



Chinese Views of All-Domain Operations

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Joint All-Domain Operations (JADO), the joint operational concept that has evolved from Multi-Domain Battle (MDB) and then Multi-Domain Operations (MDO), is intended to cope with the military capabilities of Russia and China. Therefore, how Russia's and China's defense establishments perceive JADO is important for two reasons. First, their appraisals of the concept's feasibility will be major factors in their decisions whether to try to counter it or not. Second, whether they accurately understand the concept or not will determine whether their efforts to counter the concept are appropriate or not. Moreover, it is important to know if the Russian and Chinese armed forces themselves are making efforts to achieve greater cross-domain synergy because their successes in such efforts could offset some of the advantages that the U.S. armed forces should gain by implementing JADO. Hence, this paper will analyze the People's Liberation Army's (PLA) appraisals of JADO as the concept evolved, and it will also analyze the PLA's own nascent concept of all-domain operations.

Sources

The sources that were analyzed for this paper were all produced by the PLA. Except for one source, the sources were published between 2017 and 2020 in the PLA newspapers *Liberation Army News* and *China National Defense News*.¹ *Liberation Army News* is the mouthpiece of the Chinese Communist Party's Central Military Commission (CMC), whose role is roughly equivalent to the U.S. Defense Department. The CMC also produces *China National Defense News*, but while the purpose of *Liberation Army News* is to inform and educate the troops, the purpose of *China National Defense News* is to inform and educate militia members and government officials who work in national defense. Both newspapers publish some articles that, at least ostensibly, only represent the views of the articles' authors, but neither newspaper publishes articles that contradict the CMC, and all articles in both newspapers can be regarded as representative of views within the PLA if not of the official view of the PLA itself.

One source is an episode of the PLA television program *Military Commanding Heights*.² The PLA's television programs are intended to entertain in addition to informing and educating the troops and the Chinese populace alike, so they are much less staid than PLA publications. Perhaps for this reason, the programs usually invite commentators who are not members of the

PLA, people who cannot be regarded as representing official views.ⁱ However, in the episode of *Military Commanding Heights* that was examined for this paper, “factual” presentations, including one about MDO’s problems, stimulated the commentators’ discussions. Because writers for the program created this presentation, the presentation can be regarded as representative of the Chinese defense establishment’s considered view of MDO’s problems.

The PLA’s Appraisal of JADO

The sources from *Liberation Army News* and *China National Defense News* accurately describe the fundamentals of MDB, MDO, and JADO.ⁱⁱ None of the sources appear to directly criticize the logic behind the concept. In fact, the author of the first article that was published (May 2017), Mu Xiaoming, who was affiliated with the Military Theory Teaching and Research Office of the PLA’s Xi’an Politics Institute, critiqued the U.S. Army more than the concept itself, accusing the Army of promoting MDB in order to secure more funding as well as to secure the Army’s place in “the joint operations of the future.”³

However, remarks about the impracticability of JADO appear in most of the sources.ⁱⁱⁱ Mu Xiaoming remarked that the implementation of MDB could not be accomplished “in a day” because implementing any new operational concept necessitates reorganization and the remaking of training programs and of systems of weapons and equipment.⁴ Perhaps unaware of the Joint Capabilities Integration and Development System, he predicted that the U.S. Defense Department would have difficulty integrating each service’s research, development, and acquisition processes to produce what is necessary for implementing MDB, and he also predicted that interservice rivalry would impede the implementation of MDB.⁵ Other authors, writing in late 2017 and late 2018, also mentioned interservice rivalry as an impediment to implementing MDB/MDO. Gao Kai and Dan Chunjin (October 2018) remarked that the U.S. armed forces would have to overcome “deep-rooted” interservice rivalry, and they added that other impediments to the implementation of MDO were the inadequacy of commanders’ “capabilities” and the financial pressure resulting from the research and development of new weapons and equipment.⁶ Writing earlier, Wu Zhonghe and Zhu Xiaoning (November 2017), the latter of who seemed to have been affiliated with what is now the PLA Army’s Command College, also mentioned interservice rivalry, but they predicted that the American military services’ efforts to carve niches for themselves in “the joint operations of the future” would actually result in the advancement of MDB.⁷

ⁱ Many of the commentators are former members of the PLA, which lends them credibility while maintaining plausible deniability for their remarks.

