Air Component Campaign Planning

Beyond Conflict and Kinetics

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In the final analysis, victories are achieved because of the effect produced, not simply because of the effort expended.

—Brig Gen Haywood Hansell

The mission of the US Air Force—"to *fly*, *fight* and *win* . . . in air, space and cyberspace" (emphasis in original)—succinctly lists the domains "where" we employ but does not identify "when" we will fly, fight, and win.[1] Thinkers from Giulio Douhet to John Warden have typically addressed the kinetic application of airpower during a major contingency operation.[2] Current Air Force doctrine, especially Air Force Doctrine Document (AFDD) 2, *Operations*

and Organization, also develops the kinetic aspect.[3] Less well developed is the concept of theater air component campaign planning, similar to the campaign planning discussed in Joint Publication 5-0, *Joint Operation Planning*.[4] Although absent from AFDD 2, a theaterwide campaign planning methodology would prove well suited for the air component of a combatant command, based on the concept of the joint force air component commander (JFACC). As military forces spend more time performing a diverse range of activities beyond traditional warfare, it becomes increasingly important to develop a construct for air component campaign planning that spans the continuum of military operations and integrates cross-domain air, space, and cyberspace capabilities to meet the joint force commander's (JFC) objectives. As General Hansell observed, a campaign plan concentrates on the effects generated—through actions such as deterring adversaries, assuring allies, and preparing for kinetic operations—rather than on the intensity of operations. Ideally, future Air Force doctrine will reflect the increased scope and focus of air component campaign planning.[5]

Broadly stated, one should base an air component campaign plan on the authorities delegated to the commander, Air Force forces (COMAFFOR) and design it to (1) deter conflict with adversaries; (2) build air, space, and cyberspace interoperability with partner nations; (3) posture and prepare forces to conduct combat operations rapidly; (4) allow support organizations to better understand requirements; (5) guide tactical training and tactics development; and (6) influence service planning, programming, and budgeting. Current Air Force doctrine emphasizes planning for the rapid, kinetic application of airpower but lacks methodology for air component campaign planning that spans the continuum of military operations. To fill this doctrinal gap, the Air Force should develop an overarching concept of employment focused on long-term state interaction that ranges from peace through conflict to postconflict. By doing so, the operational air commander will be better aligned to support JFC initiatives with the distinctive capabilities and effects that air, space, and cyberspace bring to the joint fight. This article briefly outlines a framework for a campaign plan, highlighting preconflict planning and operations, in order to spur a holistic discussion about operational employment of air, space, and cyberspace as the Air Force continually refines operational concepts, ideas, and doctrine. This concept resembles the Army's combined arms employment and the Navy, Coast Guard, and Marine Corps' *Cooperative Strategy for 21st Century Seapower*.[6] Although many of the activities presented for illustrative purposes are not new, the overall methodology of an air-component supporting campaign plan and cross-domain integration is indeed new.

Foundations for Air Component Campaign Planning

> *Defense and diplomacy are simply no longer discrete choices, one to be applied when the other one fails, but must, in fact, complement one another throughout the messy process of international relations.*
>
> —Adm Mike Mullen
> Chairman, Joint Chiefs of Staff
> 5 March 2010

The US *National Security Strategy* (*NSS*) of 2010 sets the strategic approach for the use of national instruments of power in pursuit of the following enduring national interests: "the security of the United States, its citizens, and U.S. allies and partners; a strong, innovative, and growing U.S. economy in an open international economic system that promotes opportunity and prosperity; respect for universal values at home and around the world; and an international order advanced by U.S. leadership that promotes peace, security, and opportunity."[7] To maintain these enduring interests, the *NSS* lays out a strategy based on assuring and

working with partner nations, deterring adversaries, and continuing to act as the arbiter of international security:

> There should be no doubt: the United States of America will continue to *underwrite global security*—through our commitments to allies, partners, and institutions; our focus on defeating al-Qa'ida and its affiliates in Afghanistan, Pakistan, and around the globe; and our determination to *deter aggression* and prevent the proliferation of the world's most dangerous weapons. As we do, we must recognize that no one nation—no matter how powerful—can meet global challenges alone. As we did after World War II, America must prepare for the future, while *forging cooperative approaches among nations* that can yield results.[8] (emphasis added)

