

Understanding Requirements of Future Strategy

As our founding fathers of American aerospace power have done over the past century, it is critical we continue to evolve our knowledge and understanding of aerospace power. Our greatest asset remains the minds of our people. More than any specific weapon system, investment in the minds of our people will result in the greatest payoff for any given outlay we might make. *We must invest in the minds of our Airmen, advancing our understanding of aerospace power, or face decreasing relevance in future national security strategy.*

To do this we must understand our aerospace history, to include our core competencies. After mastering this understanding, we must integrate it with an awareness of how the global security environment is changing. Then, armed with both comprehension of our aerospace past and knowledge of the security environment, we must focus on developing four key aspects of maximizing air, space, and cyberspace power: *continuum ability*—effectiveness along a greater spectrum of operational engagement; *integration ability*—more effective integration with other actors, including military services, governmental departments, nations, and nonstate actors; *cyber ability*—an improved mastery of the information realm; and *temporal ability*—the ability to function much faster.

Airmen must evolve in these four areas so we can best and seamlessly integrate air, space, and cyberspace to optimize our global vigilance, reach, power, and partnering. While addressing these aspects as distinct areas of focus, in reality they overlap and affect one another. This is not a comprehensive list of areas to advance our understanding of the aerospace discipline—many areas require continued development; however, these are high-priority aspects Airmen must nurture if we are to optimally exploit the incredibly capable weapon systems we are now fielding.

Continuum is the need to operate effectively along the entire spectrum of operations, from routine diplomacy to global nuclear warfare. The Air Force has not been relieved of previously assigned missions and has been tasked to accomplish additional ones. The bulk of our thought, education,

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training, and equipment remains focused on conventional combat while we maintain our nuclear deterrent and strike capability. However, we spend a very limited amount of effort on learning and practicing operations for unconventional warfare. More time and thought must be placed on how we become more effective in areas such as unconventional warfare, counterterrorism, disaster relief, and conflict prevention/preemption.

Integration is required not only with other military services, nations, and governmental departments but also with the myriad cultures and nonstate actors that comprise an ever-shrinking world that defines our operating environment. In operations other than conventional/nuclear war, the military role may fall under the auspices of other governmental agencies. We must educate, equip, and train ourselves to integrate with these other governmental components. In many instances, other departments will not have the resources, experience, organization, or training to accomplish the task without our support. The Department of Defense remains by far the best resourced component of the US government.

Although significant progress has been made since the Goldwater-Nichols Act of 1986, much still remains to be accomplished to integrate into an effective joint organization. We also need to improve how we integrate with other nations. The sharing of information with allies remains a significant change and a great source of frustration among many of our friends. Perhaps more than anything else, we need to integrate better with nonstate actors and other cultures. Only by understanding other people and cultures can we know how our efforts will have an impact.

Cyber operations in all forms have become essential—from achieving successful tactical operations to accomplishing desired strategic effects. John Warden noted in Operation Desert Storm that the degree of success of the strategic attacks was in large part dependent upon our strategic information operations. The winners in any war of information are the ones who master the power of the offense, not the defense. Today, we must balance the offense and the defense. Instead of building information castles and demanding that our offensive information operations adapt to the defense, we need to challenge our cyber defenders to find ways to protect our information use while enabling the offense. We must protect critical information but not at the expense of our offensive cyber corps, which includes operators, staff officers, educators, support personnel, and leaders. Today, we should be at the leading edge of information technology and exploitation. Unfortunately, our offensive use of information has become significantly restricted—this

must change. US government computer users are often restricted while our adversaries are not limited.

The key element of information today is speed. Dissemination of information was increased an order of magnitude with the invention of the printing press in the fifteenth century. It increased another order of magnitude when useful electrical transmissions (telegraph and telephone) were invented in the nineteenth century. A third-order-of-magnitude increase occurred with the invention of movies and a fourth with television. Today, due to the microprocessor, we routinely accelerate information capacity and capability. However, with the balance of offense and defense heavily weighted on the latter, we often settle for adequacy that sacrifices future capability. We have progressed from the industrial age to the information age. We now must advance from the information age to the “process age.”

