

INSIGHTS

# Unifying Air-Mindedness: Every Airman a Drone Pilot

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## ABSTRACT

The ongoing conflict in Ukraine demonstrates how technological advancements in unmanned systems are reshaping the character of war and democratizing military capabilities. This evolution underscores the need for the United States Air Force (USAF) to address a longstanding cultural gap—a lack of air-mindedness. This paper argues that embracing drone operations at all levels of the USAF provides a cost-effective and practical means to reinvigorate air-mindedness and prepare Airmen for the dynamic demands of great power competition. By fostering a unifying ethos of adaptability, innovation, and mission command, drone training offers a unique opportunity to integrate emerging technologies while enhancing strategic and operational contributions to the Joint Force. Practical implementation begins with the USAF Academy, where foundational programs can educate and empower Airmen to apply these principles in decentralized, high-tempo environments. Ultimately, incorporating drones into USAF culture ensures relevance and effectiveness in modern warfare while preparing Airmen to shape the next chapter of airpower excellence.

*Keywords:* Air-Mindedness, First-Person-View Drones, Great Power Competition, Airpower, Military Technological Adaptation

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Close analysis of Russia's Special Military Operation reveals changes in the character of war that will affect the course of future conflicts (Kagan & Kagan, 2024). Ukraine has proven the proper utilization of precise mass across domains can allow an empirically inferior military to compete against a great power to achieve a bloody stalemate or outright success now and in the foreseeable future (Horowitz & Schwartz, 2024). The Ukrainian's improbable achievement also demonstrates how new paradigms in the pace and direction of technological advancements, specifically involving unmanned systems supporting combined arms warfare, have accelerated exponentially, ultimately resulting in a rapid democratization of capabilities in readily accessible commercial forms. As these innovations continue to transform modern battlefields, the United States Air Force (USAF) has a unique opportunity to shore up a perennial issue within the service—the absence of a strong culture of air-mindedness. Embracing drone operations at the unit level provides a means to reinvigorate the concept of air-mindedness throughout all ranks of the Air Force and will ensure every Airman is prepared to integrate emerging technologies and concepts to support the Joint Force.

## Introduction

According to Elon Musk and others, the USAF has been caught flat-footed, while it continues to pursue the most expensive program in Defense Department history, the crewed F-35, at the expense of unilaterally pursuing unmanned drone technology (Suciu, 2025). While this punditry contains elements of truth, it is an oversimplification of the complexities and capabilities of projecting military power through control and exploitation in, from, and through the air.

However, rather than reflexively rejecting such criticism, airpower apologists should view such heresy as an opportunity to embrace innovation and adapt to new battlefield realities highlighted in the Ukrainian

conflict. With appropriate resourcing and support, the proliferation of drones in modern warfare offers the USAF a chance to cultivate a unifying sense of air-mindedness that has been lacking since the dawn of the Air Corps Tactical School. Embracing the capabilities and inherent requirements to operate drones could be utilized to impart tenets of mission command throughout the force and enhance the concept of Mission Ready Airmen—two key pillars of the service's rhetoric surrounding lines of effort to re-optimize for great power competition (GPC).

Ostensibly, restoring a unifying culture of air-mindedness allows the USAF to ensure that all echelons of the service develop a strategic and operational understanding of how airpower integrates across domains to achieve Joint warfighting objectives. Additionally, it offers an opportunity to ensure every Airman is an active participant in the evolution of airpower doctrine and theory, connects them to all of the Air Force's Future Operating Concept key "fights," and addresses the Secretary of the Air Force's (SECAF's) recent initiative to ensure all Wings instill a strong threat awareness within its personnel (USAF, 2023).

Air-mindedness is much more than simply connecting Airmen to the mission, however. It is an ethos that values adaptability, ingenuity, empowerment, self-reliance, and an aggressive approach to problem solving—vital qualities that the service will need to successfully address the evolution of warfare (Johstono, 2024). Embracing the burgeoning proliferation of drones as a means to rededicate the USAF to air-mindedness ensures the service remains agile and effective amid the rapid democratization of warfighting capabilities, encourages concept development surrounding the seamless integration of emerging technologies with traditional platforms, and emphasizes another critical lesson resident within the Ukrainian conflict—the importance of iteration, experimentation, and empowerment on the battlefield (Kagan & Kagan, 2024).

