The Impact of China's Space Program Advancements – The Next Space Race

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The People's Republic of China launched its first astronaut, or "taikonaut," Lt. Col. Yang Liwei, on October 15, 2003 Beijing time (October 16 Eastern Daylight Time). China thus became only the third country, after Russia and the United States, able to launch humans into orbit and thus entered (or re-invigorated) the "The Next Space Race". This manned space launch (at present time they are planning their second in 2005) represents a landmark event for research and further global cooperation for the continued exploration of space. Included within this non-military potential are China's long-term plans to build a reusable space plane and join forces within the International Space Station (or construct their own).

While one of the strongest immediate motivations for this program appears to be politically (and scientifically) driven, China's manned space efforts almost certainly will contribute to improved military space systems in the near future. Therefore the achievement of a successful manned space flight poses a grave military threat as this allows for the continued research of space-based Intelligence, Surveillance and Reconnaissance (ISR), Intercontinental Ballistic Missiles (ICMBs) Deployments and Countermeasures, and Counterspace Technologies (anti-satellite (ASAT) and Electronic Countermeasures (ECM)). Although each of these initiatives are each vital to the future success of global military success, the short-term emphasis has been placed on the later; specifically within the context of surprise and pre-emption in local conflicts (as per doctrinal literature developed by the PLA Academy of Military Sciences (AMS) under the authority of the Central Military Commission (CMC)) against the United States (or nations protected by the United States).

The relative technological inferiority of the People's Liberation Army (PLA) has led to the exploration of asymmetric methods enabling "the inferior to defeat the superior". Recent PLA writings suggest that China's armed forces remain relatively confident of their ability to defeat a regional military force of comparable technological development

with traditional battles of annihilation, or operations that rely on mass and attrition to attack the enemy forces, formations, and troops directly. The PLA also is convinced that this traditional approach to campaigns will not suffice against an enemy with advanced technologies, such as the United States (which poses the greatest political and military obstacle/threat to China at the present time and is the hegemony in Southeast Asia). Consequently, there is an emphasis on conducting operations that will paralyze the high-tech enemy's ability to conduct its campaign, including operations to disrupt and delay the enemy campaign at its inception, degrade the adversary's ability to process or gather information, and reduce the efficacy of the enemy's weapons (especially those based upon GPS). This holds especially true if that high-tech adversary is perceived to be overly dependent upon information systems to enable or support its operations.

Through the assessment of Operation ALLIED FORCE (1999) and the 1991 Gulf War, the PLA concluded that a superior enemy's situational awareness and precision-strike systems could be stymied through effective, and often low-tech, counter-reconnaissance measures. As a result the Chairman of the CMC, Jiang Zemin, combined with other top military leaders involved with the modernization of the PLA, developed the *Three Attacks and Three Defenses* air defense-training regime. This concentrated on attacking stealth aircraft, cruise missiles, and helicopters, while defending against precision strikes, electronic warfare, and enemy reconnaissance. The projected backbone of the *Three Defenses*, with regards to high-tech options, is their space research program and their Counterspace Technologies.

Captain Shen Zhongchang from the Chinese Navy Research Institute, for example, envisions a weaker military defeating a superior one by attacking its space-based communications and surveillance systems. He adds that in future wars radar, radio stations, communications facilities, and command ships will be priority targets vulnerable to smart weapons, electronic attack, and electromagnetic pulse (EMP) weapons.

The addition of China to the "Manned Space Club" thus allows China to expand its research potential of this 4th frontier to develop and improve the strike-potential of its

Space Countermeasures. This includes the analysis of such technologies as GPS jamming weapons, ASAT weapons (including both launched "parasitic microsatellites" and ground-based technologies (high-powered microwave systems (RF pulses) and high-energy laser technologies (which can damage optical and communication sensors)), and Communications Disruption Technologies. All of which are required to pose a palpable threat to the United States, given the comparison of each country's military technological advancement.

