

TESTIMONY TO THE US-CHINA COMMISSION

Mr. Chairman, Mr. Vice-Chairman, other Members of the Commission.

I'd like to express my appreciation for being invited to appear before you today to address the question of the PLA's objectives in space.

I'd like to begin by noting that the Chinese space program is not a mirror-image of the American or Soviet programs; the apparent absence of early warning satellites, including missile launch and nuclear detonation satellites, suggests that its programmatic targets have been very different from those of the two superpowers. Therefore, we should not be viewing the Chinese program through the lens of Apollo or Soyuz.

Instead, where the US and Soviet programs, especially in the very early days of their respective programs, were focusing first and foremost on military intelligence objectives, along with issues of space science, according to Chinese writings, the drive for prestige has been much more a central factor in motivating Chinese efforts. Moreover, civil-military integration of the PRC's aerospace industries has been a programmatic imperative since at least the late 1980s. The aim has been to contribute to "comprehensive national power," in all its various forms, including enhancing China's diplomatic and economic capabilities, as well as its military capacity. Nonetheless, the People's Liberation Army since the early 1990s has shown steadily growing interest in space, as part of their thinking about future warfare.

In this light, then, the Chinese anti-satellite test of January 11, 2007, codified several realities that have been true for quite a while, but which we did not necessarily internalize until now. These are that:

- China is a space power of the first tier

- China acts according to Chinese interests, and not simply in reaction to US actions or non-actions
- Chinese decision-making is very much opaque and not well understood.

First, *the Chinese are a space power*. That is, they are a nation that possesses the political will, the financial and human resources, and the physical infrastructure to use space for their own ends, on their own schedule, on their own terms.

More to the point, they are a first tier space power, comparable to the United States and Russia, and arguably exceeding Europe and Japan. Not only does China have the ability to exploit space for its own purposes, but the January ASAT test also has demonstrated a Chinese capacity to deny other nations that same ability. This may be an early capability, it may be a limited one, but it is also now an actual, rather than potential, capability.

This makes the Chinese a very different proposition in the post-Cold War environment. By being a space power, China has an enhanced ability to monitor its environment and its surroundings, and can do so relying solely on its own assets. This has distinct diplomatic and political implications. China's space capabilities, for example, allow Beijing to verify treaty compliance, monitor force deployments, and broadcast its views all over the world. As important, by controlling its own space assets, China can provide access to such information and capabilities to *other* nations of Beijing's choosing. In this regard, they can do so either in support of other nations, including the US, or in opposition to other nations, including the US.

In either case, we can be sure that China will operate in pursuit of its own interests. And this raises a second important lesson from the January ASAT test. *It is essential to view the PRC on its own terms*. The PRC undertook the ASAT test because it fit into the *Chinese* calculus of comprehensive national power and self-interest. An effective American response must take that calculus into account.

In this regard, it is important to examine the role of the PLA. The PLA is a professional military. And as with any professional military, it is charged with fighting and winning the nation's wars. According to Chinese military writings, there is a transformation in military affairs underway. Based on their observations of recent local wars, including Operation Desert Storm in 1991, NATO operations in the Balkans, and our recent wars with Afghanistan and Iraq, they have concluded that the PLA's past approach to wars, which relied heavily on mass mobilization and preparation for an all-out war, are no longer appropriate.

Rather than relying on mass, the PLA's doctrinal writings suggest that future wars will involve high-technology, especially information technology. It will require such technology, because future wars will:

- Exhibit much higher OPTEMPO
- Occur across multiple battlespaces, and involve the deep rear as well as the front-line
- Be non-linear in nature, and involve long-range, precision-strike munitions
- Involve high rates of expenditure and high casualty rates

To successfully wage such wars will require the disparate elements of the PLA to fight as a joint force, entailing the close coordination, if not integration, of the Navy, the Air Force, and the Second Artillery with Army operations. All of this will require, in turn, the ability to establish a common picture of the battlespace, to communicate among the component forces, to engage in precision strikes against an opponent, and to counter an opponent's ability to do the same. According to PLA writings, that means fighting and winning what they term Local Wars Under Informationalized Conditions, which entails a struggle for information dominance.

This combination of joint operations and high-technology leads, in turn, to an increased emphasis on space systems and space operations. The same information technologies and improved sensor systems that make modern weapons that much more destructive,

effectively make outer space a key battleground as well. Thus, Chinese writings emphasize that there are *five battlespaces* in which the PLA must be able to operate in future wars: land, sea, air, the electromagnetic spectrum, and outer space. Similarly, when they talk about high-technology, PLA authors are discussing information technology, and the need to undertake information collection, transmission, management and analysis systems. Space, in turn, is a key arena for each of these functions. Some Chinese authors even refer to the concept of “space information warfare,” because of the intimate relationship between space warfare and information warfare.¹

To this end, Chinese military writings often refer to space as the new strategic high ground. Chinese authors note that the combination of modern information technology and military space systems has created the means of coordinating land, sea, and air forces; control of space (and the advantages thus gained in the information domain) in this view is now crucial for coordinating joint operations.² They write that whoever gains space dominance will be able to influence and control other battlefields, and will be likely to retain the initiative, while loss of that control is likely to lead to a reactive, passive stance.³ Space is therefore considered an essential part of joint campaigns, a fundamental method of fighting future wars; conversely, joint campaign coordination will rely upon the ability to exploit space.⁴

In short, according to some PLA analyses, the ability to successfully fight and win future Local Wars Under Informationalized Conditions will require the establishment of information dominance, which in turn will entail operations aimed at establishing dominance of space.

