Russian and Chinese multi-domain approaches: the same aerospace battle?

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In order to understand the vision that non-Western powers may have of the "multi-domain" approach, one must first distinguish the two realities inherent in the concept.

Under the name of *MultiDomain Operations* (MDO), this concept has become *the* American doctrine for a return to high intensity warfare, attempting to compensate for the emergence of Russian and Chinese military capabilities, particularly in terms of integrated defense systems (IADS). Depending on their culture, strategy and means, the Russians and Chinese are reinterpreting this concept, which unequivocally targets their so-called anti-access strategies.

As a process of *transformation*, the multi-domain synergy revolves around two core elements. First, it furthers the theories of network-centric warfare, in which the growing information advantage from intelligent weaponry and integrated formations allows them to be configured as collaborative systems. Second, it proceeds from the entry of deep strike capabilities into the precision-strike regime. By imitation and reaction to these applications, these two

principles have also been implemented by the Russians and the Chinese, who recognize technology as a determining factor, structuring their military science and strategy[1]. The extension of the domains of war to space, cyber and electromagnetic warfare is hence at the heart of their current modernization, although they integrate them in a singular way.

We will therefore examine the main guidelines of the Chinese and Russian approaches to multi-domain warfare. To do so, we will conduct a comparative examination of the doctrinal and capability developments of Russia and China and we will look more specifically at the role assigned to their respective air forces in their operational schemes.

Russian and Chinese multi-domain operation designs as a strategy to challenge US concepts.

Russia's and China's considerations of the multi-domain approach is first of all part of the dynamics of their competition with the United States. The concept of MDO is taken up by the Russians as multi-sphere operations (*mnogosfernoy operatsii*)[2] and by the Chinese as multi or all-domain operations (多域作战, *duōyù zuòzhàn* or 全域作战, *quányù zuòzhàn*). From their perspective, this is a description of what they consider to be the latest refinement of an American operative concept that has been steadily maturing since *Desert Storm*.

For the Russians, this takes the form of a "planetary or non-contact war" by launching an integrated massive air strike or IMVU (*integrirovannyy massirovannyy vozdushnyy udar*)[3] made possible by the advent of precision guided munitions and the exploitation of the space sphere. According to their vision, this air campaign, like those carried out in ex-Yugoslavia in the 90s, would disarm Russia by annihilating or overcoming its fighting forces. The country would be decapitated following the targeting of its political-military decision-making centers, which would ultimately cause its dismemberment along ethnic and/or confessional lines.

It is indeed the specter of an "air blitzkrieg" against its western districts that continues to determine the Federation's planning[4]. The breakthrough embodied by MDOs to their way of thinking is less in the promise of a decom-

1. T. Thomas, "The Chinese Way of War: How Has It Changed?", *US Army Future and Concepts Center*, MITRE, June 2020.

2. R. McDermott, "Russian Armed Forces Test Multi-Domain Operations", *Jamestown Foundation*, 9 September 2020.

3. V. Stuchiinskiy, M.V Korollkov, "The Aviation Battle Application Justification Aviation To Disrupt An Integrated Massive Air Strike In The Enemy Multi-Sphere Operation", *Aerospace Forces Theory and practices*, n°16, 2020, pp. 29-36.

4. Lieutenant Colonel T. R. McCabe, "The Russian Perception of the NATO Aerospace Threat: Could it lead to Preemption? ", *Air & Space Journal,* Fall 2016.

partmentalization of the physical domains and the advent of collaborative combat, than in the strategic value of conventional strikes coupled with influence operations. These developments mean, according to the Russians, that it is now possible to limit – that is, decisively engage – a war in its "initial period" to a local and regional scale, below the threshold of nuclear deterrence. They announce "new generation" or "new type" wars structured as sophisticated coercive operations, taking the example of Western interventions against Libya and Syria. Therefore, the challenge for Russia is not so much to achieve joint integration, which it thinks it has solved since the Soviet era thanks to pursuit of deep operations, but to reverse the subordination relationship between its armed forces that had heretofore been to the advantage of ground forces. The Federation seems to be designing out new operational schemes by recognizing a shift in the center of gravity of conflicts towards the aerospace and information spheres, as well as the superiority of quality of fire over pure mass.