The *Unified Command Plan* directs combatant commanders to develop campaign plans to "[deter] attacks against the United States, . . . employing appropriate force should deterrence fail, . . . and execut[e] military operations, as directed, in support of strategic guidance [i.e., the *NSS*]."[9] The five geographic combatant commands all produce campaign plans or top-level strategies that closely mirror the interests and strategy laid out in the *NSS*. For example, Pacific Command's strategic concept mantra of "Partnership, Readiness, and Presence" drives objectives to "protect the homeland, maintain a robust military capability, develop cooperative security arrangements, strengthen and expand relationships with allies and partners, reduce susceptibility to violent extremism, deter military aggression, [and] deter adversaries from using weapons of mass destruction."[10] The other geographic combatant commands list comparable objectives. Like the *NSS*, combatant command strategies concentrate on maintaining military capability, cooperating and maintaining relations with partner nations, and deterring adversaries. These same three concepts serve as the foundation for developing a theater air-component supporting campaign plan.

Such a plan also arises from the continual interaction of states through peace and war and the assumption that uninhibited use of the global air, space, and cyberspace commons is a vital US interest.[11] This approach to operational planning is designed to provide a framework for supporting broader US diplomatic efforts over time and does not insist on producing effects during times of conflict. According to Gen Charles Wald, former deputy commander of US European Command, "U.S. European Command . . . is fighting a new kind of campaign in the global war on terror . . . engaged in a wide variety of operations and TSC [theater security-cooperation] activities. . . . This deliberate strategy of engagement is called *Phase Zero*, but in truth it is much more than just a new phase of systematic campaign planning; it is a new form of campaign in and of itself" (emphasis in original).[12] Joint Publication 5-0 identifies phase zero as a period for conducting operations designed "to dissuade or deter potential adversaries and to assure or solidify relationships with friends and allies."[13] Based on current operations across multiple combatant commands, the air component already conducts many activities to deter adversaries and assure friends and allies, but we have neither doctrinal guidance nor an overarching concept for combining these operations into an air-component supporting campaign plan. By joining General Wald's phase zero observations with current operations, we can develop a conceptual air component campaign model that provides air, space, and cyberspace integration across a range of military operations. Such a plan draws on the following propositions, which are consistent with current Air Force doctrine and practices.

Air Component Campaign Planning Depends upon Long-Term State Interaction, Not Conflict

Since the Treaty of Westphalia established the modern international state system in 1648, interaction among states has been central to achieving national objectives.

Everett Dolman writes that "battles and wars may end, but interaction between . . . states goes on, and 'one can no more achieve final victory than one can "win" history.'"[14] Taking a long-term view of state interaction, one sees that conflict amongst states is only one level of state interaction and that the majority of air, space, and cyberspace operations will occur during peacetime or after a conflict. This concept finds validation in the historical record, which shows that states strive to fulfill objectives and policies at the lowest level of military escalation. Similar ideas shaped the overall US strategy against the Soviet Union during the Cold War when containment, nuclear deterrence, and détente all sought to meet US objectives at a minimum level of military conflict. Similarly, air component campaign planning tries first to avoid conflict; second, win any conflicts that occur; and third, enforce postconflict termination criteria. This approach aligns with current US policy objectives and the guidance contained in the *NSS* and *Quadrennial Defense Review Report* of 2010.[15]

For plans and operations opposing nonstate actors such as al-Qaeda and other terrorist groups, the campaign plan should still insist on state interaction, which not only sets the foundation for building indigenous military capacity but also allows the United States to engage in such activities as overflights, basing agreements, and intelligence sharing directed against nonstate actors. For example, most activities against al-Qaeda in Afghanistan and Pakistan would remain impossible without approval from Afghani and Pakistani leaders.

Interaction between two states not only affects those states but also can have regional and even global repercussions, as one sees, for example, in Barry Buzan and Ole Wæver's regional security complex theory.[16] For instance, a US air exercise with Japan may negatively affect relations with South Korea or China. Consequently, it is important to view an air component campaign plan from a theater, or even global, perspective.