## Culture of Air-Mindedness

At its core, air-mindedness should serve as a unifying ethos that aligns every Air Force member, regardless of role, with a shared vision and understanding of how airpower contributes to the Joint Force. Much like the Marine Corps' mantra, "every Marine a rifleman," air-mindedness ensures that every Airman, whether a pilot, maintainer, intelligence analyst, or force support member internalizes the strategic and operational imperatives of airpower, and how they connect to warfighting. Creating a practical, contemporary means of institutionalizing this culture will help foster a collective identity rooted in the mastery and application of air capabilities and more fundamentally, a passion for airpower.

According to the Oxford English Dictionary, which dates the first appearance to 1927, air-minded means to be "interested in or enthusiastic for the use and development of aircraft" (Trew, 2019). The term was widely used during the interwar years between WWI and WWII, with American military airpower advocates capitalizing on the idea along with public zeitgeist to argue for an individual air arm. Early aviation leaders such as Major Alexander de Seversky, General William "Billy" Mitchell, and General Henry "Hap" Arnold recognized that the air domain offered novel ways of overcoming the challenges inherent to industrialized warfare and how properly wielding airpower demanded and inspired innovation and ingenuity (Trew, 2019). Since the early zealous interwar years of air-mindedness, the Air Force has struggled to maintain and articulate a cohesive vision, mission, and culture that resonate throughout the service (Builder, 1994). Historical critiques underscore the persistent challenges of defining a unique identity and purpose within the service.

After struggling under the dogmatic doctrinal stranglehold and rigid checklist culture of Strategic Air Command, a group of junior USAF officers authored an unpublished brown paper in 1989 titled "A View of the Air Force Today." The report offered candid

criticism of senior leadership and highlighted perceived institutional issues (Builder, 1994). More importantly, it offered earnest proposals to rectify the issues.

These officers argued that to its detriment, the USAF identified itself with aircraft and a myopic commitment to achieving technological superiority at all costs instead of focusing on an integrating vision grounded in fundamental airpower theory. As a result, the primary *means* employed by the service—i.e., the aircraft it flew—became the *ends* in which the service focused on at the expense of a coherent strategy. The authors further explained that this created loyalties to airframes and commands, which served to fracture the Air Force into factions devoted to distinct platforms rather than a unifying mission (Builder, 1994). The Chief of Staff of the Air Force (CSAF) at the time, General McPeak, acknowledged this in a 1992 policy letter stating "I suspect the absence of a clear mission statement contributed to our reluctance to organize ourselves properly. People built loyalties around their commands, intense loyalties in fact, rather than loyalty to air and space power as whole, to a broader, more comprehensive mission" (Builder, 1994).

Identities tied to specific aircraft rather than the institution, theory, or air-mindedness resulted in arguments over preferences for bombers versus fighters, stand-in versus stand-off aircraft, platforms versus weapons, and manned versus unmanned aircraft instead of a needed focus on integrated effects and capabilities to support the Joint Force. In addition, because aircraft maintained their distinction as the preferred means, aviators retained control of the service and created a caste of have and have-nots devoid of ties to a unifying ethos (Builder, 1994). This divisiveness within the service caused destructive effects to morale, dedication, and values and resulted in a sense of occupationalism focused on airplanes and flying. The brown paper authors concluded presciently decades ago that "the Air Force seems to have lost its identity and unique contribution," a criticism that still rings true to this day (Builder, 1994).

Currently, without a unifying ethos, the Air Force risks being perceived as a support element for other services rather than as a leading contributor to the Joint Force. A cultural vacuum also leaves Airmen disconnected from a broader sense of purpose and mission. Universal air-mindedness within the service offers a solution to this enduring problem. By fostering a shared understanding of how airpower integrates with other domains, it provides the Air Force with a unique contribution to the Joint Force that extends beyond advanced platforms or technologies.

To reinvigorate its culture and ensure its relevance in the face of modern threats, the Air Force must reimagine air-mindedness as the foundation of its identity. This foundation should inspire creative thinking, bold initiative, and a willingness to embrace uncertainty and hardship. Historically, air-mindedness has thrived on ingenuity and resourcefulness, transforming daunting obstacles into opportunities for innovation and progress. By institutionalizing these qualities, the Air Force can foster a resilient and adaptable ethos, uniting Airmen under a shared vision of purpose and possibility. This collective identity—rooted in the strategic and operational imperatives of airpower but untethered from specific platforms or technologies—will empower the Air Force to meet the complexities of modern warfare with creativity, determination, and an unwavering commitment to its role as a decisive force in GPC. In doing so, the service can restore its legacy of excellence and ensure its position as a leading contributor to Joint warfighting.