ⁱⁱ In an interview that was published in a non-PLA newspaper in November 2017, an associate professor at the PLA’s National University of Defense Technology remarked that MDB is just another name for “hybrid warfare,” which he mistakenly characterized as a Russian operational concept. He said that neither hybrid warfare nor MDB are new and that neither has surpassed Qiao Liang and Wang Xiangsui’s “unrestricted warfare,” which was described in their book of the same name in 1999. In other words, he was saying that hybrid warfare and MDB are inferior versions of unrestricted warfare. 张强 [Zhang Qiang], “多域战：未来战争也讲“混搭”” [Multi-Domain Battle: Future War Will Stress ‘Mixing and Matching’], *科技日报* [Science and Technology Daily], November 1, 2017, accessed April 8, 2020, http://digitalpaper.stdaily.com/http_www.kjrb.com/kjrb/html/2017-11/01/content_380803.htm.

ⁱⁱⁱ An almost positive appraisal of MDO’s feasibility was indirectly expressed in one source. The authors cited unnamed “analysts” as expressing astonishment at the speed at which MDB/MDO had developed and the degree of influence that it had had. The anonymous analysts predicted that once the U.S. armed forces began in earnest to develop their capabilities to implement MDO, the U.S. Army’s and the U.S. Marine Corps’ forces in East Asia would “present a challenge” to China’s security. The authors were associated with the War Design Research Institute of the PLA’s Academy of Military Sciences. 常书杰 [Chang Shujie], 张双喜 [Zhang Shuangxi], and 朱丰 [Zhu Feng].

The most extensive commentaries concerning the feasibility of MDO/JADO appear in the episode of *Military Commanding Heights* and in a recent article that was published in *Liberation Army News*. The presentation of MDO's problems in the episode of *Military Commanding Heights* (January 2020) mentioned three impediments to the implementation of MDO. First, in addition to the cost of researching and developing the necessary weapons and equipment being high, the integration of command and weapon systems that have been developed by different contractors will be difficult.⁸ Second, tactical coordination will become more difficult.⁹ Third, finding places to which to deploy multi-domain task forces will be difficult because there are "doubts" that America's allies in Europe and East Asia will be willing to host the task forces.¹⁰ It was reasoned that the multi-domain task forces will be ineffective if they are forced to operate from U.S. territories in the Pacific Ocean.¹¹

In their article in *Liberation Army News* (May 2020), Li Mengyuan and Zheng Dazhuang, who are affiliated with the War Research Institute of the PLA's Academy of Military Sciences, wrote that there are three sets of reasons why the U.S. armed forces have a "considerably long road to travel" before they can implement JADO.¹² The first set concerns technology. Li and Zheng remarked that using a cyberspace-based command and control system to coordinate cross-domain operations below the level of the joint command centers will be "extremely difficult," and they added that because the volume of information that will be generated in an environment of "conflict or denial" will be massive, there are problems of bandwidth as well as of determining what information is true and what information is false.¹³ The next set of reasons concerns processes. Li and Zheng said flexible command processes will have to be formulated for JADO's dispersed, resilient formations.¹⁴ They mentioned that the organization of the U.S. combatant commands is still suited to operations in which the services are principal, and they added that interservice rivalry in the process of acquiring weapons and equipment will impede the implementation of JADO.¹⁵ The third set of problems concerns attitudes. Li and Zheng asserted that many people in the U.S. armed forces do not attach importance to "formless data and communications."¹⁶ They added that the self-centeredness of America's military services will not be resolved in a short period of time, and that because funding is limited, the services will continue to prioritize their own development and the development of "non-joint capabilities."¹⁷ Li and Zheng ended their article with a dramatic flourish. They asked rhetorically whether the "Cold-War-mentality-infused" JADO has unresolvable, critical problems, and whether it will cause an "all-out" or even nuclear war, or not.¹⁸ They answered that instead of opening the door to the future, JADO may just open Pandora's box.¹⁹