Cross-Domain Campaign Planning Geographically Spans at Least the Theater; It Can Be Global; and It Generally Does Not Focus on a Single State, excepting Times of Conflict

Unlike ground and maritime forces, airpower is not constrained by geographical boundaries: "The Airman's perspective normally encompasses the entire theater or joint operating area (JOA). There may be times when air and space power must focus on a specific geographic area to perform certain functions. However, it will most often be counterproductive for the air and space component to be assigned only to a specific area of operation (AO) if it is to remain flexible and versatile, able to mass effects wherever and whenever the joint strategy requires."[17] AFDD 2-2, *Space Operations*, observes that "space power operates differently from other forms of military power due to its global perspective," and joint doctrine defines cyberspace as "a global domain."[18] An air-component supporting campaign plan should view the air, space, and cyberspace domains as "global commons" that transcend geographical boundaries and afford commanders opportunities to create effects on a global scale.

Assuming That Space Power and Cyberspace Power, like Airpower, Are Inherently Offensive Limits the Ability to Develop an Air, Space, and Cyber Campaign Plan

The strategic bombing campaigns of World War II, the strategies of massive retaliation during the Cold War, and the success of the six-week air and space campaign prior to ground maneuver in Operation Desert Storm reinforced the writings of Douhet and the influential teaching of the Air Corps Tactical School and tended to portray airpower as inherently offensive. Instead, airpower is flexible and adaptable to the strategic and tactical environment. As British air marshal Arthur Tedder succinctly declared on the eve of the Normandy invasion in World War II, "The flexibility of an air force is indeed one of its dominant charac-

teristics."[19] The Battle of Britain during World War II, the Berlin airlift, and Strategic Air Command's alert posture during the Cold War represent nonoffensive uses of airpower that had both strategic and tactical implications. Current examples include global intelligence, surveillance, and reconnaissance (ISR) operations; ballistic missile defense operations; and integrated, multinational command and control of air and space forces. Times of conflict require the offensive use of airpower, as discussed in AFDD 2. However, during peacetime, defensive applications of air, space, and cyberspace power may prove significantly more important in providing security guarantees to partner nations and in deterring adversaries.

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Air Component Campaign Planning Is Based on the Authorities Delegated to the Commander, Air Force Forces

In general the JFC delegates to the COMAFFOR authority to serve as JFACC, area air defense commander (AADC), space coordinating authority (SCA), and airspace control authority (ACA).[20] These authorities are well suited to the air component, based on command and control capabilities and possession of the preponderance of applicable forces. Additionally, each authority complements the others. For example, during Operation Iraqi Freedom, the positioning of ground- and maritime-based air defense assets under AADC authority affected development of the airspace control plan, development of air tasking orders, and flow of air assets (JFACC authority). The campaign plan should identify the decision points for each authority and the ways that decisions will affect operations under other authorities. Utilizing this methodology will assist in developing plans and operations that link air, space, and cyberspace together into a comprehensive operations plan. Hence, the JFACC, AADC, SCA, and ACA authorities should serve as the baseline for air component campaign planning.

Air Component Campaign Planning

During phase zero, the air-component supporting campaign plan should address three objectives: providing security guarantees to partner nations, deterring adversary actions inimical to US policy objectives, and logistically preparing the theater for possible combat operations.

Guarantee Security

Since the end of World War II, the forward basing of military personnel, theater security-cooperation activities, and bilateral or

multilateral exercises have reinforced US commitments to the security of partner nations aligned with US policy objectives. A campaign plan provides guidance on how these activities will improve the air, space, and cyberspace capacity of our partners and thus build interoperable and enduring relationships. This situation, in turn, proceeds from increasing US security and improving access opportunities for potential contingency operations. Security guarantees depend upon an understanding of the most important threats to partner nations. For South Korea, Japan, and countries in Western Europe and the Middle East, the most significant air threat may come from adversaries equipped with medium- and long-range ballistic missiles. Because the COMAFFOR has AADC authority, he or she should give particular attention to providing air and missile defense not only for US installations, but also for critical infrastructure and other assets of partner nations identified on the theater's critical asset list.