China's ability for Space Countermeasures and ASAT-first strikes against the United States is most likely to be deployed as a deterrent within China's grand strategy against Taiwan (China's foremost territorial sovereignty claim for unification of its empire). Of the many unknowns and other uncertainties around their immediate and long-term strategies for the reunification of Taiwan with Mainland China, not to mention their control of Southeast Asia and the South China Sea, the United States poses their greatest security threat/enforcer of the present status quo. By continuing their advanced research into space technologies, and focusing on first-strike defensive applications, there is a greater chance this will deter United States intervention through the threat of maiming the complex network of satellite systems that current act as the backbone for both military and civilian technologies.

The main indirect concern associated with China's pursuit of successful manned space flight and recovery is the risk of entering into a new dawn of global insecurity; namely the era of "Weapons of Mass Chaos". This can be brought about through other countries seeking to increase their global geopolitical status through also pursuing advanced space programs. This includes not only the goals of manned space flight, but more importantly the mass proliferation of spaced-based weaponry capable of either temporarily or permanently reducing the efficacy of the numerous complex satellite systems currently in orbit. This next-generation space race, if global military development continues parallel to the pursuit of nuclear weapon technologies, poses an even greater threat of use than nuclear weapons (which by in large due to the MAD (Mutually Assured Destruction) doctrine were obtained as a military deterrent and to increase political prestige only). On

the other hand, as this new dawn of space-based weaponry comes to fruition, this category of technology does not have the same direct mortality potential (and therefore the same "evil" stigma associated). Therefore, its pursuit of obtainment is more likely for its use and not threat of use. As the United States and other western countries (this list of developed or satellite dependent countries is growing rapidly) are heavily dependent upon maintaining this space-network, the likelihood of it being knocked "off-line" via a first-strike from a "rogue" state increases as does its indirect effect upon the countries utilizing that system. Thus resulting in Mass Chaos.

Beyond the scope of this brief, but consistent within China's space program is should be noted that included within China's current space program research, they are presently pursuing advanced heavy-lift space launch vehicles/technologies (SLVs). According to the United States Department of Defense Annual Report on the Military Power of the People's Republic of China (issued July 28, 2003), "China's objective is a capability to launch 25 tons to low earth orbit and 14 tons to geosynchronous orbit by 2007". Consistent with this initiative, China launched its first oceanological satellite on May 15, 2003. And by 2010, it's projected they may have launched a constellation of satellites to form its own stereoscopic observation system to monitor the ocean's environment.

Reports also indicate China has begun to develop a new small, solid-propellant SLV, the Kaituozhe (Pioneer, KT, or KTZ-1). This represents the first stop toward developing a series of small, solid-fuel launch vehicles that will provide China with an efficient means of launching small satellites currently in development. It has also been noted within the Chinese press that this class of boosters can be launched from mobile platforms, provides rapid-launch capabilities, and has broad military, civil, and commercial applications.

The impact of this research within the context of Global Security, increased military budgets and economic/political power combined with their Military National Strategy should pose concern not just for the immediate implications but also future actions (whether they be pre-emptive or defensive in nature) as driven by their territorial sovereignty claims and maritime disputes: the Diaoyutai/Senkaku Islands with Japan;

Taiwan; the Paracel Islands with Vietnam; the Spratly Islands in the South China Sea with Vietnam, the Philippines, Brunei and Malaysia; water areas of the South China Sea with Vietnam, the Philippines, Brunei, Indonesia and Malaysia; and the maritime border with Vietnam. China is currently a nuclear power, and therefore diplomatic relations must be pursued with utmost sensitivity both with the objectives of global, multilateral cooperation and stabilization (militarily, economically and politically). Most importantly, for the world to benefit from the "Space Race" as a whole, there must be a shift in the current paradigm, placing greater significance on the scientific gains from space exploration instead of the military and conflict enhancements that currently are the driving force.