department levels, as well as at military region headquarters levels. This change enables the expertise and knowledge of other services to be brought into the joint and higher headquarters command environment. Though such personnel wear the uniform of their own services, they are, in fact, no longer controlled within the personnel system of their own services. This separation keeps their representation of parochial service-specific interests in these headquarters departments at minimal level. Over years, air force general officers have been appointed to deputy positions at the headquarters departments and to the commandship or political commissarship of the PLA’s Academy and National Defense University. A growing leadership role for other services within the PLA looks more symbolic than substantial as long as the existing organizational system continues.³⁸

The organization of the Chinese air force along military regional lines, with an operational command in each military region, is another typical reflection of the ground force predominant institutional system of the Chinese military.³⁹ Military regional leadership organizations traditionally have been a command organization for ground troops and education institutions, while playing a concurrent leadership role for the personnel of other services located within their regions. Only ground force officers have commanded military regions, and the commanders of other service can only serve as their deputies.⁴⁰ Since there is no permanent joint organization at the military region level, when a joint command organization must be formed, air force officers can only assume assistant (hence subordinate) positions. Thus, even though China’s most likely conflict scenarios involve possible sea and air fights over Taiwan and in East China and South China Seas, no navy and air force general officer has been yet assigned to command either the Nanjing or Guangzhou Military Region.

In 2000, Lt. Gen. Liu Yazhou, former deputy political commissar of air force and currently political commissar of PLA’s National University, proposed Chinese military authorities consider reorganizing the PLAAF into functional air commands, separating the air force from the PLA military regional system, and thus making it a true independent service. In order to make it a more offensively oriented air force, he further recommended the use of the U.S. Air Force’s “expeditionary force” model to organize air force units into air strike groups with a mix of fighters, bombers, and EW aircraft.⁴¹ Liu has been recognized as the “Douhet of China” because of his reputation as a daring thinker of airpower theory against the PLAAF’s tradition, though a better analogy might be that he is a Chinese equivalent of Lt. Gen. David A. Deptula, or Col. John A. Warden III. Not surprisingly, given the ground-centric traditionalism of the Chinese military system, Liu’s advocacy for eliminating the ground-centric military system has received little support from the PLA military establishment. Current evidence suggests that in a joint operation or campaign the air force will continue to play a support role rather than an independent or a leading role.⁴² Although the PLAAF currently enjoys the benefits of favorable military investment, as long as the General Logistics Department continues to control military finances, PLAAF funding is unlikely to reach levels desired by air force officers.⁴³

The rising importance of the navy, air force, and Second Artillery forces has facilitated the emergence of rival service cultures, which, in turn, have brought not only competition with the ground force tradition, but also rivalries among the other services and branches. In particular, the

PLAAF's adoption of air and space integration as part of its development has instigated a struggle within the PLA over the control of space operations. China's space assets are controlled by the General Armaments Department, while Second Artillery possesses strategic missiles. The PLAAF has been contending that it should be in control of space operations because air and space constitute a single integrated medium. But the PLAAF has been unpersuasive in making this case, and so has lost recent debates about whether these capabilities should be placed under its control.⁴⁴ It concurrently concentrates on building facilities and institutions to receive satellite services for communication, weather, navigation, and global positioning. Taking this tack, the PLAAF believes it will be able to make the transition from being a traditional air force to one enabled by space-based information (communications, positioning, navigation, timing, and intelligence, surveillance, and reconnaissance) capabilities.⁴⁵

China's present-day security interests—preventing Taiwan from seceding and supporting the country's claims to islands in the East China Sea and South China Sea—have brought PLA naval aviation into competition with the PLAAF for the limited R&D and production capabilities of the Chinese defense industry. For example, the JH-7 fighter-bomber was initially made for the PLAN aviation. The air force did not commit to this aircraft until the improved variant, the JH-7A—upgraded with two more powerful domestic-made turbofan engines and a new fire control system capable of launching precision strikes using antiradiation missiles and laser-guided bombs—became available.⁴⁶ Since 2004, its acquisition has been a priority for the PLAAF which has had to share its production with the naval aviation, receiving one regiment every other year. As a result, the PLAAF's replacement program to phase out its obsolete fleet of aging Q-5 attack aircraft—a J-6 (Chinese version of the MiG-19) derivative—will stretch beyond 2015. This PLAN-PLAAF competition extends to other domestically manufactured aircraft, such as the J-10 and J-11B, produced by Chengdu and Shenyang aircraft factories respectively.⁴⁷ With the air force increasingly training over water, the competition in terms of division of responsibility and procurement will be intensified as maritime strike missions traditionally assigned to PLAN are increasingly prosecuted by the PLAAF, echoing similar institutional struggles between the U.S. Navy and the U.S. Army Air Corps in the 1930s.⁴⁸

