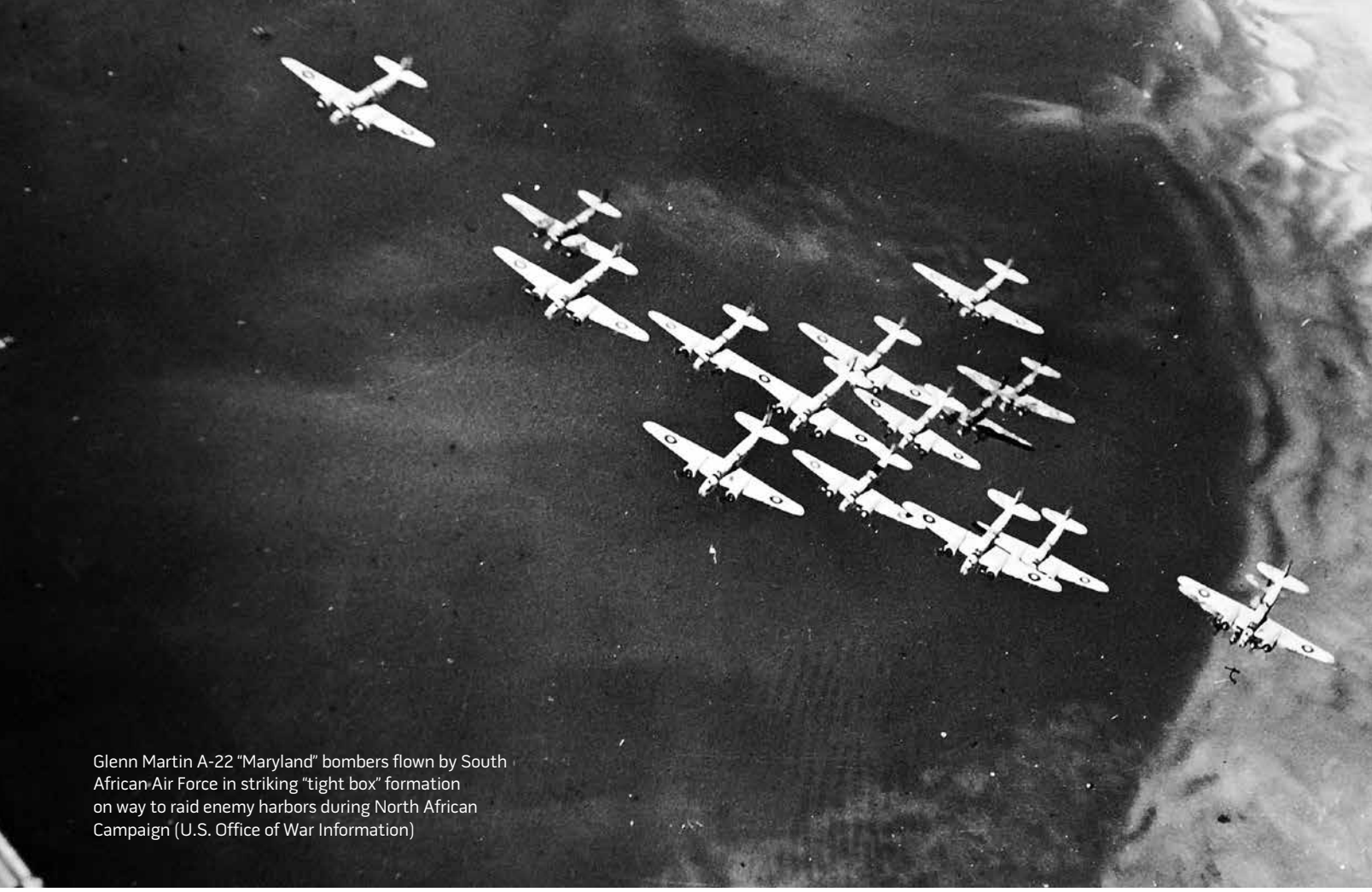

Glenn Martin A-22 "Maryland" bombers flown by South African Air Force in striking "tight box" formation on way to raid enemy harbors during North African Campaign (U.S. Office of War Information)

The Ghosts of Kasserine Pass

Maximizing the Effectiveness of Airpower

By Leland Kinsey Cowie II

Seven decades have passed since combat operations in Tunisia played a seminal role in the evolution of American airpower. In January 1943, the Allied Air Support Command was established in Tunisia to coordinate the efforts of the tactical aircraft assigned to U.S. Army Air Force XII Air Support Command and Number 242 Group Royal Air Force.[1] Upon taking command, Brigadier General Laurence "Larry" Kuter found it to be "a bunch of fighter squadrons and light bombardment squadrons in support of the Second Corps, and [its commander, Major General Lloyd] Friedendahl [sic] had them parceled out here and there, flying umbrellas, and other piece-meal defensive chores."[2] In *Kasserine Pass*, Martin Blumenson illustrates how this marginalized Second Corps' ability to concentrate airpower against an attack by 83 German tanks at the strategic crossroads of Sidi bou Zid on February 14.[3] According to Blumenson, "Except for a flight of four planes that came into the area and left quickly around 10:30, not a single American aircraft would appear all morning despite repeated requests for support."[4] When American ground forces attempted to counterattack the following afternoon, the Allied Air Support Command was unable to stop the unchecked Luftwaffe from conducting three raids.[5] Addressing this "sanguinary American defeat" in *Carl A. Spaatz and the Air War in Europe*, Richard Davis argues that "Allied tactical air did not make its presence felt during the Kasserine engagements until