China, for its part, insists on the non-kinetic aspect of modern U.S. operations, for which the objective of annihilating opposing forces would have given way to a system-to-system confrontation (体系对抗, *tǐxì duìkàng*). The outcome of the struggle would be determined by a side's ability to generate, exploit, and protect information, which for armed forces would be a source of "integrated whole effectiveness" which would thus improve their ability to conduct precise strikes on C4ISR nodal centers and weak links in the adversary posture. Denial of information, through isolation, decapitation, or sabotage, achieved through kinetic means or influence actions, is hence the major effect of the new Chinese doctrine. It is no longer just a matter of coordinating its forces, but of unifying them in "integrated joint operations" (体化联合作战, *tǐhuà liánhé zuòzhàn*), increasing their mechanization through information enhancement[5]. Recent developments in the Chinese literature further emphasize that this modernization is likely to undergo a new stage with the implementation of "intelligentization" (智能化, *zhìnénghuà*) described by American authors as an algorithm-to-algorithm confrontation, with the incorporation of automated decision-making into the planning, conduct, and even execution of maneuvers[6] .

As a consequence, China's air forces are expected to eventually form a "strategic air force" (战略空军， *zhànlüè kōngjūn*), not only because of the nature of its potential targets as broadly defined in Western air forces, but also because of its increasing capabilities to meet national security objectives in a more offensive approach[7]. Following the largest reorganization

5. T. Fravel, *Active Defense - China's Military Strategy Since 1949.* Princeton: Princeton University Press, 2019.

6. K. McCauley, "People's Liberation Army: Army Campaign Doctrine in Transition", FMSO, 9 January 2020.

7. M. S. Chase & C. L. Garafola, "China's Search for a "Strategic Air Force," *Journal of Strategic Studies*, 2015.

of the People's Army of China (PAC) since its inception, five joint theater commands (战区) were established in 2015 in place of the former seven military regions, a unified logistics support force was established, and a new strategic support force (战略支援部队: *Zhànlüè zhīyuán bùduì*) centralized the means of collecting, processing, and transferring information, both in the space, cyber, and C4ISR fields. The Central Military Commission (CMC) has been considerably strengthened as a result, with the streamlining of the chain of command being pursued through the vertical subordination of the armed forces.

As can be seen, Russian and Chinese developments are facing a choice regarding their adaptation to the MDO that partly explains the divergence of their modernization. At first glance, Russia and China consider that it would be illusory to be able to replicate American superiority on a domain-by-domain basis in the short and medium term[8]. Russia is thus assuming a selective modernization by seeking to develop an asymmetric response[9] to the U.S. multi-domain approach, partly by relaxing its focus on the ground forces[10]. It is focusing on the search for "non-standard" innovations, capable of creating surprise and targeting the weak points of its adversary[11] in order to achieve a forceful deterrence (*silovoye sderzhivanye*)[12]. China, for its part, proceeds from a deeper syncretism by seeking to marry its practice of warfare stratagems[13] with the high technology contained within its concept of system of systems operations. Ultimately for China, the prevalence of asymmetry is considered temporary. According to Xi Jinping, the modernization stage should be completed by 2035 so that the People's Liberation Army (PLA) can assert itself as a "world-class" army by 2050, meaning that it would be in a situation of parity, if not of superiority with the United States[14].

While both powers recognize the devaluation of the principle of mass that previously underpinned their model of warfare by popular mobilization, Russia still considers Operational Art to be relevant as a matrix for jointness, while China has embraced the idea of a new revolution in military

8. D. Solen, "Chinese Views of All-Domain Operations", *China Aerospace Studies Institute*, August 2020.

9. V. V. Selivanov and Y. D Ilyin, "A Methodological Basis for Forming an Asymmetric Response in a Military- Technical Confrontation with a High-Technology Opponent", *Military Thought*, no. 2, 2019, pp. 6-7.

10. Sanctions and the economic slowdown make it difficult to modernize on "all fronts", so Russia is forced to make choices in the allocation of its military budget. Nevertheless, Russia is trying to invest in all areas of the aviation industry.

