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Key Points

Challenges experienced by the U.S. Air Force in the Korean War hold relevance to the circumstances facing the United States and its allies today, especially in the context of the threat posed by China in the Pacific.

A lack of effective joint representation in leadership saw airpower's effectiveness continually suboptimized, with Army personnel dominating key command headquarter positions. Strong air leadership was crucial in holding the line on critical issues regarding strategy and force employment.

Aircraft and personnel cuts made in the late 1940s saw the Air Force enter the Korean War at 18 percent of its WWII size. The service struggled to meet basic capacity and capability requirements throughout the war given concurrent Cold War demands in Europe and the Continental United States. Rapid technological evolution during this period also made it difficult to gain appreciable mass in key mission areas like air superiority. Poor training further degraded a difficult set of circumstances.

Shortfalls in suitable regional airbases, logistics, and sustainment dramatically exacerbated capacity shortfalls by degrading the availability of finite combat aircraft.

The realities of a limited war shielded traditional enemy centers of gravity from attack, which placed a premium on interdiction missions. This demanded high fidelity intelligence, command and control, precision strike capabilities, and real-time post-strike damage assessments.

Air War Over Korea: Lessons for Today's Airmen

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Introduction

At 0400 on Sunday, June 25, 1950, North Korean forces crossed the 38th parallel into South Korea, launching a war that would fundamentally reshape the global security environment. With South Korean and American land forces reeling back, airpower helped transform a panicked fallback into an effective counteroffensive. The early weeks and months of the war were perilous, with 8th Army Commander General Walton Walker admitting, "I will gladly lay my cards on the table and state that if it had not been for the air support that we received from the 5th Air Force, we would not have been able to stay in Korea."¹ As the conflict evolved, United Nations (UN) forces advanced up the peninsula, then retreated in the face of the Chinese-led counteroffensive, and eventually stabilized along the 38th parallel. Airpower served as the principal tool empowering actors at the strategic, operational, and tactical levels throughout these stages. Missions like air superiority, strike, close air support, reconnaissance, command and control, as well as aerial mobility provided capabilities that surface forces alone could not manifest. Ultimately, it empowered UN forces to help bring overt hostilities to an end, with Chairman of the Joint Chiefs of Staff General Omar Bradley explaining, "[airpower] constitutes the most potent means, at present available to the United Nations command, or maintaining the degree of military pressure which might impel the communists to agree, finally, to acceptable armistice terms."²

As crucial as airpower was in the Korean War, airmen were continually confronted with severe challenges. They lacked enough aircraft to sustain their operations, with many front-line airframe types from WWII and too often out of commission with maintenance problems. As General Vandenberg explained, "We have got a shoestring Air Force."³

These shortfalls were exacerbated by a major deficit in suitable airfield installations on the Korean Peninsula. Since this conflict predated operational aerial refueling, fighter ranges were stretched to their absolute limits on flights from bases in Japan.

There were also issues stemming from the realities of a limited war. Decisions were constrained by very real concerns about the war turning into an overt conflict with Russia. This meant airmen were not able to target major sources of enemy power—things like operational bases and production centers that were driving communist combat capabilities. As if all of this was not enough, ground commanders and air leaders also chaffed over differences regarding how best to harness airpower—focusing on the last tactical mile or conversely on targets deeper behind enemy lines.

While these experiences are the primary purview of history books, they hold relevance for members of today's Air Force as they seek to

address a strikingly similar set of challenges—everything from a small, old aircraft inventory to factors like airbase availability and defense, logistics under attack, lack of training capacity, and disagreement with joint counterparts about how best to employ airpower. As Air Force General William Momeyer, a veteran of multiple conflicts including the Korean War, explained, “We mustn't rely entirely upon yesterday's ideas to fight tomorrow's wars, after all, but I hope our airmen won't pay the price in combat again for what some of us have already purchased.”²⁴

A War No One Anticipated

North Korea's invasion of the South caught the Western Alliance by surprise. The United States and its allies were not ready to fight. While World War II was only five years in the rearview, massive disarmament efforts slashed capabilities and capacity. The entire U.S. Air Force active aircraft inventory in 1950



Figure 1: F-51D taxiing in the austere airfield conditions found at most bases on the Korean Peninsula.

Credit: [U.S. Air Force Photo](#)



Credit: Photo by William T. Larkins

Figure 2: B-29s in long-term storage had to be reactivated to meet combat demand.