The PLAAF's Influence within the PLA

The growing capability of the PLAAF brings about interest to appreciate its influence within the PLA and what role it currently plays in national policymaking. An analysis of the PLAAF's missions versus those of other services is illuminating. In his "Essences for an Offensive and Defensive Chinese Air Force" essay, Lt. Gen. Liu Yazhou defines that the air force must be capable of playing a major role in a variety of military operations against Taiwan—including air and missile attacks, a naval blockade, or even an outright invasion of the island.⁴⁹ Over the last decade, the PLAAF has striven to develop the capability for carrying out all-weather, day-night, high-intensity, simultaneous offensive and defensive operations. The 2006 *Science of Campaigns* by the PLA's National Defense University identifies the following major PLAAF missions:⁵⁰

- military deterrence
- offensive air operations (including air-blockade, airborne forces insertion, informatized operations, and special operations)
- air defense
- assisting the ground and navy in offensive-defensive operations

- assisting the Second Artillery force in missile attacks
 - resisting a more powerful enemy's attack, and
 - participating in United Nations' operations
- Further discussing air offensive campaign categories, *Science of Campaigns* pinpointed three objectives that the PLAAF is expected to achieve:⁵¹
- seizing air control by annihilating or crippling the enemy's offensive and defensive airpower forces
 - to create the favorable conditions for the army and navy to operate by destroying a large number of ground troops and the communication systems, and
 - attacking the enemy's political, military, and economic targets to weaken the enemy's war potential or to achieve specific strategic objectives

Two major concerns are intrinsic within PLA campaign theory: one is the presumption that the air force's offensive capability remains limited, both in terms of the quantity and quality of PLAAF forces; and the other is that the enemy—specifically Taiwan—has built up such a sophisticated air defense system (consisting of radars, EW aircraft and satellites integrated with fighters, anti-aircraft missiles and artillery) that it will be difficult for PLAAF or PLAN strike aircraft to break through it.⁵²

An important discontinuity of thought is inherent within how the PLAAF and the PLA perceive the PLAAF's combat role and capabilities. While the PLAAF holds that the air force should be capable of being used throughout a conflict from the beginning to the end, PLA campaign theory argues otherwise, suggesting that the PLAAF should be employed in offensive operations at the critical time (*zhongyao shijie*).⁵³ This may reflect an intriguing fact: the officers responsible for writing PLA campaign theory come mainly from the Army. Thus it is likely that this difference represents the Army's influence within PLA doctrinal circles and, consequently, its own interpretation about the mission and current capability of the PLAAF. Furthermore, it explains why the PLA has attached great importance to land-based ballistic and cruise missile programs versus winged atmospheric (hence PLAAF) attack. Competition for resources between the PLAAF and Second Artillery is inevitable as the PLA pursues developing a long-range strike capability, particularly as strategic projection remains a major deficit of PLAAF's capability. Perhaps not surprisingly, then, according to PLA campaign doctrine, Second Artillery is defined as a primary player of joint strike force to conduct preemptive attacks (*xianji zhidi*) against the enemy's targets from long range.⁵⁴

In contemplating regional conflict, China's greatest concern is confronting an American intervention. Over the years after the first Gulf War, Chinese defense experts raised serious doubts whether the country could withstand air and missile attacks similar to those that had shattered Iraq's military structure and capabilities. The subsequent emphasis of the "three attacks and the three defenses" required the development of the air defense systems that are capable of attacking stealth aircraft, cruise missiles, and armed helicopters (the "three attacks"), and protecting against precision strikes, electronic jamming, and electronic reconnaissance and surveillance (the "three defenses").⁵⁵ The 2008 defense white paper characterizes the PLAAF as a mixed force of aviation, ground-based air defense, airborne, signal, radar, electronic countermeasures (ECM), technical reconnaissance, and chemical defense.⁵⁶ This mixed-force structure will continue to complicate China's air and space decisions, particularly with regard to

training, allocating roles and missions among the services and branches, and influencing resource allocations for Chinese air force modernization.