11. T. Thomas, "Russian Military Art and Advanced Weaponry", MITRE, January 7, 2020.

12. Michael Kofman, Anya Fink, Jeffrey Edmonds, "Russian Strategy for Escalation Management: Evolution of Key Concepts", NAC, April 2020.

13. *Op. cit.*, "The Chinese Way of War".

14. T. Fravel, "A 'World-Class' Military: Assessing China's Global Military Ambition", in "A World-Class Military: Assessing China's Global Military Ambitions", *Homeland Security Digital Library*, 20 June 2019.

and even civilizational affairs. Unlike the People's Republic of China, which structures its military to gain informational dominance over its adversaries, Russia seems primarily guided by the pursuit of dominance through firepower superiority, based on a vision where information would increase its deep strikes efficiency.

In order to better understand these interpretations of the MDO by Russia and China and to appreciate their consequences for their aviation, it is relevant to further detail their strategic thinking.

Russia and multi-domain: not re-inventing, but restoring deep operations through the aerospace dimension.

If the Russian strategic thought recognizes in a similar way to our "principles of military art", it constrains them to three elements or theoretical stages which were bequeathed to it by the Soviet corpus.

The interpretation of the multi-domain approach is first of all part of the study of Military Science, which focuses on identifying trends and generational breakthroughs in armed conflicts[15]. During the Soviet era, war was understood as high-intensity, industrial, and continental war. Today, by contrast, the "new kind of war" is limited, information-driven and aerospace-based. This reinforces the classical concept of the "initial period of the war" (*Nachal'nyi Period Yoiny - NPY*). The need to reach and neutralize the enemy's great depth by maneuvering ground forces has been replaced by the need to gain superiority in the exchange of accurate fire at the beginning of hostilities.

Military Science is then supported by the evaluation of the Correlation of Forces and Means (*sootnosheniye sil i sredstv* - COFM) in different theaters of operation. The COFM must define the vulnerabilities and opportunities contained in the balance of power, both at the strategic and tactical levels, and is partially automated by the adoption of mathematical models[16]. This assessment is not simply an operational indicator but is eminently strategic. For the Russians, the study of an adversary's capabilities reveals his intentions. Its main task is the search for "hidden" factors and conceptual or technological innovations capable of directly altering the COFM. The fact remains that despite technological and geopolitical changes, a lesson offered by COFM has persisted since the Soviet era: initiating the offensive makes it possible to alter an unfavorable balance of power. It is this principle that

15. M. Gareyev, "On the System of Scientific Knowledge and the Scientific Level of Command", *Krasnaya Zvezda (Red Star) Online*, May 30, 2013.

16. See T. Thomas and L. Grau. Recent operative practices, as in Syria, tend to demonstrate that there is no longer a systematic recourse to mathematical modeling, although it remains a regular exercise in their specialized literature.

inspires Russia's "active defense" posture, i.e., the integration of all means that can contribute to degrading the adversary's combat potential, including through pre-emption. In the aerospace field, its influence was demonstrated by the 2015 integration of the Air Force (VVS) and Air Defense Force (PVO) into the Aerospace Forces (VKS).

The study of military science and the assessment of the COFM finally informs Military Art, which is the choice of the form and methods of combat to be adopted in the conduct of operations. This third and final element is equivalent, in NATO terms, to the definition of Concepts of Operations (CONOPS). It is here that the multi-domain approach is afforded the most attention. Since the Soviet era, Operational Art remains the intellectual and organizational matrix of Russian forces, structuring them not in terms of domains, services or operational functions, but according to the depth of the objectives to be neutralized in the enemy's system and today, increasingly, according to the depth of the effects to be achieved. In the 1980s, Operational Art led to the creation of the "operational maneuver groups" (OMGs) which were specifically designed for land operations in a depth of 150 km. Their insertion and progress were in return ensured by the formation of an "air echelon" made up of a dedicated aviation and airmobile forces. However, with the advent of precision munitions, this process of echelonment is now carried out through their ability to form a "system" of reconnaissance and strikes to a given depth.