The entire U.S. Air Force active aircraft inventory in 1950 stood at 18 percent of its peak WWII size.

stood at 18 percent of its peak WWII size. A mere 2,500 jets of all types populated Air Force ramps. The rest were predominantly WWII leftovers of dubious technological relevance.⁵ Things were not any better on the personnel side, with 1949 and 1950 seeing continued sharp personnel reductions. As one B-29 gunner explained, “There had been a reduction in force a few months earlier. Flight crews had to load, fuel, and fly the aircraft. That’s how short we were.”⁶ Other constraints included airbase availability, training pipelines, spare parts inventories, maintenance depots, and logistics lines—everything was in short supply.

The air war that unfolded over Korea was largely an improvised effort, harnessing men and material that were available but far from optimized to meet mission demands. The conflict was fought amidst the pressures of the broader Cold War, with air operations over Korea ranking as a lower priority. Leaders had to maintain sufficient reserves in Europe to deter and, if necessary, fight a war against Soviet forces. The same held true for defending the continental United States, given Russia’s nuclear power status and credible air delivery capability. The net effect was an Air Force too small

to concurrently meet the demands asked of it. U.S. air commanders in Korea never had enough resources. The gap between resources required and resources available made managing risk a constant effort.

To fully understand the difficulty of these challenges, consider the motley collection of aircraft in theater when North Koreans crossed the 38th parallel in 1950. Most were well-used WWII relics. The active inventory included 657 airplanes: F-80 jet fighters, F-82 Twin Mustang propeller-driven interceptors, B-29 and B-26 WWII-era bombers, plus C-54 and C-47 WWII-era transports.⁷ Far East Air Force (FEAF), the command responsible for air operations over Korea, immediately asked for more aircraft to build existing units to wartime strength, but too often the spares did not exist or were not readily accessible.⁸ Airmen were left to improvise with what they had available. For example, to meet the demand for more F-80s, early models lacking key combat capabilities had to be rapidly upgraded and deployed. However, depot limitations and parts shortages capped this upgrade program at 27 jets per month. Combat commanders sought 325 jets. That translated into a 13-month backlog for a capability air commanders needed instantly.⁹

Time and urgency did not rectify these shortfalls. In March 1951, FEAF commander General George Stratemeyer wrote to General Vandenberg with a stark warning: he was losing F-80s at such an aggressive rate that in-flow of new types like the F-84 had to be immediately accelerated into Korea, or missions would not be sustainable.¹⁰ Official Air Force channels provided a response: “Increased numbers of first-line equipment was not consistent with Joint Chiefs of Staff policy that rated Europe as a higher priority.”¹¹ Desperate for more capacity, General Stratemeyer asked for WWII-era F-47s but was denied, as too

few existed in the active inventory and spare parts were running short.¹² Out of options to provide direct attrition replacements, he ended up concentrating what few F-80s he had in a few squadrons and converting six former F-80 units to WWII-era F-51s.¹³ The pilots transitioning to these old fighters were less than impressed. As a unit historian of the 8th fighter group recounted, “A lot of pilots had seen vivid demonstrations of why the F-51 was not a ground support fighter in the past war and were not exactly intrigued by the thought of playing guinea pig to prove the same thing over again.”¹⁴

One month later, FEAF lost 25 P-51s, 13 F-80s, and 2 F-84s to ground fire.¹⁵ As if that was not bad enough, Strategic Air Command withdrew their allotment of F-84s later in the year, citing concerns that crews

were losing bomber escort proficiency for the nuclear deterrence mission.¹⁶ Backfill aircraft were simply arriving too slowly, with units receiving a 10 percent attrition reserve, not the 50 percent required for a combat unit.¹⁷ Fifth Air Force Commander General Otto Weyland took stock of these dire circumstances and concluded, “If the present

trend continues, there is a definite possibility that the enemy will be able to establish airbases in Korea and threaten our supremacy over the front lines.”¹⁸

These shortages were not isolated to fighter units. In August and September of 1951, B-26 units lost 11 aircraft, but the Air Force could not backfill these planes because combat-ready replacements simply did not exist. Furthermore, the production line had closed years earlier.¹⁹ Desperate to offer combat units a solution, Air Force leaders opted to send forward non-standard B-26s that did not possess important operational

capabilities. They lacked any other viable alternative. This created a maintenance and sustainment nightmare, with ground crews doing their best to ensure these aircraft had basic mission functionality.²⁰