### Drones and Air-mindedness

During WWI, airpower proved itself as an integral part of combined arms operations and demonstrated potential to be even more useful in the future (Gray, 2012). This conflict also revealed the expanded roles and missions of military aircraft that are commonplace today, such as reconnaissance, air superiority, and bombardment. At the outbreak of hostilities, the role of

air vehicles focused entirely on artillery spotting and reconnaissance. This was followed shortly thereafter by the concept of aerial bombardment, a development that precipitated the creation of pursuit aircraft to intercept incoming bombers, reconnaissance aircraft, and eventually to neutralize the escort aircraft accompanying them (Laslie, 2024). Thus, pure aerial warfare was born during the conflict. As historian Lee Kennett noted, air vehicles in WWI “developed according to the needs of battle more than according to a doctrine or in some deliberately chosen direction” (Kennett, 1991). The Darwinian evolution of airpower that Kennett described in the Great War has been resurrected in the drone warfare occurring across Ukraine and Russia.

The low cost and rapid attrition of drones throughout Ukraine has created an intense environment where any successful adaptation in capability or role quickly proliferates across the battlefield. Paralleling the development of airpower in WWI, Ukraine has modified its first-person-view (FPV) drones, initially used for artillery spotting, reconnaissance, and aerial attack to take out tanks, armored vehicles, and infantry, and transformed them into high-altitude interceptors (Hamblin, 2024). Seven-hundred-dollar racing quadcopters are now taking out hundred-thousand-dollar scout drones in and well above the “air-littoral” with a greater than 50% success rate (Hamblin, 2024). Additionally, dedicated FPV fighters armed with shotguns have now emerged, which will not only continue to bring down enemy attack and intelligence, surveillance, and reconnaissance drones but also counter adversary pursuit drones (Shcherbak, 2024). Drone dog-fighting will soon become a marquee event across the skies of Eastern Europe, and it is not a stretch to imagine that these capabilities could organically grow to contest conventional air superiority platforms more rapidly than traditional Air Forces, which can develop counters to this burgeoning threat.

The evolution of drone airpower on the Ukrainian battlefield demonstrates that these platforms offer

multiple economical, low-risk, practical ways to develop air-mindedness within the modern USAF. It also offers a readily accessible means to inculcate lessons from current conflicts into all levels of the force.

Frontline observations of the Ukrainian battlefield are proving that archaic, centralized command and battle management are quickly losing relevance, given the democratization of capabilities and the tempo needed to gain fleeting windows of operational advantage (Kagan & Kagan, 2024). As a Special Competitive Studies Project (SCSP) paper recently noted, it is no longer true that the best intelligence and information resides at an Air Operations Center or airborne battle management platform like the E-7 (Hinote & Ryan, 2024). Instead, it is more likely that leaders at the edge have situational awareness that is superior because “they have real time access to the same information augmented with a localized awareness of what is happening around them” (Hinote & Ryan, 2024). In addition, it is unlikely that Airmen in the field will have continuous connectivity with any type of centralized command and control, which means they will need to utilize mission command and initiative founded in air-mindedness to take independent action.

Airmen at all levels will also have to embrace constant movement and full spectrum signature management to survive a “radical contraction of the kill web” that means any concentrated or fixed forces will be easily detected and destroyed (Hinote & Ryan, 2024). This does not eliminate the need for higher echelon operations centers that will still be necessary to fulfill the higher-level functions to enable mission command, including the imperative to provide a regularly updated commander’s intent, mission type orders, planning, orchestration of operational and strategic logistical support, and battle damage assessment. However, these developments, including the Ukrainian use of crowd-sourced cell phone targeting applications to rapidly curtail targeting cycles, indicate a pressing

need for drastic updates to leadership education, training, equipment, and tactics (Freese, 2023). The SCSP authors eloquently conclude that “only empowered leaders who have been trained and trusted to execute mission command in garrison will be able to dominate the cognitive and temporal aspects of future combat” (Hinote & Ryan, 2024).

Drones provide the means to train Airmen in garrison to develop the adaptability and initiative required to become the empowered leaders the service needs. Air-mindedness is characterized by individual and small team excellence and a boldness rooted in expertise, technical skill, and ingenuity to develop novel approaches through enterprising resourcefulness (Johstono, 2024). Drones exemplify these characteristics, as their operational success hinges on small teams capable of leveraging localized information, technical proficiency, and ingenuity under high-pressure conditions. Embracing and championing this level of tactical independence not only honors the legacy of innovation and daring established by early aviation pioneers but also equips the Air Force to excel in the dynamic and decentralized nature of modern warfare.