In contrast to a "domain", depth is not only geographical, but is above all a relationship to the combat potential and resilience of a military system, to its density and critical points. The characteristics of the targeted depth then determine the constitution of strategic theaters of operation or TVD (*Teatr voyennykh deystviy*) [17] which in turn define the main lines of effort (strategic directions of operations). The General Staff of the Armed Forces is responsible for determining the number, scope and qualification of the TVDs. Operational directions are under the authority of the military districts and not under the rule of the different services. Traditionally, Russia has only defined land-based and, to a lesser extent, sea-based TVDs, with which the commands of the other services were made to "fit". Today, it can be argued that the Syrian intervention constituted the first "aerospace theater of operations" for the Russians. The issue is whether this experience will be limited to permissive environments, as seems to be the case with the concept of "limited action strategy" (*Strategiya Ogranichennykh Deystviy*), described by Gerasimov in 2019[18], or whether its institutionalization is possible against an equally matched enemy in a high-intensity situation.

17. D. Glantz, *Soviet Military Operational Art - In Pursuit of Deep Battle*. London Routledge, 1991.

18. D. Massicot, "Anticipating a New Russian Military Doctrine in 2020: What It Might Contain and Why it Matters", *War on The Rocks*, 9 September 2020.

From the point of view of Operational Art, this last option is perfectly coherent. The operational maneuver groups (OMGs) – that is, the ground exploitation capabilities – have disappeared for the moment, and aerospace forces are today the only Russian forces truly capable of going beyond tactical depth (100 kilometers) and remaining there, unlike ballistic strikes.

As such, the creation of the VKS in 2015 was accompanied by the recognition of a strategic aerospace direction, the SVKN (*Strategicheskoye vozdushno-kosmicheskoye napravleniye*). It combines the interdiction effects of the PVO (MiG-31 interceptors, long-range ground-to-air batteries and radars) with those of annihilation of the tactical aviation (Su-25 and helicopters), the tactical-operational aviation (Su-24M and Su-34 bombers, Su-30SM, Su-35 superiority fighters and to a lesser extent MiG-29K and MiG-29SMT) as well as the strategic aviation (Tu-95, Tu-160 and Tu-22). At first sight, this reform would make them capable of implementing, alongside electronic warfare means, the concept of "information strike system" (*Formatsionno-Udarnaya Sistema* - IUS)[19], i.e. striking in great depth (more than 500 kilometers) against critical targets of the enemy C4ISR. In support of this thesis, the Russians have broken down the SVKN into two operational schemes : the "Strategic Operation for the Destruction of Critically Important Enemy Targets" (*Strategicheskaya Operatsiya po Porazheniyu Kriticheski Vazhnykh Ob'ektov* - SOPKVO) and the defensive one",Strategic Operation for Repelling Aerospace Agression", (*Strategicheskaya Operatsiya Po Otrazhe-niyu Vozdushno-Kosmicheskogo Napadeniya Protivnika* - SOPVKN)[20] . However, it would be necessary for Russia to gain air superiority or to operate vectors with sufficient penetration quality to break through or to neutralize the enemy's SDAI. In a potential confrontation with a peer-competitor, Russia seems more pessimistic about its prospects and remains, for now, unable to go beyond the Soviet approach.

Its definition of air superiority (*Prevoskhodstvo v Vozdukhe*) remains constrained by the perception of a structurally unfavorable COFM in the aerospace sphere vis-à-vis NATO. It therefore continues to be articulated asymmetrically in a joint counter-air effort to protect the district and its operations. The integration of all means, defensive and offensive, air and ground, and now electromagnetic[21], is hence motivated by the perception of an air shortfall that must be compensated for, rather than a maneuver force that should be maximized. In this respect, the SEAD mission entrusted to the air force seems to be tactical in nature for the moment, as the Russians

19. Morozov, *Op. cit*, 2009.

20. D. Adamsky, "Moscow's Aerospace Theory of Victory: What the West is Getting Wrong", *Russian Analytical Digest*, n°259, November 30, 2020 as well as Kravchenko, Valeev, "The Preemptive Strike Advantage (Ставка Только На Удар- Ные Или Только На Оборонительные Действия Недопустима)", *Aerospace Frontiers Journal*, August 2018.