Circumstances were just as dire from the vantage point of the aircrews. The A-26 training pipeline could only produce 45 crews per month. FEAF attrition for this type demanded 58–63 crews a month. During one particularly lethal period of operations, replacement demand spiked to 93 crews.²¹ FEAF air commanders were forced to limit A-26 sortie rates not to what combat requirements demanded but to what crew and aircraft backfills could sustain.²² Otherwise, their force would simply grind away to nothing. In December 1950, General Stratemeyer wrote to General Vandenberg explaining the morale crisis these pressures were causing, highlighting crews expected “only one end—to be killed.”²³ Managing airpower from a survivalist vantage versus flying and fighting to win is a dangerous path to pursue. Had these operations been against a peer threat, the results could have been catastrophic.²⁴

Further complicating air operations, spare parts shortages degraded sortie rates for all Air Force aircraft in theater. Years’ worth of budget cuts had seen spare parts inventories run at bare minimum quantities. WWII-era aircraft had no current production lines from which to surge replacement components. Airlift commander General William Tunner had to cut his C-119 cargo aircraft flying hours from 200 per aircraft per month to 100 in autumn of 1950 due to spare parts shortages, even though the demand for supplies in Korea was desperate.²⁵ General Vandenberg chastised General Stratemeyer for flying his bombers at a sortie rate of 16.5 per day, much higher than the 12 daily sorties logistics supplies could support.²⁶

Managing airpower from a survivalist vantage versus flying and fighting to win is a dangerous path to pursue. Had these operations been against a peer threat, the results could have been catastrophic.



Figure 3: Crews prepare an F-84 for a combat sortie.

Credit: U.S. Air Force Photo

The situation hit rock bottom for F-86s in January 1952, when the mission capability rate for the fighter fell to 45 percent. Although America's newest fighter was flying combat sorties, spare parts were programmed at lower peacetime rates, and wartime flying demands were obviously far higher.²⁷

These circumstances meant flight hours were rationed not to what combat requirements demanded but to what the support infrastructure could sustain. Monthly sortie limits in 1952 were set at the following rates: F-51 at 25.5; F-80 at 28.5; F-84 at 25; F-86 at 25; and B-26 at 17. Bomber Command B-29s were limited to 12 sorties a day.²⁸ These constraints were not restricted to aircraft. Construction engineering equipment also had a 15 percent serviceability rate amidst the drive to keep runways operable.²⁹ Combat requirements were simply outpacing budget programming, which yielded disastrous results.

The Korean War also saw a technology race unfold in the sky. Air superiority was one of the most iconic missions of the conflict, with Air Force pilots challenging their communist opponents over MiG Alley along the North Korea-Manchurian border. Initially these engagements saw propeller and early jet aircraft face off against one another, but everything changed on November 1, 1950, when Chinese MiG-15s, the Soviet Union's most advanced fighter, squared off against U.S. aircraft over Yalu River.³⁰ The impact of the MiG's arrival was profound, with General Vandenberg declaring, "Almost overnight, communist China has become one of the major air powers of the world."³¹

No longer was the challenge defined by surging legacy equipment into Korea; Air Force leaders now had to prioritize deploying their newest fighter, the F-86 Sabre. Already stretched thin by commitments in Europe and the United States, a handful of aircraft

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was rushed to the theater. Commanders recognized they either matched the MiG-15 with comparable technology, or they risked the collapse of the air war. On December 17, 1950, the first F-86 engagement against MiG-15s occurred.³² For the rest of the war, the U.S. Air Force would continually struggle to

flow enough F-86s into the Korean theater to maintain control of the sky. To this point, in September 1951, FEAF had 90 F-86s to counter 500 Chinese MiG-15s.³³ The notion of air superiority across the peninsula rapidly degraded to opening lanes of access for limited periods of time to net very specific mission effects. F-86s were often outnumbered by MiG-15s three or four to one. A mission on September 9, 1951, in which 28 F-86s engaged 70 MiG-15s, spoke to this reality.³⁴ F-86 production lines were strained to maximum output levels, but shortfalls continued to persist. The U.S. even procured license-built Canadian F-86s to boost its force structure.