Division of responsibility across the services in air defense also challenges the PLAAF's effort to build an integrated air defense system. The PLAAF is primarily responsible for the air defense mission. It not only operates most of China's fighters and also most of its ground-based air defense systems, such as surface-to-air missiles (SAMs) and anti-aircraft artillery (AAA). The PLA ground force and navy units also operate anti-aircraft systems (short-range anti-aircraft missiles and anti-aircraft artillery, and navy fighters) to protect themselves. The question is to what extent the possession of air defense systems by other services represents an old service cultural preference for embracing every possible capability, particularly since many of these ground-based air defense weaponries have proven ineffective in recent warfare.⁵⁷

The PLAAF's *Science of Modern Air Defense* describes air defense as an integrated air-space operation in all dimensions (air, sea, space, cyber, and ground), and requires joint operations of all services.⁵⁸ Yet against this confident assertion, evidence out of China is confusing. The PLAAF air defense forces operate the most sophisticated long- and middle-range SAM systems, the Russian made S-300 and China's indigenously developed HQ-9/12 series. However, the bulk of Chinese SAM batteries remain equipped with the obsolete HQ-2 systems as well as outdated Stalinist-Mao-era anti-aircraft artillery.⁵⁹ Perhaps what even more significant is that no single national air command system has ever been established equivalent to the former Soviet Union's *PVO-Strany*, or the United States' North American Aerospace Defense Command (NORAD). Lt. Gen. Liu Yazhou has suggested creating a Chinese "NORAD" to command China's air defense based around the Beijing MR Air Force. The recent Vanguard-2010 exercise suggests that the army air defense forces are attempting to assert their independent role in China's national air defense system, however it develops.⁶⁰

Conclusion

The growth of China's airpower in recent years has naturally raised great Western interest in comprehending the PLAAF's influence within the PLA, its relationship with other services, and the role it currently plays in national policymaking. Change is clearly underway within the ranks of the PLAAF, which has embraced a new concept of operations that emphasizes development of an air force capable of both offensive and defensive operations, fielding an increasing number of fourth-generation multirole fighters, early warning and electronic warfare aircraft, and long-range surface to air missiles. The force structure is being radically reshaped to become a smaller, yet more technologically capable, service. For military organizations to be able to take dramatic changes, they must also have appropriate personnel policies, organizational structure, service culture, and leader development programs, etc. What has not changed is the PLA's political culture, service tradition, older ways of doing things, and outdated organizational system. All these formulate relentless constraints that will undoubtedly continue to hinder the PLAAF's modernization efforts.

In sum, then, the PLA is a titanic bureaucratic amalgamation with a leaden hand of tradition that can often block innovation. Changes in doctrine, training practices, force structure, and equipment are underway, yet many traditions and cultural characteristics of the 83-year-old PLA

are rigorously maintained. On top of that, there is the Party-controlled political culture and the ground force-centric predominant organizational tradition of the PLA. Both serve as constraining mechanisms not only restricting the PLA's drive to autonomy, but also ensuring its loyalty to the Party and obedience to the Party's policy.

If new mission requirements and an emphasis of joint operations are forcing the PLAAF to rethink itself and its role, to reduce its force size, to acquire new aircraft and weapon systems, and to strengthen its command and control by informationalization, none of these changes have seriously posed challenges to the existing organizational system of the PLA. The political culture and the military system of the PLA continue to ensure the Chinese Air Force remains as it has been—consisting of aviation, surface-to-air missiles, anti-aircraft artillery, radar, and airborne troops, while space assets and strategic missiles remain separate from it. Despite the PLAAF's vision to be capable of both offensive and defensive operations, the PLA's current campaign theory defines the Second Artillery force as a preemptive strike force and projects the Air Force to carry out offensive operations at critical, necessary moments. Thus, although the PLAAF is in the midst of a dramatic transformation with new weapon systems and growing capabilities, its role and influence remain limited within the contemporary army-dominated Chinese military system. As in other nations previously, differing and conflicting service cultures contribute to frictions between services, though, in China, that has not brought any fundamental change of relationship among the land-air-sea forces. The continued existence of political constraints on when and how airpower should be used further limits and frustrates any role the air force can play in national policymaking.

