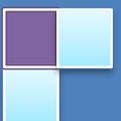


**Sept
2018**

The China US Space Rivalry & the New World Order - What Should India Do?

S. Chandrashekar



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S.Chandrashekar

International Strategic & Security Studies Programme (ISSSP)

National Institute of Advanced Studies (NIAS)

September 2018

To cite: S. Chandrashekar, "The China US Space Rivalry & the New World Order What Should India Do?" ISSSP Report No. 03-2018. Bangalore: International Strategic and Security Studies Programme, National Institute of Advanced Studies, September 2018.

Executive Summary

China and the US are following up on their visible demonstrations of war fighting capabilities in space with the necessary organizational changes needed to fight, win and deter wars in space.

The setting up of the Strategic Support Force (SSF) with responsibilities for space, cyber and Electronic Warfare by China in 2015 was the first move.

The US in response has gone one step further. It is setting up a new sixth service arm that will be exclusively responsible for all combat operations in space. It has finalized a plan that includes a new joint Space Development Agency (SDA), a new joint Space Operations Force (SOF) as well as a new joint Space Command. An integrated proposal on the new service arm will be submitted to Congress for approval in 2020.

Though these developments especially from China are likely to have a major impact, Indian decision-makers seem to be blissfully unaware of the consequences. Neither the political establishment nor the military seem to understand how these will affect India's warfighting and war deterring capabilities in the information dominated world of today. Internal rigidities, lack of distributed domain expertise and an institutional inability to come to grips with the new realities are evident in the sporadic and uncoordinated responses that India has been making. There is no evidence that these trends are likely to reverse soon.

1. China US Competition in Space

An increasingly hostile US China relationship is rapidly changing the geo-political world order. The dynamics of this competition are particularly evident in the Indo-Pacific region. Developments in space and its weaponization have become a major and critical part of the power architecture underlying this rivalry. Though the US is still the dominant player in the world space order, China has been able to catch up in most areas. It is poised today to compete with the US along the spectrum of space activities.

China's space programme has always been controlled and directed by the military except for a very brief interlude during the early Deng regime when economic and development goals were considered important. As a part of a continuing strategizing exercise, technological developments in space, their role in war and deterrence, its own capabilities, its vulnerabilities and the opportunities before it has been integrated into a dynamically evolving space strategy by China.¹

The emphasis of these periodic revisions of its strategic framework has been to use its space capabilities as an important component of its great power architecture. Its ASAT test of 2007, the deployment of its Anti-ship Ballistic Missile (ASBM), developments in BMD capabilities, the comprehensive space based C4ISR capabilities that it has created, its demonstration of proximity operations in space backed by other technological capabilities on the ground, all provide concrete evidence of its long-term strategy of using its space capabilities to "fight and win local wars under conditions of informationization."

Its recent launches of a new series of Yaogan theatre surveillance ELINT satellites that complements its large area Yaogan ISR satellite constellation lends credence to its intentions of fighting and winning local wars in which information dominance would be the key factor for success.

An integrated picture of its space capabilities makes it clear that it is directly competing with the US. The purpose of this competition is to ensure that in any confrontation such as a Taiwan crisis, it can create the necessary conditions to prevail.²

2. Changes in the Organization Structure of the PLA

The formulation of China's A2AD strategy³ as an asymmetric response to the US dominance of the Asia Pacific region has also been backed by periodic organization changes of its military. The pace of these changes has been faster since 2000 as China has accelerated its space capabilities to seize the opportunities before it to become a major power in its region.

The latest in this series of organizational restructuring exercises was carried out at the end of 2015. Unlike the earlier changes carried out in 1999 and 2008 the recent shifts in responsibilities suggest a radical change in the internal power structure of China's armed forces. The new transformed

¹ For an updated overview of the Chinese space programme including its military aspects see S.Chandrashekar, "China's Space Programme – A Critical Evaluation", Internal Report, International Strategic & Security Studies Programme (ISSSP), National Institute of Advanced Studies (NIAS) January 2017.

² For details of how the Yaogan constellations will help China in a Taiwan crisis please see S. Chandrashekar and N.Ramani. "China's Space Power & Military Strategy – The role of the Yaogan Satellites", ISSSP Report No. 02-2018. Bangalore: International Strategic and Security Studies Programme, National Institute of Advanced Studies, July 2018, available at <http://isspp.in/wp-content/uploads/2018/07/ISSSP-Report-July-2018.pdf>

³ S.Chandrashekar, "China's Anti-Access Area Denial (A2AD) Strategy", India's National Security Annual Review 2016-17, Edited by Satish Kumar, Foundation for National Security Research, New Delhi, Routledge Taylor & Francis Group, 2018, pp 381-392.

organization structure indicates a military posture that is aligned with the strategic imperative of “fighting and winning local wars under conditions of informationization.”