Drones can also cultivate a key principle of air-mindedness, one vividly demonstrated in the ongoing Ukrainian conflict: technical and tactical innovations emerge from the bottom-up (Hardie, 2024). Integrating FPV and drone training into Air Force culture will teach Airmen critical skills such as navigating the complexities of electronic warfare, programming, maintenance, and repair of these platforms, and even fabricating spare parts using 3D printing—lessons currently instilled at the fledgling Ukrainian drone academy (Kyiv Post, 2024). By cultivating such expertise and fostering bold, adaptive action, the USAF can position its Airmen to generate transformative effects that enhance its strategic impact within the Joint Force.

## Practical Steps for Implementation in Today's Air Force

Despite ongoing efforts to address force presentation models for Agile Combat Employment and a persistent emphasis on mission command, the Air Force still lacks formalized training aligned with SCSP's recommendations. Moreover, the service has yet to adapt contingency operations to reflect the decentralized and resource-limited realities of GPC or foster a unifying culture of air-mindedness across its ranks. Practical, cost-efficient drone training, field exercises, and wargames offer a solution, equipping Airmen at all levels with the tools and mindset to navigate the challenges of mission command.

Outside of the specialized skills and knowledge of drone piloting, “the future will demand a broader array of expertise, including machine learning programmers, cloud technicians, specialized mechanics,” fluency in the electromagnetic spectrum, and operators of more diversified systems. As noted earlier, drone operations foster innovation and integration of uncrewed systems in ways the service is only beginning to imagine (Solano, 2024). Additionally, drones offer an easy way to expose Airmen to the signature management, camouflage, concealment, deception, and base defense requirements needed to survive the threats small unmanned aerial systems pose to traditional airpower projection.

Considering the evolving demands on modern Airmen, the United States Air Force Academy (USAFA) represents an optimal starting point for institutionalizing this shift. Leveraging the Academy's unique position as an academic and training center of excellence, USAFA could pioneer a program that seamlessly blends theoretical education with hands-on operational experience. By incorporating drones into the curriculum, the Air Force can help bridge the gap between academic concepts and real-world application, offering every cadet the practical experience with mission command,

the roles of airpower, supporting missions, and the execution of tactical ingenuity.

Through wargaming scenarios that simulate dynamic combat environments, cadets could experience firsthand the challenges of decentralized operations and the need for rapid decision-making. These scenarios could function as leadership reaction exercises, requiring cadets to demonstrate initiative, adaptability, and coordination when confronted with real-world constraints. Furthermore, hands-on training with drone repair, programming, and maintenance would ensure that every cadet not only becomes proficient with drone technology but gains technical competence alongside invaluable leadership experience, preparing them to manage the complexities of GPC environments effectively.

Building on the success of the USAFA's pilot program, operational wings could then deploy initial drone fleets in garrison. By using these early units as a foundation, wings can develop targeted training exercises based on operational mission sets and lessons learned from the Academy's pioneering efforts. This approach would foster decentralized decision-making, cultivate tactical autonomy among units, and reinforce the innovation central to the air-minded culture that the Air Force requires to remain strategically relevant.

Ultimately, by weaving drone training into the fabric of Air Force education and operational strategy, the service would effectively cultivate a new generation of Airmen capable of thriving in the complexities of modern warfare. Airmen will be empowered to apply critical thinking, to overcome obstacles, and to lead with ingenuity—qualities that will shape the next chapter of airpower excellence.

## Conclusion

In the same way that airpower development during WWI created new roles, capabilities, tactics, and

strategies, the ongoing revolution in drone warfare offers the USAF a chance to recalibrate and integrate emerging technologies into its operational framework. It also offers the ability to foster a unifying ethos of air-mindedness, a deeper connection to Joint warfighting, and allows for an open-sandbox to ingrain mission command into Airmen through hands on practice within the air domain. A practical way to instill this mindset is by making every Airman a drone pilot, starting with USAFA Cadets. This initiative is not simply about mastering a new skill; it is about cultivating a mindset that values adaptability, rapid decision-making, and operational awareness—all qualities fundamental to air-mindedness.

As General George C. Kenney, Commander of Allied Air Forces in the Southwest Pacific, observed in his memoirs, “Numbers, names and insignia mean even more to a military organization than they do to Masons, Elks, or a college fraternity” (Kenney, 1997). Yet, the enduring strength of airpower is not found in its institutions, symbols, or platforms but in the culture they inspire and the results they achieve. By ensuring that every Airman develops a tangible connection to airpower, the Air Force can reinforce its identity, fostering a culture of innovation, adaptability, and collaboration that solidifies its unique contribution to GPC. It is this mindset—embodied by bold action and resourceful ingenuity—that drives success, ensuring airpower remains a decisive force on the modern battlefield.

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