21. S. G. Chekinov, V. I. Makarov, and V. V. Kochergin, "Conquering and maintaining air supremacy - an honorable place in the development of Russian military theory and troop training", *Military Thought*, n°2, 2017.

prefer to act against anti-aircraft defenses at a safe distance, through a combined arms preparation favoring artillery and ballistic means. However, mastering a stand-in penetration capability should appear to be a prerequisite for offensive and strategic missions of the SOPKVO[22] type.

This observation seems to be confirmed by the nature of the VKS's capabilities, with the lack of a ramp-up of its C2ISR assets and the continued reliance on stand-off munitions to compensate for the lack of aircraft that can penetrate the enemy's system. In this regard, the new "fifth generation" PAK-FA fighter, the Su-57, might be called upon to assume the mission of defense and air superiority. Its ability to launch a stand-in strike at the enemy's SDAI does not seem to have been studied, and the effort is instead focused on hypersonic missiles to foil defenses, like the Kh-47M2 Kinzhal missile, adapted to be carried by the MIG-31(K) interceptor. This approach to modernization through munitions, while it has the advantage of upgrading platforms that have become too vulnerable, creates a strong dependence on the availability of the most sophisticated[23] stand-off munitions. As it stands, the development of a deeper penetration capability seems to be postponed until the deployment of the PAK-DA heavy bomber, the first prototypes of which are in production, and of long-endurance and sufficiently resilient UAVs. Russia seems to be stepping up its efforts in this area with the deployment of the *Altius* UAV (10,000 kilometers), which is often compared to the *Global Hawk*, and the development of the stealthy S-70 *Okhotnik* heavy UAV, the *Wingman* of the PAK-DA and FA[24].

These shortcomings indicate that a theater of aerospace operations, while doctrinally coherent, does not yet have the means of dynamic strikes in great depth to be operational. The VKS are proving to be a force that still prefers to operate within their "bastion", sheltered by its land based SDAI for which its aircraft were designed. The recognition of greater autonomy for the air force, suggested by the creation of a strategic aerospace direction, comes up against the lack of formalization of a TVD of its own. However, the responsibility for joint integration, which until now has been assigned to the ground forces, could evolve, and become more non-linear locally, due to the progress made by the joint networking of automated C2s up to the tactical levels from the national defense management center, the NTsUO (*Natsionalnogo Tsentra Upravleniya Oboronoy*).

22. Major M. Fiszer and J. Gruszczynski, "Crimson SEAD. An insider's view of suppression-of-enemy-air-defense weapons and doctrine, soviet-style", *Journal of Electronic Defense*, January 2003.

23. J. Bosbotinis, "Fire for Effect: Russia's Growing Long Range Strike Capabilities", *Wavell Room*, September 5, 2018.

24. R. McDermott, "Moscow's Military Modernization Sets Agenda For UAV Development", *Eurasia Daily Monitor*, vol 18, n°19, Jamestown Foundation, 3 February 2021.

China and multi-domain: a systemic organization that struggles to materialize the strategic contribution of its air forces.

While operational doctrine texts, such as "combat regulations", are not available in open source, two other types of documents attract attention: the ten White Papers of "China's National Defense" and, above all, the nine "strategic directives" (*zhanlue fangzhen*) that are often mentioned during speeches within the CMC. These do not directly refer to CONOPS but rather to force development plans. Since they were first issued in 1949, these guidelines have been built around the concept of "active defense", which is remarkably similar to the Russian concept, although it traditionally places more emphasis on the attrition of the enemy. Although the concept remains, the content has undergone significant change since the 1993 directive to "win local wars on its periphery, characterized by high technology". This directive describes the two core tenets of Chinese military strategy and modernization: strengthening the army through information technology and streamlining its organization through the implementation of an integrated joint operations capability. The 2004 directive "under informatized conditions" and the 2014 directive "winning informatized local wars" represent adjustments and updates in this regard. The two objectives of 1993 are perfectly summarized by the 2015 White Paper's maxim: Information dominance, precision strike against strategic points, integrated operations (*xinxi zhudao, jingda yaohai, lianhe zhisheng)*. This White Paper differs from its predecessors by referring for the first time to space and cyber as the "new strategic heights", and encourages the PMA to shift from its continental vision to embrace its growing external interests[25]. This direction is reinforced by the 2019 White Paper, which states that the mechanization of the armed forces is to be completed by 2020, and that the target for full modernization is no longer 2050, but 2035. This modernization effort through a "systems of systems" approach can be nonetheless ascertained in their joint exercises and in their military science literature dealing with the concept of "operational force generation systems" (作战 力量体系, *Zuòzhàn lìliàng tǐxì*)[26] .