Space operations supporting this objective should focus on maintaining freedom of maneuver in the space commons for the United States, its partners, and its allies. AFDD 2-2 categorizes the relative degree of military advantage in the space domain as ranging from space parity to space superiority to space supremacy.[21] In order to guarantee security in the space domain, the campaign plan should ensure space superiority during phase zero while setting the conditions to gain space supremacy rapidly in the event of combat operations. This construct allows US and partner-nation space forces to conduct space operations via theater security-cooperation initiatives without prohibitive interference by an adversary. If conflict occurs, space supremacy allows a degree of space advantage "that permits the conduct of operations at a given time and place without *prohibitive* interference by the opposing force" (emphasis in original).[22] We can attain this advantage by conducting operations aimed at maintaining space situational awareness and sharing space-based ballistic missile defense capabilities. Generally, cyberspace operations supporting partner-nation security will rely on the scope of approved authorities. The cyber contribution should emphasize computer network defense, development of reliable and secure military cyber networks and infrastructure, and ISR collection and information sharing.[23] Because interagency and nongovernmental means could also produce these effects, the air-component supporting campaign plan should identify required support organizations, desired authorities for cyber operations, and applicable combatant command integration.

Deter Adversary Actions

With regard to deterrence, a central concept of US foreign policy, cross-domain planning must identify *whom* and *what actions* to deter. If we want to deter states, as we did the Soviet Union during the Cold War, we should turn to airpower's force posture and operations such as regional presence missions conducted by Global Strike Command or exercises with partner nations. An air component campaign plan will develop an overall strategy to deter adversaries as well as link the deterrent activities to actions designed to assure partner nations, as previously mentioned. Take, for example, a strong air defense posture, utilizing AADC authorities, that serves as a deterrent by establishing a defensive capability which effectively counters an adversary's offensive resources while protecting partner nations.[24] In many cases, successful deterrence by means of airpower will depend upon information operations against the adversary to ensure that we transmit the right message and that adversary policy makers receive and understand it.

Regarding the actions of nonstate actors, we must look to space or cyberspace operations for deterrent effects. The campaign plan will identify the interstate coordination requirements for space and cyberspace operations as well as the authorities needed to conduct operations within and above the state in which the nonstate actor resides.

These operations seek to give the nonstate actor information designed to create a perception that the cost of his actions will significantly exceed the expected gain. We can do this primarily by gaining information superiority with the intent to influence the decision calculus of the individual and then ensuring that we maintain situational awareness in the event deterrence efforts fail.[25] Cyber options could range from overtly manipulating the adversary's cyber architecture, to attacking supervisory control and data acquisition networks, to assuring that an adversary understands specific US offensive and defensive cyber capabilities. Prior to conducting overt cyber deterrent operations, both the supported commander and the supporting cyber command should carefully consider operations security options because they may trigger countermeasures that could undermine future cyber operations during combat.[26]

Prepare the Theater

Because potential adversaries have studied how the United States employed military forces during Operations Desert Storm, Allied Force, Iraqi Freedom, and Enduring Freedom, they may not allow America to initiate combat operations at a time of its choosing, preferring instead to catch it off guard and ill prepared for combat operations. Consequently, an air component campaign plan must contain logistics activities to transition the theater from phase zero to combat operations as rapidly as possible. Lt Gen William Hallin's assertion that "agile combat support creates, sustains, and protects all air and space capabilities to accomplish mission objectives across the spectrum of military operations" contains the essential elements to guarantee that air, space, and cyberspace forces can quickly move to combat operations.[27]Preparing the theater for airpower employment depends upon access to regional bases that can support a rapid buildup of personnel, aircraft, and support equipment. Conducting security-cooperation exercises can assist in establishing infrastructure and basing requirements for possible contingency operations. From a space and cyber perspective, preparing the theater ensures that the communication infrastructure (nodes, bandwidth, etc.) is robust enough to handle the expected increase in users when combat operations commence. In addition, phase zero activities should identify the requisites for protecting infrastructure from adversary attacks or attempted degradation. As illustrated by the alleged Russian cyberspace attacks on Estonia and Georgia, lack of cyberspace protection can significantly affect all elements of national power.[28]

The activities identified here are neither new nor significantly different than current operations in the majority of combatant command areas of responsibility (AOR). The difference lies in packaging these activities into a comprehensive air component campaign plan designed to provide security guarantees to partners, deter adversaries, and prepare for contingency operations. When coupled with effective strategic communication and information operations, many of the endeavors mentioned can attain multiple objectives. Because the overriding desire involves fulfilling policy objectives at the lowest possible level of conflict, phase zero activities may last for an indeterminate time. However, prudent military planning dictates preparing for combat operations in order to optimally support those objectives and understand how a transition from phase zero to combat could occur.