The shift away from the notion of “Military Regions” towards theatre commands that control all the resources available needed to fight and win local wars, transfers combat responsibilities away from the Army, Navy, Air Force and the Rocket Forces towards the theatre commands.

The creation of a new Strategic Support Force (SSF) directly reporting to the Central Military Commission (CMC) that is responsible for space, cyber and Electronic Warfare reinforces the critical role of information dominance during conflicts.

The abolition of the various General Staff Departments that acted as intermediaries between the CMC and the combat forces and their regrouping into smaller entities directly reporting to the CMC suggest a more direct control of the CMC over the conduct of integrated combat operations by the theatre commands. These shortened commands remove power for the middle layers and makes theatre commands come directly under the CMC. The overall efficiency is likely to improve because of these changes.

The restructuring exercise will also be somewhat specific to the theatre though mobility, flexibility and rapid redeployment seems to be inbuilt into the proposed changes.⁴ The power of the Army (though a new Army HQ has been created) has been diluted whilst those of the other three services strengthened.

All the services have lost power and status to some degree. Their functions have been changed from direct roles in combat operations to suppliers of equipment and trained personnel to the theatre commands. The theatre commands will decide on combat operations under the direct control of the CMC.

These far reaching organizational changes in which space capabilities play a major role lend teeth to China’s proclaimed strategy of “fighting and winning local wars under conditions of informationization.”⁵

3. The US Response

Unlike the Chinese command structure which has only recently changed, the combatant commands through which the US projects military power globally has served as a benchmark for other countries to emulate and follow.⁶ The US has also been the pioneer in the use of space assets for the waging and winning of conventional wars.⁷

The first US response to China’s rise and its increasingly aggressive approach in the Asia Pacific region was “the pivot to Asia” under the Obama Administration. The concept of an “Air Sea Battle” though not very clearly articulated openly seemed to be a viable way to counter China’s strategy.

⁴ For specific details of the command of one of the theatres see Rachel Burton and Mark Stokes, “The Peoples Liberation Army Theater Command Leadership: The Eastern Theater Command”, Project 2049 Institute, Asia Eye Blog, August 14 2018 at <https://project2049.net/2018/08/13/the-peoples-liberation-army-theater-command-leadership-the-eastern-theater-command/>

⁵ For more details on these organizational changes and their implications please see Reference 2 pp 21-23.

⁶ Both geography as well as specializations such as cyber and nuclear have been used as a basis for the creation of these US commands.

⁷ US use of its space assets has become an integral part of the US military global operations since its use in the first Gulf War. The dependence on space assets appears to be increasing.

All recent reviews of the US strategic posture emphasized that the US needed to not only dominate all domains of an increasingly inter-connected war and battlespace but also had to retain and preserve its dominance of the space domain. Whilst the US has always been advancing its technological edge in space it has not brought about any major changes to the organization of its military space activities within the Department of Defense (DOD).

More recently however under the Trump Administration, via directions from the President himself, the US has initiated action to create a new Space Force that will become the sixth branch of its Armed Forces.⁸

In response to a Congressional Directive, the US DOD has submitted a report to the US Congress that outlines in some detail the steps through which the new space force and the sixth service will be created. The report takes stock of the existing capabilities and responsibilities within the DOD and proposes a plan of action that will end up with creating the sixth branch of the US military for FY 2020 Congress approval.⁹

The proposed plan has four major components that will finally be brought together to create the Space Force.

3.1 The setting up of a Space Development Agency (SDA)

The first component in the Plan is the creation of a Space Development Agency (SDA) responsible for advanced research, accelerated procurement and deployment of space products and services needed for preserving space dominance.

The Space & Missile Systems Centre (SMC) under the Air Force currently procures most of the US DOD space products and services. This will transform into the SDA under joint command over the next couple of years.

In the interim other entities within the DOD may continue their procurement and development activities with a gradual shift to the SDA over the next two years. It is likely that other procurement activities such as those of the National Reconnaissance Organization (NRO) may continue with them.

In simple terms the creation of the SDA provides the US with an agency that can develop, produce, field and replenish state-of-art equipment in space.

3.2 Creation of a Joint Space Operations Force

The second component of the Plan is the creation of a new Space Operations Force. This Space Operations Force will provide the expertise needed to all the combatant commands and to the SDA for space operations.