Historically, the Chinese leadership has repeatedly demonstrated hesitation in employing its national airpower for offensive purposes. This was partly attributed to the Chinese leadership's misunderstanding of the PLAAF's actual experience in the Korean War and in homeland air defense operations during the Cold War, and to their ignorance (for various reasons) of the actual role that airpower can play in modern conflict. The other was because the PLAAF had been incapable, in any case, of conducting offensive operations, again for a variety of reasons such as available force-structure, capabilities, and training.

The potential of a U.S. intervention is always seen as a major variable of a regional security equation, particularly in a crisis over Taiwan and the Taiwan Straits. While the PLAAF's modernization efforts may close the gap between its aircraft and avionics capabilities and those of the United States, its overall capability will continue to be inferior to that of the U.S. Air Force. The current and future Chinese leadership will continue to face and confront the same dilemmas as have its predecessors over the extent that political considerations and the PLAAF's restricted capabilities work to constrain Beijing's national security calculation and decision-making. Nevertheless, it is undeniable that the PLA's warfighting potential has grown in parallel with China's economic surge. Assuming its economy continues along a steady trajectory, China will be able to commit further resources to the more challenging aspects of the three-step strategy, particularly informatization. Should these goals be realized, the United States and other powers will face a genuine challenge in preparing themselves to encounter increasingly capable Chinese aerospace power over coming decades. This perhaps is the key rationale fueling continued interest in studying the steady evolution of the PLAAF as it progresses through the 21st Century.

¹ The views expressed in this paper are those of the author and do not necessarily reflect the official policy or position of the Department of Air Force, the Department of Defense, or the U.S. Government.

² According to PLAAF's encyclopedia, in addition to Mao, other Chinese political and military leaders who also made contributions to Chinese military thought on air force (*kongjun junshi sixiang*) are Premier Zhou Enlai, Chairman of CMC Deng Xiaoping, Party Secretary-general Jiang Zemin, and Marshalls Zhu De, Peng Dehuai, Xu Xiangqian, Nie Rongzhen, and Ye Jianying. Yao Wei, chief ed., *Zhongguo kongjun baike quanshu* [*Encyclopedia of Chinese Air Force*] (Beijing: Aviation Industry Press, 2005), v. 1, 9-19.

³ According to the authors of General Liu Yalou's biography, "elimination of the remnant enemy" was the PLAAF's contemporary mission, while "the consolidation of national defense" was its future one (Mao's message to the air force, April, 1950, in Yang Wanqing and Qi Chunyuan, *Liu Yalou jiangjun zhuan* [*Biography of General Liu Yalou*] (Beijing: CCP History Press, 1995), 284.

⁴ This specific view was given by Marshall Xu Xiangqian. *Ibid.*, 18.

⁵ For example, see Deng Keyang, chief ed., *Deng Xiaoping kongjun jianshe sixiang yanjiu* [*Study of Deng Xiaoping's Thought on the Construction of Air Force*] (Beijing: National Defense University Press, 1997). Shang Jinshuo, chief ed., *Mao Zedong junshi sixiang yu xiandai kongjun zuozhan* [*Mao Zedong's Military Thought and Modern Air Force Operations*] (Beijing: Blue Sky Press, 2004).

⁶ "Sixty Years of the Chinese Air Force and the Capability of Its Equipment Grows," *Wenweipo* (Hong Kong), November 22, 2009.

⁷ Xiaoming Zhang, *Red Wings over the Yalu*, 185.

⁸ Xiaoming Zhang, "Air Combat for the People's Republic," 284.

⁹ Zhang Zhizhi, "The Air Force Troops in the Self-Defensive Counterattacks against Vietnam," in *Lantian zhi lu*, vol. 2, 355.

¹⁰ Wang Hai, *Wo de zhandou shengya* [*My Career in Warfighting*] (Beijing: Central Archival and Manuscript Press, 2000), 281.

¹¹ Lin Hu, "The Air Force's Armament Work during the Seventh Five-Year-Plan Period," in *Lantian zhi lu*, vol. 2, 514.

¹² Zhan Yulian, ed., *Zhanyu xue* [*Operational Art*] (Beijing: National Defense University Press, 2006), 543-44.

¹³ Hua Renjie et al., *Kongjun xueshu sixiang shi* [*The History of the Academic Thinking of the Air Force*] (Beijing: Jiefangjun Press, 2008), 368.