Inadequate training was another problem facing airmen over Korea, with pilots often behind the competency curve. Pre-war flying budgets were stretched too thin, and combat skills atrophied. FEAF flying budgets in the late 1940s were so tight that they eliminated complex navigation training—a skill important for pilots transiting over the ocean from Japan to Korea. Many pilots also lacked proficiency in gunnery, bombing, and firing rockets because pre-war budgets were too small to afford live fire exercises.³⁵ Fifth Air Force Commander General Partridge grew exasperated with this situation, remarking, “Apparently over in Korea we completely forgot that we knew anything about ways of doing things and equipment to aid in all-weather type warfare.”³⁶ The solution was pragmatic, high risk, and often yielded dubious results;

airmen regained any real proficiency on the job amidst the fires of combat.

Training did not always improve as the war continued. In the winter of 1952, with pressure mounting to fill fighter cockpits, mobility pilots were transferred to fly F-86s. The skills required to fly a cargo plane are vastly different from those to prevail in a dogfight. The new fighter pilots received minimal conversion training. Once in theater, it was difficult to source an aircraft outside of a combat mission to build competence.³⁷ It was an air warfare system badly out of balance, and airmen were paying with their lives.

FEAF commanders were well aware of what losing air superiority meant across every facet of the war. UN ground forces would be subject to aerial attack, which, when combined with overwhelming communist ground force numbers, would make for impossible odds. Strike missions against enemy logistics lines and other key targets would be unsustainable. Naval forces operating offshore would be subject to attack and have to retreat out to sea.

On June 1, 1951, FEAF declared that MiG Alley was off-limits for all bomber operations without fighter escort. This afforded communist forces significant sanctuary.³⁸ By November 1951, communist forces possessed air control north of Pyongyang.³⁹ Aircraft and pilot inventories already stretched thin were further strained as they flew in the face of this increased threat. By November 1951, B-29s had to switch to night bombing for self-protection.⁴⁰ Backfilling a type that had not been in production since 1945 proved challenging. Sortie rates were cut to avoid annihilating available aircraft and crews.⁴¹

FEAF air commanders asked Headquarters Air Force for more F-86s but were told that “the conditions under which an additional three F-86 squadrons would

Figure 4: B-26 Invaders from WWII provided valuable strike capacity throughout the war, but attrition rates proved challenging to backfill.

Credit: [U.S. National Archives](#)



be greatly needed in FEAF might well be the same conditions under which these same F-86 squadrons could make a greater contribution to the overall USAF mission in the air defense of the United States.”⁴² The choice in question involved no clear solutions: guard against a nuclear attack against the United States or hold the line in Korea against a surging enemy tide. Facing these pressures, it is no wonder General Vandenberg referred to his capabilities as a “Shoestring Air Force.”⁴³

There is No Airpower without Airbases

Compounding challenges regarding aircraft and personnel shortfalls was a lack of modern, viable airbases on the Korean Peninsula. When communist forces first invaded the South, there were ten principal airfields in the region, most of which were WWII relics in poor repair. Suwon and Kimpo possessed the only concrete runways. The others were gravel, dirt, and grass—conditions not viable to support jet aircraft.⁴⁴ Combat engineers were in incredibly short supply, with FEAF possessing 2,322 of the 4,315 authorized personnel, and they were equipped with

worn-out WWII-era equipment.⁴⁵ It took over a year to bring units to full strength despite pleading from FEAF leaders to Headquarters Air Force. The service simply lacked any spare personnel in this key competency after years of cuts, and growing new talent took time.

Existing personnel made the most of what they had and covered primitive runways in WWII-era pierced steel planking. This was a far cry from a robust base capable of hosting jets, receiving proper maintenance, and maintaining decent crew facilities. However, it allowed basic operations for WWII-era piston engine aircraft like the F-51, B-26, and C-47. Upkeep was a constant challenge given high usage rates, and in the spring of 1951, the pierced steel plank runway at Taegu literally had to be shut down for a complete overhaul because it had been beaten to pieces from the non-stop takeoffs and landings.⁴⁶ Air Force historian Robert Futrell summarized the situation aptly: “In two years of war in Korea, no single factor had so seriously handicapped Fifth Air Force operational capabilities as the lack of adequate air facilities. Operations from short, rough runways deteriorated combat aircraft,

posing inordinate maintenance, supply, and attrition burdens upon the combat wings and tactical Air Force.⁴⁷