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after the Germans had begun their voluntary withdrawal."[6] Because of this, Allied airmen in North Africa developed new doctrine to achieve success by leveraging unique characteristics inherent to aircraft, now known as the tenets of airpower—centralized control and decentralized execution, flexibility and versatility, synergistic effects, persistence, concentration, priority, and balance.[7]

On October 26, 2016, *The Washington Post* published an article in which Adam Entous and Missy Ryan stated:

The Pentagon has secretly expanded its global network of drone bases to North Africa, deploying unmanned aircraft and U.S. military personnel to a facility in Tunisia to conduct spy missions. . . . The Air Force Reaper drones began flying out of the Tunisian base in late June and have played a key role in an extended U.S. air offensive against an Islamic State stronghold in neighboring Libya.[8]

While technology has pushed contemporary aircraft and weaponry far beyond the capabilities of those employed during World War II, modern doctrine still captures tenets validated by the Tunisian experience in 1943. The authors of Joint Publication 3-30, *Command and Control of Joint Air Operations*, perpetuate these concepts, arguing that "Joint air operations are normally conducted using centralized control and decentralized execution to achieve effective control and foster initiative, responsiveness, and flexibility."[9] As the U.S. Air Force returns to Tunisia, it is appropriate to examine the command relationships and structures used to direct remotely piloted aircraft (RPA) operations to see if they are consistent with the tenets of airpower conceived in North Africa during World War II. Throughout this article, it is evident that the concepts forged in combat over Tunisia 70 years ago stand the test of time; however, to achieve greater efficiencies leveraging the tenets of airpower, the Department of Defense (DOD) must update the doctrine and command structures used to employ networked weapons with global reach.

With a focus on doctrine, the historian and U.S. Air Force Reserve Major General Irving Holley offers a lesson from World War I worth mentioning from *Ideas and Weapons*. According to Holley, "The experience of the war . . . demonstrated that where military authorities failed to formulate a doctrine to exploit each innovation in weapons to the utmost, they suffered disadvantage."[10] This article focuses on four areas to illustrate the ways RPA challenge the current paradigm used to command airpower. First, the article reviews impediments that constrained airpower over Tunisia during the early phases of the North African Campaign. Second, it discusses the role that the Allied experience in North Africa played on the formation of contemporary doctrine. Third, it focuses on current RPA employment and the greater flexibility that networked weapons could offer with a command structure empowered to make dynamic decisions on a global scale. Fourth, it concludes by comparing World War II with contemporary conflicts and makes recommendations for improvement in centralized control and decentralized execution that facilitate the initiative, responsiveness, and flexibility sought by the joint force. Ultimately, doctrine has not evolved to account for the command relationships required to employ networked weapons, such as RPA, in accordance with the tenets of airpower, risking future failures of much greater strategic consequence than those realized at Kasserine Pass.

Airpower in the North African Campaign

Early in World War II, Field Manual (FM) 31-35, *Basic Field Manual: Aviation in Support of Ground Forces* provided the overarching guidance available to the U.S. Army for planning combined air and land operations. At first glance, it appears to perpetuate many of the concepts still resonant in Joint Publication (JP) 3-30, *Command and Control of Joint Air Operations*. For example, the authors of FM 31-35 state, "Flexibility is the ability to concentrate the air effort at short notice on a particular point or distribute it to many points within a relatively short time."[11] Even the assertion that "control is centralized in an air support commander who assigns the attack mission as the needs of the ground unit(s) develop" is similar to the contemporary concept of centralized control and decentralized execution.[12] That said, one of the major differences between FM 31-35 and modern doctrine comes from the declaration that "An air support command is habitually attached to or supports an army in the theater."[13] This provision would significantly constrain the options available to airmen in Tunisia during the runup to Kasserine Pass.

Prior to the Allied invasion of North Africa, the chief-of-staff at Allied Force Headquarters, Brigadier General Walter "Beetle" Smith, issued a series of operational memorandums to provide additional guidance for the Anglo-American forces. On October 13, 1942, Allied Force Headquarters released "Operation Memo No. 17: Combat Aviation in Direct Support of Ground Units." Like FM 31-35, there were parts of the memo intended to increase flexibility. The memo's summary states, "Available direct support aviation must neither be dispersed nor frittered away on unimportant targets. The mass of such support should be reserved for concentration in overwhelming attack upon important objectives."[14] Unfortunately, these principles were incongruent with the command relationship the memo directed: "All air forces of both powers will operate under the command of the Commander-in-Chief, Allied Force. In case the Commander-in-Chief allots a part of the combat aviation to a Task Force, it will operate under the command of the Task Force Commander."[15] The intent of Operation Memo No. 17 was to increase the flexibility of airpower; however, the command relationship it established had the opposite effect.