¹ Fan Xuejun, “Militarily Strong Nations Are Steadily Developing ‘Space Information Warfare,’” *Jiefangjun Bao* (April 13, 2005).

² Gao Yubiao, Chief Editor, *Joint Campaign Course Materials* (Beijing, PRC: Academy of Military Science Publishing House, August 2001), p. 33.

³ Li Daguang, “The Characteristics and Rules of Law of Space Strategy,” *Zhongguo Junshi Kexue* (#1, 2002), pp. 33-34.

⁴ Wang Houqing and Zhang Xingye, Chief Editors, *The Science of Campaigns* (Beijing: National Defense University Publishing House, May 2000), p. 394.

As a professional military, it would therefore be derelict of the PLA not to be prepared to undertake operations in space. To concede the high ground of space would mean allowing opposing militaries to fight in the way they are accustomed to fighting, while denying the PLA the ability to fight in the way *it* needs to fight. What we have seen is therefore not the actions of a “rogue” PLA, but of a military that takes its role seriously. At the same time, it is essential to recognize that, as a Party military, this is a role that the Party acting as China’s national leadership, has assigned (and approved).

The PRC ASAT test, then, was ultimately undertaken not simply as a response to American actions, nor because PLA generals are power-mad, but because it is consistent with what *the Chinese leadership* perceives their national interests to require. Formulating an adequate response will require addressing those same interests in a *Chinese*, rather than an American, context.

Which brings us to the third reality. Despite all of our interactions, *Chinese decision-making remains extremely opaque* to us.

It should be extremely disturbing that, after thirty years of Chinese reform and opening to the West, how such a test was decided upon, the mechanisms and personalities involved, and the processes by which the decision was made, is still so opaque to us. This has potentially enormous implications.

It affects *day-to-day diplomacy*. A key assumption has been that the PRC is interested in being a “stakeholder” in sustaining the international system. The ASAT test, however, generated an enormous amount of space debris, and has been described as the worst debris-generating event in recent history. The obvious question that arises is what did the Chinese learn from this test that was worth so much debris? But as important, in the context of Chinese opacity, is who participated in the decision to conduct the test?

It affects *crisis management*. China's handling of the uproar in the wake of the test is not heartening in this regard. Despite the controversy being aroused by China's own actions, it took them twelve days to formulate a response to the test, and even then, it was as much bromide as actual substance.

This would be problematic with a small state that has limited international influence. But in the case of the PRC, with extensive regional and growing global influence, this has far more serious ramifications. In the event of another Chinese missile test, such as we saw in 1996, or the EP-3 crisis of April 2001, or even in the wake of a non-security crisis, such as another tsunami or a pressing regional economic meltdown, who should the US seek to contact, in order to manage the crisis?

It affects *military planning*. Perhaps most problematically, and also most immediately, the opacity of Chinese decision-making means that our own decision-makers are now put on notice that, in the event of a conflict with the PRC, space is likely to be a potential battleground. In the absence of greater transparency in Chinese decision-making, and where diplomatic efforts towards controlling space debris, such as the 25th IADC conference to be held in Beijing, are undertaken simultaneously with ASAT tests, we have little to base our decisions upon.

What we do have, in terms of PLA doctrinal writings, is not heartening. PLA writers have noted that "the struggle to seize the strategic commanding height in future wars will first be unfolded in the outer space."⁵ Others write that "in modern wars, seizing space dominance has already become a vital part of seizing information dominance, from which one can then retain the active position in the war."⁶ Still others write that "information dominance cannot be separated from space dominance. We can say that seizing space dominance is the root for winning the informationalized war."⁷

⁵ Zhao Shuanlong, "The Initial Battle is the Decisive Battle, and Preparations for Military Struggle in the New Period," *Jiefangjun Bao* (August 18, 1998), p. 6, in FBIS-CHI-98-257 (September 14, 1998)

⁶ Zhang Xianqi, "Space Strategy and National Security," *Zhongguo Junshi Kexue* (#1, 2002), p. 15.

⁷ Li Daguang, "Space Dominance: The Basis for Victory in Information War," *Zhongguo Guofang Bao* (January 6, 2004) AND *Jiefangjun Bao* (January 6, 2004).

Efforts at improving our understanding of Chinese decision-making, both civilian and military, are, in my opinion, to be encouraged. Anything that sheds light on who the decision-makers are, what their calculus of interests involves, and what sorts of constraints and opportunities they perceive, in both wartime and peacetime, merits greater analysis and attention.

Once again, I thank the U.S.-China Commission for inviting me to speak with you today about these issues. I would be pleased to answer any questions you may have related to my testimony.