The space expertise available with all the five services will be combined into a joint Space Force which may also have civilian and paramilitary personnel. The Space Force will operate under the new Space

⁸ The Army, Navy, Air Force and the Marine Corps under the Department of Defense and the Coast Guard under the Department of Homeland Security are the five services currently. The proposed Space Force will be the sixth.

⁹ Department of Defense, Report to the Congressional Defense Committees, "Final Report on Organization and Management Structure for the National Security Space Components of the Department of Defense", August 9, 2018.

Command. Personnel selected for the Space Force will continue their affiliations with their respective services until the Space Force is formally established.

The advanced expertise needed to use space and fight wars in space will be provided by this Space Operations Force.

3.3 Submission of a Comprehensive Plan with Budgetary Provisions to Congress

The third component is a comprehensive proposal that covers the governance, oversight as well as the Services and Support Functions needed for the creation of the Space Force. A formal proposal outlining these along with the legislative changes needed for establishing a new sixth service will be made to Congress in early 2019 for Congress approval in FY 2020.

The internal arrangements within the DOD as well as its interfaces to oversight authorities and stakeholders within and without the US government will be covered by this comprehensive proposal.

3.4 Creation of a Joint Space Command

The final and fourth component of the Plan would be to transit from the current Air Force Managed Space Command to a new expanded joint Space Command.

This Command will provide the strategic leadership for fighting and deterring war in space. It will also provide the other combatant commands with the personnel needed for the effective use of space for war fighting.

The Plan also provides for the coordination of the Space Command with other entities such as the NRO, the Geospatial Intelligence Agency, FAA, NASA, NOAA and the Department of Commerce.

A governance Committee headed by the Deputy Secretary of the DOD along with high level representation from other concerned entities will lead the change to ensure smooth integration of the new Service with the rest of DOD and the government. An integrated proposal that includes the proposed budget, legislative changes will be provided by February 2019 for action in FY 2020.

4. The US China Dynamic - Similarities & Differences

The organization of the US military has often set the standard for the rest of the world. The scale of its global reach and projection of power along with the technological capabilities that it has pursued provides it with a major advantage. The creation of the various commands based on geographic coverage and specialized warfare that includes both nuclear and cyber commands reflects its single-minded pursuit of military dominance.

Space is no exception to this dominance ideology. The US has led the world in the creation of all space capabilities. It has not only developed but also fielded all the space assets needed for fighting and winning wars of all kinds in every part and corner of the globe. Its use of its space assets in the various military engagements it has had since the first Gulf War clearly demonstrates its pioneering role for fighting and winning the wars of today.

In contrast to the US, China's restructuring of the military has been somewhat slower and more gradual. The power of the traditional services of the PLA especially the Army may have been a factor that has come in the way of this restructuring. Since China's major modernization drive only started around the

turn of the century it is only now that China has had to confront the problem of aligning its military organization with its strategic priorities. The restructuring of the PLA in 2015 is a major shift that promises to propel the PLA into a modern military that can take on the mighty US in local wars fought around its region of influence.

The nuclear forces of both countries are somewhat similar in their orientation and are directly linked to the highest authority in their respective governments though the specifics through which this is achieved may differ.

While there are many similarities between the US and China after the re-organization of their respective militaries, there are also differences that are a consequence of their differing priorities and current perceptions of their place in the world power order.

All the Chinese theatre commands are land based and within China's mainland showing that their priority is to preserve territorial integrity. The Chinese approach so far has been to use their land bases to engage with and dominate conflicts in and around its eastern coastline and offshore waters. Their pre-emptive offensive capabilities seem to be dependent on a defensive orientation mainly to delay intervention by a superior adversary in a local war such as a Taiwan crisis. The outer periphery such as Xinjiang and Tibet seem to somewhat lower in China's perceptions of its own vulnerabilities. It is possible that it will depend more on the use of its paramilitary forces in these parts. The focus of its re-organization of the PLA seems to be to protect its northern, eastern and southern coastline and its heartland.

In contrast to this land based defensive orientation of the Chinese, the US commands cover the entire geography of the world. Their theatres span both the land and sea areas across all the continents. Their dependence on Sea Power to project power across the world is unparalleled.

China's Strategic Support Force (SSF) that has been newly created is not yet a full-fledged Service Arm of the PLA.¹⁰ The US on the other hand is creating a new service that will become the sixth service arm when Congress approves it in FY 2020. In creating this sixth service the US is sending a clear signal to the rest of the world that it has no intentions of moving away from its position of preserving its domination of the space domain.