The command relationships and operational guidance promulgated in FM 31-35 and Operation Memo No. 17 decreased flexibility and reduced the overall effectiveness of airpower in Tunisia. In *Case Studies in the Achievement of Air Superiority*, David Syrett argues that "Most ground commanders in Tunisia

saw aircraft as having essentially two missions: namely to protect ground forces from air attack, which was to be done by maintaining 'air umbrellas' over ground positions, and to act as airborne artillery to attack targets directly in front of the ground forces."[16] On February 5, 1943, Major General Carl "Tooey" Spaatz, Theater Air Commander for the U.S. Army Air Forces, and Kuter met with Fredendall to discuss air support for Second Corps.[17] According to Spaatz, Fredendall "wanted his men to see some bombs dropped on the position immediately in front of them, and if possible, some dive bombers brought down in sight of his troops so that their morale would be bolstered."[18] After wearing out two fighter groups and a light bomber squadron supporting such demands, Syrett claims, "Spaatz told Fredendall 'that if he maintained a constant "umbrella" over one small section of the front with only shallow penetrations by bombers and fighters, that his available force would be dissipated without any lasting effect.'"[19] The command relationships encountered in Tunisia inhibited the flexibility inherent to aircraft.

This point of view was not just isolated to American Airmen or senior officers fighting in North Africa. A Royal Air Force group captain wrote a memo titled, "Some Notes on the Co-Operation Between Ground and Air Forces in Battle," in which he argued:

It is far too often assumed that the only assistance that the air can give to the ground is to provide a fighter cover—or blanket as the Americans call it-over the immediate battle area, and to attack enemy ground forces tactically opposed to our own. With these ideas in his mind, a Military Commander would expect the air forces allocated to assist him to be at his beck and call. . . . It must also be remembered that air power is a mobile weapon and can be transferred from one part of the theater to another under the direction of the Air Commander who has a proper perspective of the whole operation. It is up to him to ensure that his effort is put where it is needed according to the higher requirements, and not dribbled along the front to meet the calls of the local ground commanders.[20]

As the Battle of Kasserine Pass showed, the rigidity observed by this group captain also reduced the Allies' ability to effectively counter Axis actions. The authors of the Royal Army's *History of the Second World War* argue that early in the fight for Tunisia, "Sorties were often carried out in unsuitable weather, and all kinds of targets were accepted without discrimination."[21] Immediate change was needed to overcome the malaise encumbering the employment of Allied airpower. With a clear understanding of the problems confronting airmen early in the North African Campaign, discussion focuses on the doctrine developed to overcome these challenges.

Fortunately, events were unfolding that empowered Allied airmen to improve the efficiency of airpower in Tunisia. At the Casablanca Conference in January 1943, Allied leaders agreed to establish an independent air force chain of command at the theater level, independent of the ground forces.[22] The reorganization, initiated as the Battle of Kasserine Pass was being waged, established the Mediterranean Air Command, under the leadership of Air Chief Marshal Sir Arthur Tedder.[23] Spaatz assumed command of the subordinate Northwest African Air Forces and began instituting organizational changes, including establishing the Northwest African Tactical Air Force from the former Allied Air Support Command.[24] Air Vice Marshal Sir Arthur Coningham took command of the Northwest African Tactical Air Forces, with Kuter staying on as his American Deputy Commander.[25] Frustrated by the ineffective defensive employment of airpower, Kuter stated that Coningham immediately "signed an order prohibiting defensive umbrellas and sent the order to all ground commanders in the area and at higher levels."[26] According to Kuter, Coningham did this so that "there would be no more parceling out of forces, we would go get the enemy."[27]

The revolutionary departure of Coningham's ideas from those outlined in FM 31-35 and Operation Memo No. 17 fostered two spectacular successes in Tunisia. The first was being able to concentrate airpower to shape and counter enemy actions. Kuter recalled that through this ability to focus air operations, "we narrowed the battle area down into the approach to Tunis."[28] After weeks of shaping operations, this ultimately led to a success Kuter described as the "'Great Turkey Shoot,' the time we got the large number of JU-87s"—the same dive bombers that repeatedly attacked American forces during the Battle of Kasserine Pass.[29] Similarly, when an opportunity presented itself, Allied airmen in Tunisia now had the flexibility to take advantage of the situation. On April 10, Spaatz issued the following statement: "The enemy is gradually being forced towards his last strongpoint in NORTHERN TUNISIA. The major responsibility for preventing this withdrawal will fall upon Northwest African Air Forces. There must be no DUNKIRK; the enemy must be ANNIHILATED."[30] The Northwest African Tactical Air Force initiated Operation *Flax* on April 18 to cut Axis lines of communication prior to the start of the Allied ground assault 4 days later.[31]

In what the Germans would come to call *Palmsonntag Massaker* (Palm Sunday Massacre), 112 Axis cargo planes and escort fighters were downed in 48 hours, followed by 20 ME-323 *Gigant* ("Giant") transports carrying a regiment of German reinforcements on April 22.[32] Through the institutional changes implemented in mid-February 1943, Allied airmen in Tunisia were able to, in Kuter's words, "concentrate all the airpower there was at *the* point where it was needed," be it to counter enemy offensive operations or to cut hostile supply lines.[33] The ideas that enabled these spectacular successes were quickly codified as doctrine and became guiding principles for the proper employment of airpower.