Events in Afghanistan since 2002 and Iraq since 2003 have demonstrated that in some instances, the air component of a joint force will conduct operations against nonstate actors who have gained freedom of maneuver because a weak or failed state lacks effective governance. David Kilcullen writes that an insurgency conducted by nonstate actors "is a struggle to control a contested political space, between a state (or group of states or occupying powers), and one or more popularly based, non-state challengers."[29] Nonstate actors gain power

and insurgencies tend to occur when a state either fails or collapses and the national government cannot supply basic security and services to the populace.[30]

An air-component supporting plan directed against nonstate actors should emphasize an effective phase zero strategy of engagement with a partner nation to assist in providing basic human-security assistance and increased security capacity of indigenous forces. The contribution can occur through sharing intelligence with the partner nation, increasing logistical capacity via air mobility, implementing tailored airpower capabilities, and developing a cyber infrastructure. For example, the communications infrastructure in many developing countries in Asia and Africa depends heavily on cyber capabilities. Having bypassed traditional telephone landlines, these countries rely upon the cyber domain for most telecommunications. In addition, many of them lack the transportation infrastructure necessary for economic development. As was the case in the taming of Alaska's frontier in the 1960s, air mobility may be the only viable, reliable transportation throughout a developing country. In many respects, the activities of the Combined Airpower Transition Force in Afghanistan and the Coalition Air Forces Transition Team in Iraq represent the types of operations that we could conduct *prior to* an insurgency to help partner nations proactively develop basic human-security capacity and infrastructure for the indigenous population in order to limit the influence of nonstate actors.[31]

The Transition from Phase Zero to Combat Operations

One of the most important parts of the campaign plan involves identifying "trigger events" that could precipitate the transition from phase zero to combat operations. By understanding such events, we could develop guidance for deterring them. In this case, the campaign plan should identify options for de-escalation, which will generally join with strategic communication and can range from cyber information operations, to reposturing of air assets, to conducting space-based ISR activities. The campaign plan must identify not only the de-escalation option but also its effect on conducting subsequent combat operations. The trigger events also help shape operational- and tactical-level crisis-action decision making during the initial stages of conflict and can provide a framework for determining how to prepare the theater logistically for potential combat. Finally, these events can serve as "starting points" for phase zero exercise scenarios.

For example, in late 1989 an Iraqi invasion of a Persian Gulf state and the subsequent threat to the vast Saudi Arabian energy facilities represented one of the most likely trigger events for rapid transition to combat operations in the Central Command AOR. It served as a scenario for command post exercises, and after Iraq invaded Kuwait in 1990, it influenced how the JFC and JFACC flowed forces into the theater and designed strategic communications and policy statements. This scenario also proved instrumental as a starting point for developing the joint air plan for Desert Storm.[32] Other examples of the value of trigger events include the scenarios used by the Air Warfare Center during Weapons School mission-employment graduation exercises and the Blue Flag command and control exercises. The Weapons School scenarios allow tacticians to develop techniques and procedures for supporting an operational plan, whereas Blue Flag seeks to "train combat leaders and supporting battlestaff personnel in command, control and intelligence procedures for specific theaters of operation."[33] Both training events benefit from and are heavily influenced by the identification of likely trigger events and the immediate operational requirements. From a cyberspace perspective, understanding events that will probably lead to combat operations can assist in determining the authorities necessary for a speedy transition from phase zero.

Documenting the Air Component Campaign Plan

The heart of any air planning effort is the joint air operations plan (JAOP), "the JFACC's plan for integrating and coordinating joint air operations," designed to carry out the JFC's objectives.[34] Although the JAOP typically concerns air operations, it can also provide top-level air component campaign plan guidance and strategy for all air, space, and cyberspace operations. At a minimum, the JAOP would contain a theater security-cooperation plan, exercise and engagement plan, and guidance for current contingency operations. For space operations, the JAOP would depend upon the JFC's delegation of space-coordinating authority to the air component commander and would identify the means of integrating and prioritizing space capabilities and effects to carry out theater objectives. It should offer enough detail and guidance to enable the joint functional component command (space) to develop a supporting joint space operations plan. The same considerations should apply to cyberspace content, which should include a listing of the integration and effects requirements over the course of the campaign that will assist in meeting phase zero objectives. In addition, the JAOP should identify the expected space and cyberspace authorities and expected command relations needed for rapidly moving to contingency operations.