¹⁴ Liu Huaqing, *Liu Huaqing huiyilu* [*Memoirs of Liu Huaqing*] (Beijing: Jiefangjun Press, 2004), 581-582; Ye Huinan, "Four Major Changes of Our Country's National Defense Strategy since Its Founding," *Dangdai Zhongguo shi yanjiu* [*Studies of Modern Chinese History*], no. 3 (1999), 8.

¹⁵ Shao Zhenting, Zhang Zhengping, and Hu Jianping, "Theoretical Thinking on Deng Xiaoping's Views on the Buildup of the Air Force and the Reform of Operational Arts," *Zhongguo junshi kexue* [*China Military Science*], no. 4 (1996), 47

¹⁶ He Weirong, "Military Thought on the Air Force," in *Zhongguo kongjun baike quanshu*, 1, 4.

¹⁷ Dong Wenxian, *Xiandai kongjun lun (xupian)* [*On the Modern Air Force (continuation)*] (Beijing: Lantian Press, 2005), 47.

¹⁸ "China's National Defense Paper in 2008," http://www.gov.cn/english/official/200901/20/content_1210227.htm.

¹⁹ Dai Xu, "Goodbye, Old J-6 Fighters: A Complete Examination of the Service History of the Last Meritorious Fighter in the Chinese Air Force with Combat Victory Record," *Guoji zhanwang* [*World Outlook*], no. 19 (2005): 21.

²⁰ Shang Jinsuo, chief ed., *Kongjun jianshe xue* [*Science of Air Force Construction*] (Beijing: Jiefangjun Press, 2009), 557-58.

²¹ China does not make the PLAAF aviation order of battle publicly available. China -Defense.com forum provides some order of battle information. Currently a total of thirteen Su-27/30 and J-11 regiments are operational with two more coming. See <http://www.china-defense.com/forum/index.php?showforum=5>.

²² Office of Secretary of Defense, *Military Power of the People's Republic of China*, (Washington, D.C.: DoD, , 2000), 21; and Office of Secretary of Defense *Military and Security Developments Involving the People's Republic of China*, (Washington, D.C.: DoD, 2010), 62.

²³ Lanzit and Allen predict that the PLAAF operational air units would have reduced down to fewer than 30 divisions. "Right-Sizing the PLA Air Force," 446, 465.

²⁴ China News reported that the PLAAF's 1950s vintage Jian-6s had been completely phased out from the air force

by June 2010. *China [Xinhua] News*, June 13, 2010, http://news.xinhuanet.com/mil/2010-06/13/content_13661716.htm.

²⁵ For China's military aircraft program, see "Procurement, China," Jane's *Sentinel Security Assessment – China and Northeast Asia*, July 8, 2010, Jane's Information Group at <<http://www.janes.com>>.

²⁶ Cai Fengzhen and Tian Anping, *Kongtian yiti zuozhan xue [Study of Integrated Aerospace Operations]* (Beijing: Jiefangjun Press, 2006), 287-301.

²⁷ *Ibid.*, 554-56.

²⁸ According to a *Jiefangjun bao [Liberation Army Daily]* report on March 31, 2008, for the first time, during a regular training day of an unidentified air division, a regiment commander conducted his command and control role in an AWACS aircraft. See "The Change of Command Mode by One Air Force Division Increases Its Combat Capability: Command Post Flies from the Ground into the Sky," *Jiefangjun bao*, March 31, 2008, 2. Another *Liberation Army Daily* report indicates that Chinese AWACS aircraft flew command and control missions for the 2008 Olympic Games. See Xu Qiliang, "The Dream Flies in Reform and Opening Up," *Jiefangjun bao*, November 4, 2008.

²⁹ He Yi, "Special Interview of Wang Xiaomo, Member of Chinese Academy of Engineering, and Chief Designer of Our Country's Early Warning Aircraft," *Bingqi zhishi [Ordnance Knowledge]* no. 11A (2009), 12-16.

³⁰ Martin Sieff, "Airlift the Key to True Superpower Capability Part One," December 12, 2008, http://www.spacewar.com/report/Airlift_The_To_True_Superpower_Capability_Part_999.html; Vladimir Isachenkov, "Russia Faces an Aging Defense Industry," July 20, 2008, <http://article.latimes.com/2008/jul/20/world/fg-russia20plr>, accessed March 21, 2009.