Institutionalizing the Lessons from Tunisia as Doctrine

In May 1943, Kuter returned to the Pentagon to serve as the U.S. Army Air Forces Deputy Chief of Staff for Plans and began editing the War Department's FM 100-20, *Command and Employment of Air Power* (1943).[34] Based on his experiences in Tunisia,

Line-up of 13 P-40 "Warhawk" aircraft presented by United States to Fighting French air forces at North African airport, circa 1943 (U.S. Office of War Information)

Kuter confided that he "will take a substantial proportion of the credit for the change in Field Manual 100-20,"[35] specifically, the passage stating:

The inherent flexibility of air power is its greatest asset. Control of available air power must be centralized and command units be exercised through the air force commander if this inherent flexibility and ability to deliver a decisive blow are to be fully exploited. Therefore, the command of air and ground forces in a theater of operation will be vested in the superior commander charged with the actual conduct of operations in the theater, who will exercise command of air forces through the air force commander.[36]

The notion of theater operations guiding the application of airpower, as outlined in FM 100-20, quickly spread throughout the military.

By 1945, the Army Air Forces School of Applied Tactics relied on lessons from Tunisia to form many of the arguments presented in the lesson "The Command and Employment—of—Air Forces."[37] Major Wasson Wilson and Captain Henry Fitzmaurice disparaged previous doctrine, stating that "In giving effect to FM 31-35, specific air units were allocated to the support of corps and divisions. This resulted in loss of the advantage of battle flexibility."[38] Regarding centralized control and decentralized execution, Wilson and Fitzmaurice argue, "The beginning of this conception took place in Tunisia when heavy bombers struck pursuing German tank elements during our withdrawal from the Kasserine Pass on the direction of the theater air force commander."[39] In their view, "The success of the North African operations caused the War Department General Staff to provide in FM 100-20 for functional air forces to be organized along the lines of the Northwest African Air Forces."[40] Air operations in Tunisia, both the failures and successes, serve as the basis for the doctrine still followed by the U.S. Air Force.

The North Africa Campaign is the inspiration behind modern approaches to commanding airpower, be it in academic thought or official doctrine. Proposition eight of Phillip Meilinger's *10 Propositions Regarding Air Power* articulates, "Air Power's unique characteristics necessitate that it be centrally controlled by airmen."[41] In support of this proposition, Meilinger chooses to cite Tedder, the airman entrusted with implementing this principle during North Africa Campaign. Tedder stated, "Air warfare cannot be separated into little packets; it knows no boundaries on land and sea other than those imposed by the radius of action of the aircraft; it is a unity and demands unity of command."[42] Echoing JP 3-30, the authors of Air Force Doctrine Document (AFDD) 1, state, "Because of airpower's unique potential to directly affect the strategic and operational levels of war, it should be controlled by a single Airman who maintains the broad, strategic perspective necessary to balance and

prioritize the use of a powerful, highly desired yet limited force."[43] They go on to state, "Centralized control empowers the air component commander to respond to changes in the operational environment and take advantage of fleeting opportunities."[44] Despite giant leaps in technology since 1943, centralized control still resides at the theater level.

The Unique Characteristics Inherent in RPA

Remotely piloted aircraft provide one example of the "highly desired yet limited force" the authors of AFDD 1 describe.[45] One of the truly revolutionary attributes of RPA is the flexibility fostered by conducting Remote Split Operations (RSO). According to the authors of JP 3-30, "RSO refers to the geographical separation of the launch and recovery crew from the mission crew who employ the aircraft at a location other than where the aircraft is based."[46] In other words, it is a networked system in which the launch and recovery element deploys overseas with the aircraft, while the mission crew element, responsible for piloting the RPA in combat, remains in garrison. As a networked system, it is capable of conducting an RSO shift—the re-tasking of the mission crew element to fly RPA based at different launch and recovery elements. For example, if the weather is bad over Afghanistan, the mission crew element scheduled to pilot those particular aircraft from the United States will conduct an RSO shift and fly RPA from another launch and recovery element, such as the one in Tunisia. The networked nature of RSO has the potential to rapidly increase the flexibility of the high demand yet low density RPA force.