The Chinese vision is to be able to deploy forces specifically aggregated for a given campaign or mission, whose integration is ensured by their modularity and by their unification within a joint command architecture[27]. Since 2017, units are in fact structured according to their ability to bring together "operational elements", close in spirit to the American *Warfighting Functions*: C2, reconnaissance and intelligence, informational confrontation

25. The first mention of space as a strategic height, however, was in the 2006 edition of National Defense University's "The Science of Military Campaigns."

26. K. McCauley, "System of Systems Operational Capability: Key Supporting Concepts For Future Joint Operations", Jamestown Foundation*, China Brief*, vol. 12, n°19, October 5, 2012.

27. K. McCauley, "People's liberation Army: Army Campaign Doctrine in Transition", *FMSO*, January 9, 2020.

capability, maneuver, protection, support. A tactical formation is thus an "operational system" bringing together several units and at least two services, called upon in turn to form, with other formations of the same rank, a campaign formation, understood as an "operational system of systems" (OPSYS) and characterized by its ability to conduct an operation independently[28]. Five of these systems are known today: anti-air, anti-landing, joint strike, blockade and information warfare[29]. They should be activated and assembled in wartime according to the type of campaign chosen.

China recognizes the validity of the MD approach in the sense of a multiplication and a diversification of the domains of warfare. It understands the need for *multidimensional* formations, considering that the freedom of maneuver in the three tangible domains (land, sea, air) is increasingly conditioned by the control of space as well as the electromagnetic spectrum and cyberspace[30]. Considering these last two elements as the main expressions of informational warfare, China's ambition is to bring them together in a single "network-centric electronic warfare" CONOPS to combine attack vectors, from kinetic strikes against sensors to intrusion into the computer systems of opposing C4ISRs[31] .

However, this vision of a fluid and adaptive integration remains largely hampered for the moment by multiple difficulties experienced notably by its aviation.

First, the formation of OPSYSs continues to be structured along service lines that favor ground forces[32]. Second, the lack of combat experience is combined with overly predictable joint exercises[33]. More generally, the "system-of-systems" integration model raises the question of the scope of operations considered and the real goal of joint integration, between political control and operational effectiveness. If the model seems adapted to conduct very specific campaigns on well-identified objectives in a limited time, its unified architecture seems above all designed to allow micro-management by the CMC. The approach, consistent with the perspective of limited local wars, ultimately raises the question of the existence of a true Chinese Operationnal Art and the possibility of broader integration in the event of a higher intensity war.

28. K. McCauley, "System of Systems Operational Capability: Key Supporting Concepts For Future Joint Operations", Jamestown Foundation, *China Brief*, vol 12, n°19, October 5, 2019.

29. J. Engstrom, *Systems Confrontations and System Destruction Warfare*. Santa Monica, RAND, 2018.

30. "Identifying the Starting Point for Military Readiness" (定准军事斗争准备基点), *Study Times,* July 8, 2015.

31. *Op. cit*, Dean Cheng, 2019.