None of the sources that were analyzed here mentioned ways to counter JADO. Of course, it is possible that analysts in the PLA are discussing ways to counter JADO in nonpublic publications and venues, but such discussions would be limited by JADO's lack of finalized doctrine and observable tactics, techniques, and procedures, which the PLA generally seems to doubt the U.S. armed forces' ability to devise in the first place. An indication that the PLA regards JADO as a threat would be diatribes against the U.S. for conceiving it; to date the PLA has followed the evolution of JADO calmly, Li and Zheng's dramatics notwithstanding. Therefore, the lack of public discussion of ways to counter JADO may be due as much to a generally negative appraisal of the threat posed by JADO as it is to the sensitivity of the discussions themselves. However, it is also significant that none of the sources' authors refuted the logic of JADO, and this

may be because the PLA itself perceives a need for, and is grappling with how to achieve, greater cross-domain synergy.

The PLA's 'All-Domain Operations'

“All-domain operations” is not a new term in the PLA’s lexicon.^{iv} In fact, developing the capability to conduct all-domain operations became a goal of the PLA Army once Chinese supreme leader Xi Jinping ordered the army to hasten its “transformation from a regional defense model to an all-domain operations model” on the last day of 2015.²⁰ But just as the definition of “socialism with Chinese characteristics” is fluid, so is that of the PLA’s all-domain operations. The PLA has yet to even define “domain” doctrinally; sometimes “domain” is used in the PLA to refer to a geographic area and sometimes it is used to refer to a domain in the American military sense of the term, i.e. a sphere of activity such as land, sea, air, etc.²¹ In his directive, Xi was contrasting the all-domain operations “model” with the PLA Army’s defensive posture under the military area commands, which were also known as military regions. Hence, it could be concluded that, perhaps initially, “all-domain operations” comprised offensive operations outside China’s borders and that “all-domain” was synonymous with “global.”

Before the end of 2016, the PLA’s conception of all-domain operations had either expanded or had merely become clearer. In October 2016, the same month in which the first U.S. document outlining MDB, the MDB white paper, was published, the PLA Army held a seminar that was entitled “Army All-Domain Operations,” in which more than 400 participants from across the PLA Army, as well as from the PLA Navy’s and the PLA Air Force’s, educational institutions participated.²² Foreign military theory was discussed at the seminar, raising the possibility that MDB was discussed there.²³ However, it is unlikely that the seminar was held merely in reaction to the publication of the MDB white paper because the seminar outlined other Chinese military services’ roles in the PLA Army’s all-domain operations and resulted in unspecified tasks for implementing the “theory” (body of principles)^v of all-domain operations that was generated there.²⁴ And because participants from the PLA Navy and the PLA Air Force discussed their own services’ efforts to conduct all-domain operations with their respective marine and airborne corps, it is likely that the kind of all-domain operations that were discussed at the seminar were those in at least physical spheres of activity.²⁵

This seminar did not conclude the PLA’s discussion of all-domain operations. Since 2017 several people have explicated all-domain operations in the Military Forum section of *Liberation Army News*, a weekly section of the newspaper in which people can propound what are at least ostensibly their own views. Summaries of their articles follow an analysis of the articles. The summaries are presented in chronological order in order to facilitate comparison with the evolution of JADO as well as comparisons between the articles.

There is no indication that the authors of the below articles were working together to develop the PLA’s conception of all-domain operations, so although there are commonalities

^{iv} “All-domain operations” in Chinese is 全域作战. JADO is 联合全域作战 and Joint All-Domain Command and Control is 联合全域指挥与控制. MDB is 多域战 and MDO is 多域作战.

^v Perhaps as a result of the Marxian scientization of social phenomena, the PLA tends to approach military science as a natural science, so it applies the language of such and therefore speaks of theories and even natural laws of warfare.