Several source documents should supplement the JAOP. These include the area air defense plan, covering actions under the AADC authorities and the ACA airspace control plan. The scope of the area air defense plan and the airspace control plan should coincide with the geographic bounds of the AOR but may also contain guidance for coordination with other numbered air forces if potential threats originate outside the AOR.[35] Furthermore, the airspace control plan will develop air routes to support military operations and deconflict them from existing routes. The Hurricane Katrina (2005) and Haiti earthquake (2010) relief efforts showed that air routes may be the optimum way of quickly providing relief and military support to areas difficult to access.[36] Although the actual air routes may vary from those planned, the airspace control plan will offer a baseline for rapidly coordinating route usage with civilian agencies. Developing a foundational plan for air routes and air defense will furnish the methodology that the JFACC/AADC/ACA can use to transition to operations that demand air, space, and cyberspace employment (combat, humanitarian assistance, etc.).

Developed by subordinate units identified to support operations, base support plans are important to the JAOP.[37] These documents "support combatant command wartime operation planning, as well as [major command] supporting plans. [A base support plan] cuts across all functional support areas in a consolidated view of base missions, requirements, capabilities, and limitations to plan for actions and resources supporting war and contingency operations, including deployments, post deployment, and employment activities."[38] Base support plans contain information such as beddown and logistics support required for planned exercises, base support necessities for contingency operations, and other information that helps base leadership develop plans to support cross-domain operations. These plans must reflect an understanding of all the elements needed to move efficiently to contingency operations.

Air Component Campaign Requirements and Training

After the air-component supporting plan is approved by the COMAFFOR and submitted to the JFC, supporting commands and organizations should receive notice of its general requirements: (1) training air, space, and cyberspace forces; (2) developing and testing new technology to aid the war fighter; and (3) conducting long-range

planning, programming, and budgeting of Air Force assets. Further, campaign planning should include these organizations to ensure that the plan is feasible and supportable. If this coordination is not possible before approving the plan, planners should make every effort to see that the supporting agencies understand the needs of the final campaign. For example, the war fighter would coordinate with Joint Forces Command and its air component (Air Combat Command) to confirm the supportability of the time-phased force and deployment data and the identification of aircraft in the event of contingency operations. Air Force Space Command would coordinate space requirements and identify capabilities scheduled for campaign execution. As a service component to US Cyber Command, Twenty-Fourth Air Force would play an integral role in determining cyber capabilities and limitations to support the campaign plan.[39] Lastly, planners should coordinate the air-component supporting campaign plan with Headquarters US Air Force to ensure that senior leaders are aware of warfighter needs that will influence the prioritization of Air Force planning, programming, and budgeting decisions.

Conclusion

As the US military increases its participation in a wide range of operations, we must develop a campaign planning construct for the effective integration of air, space, and cyberspace capabilities that allow the JFC to support US policy objectives for long-term state interaction. Due to the global nature of the air, space, and cyberspace domains and the concurrent nature of military activities and diplomacy, the air-component supporting campaign plan is comprehensive in nature, guaranteeing security to partner nations, deterring adversary actions inimical to US policy, and preparing for rapid transition to contingency operations. As Gen Robert Kehler noted, "Instead of synchronizing at the *point* of the spear, the Air Force must start to integrate capabilities at the *handle* of the spear" (emphasis in original).[40] That "handle" is the planning process conducted by operational war fighters. By utilizing this campaign planning concept, they can better carry out the JFC's objectives; provide the requirements for servicewide prioritization of air, space, and cyberspace planning, programming, and budgeting; and supply a vector for training and readiness initiatives. ✪

Notes

1. "Air Force Mission," Official Web Site of the US Air Force, accessed 24 March 2010, http://www.af.mil/main/welcome.asp.

2. On Douhet's airpower views, see Giulio Douhet, *The Command of the Air*, trans. Dino Ferrari (1942; new imprint, Washington, DC: Office of Air Force History, 1983). The views of John Warden have steadily evolved over time; however, the preponderance of his written work concerns systems analysis related to planning for combat and kinetic operations. See John A. Warden III, *The Air Campaign: Planning for Combat* (Washington, DC: National Defense University Press, 1988); and John Warden, "Air Theory for the Twenty-First Century," in *Battlefield of the Future: 21st Century Warfare Issues*, rev. ed., ed. Barry R. Schneider and Lawrence E. Grinter (Maxwell AFB, AL: Air University Press, 1998), 103–24, http://www.airpower.maxwell.af.mil/airchronicles/battle/chp4.html.