The ability to conduct an RSO shift has provided U.S. Central Command (USCENTCOM) with similar successes as those experienced by the Northwest African Tactical Air Force in Tunisia. Just as Coningham and Kuter were able to concentrate airpower in relation to enemy actions during the Great Turkey Shoot, RPA were able to concentrate against the so-called Islamic State (IS) in June 2014.[47] Within 10 hours of President Barack Obama directing the initiation of operations against IS, an RSO shift from one launch and recovery element to another within USCENTCOM enabled RPA to begin conducting intelligence, surveillance, and reconnaissance (ISR). Another RSO shift is reminiscent of Operation *Flax* cutting the enemy's lines of communication. An RPA mission crew element detected supplies bound for a terrorist organization. Needing additional support to interdict the shipment, USCENTCOM conducted RSO shifts between launch and recovery elements to concentrate airpower over the enemy, resulting in the capture of 46 improvised explosive devices, 213 pounds of C4 plastic explosive, and $995,000 of narcotics. While challenging to coordinate, RSO shifts inside of a single geographic combatant command (GCC) have enabled the flexibility required to concentrate RPA and attain impressive results within the geographic confines of USCENTCOM. Unfortunately, RSO shifts across GCC boundaries are hampered by insufficient authorities, preventing Airmen from globally leveraging the flexibility inherent to RPA. The Air Force must develop the doctrine and command structures required to increase the flexibility of networked weapons both inside and across GCC boundaries.

Despite the capability of the networked RPA force to quickly conduct an RSO shift between distant locations, it still remains a highly desired asset. On September 21, 2016, during a keynote address to the Air Force Association's Air, Space and Cyber Symposium, Chairman of the Joint Chiefs of Staff Joseph Dunford discussed this aspect of the RPA enterprise, stating:

Since 2007, we have increased the numbers of ISR platforms over 600 percent. And today when we sit around with . . . the combatant commanders, we are meeting somewhere less than 30 percent of their ISR requirements. The problem we are confronted with is not how can we afford to buy more Predators. The problem we are confronted with is making decisions, and ensuring that our leadership and our Airmen have the information that they need to make decisions. We'll increase 30 more CAPs [combat air patrols] *. . . that will take us from 60 to 90, and so then we'll be at 34 percent of what the combatant commanders say they need.*[48]

The nature of the problem with the current demand for RPA is not too different from that encountered by Kuter when he took command of the Allied Air Support Command—there are not enough aircraft to provide an adequate air umbrella as determined by the requirements of the supported commanders.

Contemporary RPA and the North Africa Campaign

The difference between World War II and contemporary operations is that networks exceed the scope of the theater-command structure concept established in Tunisia. Realizing that aircraft had the range to rapidly move beyond the area held by a division or corps, command was given to an airman at the geographic-theater level. Now, through RSO shift, RPA have the ability to rapidly engage targets globally, outside a geographic combatant commander's area of operations. The previous examples of RSO shifts all occurred between launch and recovery elements within USCENTCOM. In the Chairman's keynote address, he also characterized the nature of modern threats, stating, "One of the most . . . significant implications . . . is that any future conflict is going to be trans-regional, multi-domain, and multi-functional . . . conflicts are going to quickly spread across combatant command geographic boundaries and domains."[49] Since 2010, IS has conducted simultaneous operations within the confines of three separate geographic combatant commanders: U.S. European Command, U.S. Africa Command, and USCENTCOM.[50] Despite this, DOD does not have a mechanism to prioritize targets and direct weapons in real-time against networked threats spanning GCC boundaries.