³¹ *Jiefangjun bao [PLA Daily]*, June 24, 2009.

³² Phillip C. Saunders and Erik Quam, "Future Force Structure of the Chinese Air Force," 401.

³³ Graham Allison and Phillip Zelikow, *Essence of Decision: Explaining the Cuban Missile Crisis*, 2nd ed., (New York: Addison-Wesley Educational Publishers, 1999), 175.

³⁴ Yao Wei, chief ed., *Zhongguo kongjun baike quanshu*, v. 1, 15, 39.

³⁵ "From a Soldier to a Member of Chinese Academy of Engineering: A Story of Li Ming," on the website of Chinese Academy of Engineering: <http://www.cae.cn/cn/yuanshifengcai/yuanshifengcai/20090615/cae474.html>.

³⁶ Dong Wenxian, *Xiandai kongjun lun (xubian) [On the Modern Air Force (continuation)]*, 263-65.

³⁷ For example, the air force and navy have long experienced the technological generation gap, but it is not the case for the army, which has been close to the top level of the world except for army aviation.

³⁸ Lanzit and Allen, "Right-Sizing the PLA Air Force," 461.

³⁹ For a detailed discussion, see Kenneth Allen, "PLA Air Force Organization," in James C. Mulvenon and Andrew Yang, eds., *PLA as Organization: Reference Vol. 1.0*, (Santa Monica, CA: RAND, 2002), 346-457.

⁴⁰ Dong Wenxian, *Xiandai kongjun lun*, 268-69.

⁴¹ Liu Yazhou, "Essences for an Offensive and Defensive Chinese Air Force," in *Liu Yazhou zhanlue wenji [A Collection of Liu Yazhou's Papers on Strategy]* (n. p.: n. p., n. d.), 394-97.

⁴² During the recent joint military exercises either inside or outside China, air force officers have been always assigned to a deputy position.

⁴³ Ren Lijun, Wang Deshun, and Wang Yehong, "Identify the Major Strategic Direction, Strengthen Air Force Finance Development," *Junshi jinji yanjiu [Military Economic Study]*, no. 7 (2008), 52-53.

⁴⁴ Dong Wenxian, *Xiandai kongjun lun*, 327-328, 373, 389.

⁴⁵ Cai Fengzhen et al., *Kongtian yiti zuozhan xue [Study of Integrated Air and Space Operations]* (Beijing: PLA Press, 2006), 287-301; Shan Jinsuo and Li Niguang, "Creative Development of the Party's Guiding Theory of Air Force Building," *Zhongguo junshi kexue*, 20, no. 5, (2007), 45.

⁴⁶ "The Development of the Joint Strike Flying Leopard for the Air Force," *Hangkong shijie [Aviation World]*, no. 5 (2005), 38-39.

⁴⁷ Chinese Military Aviation website: http://cnair.top81.cn/J-10_J-11_FC-1.htm.

⁴⁸ Yan Zhen, "Training Fighting Eagles to Fly to the Ultimate Limit," *Jiefangjun bao [PLA Daily]* (Feb. 22, 2010).

⁴⁹ Liu Yazhou, "Essences for an Offensive and Defensive Chinese Air Force," 427-30.

⁵⁰ Zhan Yulian, ceif ed., *Zhanyi xue*, 99.

⁵¹ *Ibid.*, 527-28.

⁵² *Ibid.*, 544.

⁵³ *Ibid.*, 99.

⁵⁴ *Ibid.*, 99-100.

⁵⁵ Liu Huaqing, *Liu Huaqing huiyi lu*, 606-13.

⁵⁶ Information Office, *China's National Defense in 2008*, 26.

⁵⁷ After several rounds of force reduction, the PLA Navy maintains its AAA units, which still operate outdated anti-aircraft artilleries. A recent news suggest they are upgraded with a new radar system.
http://news.ifeng.com/mil/jsdg/200909/0908_6242_1339093.shtml.

⁵⁸ Wang Fengshan, Li Xiaojun, and Ma Shuanzhu, et al, *Xiandai fangkong xue [Science of Modern Air Defense]* (Beijing: Aviation Industry Press, 2008), 3, 132.

⁵⁹ According Chinese internet information, the PLAAF has one hundred five SAM battalions, of which about two third remain equipped with HQ-2 SAMs.

⁶⁰ *Zhongguo Qingnian Bao Online*, August 6, 2010.