

READY TO MEET THE MOMENT

CQ BROWN JR.

The task of preparing the Air Force to accelerate change is solidly rooted in the service's brief but noteworthy history. The US Air Force went from propellers to jet-powered aircraft in the blink of the eye. In the 1950s, the service rapidly developed intercontinental ballistic missiles, the world's greatest nuclear deterrent. From there, the Air Force mastered stealth and precision weapons. The next few chapters in the Air Force story are likely to be as challenging as anything we've ever done. But change ensures the service remains ready, as always, to meet the moment.

History has long demonstrated that the ability to imagine the future and act on that informed intuition are critical to preparation for war. In the case of World War II, American and Allied planners understood years before conflict erupted that emerging technologies from the development of carrier aviation to strategic bombing, radar, and mechanized infantry would radically change warfare. In Vietnam, many painful epiphanies came both during and after the fighting when the Air Force and Navy suffered unacceptable aircraft losses due to insufficient training and the proliferation of advanced anti-aircraft missiles. Those failures led directly to better weapons and the standing up of superb training programs such as Red Flag, at what is now the Air Force's Warfare Center, and similar innovations at the Navy's Top Gun school. They also spawned research into stealth and precision-guided munitions, signature capabilities of the 1991 Persian Gulf War.

As those who follow national security know, the Air Force's current emphasis on "Accelerate Change or Lose" highlights the urgency required to tackle the complex problem of Chinese and Russian military modernization. If we get this right, the Air Force is poised to set the stage for a future force that will be able to deter or, if necessary, defeat near-peer adversaries. We know from more than a decade's worth of war gaming that maintaining the status quo is a recipe for failure. China, in particular, has assembled a formidable set of anti-access technologies that have forced all US military branches and our Allies and partners to radically rethink what success requires.

As we approach the seventy-fifth anniversary of the US Air Force, it is a good time to ask what the future look might like and to outline how we get there. What are the modern analogues to the development during the interwar years of carrier aviation and strategic bombing? What type of Airmen do we need to deter skilled and deter-

mined adversaries? How do we develop and prepare our Airmen for a much different future?

A series of action orders I issued to set the stage focuses on four areas: Airmen, Bureaucracy, Competition, and Design Implementation. Airmen need to lead the change we seek, just as they have always done when it comes to developing innovative ideas and capabilities. To accelerate the required institutional shift, we must remove bureaucratic hurdles to a much greater extent than we have before. Decisions on even routine matters frequently take too long and require too many layers of approval. At the same time, we must reintroduce a fierce competitive mindset akin to what existed during the height of the Cold War. Over the past three decades, we have successfully fought regional wars and counterinsurgencies. It is now time to turn our full attention to advancing militaries that aim to challenge US and Allied supremacy. And, finally, through design implementation, we need to optimize our force structure and basing concept with the primary goal of deterring or defeating these new existential threats.

The mission of the United States Air Force is to Fly, Fight and Win . . . Anytime, Anywhere. This has perhaps never been more relevant than it is today. We know from rigorously studying the problem, just as Army Air Corps and Navy planners did ahead of World War II, that incremental change will not be good enough. For example, in recent years, the Chinese military has developed a stockpile of long-range, high-speed missiles that threaten many of our Joint Force's long-held notions of how to deploy and operate in the Indo-Pacific region. We now realize we must develop a markedly different approach that, for the Air Force, could mean agile operations from pop-up bases; swarms of autonomous, unmanned weapons; a dispersed and robust command-and-control system; a sensor grid that capitalizes on remarkable advances in technology and miniaturized components; and weapons with longer ranges. In the future, we will almost certainly need to rely on survivable, stand-off munitions—not platforms—to defeat Chinese defenses.

In parallel, we must develop the next-generation platforms, sensors, and ubiquitous networks that can share data across the US military and with Allies and partners, out to the tactical edge. Our sensors will need to operate in all domains and be tied to a persistent command-and-control structure—assisted by artificial intelligence and machine learning—and be able to curate vast amounts of data and make that available to the Joint Force and every US Ally and partner involved in the operation. Imagine the advantage the British gained from their Chain Home early warning radar network during the Battle of Britain, and now think of a modern version operating across vast distances in space and across land, sea, air, and cyberspace.

As it has historically, the Air Force will be called upon to execute a broad and challenging mission. The good news is, the technological challenges do not appear to be too steep for us to refine and enhance our core mission sets—we are the only service that provides the Joint team, Allies, and partners with the assurance of air superiority, the advantage of global strike, and the agility of rapid global mobility. Combined with intelligence, surveillance, and reconnaissance and command and control, we have the ability to sense, make sense, and act.

We must be resilient and have the ability to create near-instantaneous effects for combatant commanders anytime, anywhere. Our unique mission set requires that we also are able to defend the homeland, project airpower, support the Joint Force, and make foundational investments to guarantee success. As with any type of change, this effort to win in the future demands a culture shift within our service, a realization among industry and Congress that the threat requires stronger collaboration from many stakeholders, and an understanding that business as usual is not an option. What will the Air Force look like in 2030 or 2035? The short answer is, much different.