32. J. Wuthnow, "A Brave New World for Chinese Joint Operations", *Journal of Strategic Studies*, 2017.

33. J. Allen, K. Allen, "The PLA Air Force's Four Key Training Brand", *CASI*, May 31, 2018.

These cross-cutting issues thus found particular resonance in the modernization of the Chinese Air Force (FAAPL). As the first service to put forward, in 2004, the notion of an "integrated air and space" (*Kōng tiān yītǐ*) so as to conduct "simultaneous defensive and offensive operations[34]", the air force was no longer restricted to the sole mission of territorial defense and support[35] . According to the 2013 "*Science of Military Strategy*", FAAPL was on its way to building an integrated anti-aircraft, anti-ballistic, and aerospace defense system. However, space-based reconnaissance assets eluded their control with the creation of the Strategic Support Force in 2016. This loss of the new "strategic heights" goes hand in hand with a doctrinal ambiguity that U.S. analysts interpret as a stagnation of the service[36]. Indeed, China does not recognize an equivalent to the concept of "air superiority", which it translates *in extenso* to refer to the missions of Western aviation[37].

The 2015 reform further created a still unresolved problem of integration. Airborne divisions structured around types of aircraft have certainly been eliminated and have been replaced by brigades attached to "bases" within a command theater, as was the case in the Russian 2008 reform. This model, however, makes inter-service coordination of forces more complex, as it cannot be handled directly between staff of the same rank. A FAAPL commander must report directly to theater command to operate jointly with naval or army elements within the same task force.

Finally, although progress is significant, China, like Russia, is still too poorly equipped with airborne or space-based ISR assets to achieve the dynamic targeting it envisions in its system-to-system confrontation[38].

To further its "strategic mission", the FAAPL has therefore focused on its potential contribution to the "comprehensive military deterrence posture" (整体军事威慑态势, *Zhěngtǐ jūnshì wēishè tàishì*), which encompasses, among other things, conventional and nuclear[39] action. This ambition leads it to invest today in the naval domain in order to secure its importance and its funds in the face of the Chinese navy's aviation branch and missile launcher forces, which conversely propose to ensure "sea superiority through land

34. K. W. Allen, B. S. Mulvaney, S. Char, "Ongoing Organizational Reforms of The People's liberation Army Air Force", *Journal of Strategic Studies,* vol. 44, n°2, 2021.
35. "Xu Qiliang: China must create the concept of aerospace superiority" (许其亮：中国空军必须树立空天安全观), *People's Liberation Army Daily*, November 2009.
36. I. B. McCaslin and A. S. Erickson, "Selling a Maritime Air Force: The PLAAF's Campaign for a Bigger Maritime Role", *CASI*, April 2019.
37. CASI, "Command of the air", October 2020.
38. P. Wood, R. Cliff, "Chinese Airborne C4ISR", *CASI*, November 2020.
39. M. Chase, A. Chan, China's Evolving Approach to "Integrated Strategic Deterrence". Santa Monica, RAND, 2016.

superiority"[40]. FAAPL's efforts appear to be more successful in this area. It is incorporating the naval dimension into its exercises and has succeeded in establishing air defense identification zones in disputed areas, such as over the East China Sea in 2013. It announces its ambition to be able to operate "throughout the country's strategic space", patrolling increasingly around Taiwan and within combat distance of the U.S base in Guam.

Conclusion.

Russia and China are now seeking to emulate the underlying principles of American power in order to better oppose them. The multi-domain approach is part of this dual relationship with Western innovations. Both countries want to take advantage of network centric warfare and provide their deep strike capabilities with a high degree of precision, and so they are moving towards cross-domain synergy however asymmetrical.

For both models, the role of aviation appears pivotal in two ways. First, it represents the main threat to their military system and encourages them to integrate their capabilities into a single information space. Secondly, it is leading them to a profound re-evaluation of the contribution of aviation to their operations. Its growing autonomy represents a departure for continental powers, which had mainly assigned it a role of support, preferring the ballistic vector.

For Russia, aviation is asserting itself as the catalyst for its preparation for "wars of a new type". While a strategic aerospace theater of operations does not yet seem likely to materialize, the advent of strategic directions under the responsibility of the VKS underscores the fact that the reform of operational schemes inherited from the Soviet era is well under way.

For China, aviation is becoming a strategic service, vital for fire support and precision strikes in system-to-system confrontation. The modernization of the FAAPL seems more difficult as it has been deprived of the exploitation of the space domain, whereas previously it had clearly been included in its 2004 strategic concept. As a result, it is seeking to gradually assert itself through its maritime contribution to the country's active defense.

40. *Op. cit*, McCaslin, Erickson, 2019.