among the articles, the differences among the articles should not be interpreted as manifestations of the same concept's evolution. But with this caveat, on the basis of the commonalities, one can make several tentative conclusions concerning the PLA's nascent concept of all-domain operations. First, although the PLA has yet to define "domain" doctrinally, at least with respect to all-domain operations, in the PLA, "domain" is generally conceived of as both a geographic area and a domain in the American military sense of the term. "Domain" was thus defined in all but the last two of the below articles, which simply took the definition of the term for granted instead of offering an alternative definition. Second, the PLA's nascent concept of all-domain operations shares a fundamental tenet of JADO: converging capabilities across domains at all levels of war in order to compensate for relative weaknesses in single domains and thereby create windows of superiority, which was explicitly mentioned in most of the below articles. This naturally leads to other shared characteristics: undirected cooperation among dispersed formations, cooperation that is enabled by linking all units with a high-capacity computer network and even by applying artificial intelligence. However, there is a major difference between JADO and the PLA's conception of all-domain operations. The below articles only mentioned enabling cross-domain synergy technologically, but in JADO, mission command and/or command by negation are key, nontechnological enablers of cross-domain synergy under conditions in which communications are severely degraded. None of the below articles mentioned similar styles of command. Similar command styles are not inconceivable in the PLA, though. The PLA has studied mission command for years, and in April 2020 it was reported that a brigade in the PLA Army has begun implementing mission command.²⁶ Therefore, in the future, the PLA's theorists may include mission command in their own conceptions of all-domain operations.

Article Summaries

In August 2017 Wang Zhaowen, wrote that cross-domain operations are at the heart of executing "integrated" joint operations, and he defined them as crossing both geographic areas as well as spheres of activity.²⁷ Wang raised two ways in which cross-domain operations change how an armed force dominates an opponent. First, cross-domain operations enable an armed force to dominate an opponent by applying its "asymmetric" advantage in one domain against the opponent's weakness in the same or another domain.^{vi28} Second, an armed force can dominate an opponent by converging relative strengths in two or more domains.²⁹ Wang said that cross-domain operations entail task-based organization and network-enabled, undirected cooperation.³⁰ He identified cross-domain aerospace and computer network superiority as well as superiority in technologies enabling navigation and sustainable, long-distance maneuver as key to achieving the battlefield awareness, distributed deployment, and the capability for cross-domain, long-distance maneuver and precision fires that cross-domain operations necessitate.³¹

In April 2018 Wu Zhonghe and Zhu Xiaoning, who had earlier analyzed MDO, asserted that the capability to conduct all-domain operations is an "inherent demand" of the PLA's goal of becoming a world-class armed force by mid-century.³² They defined "domain" in a way that was similar to Wang Zhaowen's definition: as a geographic area or as a sphere of activity, which they distinguished as a "dimension."³³ They wrote that all-domain operations entail a single service possessing the capabilities to act in each dimension as well as to coordinate actions across

^{vi} In other words, employing a relative advantage in one domain against a relative weakness in the same domain or in another domain. It means attempting to separate this from convergence of strengths in multiple domains.

dimensions.³⁴ They identified three requirements for successfully conducting all-domain operations. First, the PLA will have to be able to conduct synchronous cross-domain actions in order to create and to take advantage of fleeting opportunities (which is reminiscent of MDB's and MDO's windows of superiority) and thereby achieve dominance "physically" and in space and time.³⁵ Second, each of the PLA's services will have to attain other services' strike capabilities in order to enable them to take on other services' missions and thereby achieve seamless cross-domain synergy.³⁶ Third, each of the PLA's services will have to attain organic battlefield sensing as well as target identification and strike capabilities so that they can independently conduct combat operations.³⁷

In September 2019 Zhang Qianyi, like Wu Zhonghe and Zhu Xiaoning, asserted that enhancing the PLA's capability to conduct all-domain operations is the "new direction, new demand, and new target" of the PLA's force development, and he added that the PLA as a whole, not merely the PLA Army or any other single service, must develop the capability to conduct all-domain operations, perhaps reflecting a lack of enthusiasm and/or effort outside of the PLA Army to do so.³⁸ Like others before him, Zhang defined "domain" as both a geographic area and a sphere of activity, to which he specifically added the cognitive domain, the deep sea, quantum computing, artificial intelligence, and even biological security.³⁹ He explained that there are three ways in which an armed force achieves victory in all-domain operations. The first is by layering superiority in all domains, but he recognized that besting an opponent in each domain would be difficult.⁴⁰ The second is by gaining the strategic initiative by defeating an opponent in space, cyberspace, and other "new security domains" such as the deep sea, quantum computing, artificial intelligence, and biological security.⁴¹ The third is by achieving overall superiority by using one's strengths in certain domains in order to compensate for weaknesses in other domains.⁴² On this basis he offered a definition of all-domain operations capability:

The capability of an armed force to effectively launch hostilities against an enemy and to achieve deterrence and victory in war on domestic and foreign battlefields, or in the full range of space and security domains such as the land, the sea, the air, space, cyberspace, the electromagnetic spectrum, and the cognitive domain, as well as burgeoning domains such as the deep sea, quantum computing, artificial intelligence, and biological security, by layering effects in multiple domains, controlling new domains to gain the strategic initiative, and striving for comprehensive superiority through cross-domain integration.⁴³

Zhang vaguely mentioned several factors that limit the PLA's capability to conduct all-domain operations: weak information infrastructure, an insufficient strategic power-projection capability, unsystematic deployment of forces at strategic strongpoints, lagging battlefield preparation,^{vii} weaknesses in combat systems of systems, and a lack of strength, as well as means of fighting, in "new" domains, which is presumably a reference to his "new security domains."⁴⁴

In May 2019 Qiu Bin, Zhang Dequn, and Wu Yongliang, who were affiliated with the War Research Institute of the Academy of Military Sciences, wrote about a concept that they called

^{vii} "Battlefield preparation" is the author's translation of "战场建设," which refers to the construction and repair of facilities and/or infrastructure as well as the stockpiling of materiel and the compilation of data about the battlefield. 中国人民解放军军语 [Military Terminology of the Chinese People's Liberation Army], 2nd ed., s.v. "战场建设" [battlefield construction] (Beijing: 军事科学出版社 [Junshi kexue chubanshe], 2011).

“all-domain superiority convergence,” which is reminiscent of JADO’s convergence of effects and is probably better understood as an aspect of all-domain operations instead of a distinct operational concept.⁴⁵ Taking the definition of “domain” for granted, they defined all-domain superiority convergence as “converging superiority across different directions of effort,^{viii} different levels of war, different domains, and different spaces according to the needs of war in order to maximize pressure on an opponent or to conduct a strike, and, by maintaining or achieving a superior position, gaining the initiative in war.”⁴⁶ They identified four distinguishing characteristics of all-domain superiority convergence, none of which distinguish it from all-domain operations as described by the aforementioned authors. First, superior effects will only be produced by arraying forces in domains of relative superiority, integrating them completely, and employing them synchronously.⁴⁷ This will occur at the tactical level, too, not only at the operational and strategic levels.⁴⁸ Second, the technologies of “virtual space,” technologies such as the mobile Internet, cloud computing, big data, and artificial intelligence, will be cognitive force multipliers that will result in effects in physical domains.⁴⁹ Third, an armed force will be modularized and distributed to dynamically converge capabilities in order to achieve local superiority over an opponent.⁵⁰ Fourth, with the help of the “mobile Internet” (the combination of mobile communications and the Internet) and artificial intelligence, units will independently converge their superiorities in different domains.⁵¹ Qiu, Zhang, and Wu identified three technologies as key to executing all-domain superiority convergence: computer network technology; artificial intelligence technology; and data collection, transmission, and processing technologies.⁵²

Finally, in May 2020 Chen Wenchao and Wen Xiaopeng wrote about multi-domain operations to seize and control land.⁵³ They, too, took the definition of “domain” for granted. They wrote that multi-domain operations to seize and control land should be supported by an intelligence, surveillance, and reconnaissance system in which information is shared across domains, synchronously updated, independently pushed to users, and disseminated according to needs.⁵⁴ To aid command and control in multi-domain operations to seize and control land, they vaguely mentioned using shared task lists, “operations grids,” and “cross-domain cooperation forms.”⁵⁵ To deal with emergencies, they proposed using artificial-intelligence-based decision-making systems, the flexible organization and deployment of forces, and situation maps.⁵⁶ Chen and Wen wrote that information concerning targets should be independently disseminated and be instantaneously added to target strike lists via a “Target Data Processing Center” and that distributed units would combine hard- and soft-kill methods and converge capabilities across domains in order to “decapitate” and “dismember” an opponent’s system of systems.⁵⁷ They also mentioned creating “immediate windows of superiority” by integrating fires and information warfare.⁵⁸

Regulating the PLA’s All-Domain Operations

The problems of coordinating cross-domain actions at all levels of war are considerable. In October 2018 Wei Junmin wrote about the necessity of regulations governing cross-domain cooperation in the Forum section of *China National Defense News*, a section that is similar to the