Temporal ability and the capacity to operate within an adversary’s ability to act have always been important aspects of conflict. Today, in physical and cyber realms, the potential to orient, observe, decide, and act is an order of magnitude beyond our abilities of just a decade ago. Speed is essential in collecting, analyzing, disseminating, commanding, and executing operations. We possess outstanding operational and tactical capability in the Air Force today. Operationally we are able to strike thousands of targets precisely within very short periods of time—mass precision. With this capability, aerospace power not only has the ability to execute multiple simultaneous operations (parallel warfare) but also has the potential to execute multiple simultaneous strategies—parallel strategy. Parallel strategy is a viable way to compress the temporal dimension. Often a single strategy may fail or not work well. If we employ a series of compatible but different strategies at the same time, once one is found to be most effective, resources can be refocused to best exploit it.

In addition to mastering our ability in these four areas, we must be able to assess before, during, and after engagement better than we have previously. We have not yet fielded systems that enable assessment to keep pace with our operations. In the absolute sense, assessment is objective and straightforward. Historically, we have counted the number of military weapon systems we destroy and, after reaching a specific percentage of adversary destruction, determined when the enemy capitulates. In reality, effective assessment is much more arduous and subjective. Destruction of all of an adversary’s primary weapons may not be adequate to realize our desired policy effects—and victory. In fact, some attacks could be un-

necessary in realizing the military objectives and even counterproductive to the desired political end. This does not mean objective assessment is irrelevant. On the contrary, the best objective assessments are essential to both subjective and overarching understanding. Most subjective assessments in conflict begin with an understanding of the objective measures. Prior to engagement, assessments are critical to developing strategy, planning, and positioning forces. During engagement, timely assessments are required to determine progress and adjust strategy. The ability to collect, analyze, and disseminate useful information rapidly is paramount to successful command, control, and operations.

Closing

We are an aerospace nation. As a nation, we have the ability to understand and best exploit operations across the air, space, and cyber domains. It is incumbent on us as Airmen to lead our nation in this endeavor. I offer the following as elements to guide aerospace strategists as they develop potential strategies for future conflict:

- Understand aerospace power fundamentals.
- Understand campaign strategy and execution processes.
- Understand allies, other agencies, available assets, and how to integrate.
- Acquire knowledge of potential adversaries in all their forms.
- Identify desired political effects/end states.
- Recognize constraints—military, political, and social.
- Translate policies into military objectives.
- Establish aerospace campaign objectives.
- Develop an aerospace strategy.
- Select targets—kinetic and nonkinetic—that support specific objectives.
- Establish a robust evaluation process, and adjust as required.

While we need to continue to learn from military thinkers of the past, we must also look to the future and take advantage of the potential of aerospace capabilities. While some aspects of conflict never change, others change rapidly with little warning. Aerospace power and how it is used within a campaign is changing the character of warfare. However, accepting change is not easy.

Thomas Kuhn suggested that, outside a crisis, accepting new paradigms only occurs when the old ones die off. In his book *Firing for Effect* (1995), Lt Gen David Deptula offers, “The challenge for a military steeped in the traditions, paradigms, and strategies of the past is recognizing the change, embracing it, and capitalizing on it before someone else does. Machiavelli said: ‘There is nothing more difficult to carry out, nor more doubtful of success, nor more dangerous to handle, than to initiate a new order of things.’ He might also have added that there is nothing more worthwhile” (p. 19). Have courage and move forward, embracing proven continued strengths while evolving them to best address our ever-advancing world.

A handwritten signature in black ink that reads "P. Mason Carpenter I". The signature is written in a cursive style with a horizontal line underneath the name.

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