3. Air Force Doctrine Document (AFDD) 2, *Operations and Organization*, 3 April 2007, http://www.dtic.mil/doctrine/jel/service_pubs/afdd2.pdf.

4. Joint Publication (JP) 5-0, *Joint Operation Planning*, 26 December 2006, http://www.dtic.mil/doctrine/new_pubs/jp5_0.pdf.

5. A campaign plan is "a joint operation plan for a series of related major operations aimed at achieving strategic or operational objectives within a given time and space." JP 1-02, *Department of Defense Dictionary of Military and Associated Terms*, 12

April 2001 (as amended through April 2010), 64, http://www.dtic.mil/doctrine/new_pubs/jp1_02.pdf.

6. US Department of the Navy, US Marine Corps, and US Coast Guard, *A Cooperative Strategy for 21st Century Seapower* (Washington, DC: US Department of the Navy, US Marine Corps, and US Coast Guard, February 2007), accessed 31 March 2010, http://www.navy.mil/maritime/MaritimeStrategy.pdf.

7. Office of the President of the United States, *National Security Strategy* (Washington, DC: White House, May 2010), 7, accessed 8 June 2010, http://www.whitehouse.gov/sites/default/files/rss_viewer/national_security_strategy.pdf.

8. Ibid., 1.

9. Office of the President of the United States, *Unified Command Plan* (Washington, DC: White House, 5 May 2006), 3, accessed 8 June 2010, http://www.dod.mil/pubs/foi/ojcs/08-F-0518.pdf.

10. United States Pacific Command, *Strategy: Partnership, Readiness, Presence* (Camp H. M. Smith, HI: Commander, US Pacific Command, 2 April 2009), 8, accessed 5 June 2010, http://www.pacom.mil/web/PACOM_Resources/pdf/PACOM%20STRATEGY%2002Apr09.pdf.

11. On the concept of continual interaction among states, see Everett Carl Dolman, *Pure Strategy: Power and Principle in the Space and Information Age* (London: Frank Cass, 2005). On global air, space, and cyberspace commons, see Scott Jasper, ed., *Securing Freedom in the Global Commons* (Stanford, CA: Stanford University Press, 2010).

12. Gen Charles F. Wald, "New Thinking at USEUCOM: The Phase Zero Campaign," *Joint Force Quarterly* 43 (4th Quarter 2006): 72, https://digitalndulibrary.ndu.edu/cdm4/document.php?CISOROOT=/ndupress&CISOPTR=19589&REC=16.

13. JP 5-0, *Joint Operation Planning*, IV-35.

14. Dolman, *Pure Strategy*, 6.

15. United States Department of Defense, *Quadrennial Defense Review Report* (Washington, DC: Department of Defense, February 2010), 10–14, http://www.defense.gov/qdr/images/QDR_as_of_12Feb10_1000.pdf.

16. Barry Buzan and Ole Wæver, *Regions and Powers: The Structure of International Security* (Cambridge, UK: Cambridge University Press, 2003), 40–92.

17. AFDD 2, *Operations and Organization*, 3.

18. AFDD 2-2, *Space Operations*, 27 November 2006, 2, http://www.dtic.mil/doctrine/jel/service_pubs/afdd2_2.pdf. For the Department of Defense's definition of *cyberspace*, see JP 1-02, *Department of Defense Dictionary*, 121.

19. Quoted in Charles Westenhoff et al., comps., *Vantage Points: Perspectives on Airpower and the Profession of Arms* (Maxwell AFB, AL: Air University Press, 2007), 16, http://www.au.af.mil/au/aul/aupress/Books/Westenhoff%203/Westenhoff%203.pdf.

20. As of 1 April 2010, the commander of US Central Command delegated these authorities to the commander of US Air Forces Central.