^{viii} “Direction of effort” is the author’s translation of 方向, which, given its position before levels of war, likely refers to 战略方向, which is usually directly translated as “strategic direction” and is sometimes interpreted as referring to a geographic area, but actually refers to a strategic focus of action. The PLA sets primary and secondary strategic directions of effort, the latter being subordinate to the former. 中国人民解放军军语 [Military Terminology of the Chinese People’s Liberation Army], 2nd ed., s.v. “战略方向” [strategic direction] (Beijing: 军事科学出版社 [Junshi kexue chubanshe], 2011); 彭光谦 [Peng Guangqian] et al., 军事学是什么 [What Is Military Science?] (Beijing: 北京大学出版社 [Beijing daxue chubanshe], 2018), 117.

Military Forum section of *Liberation Army News*.⁵⁹ His article was not explicitly related to all-domain operations, but it suggests an alternative nontechnological means of coordinating cross-domain actions at all levels of war.

Wei identified five areas for which regulations are necessary for effective cross-domain cooperation. Concerning the first area, authorities, Wei suggested that the echelons at which cross-domain and interservice cooperation can be conducted not be made “too unconditionally, unlimitedly” low and that interservice cooperation is best conducted between equivalent echelons.⁶⁰ The second area was priorities, concerning which Wei advocated regulations that would prioritize certain objectives as well as support to the units that are assigned to achieve them, thereby permitting some units to ignore requests for support.⁶¹ With respect to the third area, areas of operation, Wei raised the need for regulations specifying authorities to request support, obligations to provide support, and the timing and methods of cooperation among units of different services in a particular area of operations.⁶² Concerning the fourth area, independent cooperation, Wei remarked that undirected cross-domain cooperation should only occur under the following conditions:

- Cooperating units are pursuing the same objective
- There is a cross-domain data link
- It is impossible to receive orders and authorizations from a higher echelon and joint, cross-domain action must be taken⁶³

The fifth and final area was information sharing. Wei wrote that there should be regulations requiring “horizontal, intersecting, and open” sharing of information, which he respectively defined as the sharing of information among units of different services at the same echelon, the sharing of information across domains and among units of different services at different echelons, and the sharing of information with friendly, regional, police, and civilian forces.⁶⁴

Conclusion

The PLA generally seems to doubt the U.S. armed forces’ ability to implement JADO, particularly in the near term. Consequently, it is unlikely that the PLA is yet considering countermeasures against it. However, not only does the PLA accurately understand JADO, the PLA itself seems to perceive a need for cross-domain synergy at all levels of war. The PLA Army has been tasked with developing an all-domain operations capability, and although it is unlikely that the PLA or even just the PLA Army has defined all-domain operations doctrinally, theorists in the PLA are advocating conceptions of all-domain operations that align with JADO.

To borrow a phrase from Li Mengyuan and Zheng Dazhuang’s appraisal of JADO, the PLA still has a “considerably long road to travel” before it achieves greater cross-domain synergy at just the operational level of war, but as JADO itself demonstrates, the innovation of operational concepts has as much utility in promoting the development of new capabilities as it does in devising new ways to employ current capabilities. Moreover, it should be recognized that the PLA has achieved substantial operational reforms in addition to organizational reforms, of which the implementation of mission command serves as an example. And the PLA’s establishment of the Strategic Support Force may stand the PLA in good stead to build the kind of joint computer network that will be essential to achieving the cross-domain synergy that is envisioned in JADO.⁶⁵

Therefore, the PLA's nascent concept of all-domain operations should not be disregarded. As JADO continues to be refined and begins to be implemented, it would be best to watch for further explication of the PLA's all-domain operations and for any efforts by the PLA to achieve greater cross-domain synergy.