Required Doctrinal Changes

Defeating a network requires the ability to attack geographically distant nodes

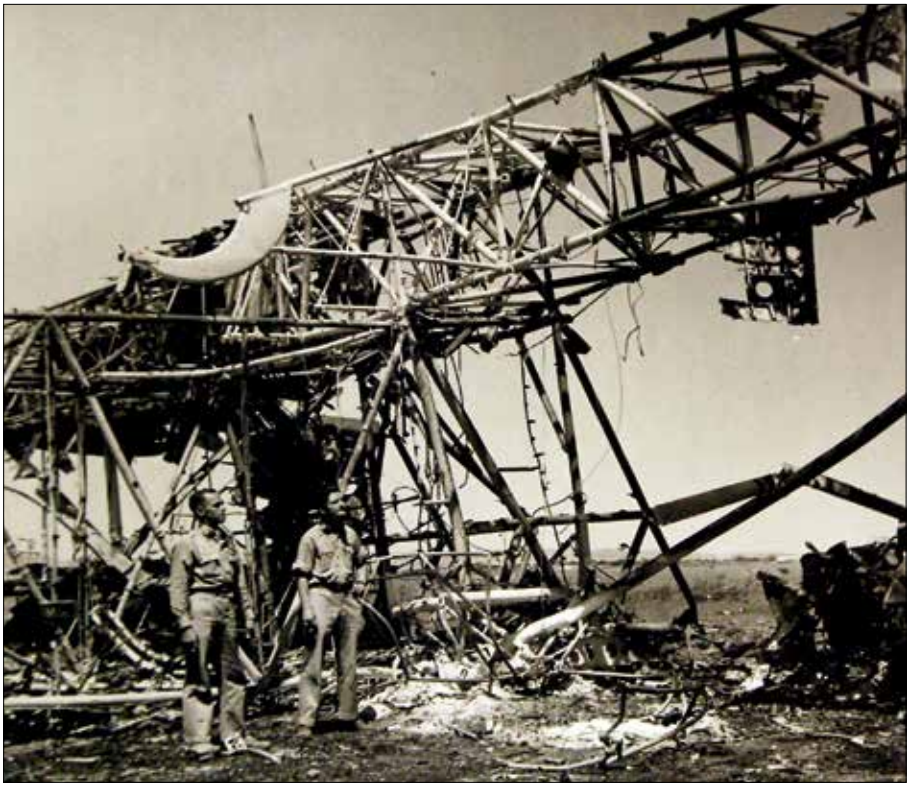
simultaneously, and immediately shift the weight of effort to other distributed emerging or fleeting targets. To borrow an analogy from the military theorist Antoine Bousquet, instead of viewing RPA as an individual tree planted in each theater of operations, it is better to conceptualize the entire enterprise as a rhizome—with a networked root structure spanning GCC boundaries and possessing the ability to shift effort anywhere across the system.[51] Unfortunately, supported commanders tend to measure the contribution of RPA by tallying the number of combat air patrols or "lines" they are allocated, in much the same way that the U.S. Army measured the success of airpower at the Battle of Kasserine Pass by counting the number of Allied aircraft to appear overhead. Networked-RPA operations are still governed by a command structure developed for traditional aircraft, based on theories forged in Tunisia during World War II. There are Service-specific and joint solutions for this problem.

Allied tracer shells tear into early morning sky against raiding enemy aircraft during Operation *Torch*, November 8, 1942 (Library of Congress)

One way to resolve a similar predicament is to employ a Service-specific command structure as first theorized by Kuter. After returning from North Africa, he was responsible for building a plan to field the Boeing B-29 Superfortress—a high-demand yet low-density aircraft. In *Commander in Chief*, Eric Larrabee describes the significance of this weapon, stating, "[the B-29] made up the first aggregate of air power that was truly global, bound to no single theater of operations, . . . in principle they could operate anywhere."[52] According to Kuter, while planning to simultaneously conduct B-29 operations from both the China-Burma-India and Central Pacific theaters, "The idea of parceling out some B-29s to [Admiral Chester] Nimitz and some to [General Douglas] MacArthur where each was so focused on surface Navy and surface Army matters would have been abhorrent."[53] Instead, Kuter designed a command structure that reported to an airman above the theater level—the Twentieth Air Force, commanded by General Henry "Hap" Arnold.[54] Also Chief of the Army Air Forces, Arnold ensured that B-29 operations were consistent with the strategic guidance issued by the Joint and Combined Chiefs.[55] While the military departments lost the ability to execute operations in 1958, and the Goldwater-Nichols Defense Reorganization Act of 1986 established an unambiguous chain of command linking the President, Secretary of Defense, and the combatant commanders, emerging technologies may dictate the revival of Service control over certain weapons.[56] Be it low-density RPA, space, or cyber weapons, if authorized, the Air Force could appoint an officer to serve as a global joint force air component commander to prioritize and allocate networked airpower in real time. This would be similar to the role fulfilled by the commander of Air Mobility Command and executed through the 618th Air Operations Center, the Tanker Airlift Control Center, in supporting the mission of U.S. Transportation Command.[57]

Joint solutions could provide another option for commanding networked weapons. The organization designed to command B-29 operations matured to account for other advances in strategic weapons, including intercontinental and submarine-launched ballistic missiles, first as the Strategic Air Command and later as U.S. Strategic Command. A functional component, such as U.S. Strategic Command, could command globally networked weapons. There is also the potential to get approval for an officer serving in the Joint Chiefs of Staff Operations Directorate to fulfill this role—similar to Arnold, but without building an associated Service-specific command structure.

Similarly, the National Reconnaissance Office operates the satellite constellation responsible for intelligence collection. Based on the judgment of the National Reconnaissance Office and in keeping with established intelligence priorities, the satellites are continuously re-tasked to various targets both inside and across GCC boundaries. The authors of JP 3-52, *Joint Airspace Control*, suggest the use of procedural control measures, similar to the coordination level used to separate helicopters from fixed-wing planes, to separate RPA from traditional aircraft.[58] Under this model, the RPA would be centrally controlled and launched as tasked using the



Axis air equipment and installations took heavy pounding from bombers of U.S. Army Air Forces during Battle of Tunisia, November 1942 to May 1943 (U.S. Army Air Forces/Library of Congress/Nick Parrino)

procedural-airspace control measures that allow for the conduct of operations at any time in each GCC. The RPA would still appear on the Air Tasking Order and be available to the geographic combatant commander to conduct strike operations when necessary; however, the centralized manager of their intelligence missions would have the authority to conduct RSO shifts in accordance with global priorities. In essence, RPA would be treated like satellites and operate freely within a GCC, with the exception that they fly within the atmosphere and require procedural airspace control measures to avoid being a conflict to other aircraft. The success of any option requires combatant commanders to stop counting the number of RPA "lines" their theater receives and instead focus on the effects the weapons provide.