Even when runways had been improved sufficiently to accommodate a limited number of jets, logistics proved challenging in a country with minimal infrastructure. Consider that the 51st Fighter Group at Kimpo airfield required 60,000 gallons of

fuel daily.⁴⁸ Lacking proper hangars, maintainers left much of their gear in crates. Aircraft upkeep was extremely limited. The long-term results were corrosive to basic mechanical viability. Consider that when the 49th Fighter Wing, which was operating from Taegu, sent their F-80s back to Japan for major overhaul work, each jet required an average of 7,500 maintenance man-hours to bring it back to a safe level of airworthiness.⁴⁹ Rotating aircraft back to Japan for major depot work proved

essential in keeping mission capability rates at an acceptable level.

Given runway shortages, many combat aircraft engaging over Korea had to operate from Japan. This saw their time of useful mission employment limited to a handful of minutes. F-80s operating from Japan spent 85 percent of their flight time in transit and a mere 15 minutes in combat.⁵⁰ F-84s similarly based could only spend 30 minutes providing close air support over front lines.⁵¹ Air refueling was in its infancy, and while drop tanks helped add minutes onto sorties, they were not always available given production shortages. Even under the best of conditions, when F-86s could operate from bases in South Korea, they were limited to 25 minutes over MiG Alley along the North Korean-Manchurian border.⁵² When

conditions prevented F-86s from basing out of South Korea, they lost the ability to patrol much of North Korea given the extended flight time transiting from Japan.⁵³ MiG pilots understood these limitations and used this to their advantage.

Adding further challenges to the equation, airmen stationed on the Korean Peninsula were often subject to enemy air attacks. On the opening day of the war, a C-54 was strafed and destroyed by North Korean fighters.⁵⁴ Attacks continued over the ensuing months. In one strike in autumn of 1950, enemy aircraft destroyed 11 P-51s at a forward airbase.⁵⁵ These raids continued off and on for the duration of the war. Airbase defense was important, but, as with everything else, it was often under-resourced.

Airpower in the Joint Crosshairs

While building and sustaining a force are factors crucial to manifesting effective combat airpower, the commander's intent also stands as a linchpin for success. Korea afforded some very distinct challenges in this regard, with air leaders and ground commanders often holding divergent views regarding how best to employ air assets. Ground commanders often favored focusing airpower at enemy forces along the front line of battle, while air leaders sought to engage throughout enemy territory to attack strategic and operational-level targets whose destruction would have a greater overall impact on the conflict.

Circumstances surrounding this debate were complicated, given that General Douglas MacArthur, and subsequently General Matthew Ridgeway and General Mark Clark, all of whom were army officers, were dual-hatted as the Commander of United Nations (UN) forces in Korea and Commander in Chief Far East (CINCFE). As the senior-most military leader in the chain of command, they were supposed to

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exercise command in a joint fashion. Service views were supposed to be represented by component commanders in the form of Far East Air Forces, Naval Forces Far East (NAVFE), and Army Forces Far East (AFFE). However, General MacArthur established a precedent of triple-hatting the lead command position as Commander of UN Forces, CINCFE, and AFFE. This saw the Air Force and Naval leadership in a distinctly second-class status in relation to the Army.⁵⁶ Further amplifying this imbalance, General MacArthur predominantly populated his staff with Army officers. As the official Air Force history for the Korean War explains, “General Headquarters was essentially an Army staff. Lacking joint representation of air, naval, and ground officers, the GHQ staff was unable to accomplish the most efficient and timely employment of airpower in Korea.”⁵⁷ Not only did FEAF commanders have to battle the North Koreans and

Chinese, but they also had to fight for their equities at the headquarters level.