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End Notes

¹ The sources are, in order of publication: 慕小明 [Mu Xiaoming], ““多域战”，美军联合作战新亮点” [‘Multi-Domain Battle,’ The New Focus of Attention in US Military’s Joint Operations], 解放军报 [Liberation Army News], May 11, 2017, accessed April 6, 2020, http://www.81.cn/jfjbmap/content/2017-05/11/content_177177.htm; 吴中和 [Wu Zhonghe] and 朱小宁 [Zhu Xiaoning], “多域战：美军推动联合作战新“抓手”” [Multi-Domain Battle: The New ‘Breakthrough’ Promoted by US Military], 解放军报 [Liberation Army News], November 30, 2017, accessed April 7, 2020, http://www.81.cn/jfjbmap/content/2017-11/30/content_193225.htm; 高凯 [Gao Kai] and 单春锦 [Dan Chunjin], ““多域战”：值得关注的美军作战新理念” [‘Multi-Domain Battle’: A New US Military Operational Concept Worth Paying Attention To], 中国国防报 [China National Defense News], October 8, 2018, accessed April 6, 2020, http://www.81.cn/gfbmap/content/2018-10/08/content_217115.htm; 王玉琨 [Wang Yukun] and 何昌其 [He Changqi], ““多域战”重塑美军作战流程” [‘Multi-Domain Battle’ Remakes Process of US Military Operations], 解放军报 [Liberation Army News], November 22, 2018, accessed April 6, 2020, http://www.81.cn/jfjbmap/content/2018-11/22/content_221323.htm; 常书杰 [Chang Shujie], 张双喜 [Zhang Shuangxi], and 朱丰 [Zhu Feng], “给美军多域作战画个像” [Drawing a Portrait of Multi-Domain Operations for US Military], 中国国防报 [China National Defense News], December 24, 2018, accessed April 8, 2020, http://www.81.cn/gfbmap/content/2018-12/24/content_223853.htm; 李孟远 [Li Mengyuan] and 郑大壮 [Zheng Dazhuang], “美推动“全域战”应对“大国竞争”” [USA Promotes ‘All-Domain Operations’ to Respond to ‘Great-Power Competition’], 解放军报 [Liberation Army News], May 7, 2020, accessed May 6, 2020, http://www.81.cn/jfjbmap/content/2020-05/07/content_260638.htm; 文予 [Wen Yu], “一字之差大不同” [Difference of a Character, Big Difference in Character], 解放军报 [Liberation Army News], May 7, 2020, accessed May 6, 2020, http://www.81.cn/jfjbmap/content/2020-05/07/content_260640.htm. The discrepancy between the publication and access dates of the last two sources is due to the difference between time zones.

² 军事制高点 [Military Commanding Heights], aired January 19, 2020, on CCTV-7, accessed April 10, 2020, http://www.js7tv.cn/video/202001_204609.html.

³ 慕小明 [Mu Xiaoming].

⁴ 慕小明 [Mu Xiaoming].

⁵ 慕小明 [Mu Xiaoming].

⁶ 高凯 [Gao Kai] and 单春锦 [Dan Chunjin].

⁷ 吴中和 [Wu Zhonghe] and 朱小宁 [Zhu Xiaoning], “多域战：美军推动联合作战新“抓手”” [Multi-Domain Battle: The New ‘Breakthrough’ Promoted by US Military]; 朱小宁 [Zhu Xiaoning], “以工程思维推进联合作战理论创新” [Advancing the Innovation of Joint Operations Theory with Engineering Thinking], 中国国防报 [China National Defense News], January 19, 2017, accessed May 13, 2020, http://www.81.cn/gfbmap/content/2017-01/19/content_167489.htm.

⁸ 军事制高点 [Military Commanding Heights].

⁹ 军事制高点 [Military Commanding Heights].

¹⁰ 军事制高点 [Military Commanding Heights]. This is more of a wish than it is a statement of fact, but because JADO necessitates foreign basing and combined operations, attacking America’s relationships with its allies and partners could be one way to counter JADO.

¹¹ 军事制高点 [Military Commanding Heights].

¹² 李孟远 [Li Mengyuan] and 郑大壮 [Zheng Dazhuang].

¹³ 李孟远 [Li Mengyuan] and 郑大壮 [Zheng Dazhuang].

¹⁴ 李孟远 [Li Mengyuan] and 郑大壮 [Zheng Dazhuang].

¹⁵ 李孟远 [Li Mengyuan] and 郑大壮 [Zheng Dazhuang].

¹⁶ 李孟远 [Li Mengyuan] and 郑大壮 [Zheng Dazhuang].

¹⁷ 李孟远 [Li Mengyuan] and 郑大壮 [Zheng Dazhuang].

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