Conclusion

Whatever the solution, combatant commanders must be willing to support the decisions of the officer appointed to command networked weapons—as their individual operations will at times be either enhanced or hindered by such judgments.[59] Regarding RPA, it is important to note that an RSO shift is of temporary nature, as it forces the gaining launch and recovery element to surge its equipment and personnel. To date, RPA operations are coordinated through an Air Force wing operations center; however, it does not have the authority to direct an RSO shift either inside or across GCC boundaries as a result of emerging strategic opportunities. Ultimately, as General Dunford recently wrote in *Joint Force Quarterly*, "Our decisionmaking processes and planning constructs must . . . be flexible enough to deliver options at the speed of war."[60] In order for networked weapons, such as RPA, to overcome bureaucracy and keep pace with the speed of war, they must be commanded by an *Airman* with the authority to reallocate them across administrative-geographic boundaries in real time.

The authors of AFDD 1 emphasize that "Any doctrine document is a snapshot in time—a reflection of the thinking at the time of its creation. Doctrine should evolve as new experiences and advances in technology point the way to the operations of the future."[61] During World War II, Tunisia illustrated the consequences of allowing technological development to outpace doctrine and military thought. Collectively, Tedder, Spaatz, Coningham, and Kuter built a system that centralized the control of airpower under the command of airmen, allowing aircraft to leverage the tenets of airpower and shape the battlespace out to the limits of their operational range.

In the 21st century, RPA can hold any target at risk within range of the global network. As the Air Force returns to Tunisia, it is important to apply the lessons forged in hostile skies over 70 years ago. First, just as the B-29 foreshadowed other future strategic weapons, the RPA is a harbinger of things to come. Any viable long-term solution to the problems associated with commanding networked weapons must be platform agnostic. Second, the officer entrusted to command these weapons must be empowered to make real-time decisions regarding employment across the entire breadth of the network, in accordance with the tenets of airpower. Third, command of RPA must reside with an *Airman*, subordinating these assets to geographic combatant commanders is no different than condoning modern-day air umbrellas. The principles developed in North Africa stand as true today as they did in 1943; however, doctrine must support command relationships that maximize the efficiency of modern-networked weapons for the joint force. The words the Chairman chose to close his article for *JFQ* are equally as fitting for this study, "The character of war in the 21st century has changed, and if we fail to keep pace with the speed of war, we will lose the ability to compete."[62] **JFQ**

Notes

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[2] Laurence S. Kuter, "Night Bombing in the Battle Area," January 24, 1943, IRIS Number 24998 (Maxwell Air Force Base [AFB], Air Force Historical Research Agency [AFHRA]); Laurence S. Kuter, interview by Tom Sturm and Hugh Ahmann, September 30–October 3, 1974, Naples, FL, USAF Oral History Program (Maxwell AFB: Albert F. Simpson Historical Research Center), 283.

[3] Martin Blumenson, *Kasserine Pass* (Boston: Houghton Mifflin Company, 1967), 143.

[4] Ibid., 142.

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[6] Richard G. Davis, *Carl A. Spaatz and the Air War in Europe* (Washington, DC: GPO, 1993), 178, 183.

[7] Air Force Doctrine Document (AFDD) 1, *Basic Doctrine, Organization, and Command* (Washington, DC: Headquarters Department of the Air Force, October 14, 2011), 37.

[8] Adam Entous and Missy Ryan, "U.S. Has Secretly Expanded Its Global Network of Drone Bases to North Africa," *Washington Post*, October 26, 2016, available at <www.washingtonpost.com/world/national-security/us-has-secretly-expanded-its-global-network-of-drone-bases-to-north-africa/2016/10/26/ff19633c-9b7d-11e6-9980-50913d68eacb_story.html?utm_term=.4bd9e9f921a1>.

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[12] Ibid., 3.

[13] Ibid., 1.

[14] Walter Bedell Smith, Allied Force Headquarters, "Operation Memo No. 17: Combat Aviation in Direct Support of Ground Units," October 13, 1942, IRIS Number 233080 (Maxwell AFB: AFHRA), 5.

[15] Ibid., 1.

[16] David Syrett, "Northwest Africa, 1942–1943," in *Case Studies in the Achievement of Air Superiority*, ed. Benjamin F. Cooling (Washington, DC: GPO, 1994), 242.

[17] Ibid., 241.

[18] Ibid.

[19] Ibid.

[20] Group Captain, "Some Notes on the Co-Operation Between Ground and Air Forces in Battle," March 17, 1943, IRIS Number 24998 (Maxwell AFB: AFHRA). The group captain's signature is illegible and his signature block only contained his rank and Service.

[21] Playfair et al., *The Mediterranean and Middle East*, vol. 4, 310.