The Army’s outsized influence in the command structure impacted the employment of airpower from the earliest stages of the war. Checking the North Korean assault, aircrews were ordered to focus all their missions on the front lines of the fight, even when more lucrative targets further north could have been struck with ease.⁵⁸ B-29s, which had no effective means of providing close air support, were focused on the last tactical mile.⁵⁹ General Stratemeyer wrote General MacArthur in frustration, explaining, “You cannot operate B-29s like you operate a tactical Air Force. B-29 operations must be carefully planned in advance and well thought out.”⁶⁰ Enemy logistics lines, supply depots, airbases, and other centers of gravity were left unfettered from U.S. air attacks during the opening weeks of the war. FEAF commander General Stratemeyer reacted in frustration, explaining that “It is axiomatic that tactical operators on the battlefield cannot be fully effective unless there is a simultaneous interdiction and destruction of sources behind the battlefield.”⁶¹ Fifth Air Force Commander General Otto Weyland was more direct: “Putting everything in close air support is just like trying to dam up a river at the bottom of a waterfall.”⁶²

It took a full month after hostilities erupted before airmen were technically authorized to even think about striking targets above the 38th parallel.⁶³ Even then, headquarters declared, “It is desired that all FEAF combat capabilities be directed continuously, and the expulsion of other targets, at the hostile columns and armor threatening the 24th Division.”⁶⁴ An interdiction campaign was finally authorized midway through the summer of 1950, months into the conflict.⁶⁵

The next challenge facing FEAF



Figure 5: An F-84 launches rockets against an enemy target.

Credit: [U.S. Air Force Photo](#)

Advocating for theater-level control and applications of airpower was not a service-centric way of doing business, rather it represented a better way to achieve overarching mission objectives.

commanders lay with joint integration and command of air assets. There were Air Force, Naval, and Marine aircraft in the theater, all flying and fighting over the same territory. However, the initial command was service-centric and lacked any formal coordination. In fact, Air Force leaders could not even talk to their naval counterparts during the initial weeks of the war because the aircraft carriers sailing off the Korean Peninsula insisted on maintaining radio silence given combat conditions. On July 8, 1950, General Stratemeyer, as the provider of the preponderance of airpower in theater,

requested that FEAF have coordinating authority for joint airpower. NAVFE opposed this position.⁶⁶ An agreement stipulating “coordination control” in favor of the Air Force was subsequently reached later in the month, but the exact definition of “coordination control” was often debated between FEAF and NAVFE.⁶⁷

To this point, General Stratemeyer had to intervene personally with General MacArthur on the eve of the Inchon invasion to ensure FEAF would retain its coordinating role.⁶⁸ NAVFE pushed back, but this time MacArthur backed the FEAF position. A similar debate took place with a comparable outcome a few months later during planning for the invasion of Wonsan.⁶⁹

To manage various requests for airpower, the CINCFE staff organized a “Target Group,” but the representation was far from joint. Holding most seats, the Army staffers routinely outvoted Navy and Air Force representatives.⁷⁰ These Army officers often did not understand basic tactical realities surrounding airpower, leading the official Air Force history of the Korean War to note, “Almost immediately,

FEAF target experts noted the GHQ Target Group was not conversant with the problems of strategic target selection.”⁷¹ FEAF’s solution was a “Target Committee,” with balanced Army and Navy participation. The effectiveness of this entity varied depending on service interest and personalities involved, but the model was balanced.

Adherence to joint planning principles improved when General Mark Clark assumed the UN Command and CINCFE role in 1952. He reformed the headquarters staff balance as one of his first actions, remarking that the group “should be a joint, tri-service operation, rather than an Army project.”⁷² He also backed FEAF’s Target Committee, with joint membership that met bi-weekly in Tokyo.⁷³ When joint principles were attacked by his Army counterparts, he advocated joint solutions. To this point, when Eighth Army commander General James Van Fleet sought organic control of air units at a corps level of command, General Clark pushed back and supported theater-level air control.⁷⁴

Some Army leaders understood the merits behind Clark’s approach. As General Walton Walker explained, “You hear and read about the type of support furnished by the Marine air units. It’s good, it’s excellent, and I would like to have that kind of air support available too—but if the people who advocate that would sit down and figure out the cost of supplying air units for close air support only, in that ratio to an army the size we should have, then they would be astonished.”⁷⁵ These lessons had been learned and relearned in WWII, but too often Korea saw the debates resurface.