21. AFDD 2-2, *Space Operations*, 6.

22. Ibid., 7.

23. Maj Eric D. Trias and Capt Bryan M. Bell, "Cyber This, Cyber That . . . So What?," *Air and Space Power Journal* 24, no. 1 (Spring 2010): 90–98, http://www.airpower.maxwell.af.mil/airchronicles/apj/apj10/spr10/aspj_en_2010_1.pdf.

24. This was the fundamental precept behind the Strategic Defense Initiative during the Reagan administration.

25. John Boyd's observe, orient, decide, act (OODA) loop is a key point for this discussion. The Air Force tends to ensure that operations are rapid enough to overwhelm the adversary's OODA loop, thus generating decision paralysis. In a deterrent scenario utilizing space and cyberspace, the OODA loop methodology remains valid, but the intent is to affect the "observe" phase in order to influence the individual's decision calculus and ultimately align it with US interests.

26. Maj Ann M. Halle, "Cyberpower as a Coercive Instrument" (master's thesis, School of Advanced Air and Space Studies, June 2009), 2, https://www.afresearch.org/skins/rims/q_mod_be0e99f3-fc56-4ccb-8dfe-670c0822a153/q_act_downloadpaper/q_obj_fd4c96ed-ac9e-4631-9901-b3adc1e23b4b/display.aspx?rs=publishedsearch.

27. Quoted in Westenhoff et al., *Vantage Points*, 44. General Hallin was the deputy chief of staff for installations and logistics from 1996 to 1998.

28. On the alleged Russian attacks, see Susan W. Brenner, *Cyberthreats: The Emerging Fault Lines of the Nation State* (Oxford, UK: Oxford University Press, 2009), 1–12 and 85–126. On the cyberpower targeting of national elements of power, see Franklin D. Kramer, Stuart H. Starr, and Larry K. Wentz, eds., *Cyberpower and National Security* (Washington, DC: Potomac Books, 2009), 465–556.

29. David Kilcullen, "Counterinsurgency *Redux*," *Survival* 48, no. 4 (December 2006), accessed 26 April 2010, http://smallwarsjournal.com/documents/kilcullen1.pdf.

30. Robert I. Rotberg, "The Challenge of Weak, Failing, and Collapsed States," in *Leashing the Dogs of War: Conflict Management in a Divided World*, ed. Chester A. Crocker, Fen Osler Hampson, and Pamela Aall (Washington, DC: United States Institute of Peace Press, 2007), 84.

31. Brig Gen Michael R. Boera, "The Combined Air Power Transition Force: Building Airpower for Afghanistan," *Air and Space Power Journal* 24, no. 1 (Spring

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32. Tom Clancy with Chuck Horner, *Every Man a Tiger* (New York: Putnam, 1999), 207.

33. "Blue Flag," fact sheet, 505th Combat Training Squadron, accessed 25 March 2010, http://www.505ccw.acc.af.mil/library/factsheets/factsheet.asp?id = 15317.

34. JP 3-30, *Command and Control for Joint Air Operations*, 12 January 2010, III-3, http://www.dtic.mil/doctrine/new_pubs/jp3_30.pdf.

35. For example, the air threat to US Northern Command's AOR may come from a country in US Pacific Command's AOR (North Korea), and the primary air threat to US European Command's AOR may come from a country in US Central Command's AOR (Iran).

36. Another example: the Berlin airlift.

37. Typically, any organization—such as an air expeditionary wing or air expeditionary group that reports to the COMAFFOR and that has responsibility for airfield operations, either as senior airfield authority or as the base operating support integrator—would develop a base support plan for cross-domain planning.

38. AFDD 2-4.4, *Bases, Infrastructure, and Facilities*, 13 November 1999, 54, http://www.e-publishing.af.mil/shared/media/epubs/AFDD2-4.4.pdf.

39. Hon. Michael B. Donley, secretary of the Air Force, and Gen Norton A. Schwartz, chief of staff of the Air Force, to all Airmen, memorandum, subject: Air Force Cyberspace Mission Alignment, 20 August 2009, http://www.af.mil/information/viewpoints/jvp.asp?id = 498.

40. C. Robert Kehler, "Shaping the Joint Fight in Air, Space, and Cyberspace," *Joint Force Quarterly* 49 (2nd Quarter 2008): 35, https://digitalndulibrary.ndu.edu/cdm4/document.php?CISOROOT = /nducpress&CISOPTR = 20482&REC = 10.

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