[22] Davis, *Carl A. Spaatz and the Air War in Europe*, 180 and 183.

[23] Carl Spaatz, "General Orders Number 1," February 18, 1943, IRIS Number 2002141 (Maxwell AFB: AFHRA).

[24] Ibid.

[25] Air Historical Group, *The Army Air Forces in World War II*, vol. 2: *Europe: Torch to Pointblank: August 1942 to December 1943*, ed. Wesley Frank Craven and James Lea Cate (Chicago: The University of Chicago Press, 1949), 157.

[26] Laurence S. Kuter, MS 18, addendum 1, box 4, folder 1, Laurence S. Kuter Papers, Gimbel Aeronautical History Collection, Robert F. McDermott Library, USAF Academy, CO.

[27] Kuter, interview by Sturm and Ahmann, 293.

[28] Ibid., 308.

[29] Ibid.

[30] Carl Spaatz, "Memorandum," April 10, 1943, IRIS Number 24998 (Maxwell AFB: AFHRA).

[31] "Statement by Brigadier General Laurence S. Kuter at Press Conference in the Pentagon, May 22, 1943," IRIS Number 242513 (Maxwell AFB: AFHRA), 5.

[32] Ibid., 6.

[33] Kuter, interview by Sturm and Ahmann, 315. Emphasis in original.

[34] Ethel Kuter, MS 18, addendum 1, box 4, folder 4, Laurence S. Kuter Papers, Gimbel Aeronautical History Collection, Robert F. McDermott Library, USAF Academy, CO.

[35] Ibid.

[36] Ibid.

[37] Wasson J. Wilson and Henry F. Fitzmaurice, "Command and Employment—of—Air Forces," January 10, 1945, Roll A2840 (Maxwell AFB: AFHRA).

[38] Ibid., 11.

[39] Ibid., 16.

[40] Ibid., 14.

[41] Phillip S. Meilinger, *10 Propositions Regarding Air Power* (Maxwell AFB: School of Advanced Airpower Studies, Air University, 1995), 49.

[42] Ibid.

[43] AFDD 1, 38. The passage is in bold print in the original source.

[44] Ibid. The passage is in bold print in the original source.

[45] Ibid.

[46] JP 3-30, *Command and Control of Air Operations*, III-31.

[47] While unclassified, the information contained in this section came from two sources that are not publicly verifiable. Some information was taken from an Air Force Form 707, "Officer Performance Report (Lt thru Col)," for a remotely piloted aircraft (RPA) squadron's director of operations. The remaining information came from an Air Force Form 1206, "Nomination for Award," used to submit an RPA squadron for an annual Air Force–level award.

[48] Joseph F. Dunford, Jr., "2016 Air Force Association's Air, Space and Cyber Conference: CJCS Joe Dunford Keynote Address," video, 47.03, Washington, DC, September 21, 2016, available at <www.youtube.com/watch?v=9_mLtv1iNF4>.

[49] Ibid.

[50] Entous and Ryan, "U.S. Has Secretly Expanded Its Global Network of Drone Bases to North Africa."

[51] Antoine Bousquet, "Chaoplexic Warfare," lecture to the Air War College Grand Strategy Program via Skype from the United Kingdom, Maxwell AFB, January 11, 2017.

[52] Eric Larrabee, *Commander in Chief: Franklin Delano Roosevelt, his Lieutenants, and their War* (New York: Harper & Row, 1987), 580.

[53] Kuter, interview by Sturm and Ahmann, 388.

[54] Ibid., 278.

[55] Larrabee, *Commander in Chief*, 580.

[56] James R. Locher III, *Victory on the Potomac: The Goldwater-Nichols Act Unifies the Pentagon* (College Station: Texas A&M University Press, 2002), 440.

[57] JP 3-30, *Command and Control of Air Operations*, III-29.

[58] JP 3-52, *Joint Airspace Control* (Washington, DC: The Joint Staff, November 13, 2014), III-10, available at <www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp3_52.pdf>.

[59] On page II-2 of JP 3-30, *Command and Control of Air Operations*, the authors state, "The JFC [joint force commander] will normally assign JFACC [joint force air component commander] responsibilities to the component commander having the preponderance of forces to be tasked and the ability to effectively plan, task, and control joint air operations." To borrow from the ideas presented by JP 3-30, in the future it will be important that the designated commander for networked weapons have the preponderance of forces to be tasked and the ability to effectively plan, task, and control joint networked weapons operations. With this argument's focus on airpower, the term *Airman* is used to denote the commander most likely to be designated with this responsibility for RPA. As more networked weapons are fielded, the appointed commander must be the candidate most capable of achieving strategic advantage through their employment—which may, or may not, necessarily be an Airman.

[60] Joseph F. Dunford, Jr., "The Pace of Change," *Joint Force Quarterly* 84 (1st Quarter 2017), 3, available at <https://ndupress.ndu.edu/Media/News/Article/1038776/from-the-chairman/>.

[61] AFDD 1, 7.

[62] Dunford, "The Pace of Change," 3.