China's SSF will be responsible not only for space operations but also for EW and cyber operations. The US has a separate cyber command and its EW capabilities may be distributed across various combatant commands.

The US Space Force will not only supply space related expertise to the various combatant commands it will also be responsible for all combat operations in space. While China's Strategic Support Force will support the theatre commands with all the space related services and needed expertise there is no clarity on who will be responsible for combat operations in space. This guarded silence is consistent with

¹⁰ The Army, the Air Force, the Navy and the Rocket Forces are the four main service branches of the PLA. The Strategic Support Force is not a service branch.

China's defense-oriented posture. The CMC through the SSF will most probably be responsible for any pre-emptive actions in space.¹¹

While most of China's military assets in space may come under the purview of the SSF, some parts of its space weapon architecture such as its BMD or ASBM capabilities may come under the Rocket Forces. However, all C4ISR and space based as well as some ground based ASAT assets are likely to be directly under the CMC-SSF command. In the US while the new Space Force will be responsible for most parts of military space operations the National Reconnaissance Organization (NRO) as well as the Geospatial Intelligence Agency may still have important roles to play. The coordination and integration tasks for space operations may therefore be organizationally more complex for the US.

5. Signal Exchanges

Irrespective of the specifics of how the two countries are going about the re-organization of their military activities, developments in space are the main drivers behind both actions. The hard signals they are sending to each other through visible demonstrations of their space prowess are being followed up with the organizational and institutional level reforms needed to make them operational.

The US is telling the world that it will continue to preserve its military domination of the world and deal with any threats to this dominance through appropriate responses. This policy will also be applied to the space domain which is increasingly critical to the conduct and winning of a wide spectrum of different kinds of wars.

China on the other hand is telling the world that it will do everything that it can, to take on the US and its allies to protect and defend its territorial integrity and national security. It is sending a strong message that it will do what it takes to safeguard its regional interests. It is signaling its readiness to "fight and win local wars under informationization conditions."

6. India a Mute Bystander

This increasingly hostile competition between two of the most powerful countries in the world is likely to have a major spillover effect on other powers including India. Space is one of the domains in which these contests will be played out. India as an emerging regional and space power is likely to be impacted by these developments in the military space domain.¹²

India's strategy, if at all it has one, has so far has been reactive, muted and sporadic. Its ability to respond to the new changes required to fight, win and deter wars in the modern era are mainly constrained by internal factors as well as by both technological and organizational capabilities.

While there is some recognition of the kind of challenges that are posed by the emergence of space capabilities in the fighting and winning of modern wars, very little seems to have happened on the technology, organization or the human resources front.

¹¹ One aspect of China's A2AD strategy would be to destroy key US military space assets that may involve US C4ISR capabilities including the GPS. Such actions may require planning and a strategy. This strategy and planning may now vest with the CMC and the SSF. For some more details on China's possible A2AD strategy see Reference 3.

¹² For an integrated understanding of the interconnections between the conventional, nuclear, space and cyber domains in fighting and deterring war today please see S.Chandrashekar, "Space, War and Deterrence: A Strategy for India", *Astropolitics* 2016, VOL 14 Nos 2-3, 135-157

As the US China dynamic plays out, India may need to step up its space capabilities if it wants to remain a player in the emerging regional and global power architecture. Indian capabilities in space lag those of the advanced space powers in technology, organization and distributed expertise. The scale of its operations needs to increase at least five-fold. Its space industry ecosystem is also primitive in comparison to those of the US, China, Europe and Japan.¹³

If India aspires to be relevant and influential in this emerging power structure it requires a major reappraisal of the technology, organization and Human Resources base within the military. It also needs an explicit recognition of the role of space in fighting, winning and deterring the wars of today and tomorrow.

While Indian achievements in space shine in contrast to Indian achievements in other frontier domains, this by itself is not adequate to realize Indian aspirations to play a major role in the emerging geopolitical order. Though it has had a good start, India seems to be falling behind other countries in the emerging drama being played out in space.

As space capabilities become an increasingly important component of the political, military, economic and knowledge dimensions of national power, Indian decision makers need to get their act together to build on what has been achieved so far. This is particularly relevant as far as the military uses of space is concerned in which the gaps between China and India are rapidly becoming wider and wider.

¹³ For a detailed assessment of Indian military space capabilities see S.Chandrashekar, "Space, War & Security – A Strategy for India", International Strategic & Security Studies Programme (ISSSP) National Institute of Advanced Studies (NIAS), Report No R36-2015, December 2015 at <http://issp.in/wp-content/uploads/2016/03/Space-War-and-Security- A-Strategy-for-India.pdf>