A Future Force For Future Threats

The return to strategic competition with near-peer adversaries able to threaten not only the American homeland but also its ideals and values, coupled with the need to holistically transform our Air Force to compete, deter, and win in a highly contested environment, will require a campaign of operations, activities, and investments—intentionally linked and strategically aligned—rather than sporadic and disconnected events.

Defeating—or, better yet, deterring—China and Russia will lead us down new paths. The concept of “Integrated Deterrence” is one that holds great promise. By improving the way we leverage the capabilities of Allies and partners and building far more robust interoperability, we will strengthen our hand, especially in the Indo-Pacific region.

In a series of recent meetings with my fellow air chiefs around the world, the message came through loud and clear: our partners and Allies crave more cooperation, greater technology and information sharing, and more and better training with the desired end state of stronger partnerships and greater overall levels of deterrence. There are new chapters to be authored here, and I expect the US Air Force will seize this opportunity and help write them.

A long-term campaign of operations, activities, and investments enabling Integrated Deterrence forms a solid foundation. But make no mistake, developing the Air Force necessary to deter or defeat our near-peer adversaries will require a series of trade-offs and a pervasive culture of innovation. Just as the services understood during the run-up to World War II that biplanes and static infantry formations would not survive advancing technology, we know today that some of our current weapons systems and capabilities face a similar fate. The U-2 and the Global Hawk and Reaper remotely piloted aircraft systems (RPAs) need to be replaced by new technology that is persistent, survivable, and connected, creating a new system that enables a resilient sensing grid that can survive the arsenal of long-range anti-aircraft and anti-ship missiles the Chinese and Russians have proliferated.

In that same vein, we now imagine refueling aircraft that can be retooled to provide combat power. That means retiring KC-10s, upgrading KC-135s, and replacing older C-130s with newer C-130Js. It means upgrading workhorse B-52s and unleashing the potential of the B-21. Not every legacy system is obsolete and in need of retirement, but the force we need will look much different both on the tarmac and at bases and in

headquarters in the next decade. Performance, not sentimentality, must guide these critical decisions and choices.

The way of war the Air Force has pioneered since Vietnam, with air operations centers managing regional military operations, will evolve into agile and mobile command-and-control. Air Force doctrine has been modified to emphasize understanding commander's intent throughout the chain of command, which will enable Airmen at the tactical level to operate on mission-type orders. And we have started the work of figuring out how to operate in a highly contested environment with a concept called Agile Combat Employment (ACE). The goal of a current series of exercises in the Pacific, in fact, is to create many small locations from which the Air Force can quickly operate, creating too many targets for prospective enemies to successfully attack. This concept will require both new technology and a culture shift for Airmen long accustomed to large- and static-base operations.

Establishing air superiority in such a continually contested environment demands a parallel effort in new thinking. Right now, we are endeavoring to create a sense of urgency among all Airmen and inculcate a daily focus on innovation and intelligent risk-taking. We may be looking at a future where we take dramatic steps coupling humans with algorithms. It is a near certainty that from this point forward, Airmen will need to be "multi-capable."

We are planting the seeds for this culture shift right now, building upon the groundwork laid by my predecessors in areas such as identifying Airmen with advanced computer coding skills who have helped solve software problems outside of their normal military job duties. We are establishing a bottom-up "ecosystem" for innovation that values and rewards intrepid ideas—a window into the culture we must create for the challenges ahead. For example, we are providing time and resources to allow Airmen to take novel ideas from white board to completion. One Airman, Master Sergeant Powell Crider, has developed a virtual-reality training system for maintainers that has Air Force-wide applications. The future Air Force will be a place where taking such initiative is the rule, not the exception.

In the years ahead, the Air Force will establish new rewards and incentives through informal and formal channels. Revamping performance reports is a critical step. We would do well to follow the advice of the great basketball coach John Wooden, who said, "never mistake activity for achievement." Going forward, our performance reports should not be focused on output—the number of tasks completed—or how much money was saved but should instead be truly focused on outcomes achieved. Personnel evaluations should value boldness and initiative. For leaders, this will mean a shift toward iteration where setbacks are fully expected, incubating a mindset of experimentation and innovative thinking. Turning concepts into reality requires creative individuals and supportive organizations. The world we inhabit will require no less, and we will be asking a lot from America's sons and daughters in the years to come.

As we go about the sober task of preparing the Air Force to accelerate this change, we can draw comfort from our service's brief but noteworthy history. We went from propellers to jet-powered aircraft in the blink of the eye. In the 1950s, we rapidly de-

veloped intercontinental ballistic missiles, the world's greatest nuclear deterrent. From there, we mastered stealth and precision weapons. I know the next few chapters in the Air Force story are likely to be as challenging as anything we have ever done. But I also know we need to change to ensure we are ready to meet the moment, just as we always have. Æ

General CQ Brown Jr., USAF

General Brown is the 22nd chief of staff of the US Air Force.

Disclaimer and Copyright

The views and opinions in Æther are those of the authors and are not officially sanctioned by any agency or department of the US government. This document and trademarks(s) contained herein are protected by law and provided for noncommercial use only. Any reproduction is subject to the Copyright Act of 1976 and applicable treaties of the United States. The authors retain all rights granted under 17 U.S.C. §106. Any reproduction requires author permission and a standard source credit line. Contact the Æther editor for assistance: aether-journal@au.af.edu.