Waging these bureaucratic fights was exceedingly important to maximize the effective projection of airpower. It took air commanders and balanced joint leaders like General Clark to relentlessly hold the line. They understood that advocating for theater-level control and applications of airpower was not a



Figure 6: F-86s forward-based on a pierced steel plate ramp with little defense against attack or shelter to facilitate maintenance. Credit: [U.S. Armed Forces Photo](#)

service-centric way of doing business; rather, it represented a better way to achieve overarching mission objectives. Establishing these norms was especially important as the war eventually stagnated around the 38th parallel in 1951, for airpower was the predominant means to attack communist forces. FEAF commander General Otto Weyland spoke to this reality: “To accept the theory which envisions the current United Nations military position in Korea...as a stalemate is to completely ignore the innumerable advantages of airpower as a predominant weapon for destroying the fighting machine and the acquiesce to the dangerous “rule of thumb” whereby military success, regardless of cost, is measured solely in terms of geographical gain.”⁷⁶ General

Jacob Smart, FEAF deputy operations commander, put a finer point on this issue: “Recognizing that the Army, Navy, and Air Force are each responsible for attaining the theater commander’s overall objective and in doing so put an end to the opinion so often expressed or implied that the Eighth Army is responsible for wiling the Korean War, and that the role of the other services is to support it in its effort.”⁷⁷ Wars are fought by joint commanders with an array of capabilities, not a given service.

Rules of Engagement

As if the direct operational challenges found over the Korean Peninsula were not hard enough, airmen found themselves operating amidst the variables posed by a limited war. It all came down to figuring out what to strike within the existing rules of engagement that would yield a worthwhile effect. Airpower is only as effective as the centers of gravity it can destroy.

A traditional strategic bombing campaign was not in the realm of the possible given that most enemy supplies were imported from China and Russia, and there was limited industrial capacity in North Korea. Airmen were left to strike fielded forces and supply lines, as well as to maintain air superiority. Even when communist airbases, supply depots, and other major centers of power were plainly visible across the Yalu River in Manchuria, attacks across the border were off-limits. This yielded an incredibly difficult task akin to a game of “whack-a-mole.” As Air Force Vice Chief of Staff General Nathan Twining explained, “Current policy precludes the UN air striking at the sources of the enemy’s strength beyond the Manchurian border. [With] the UN air effort being limited to the confines of Korea, the full effect of air striking power cannot be achieved.”⁷⁸ Bomber commander General O’Donnell was more pointed in assessing the

situation: “I was all for bombing Manchuria and I wanted badly to do it as soon as we recognized the Chinese communist forces... as bonafide forces.”⁷⁹

Knowing that any air campaign would yield limited results given the rules of engagement, airmen assessed what few worthwhile targets existed in Korea. They found a limited number of production centers, electrical generation sites, and logistics hubs. Strikes against these targets were finally authorized in the late summer of 1950 at the direction of the Joint Chiefs of Staff.⁸⁰ By September 15, 1950, General Stratemeyer concluded, “Practically all the major military industrial targets strategically important to enemy forces and their war potential have now been neutralized.”⁸¹ Airmen

occasionally struck additional strategic targets like the hydroelectric plants along the Yalu River later in the war, but for the most part, this was not going to be a conflict won through strategic attack. The targets simply did not exist within the ruleset in play.

This left interdiction—strikes against North Korea’s limited road and rail networks—as the next best means to yield an outsized impact against the communist forces. While there were numerous campaigns throughout the war, the desired effect was generally the same: to cut the flow of supplies so that fielded enemy forces could not continue offensive actions.

Airmen faced several challenges executing this mission. First, a communist division could subsist on 1/10 the level of supplies required by an equivalent UN force. This low demand signal meant that even if most of the supply network could be choked, the remaining trickle was enough to sustain fielded forces.⁸² Second, some of the most important logistics targets were the bridges

connecting to Manchuria over the Yalu River. The rules of engagement literally demand airmen target “the North Korean half” of bridges. Lack of precision bombardment and stiff enemy defenses turned this into a nearly impossible task.⁸³ MiG-15 domination over MiG Alley above this region saw bombers prohibited from these strikes for distinct segments of the conflict. Importantly, this was the penalty invoked by losing air supremacy. Even when strikes were successful, non-skilled labor, which was in ample supply, could easily repair bomb damage to these bridges and to roads and rail lines targeted elsewhere throughout North Korea. When a bridge at Sinuiju was struck, communist forces responded by building eight replacements.⁸⁴ This was especially true during the winter months when the surface, including rivers, were frozen solid. Chinese laborers literally laid rail lines directly on the icy surface of the Yalu River and ran trains directly across it.⁸⁵

That sort of resilience was exceedingly difficult to suppress, especially given force structure limitations faced by air commanders. Even if most airstrikes were successful in damaging the transportation networks, the lasting impact was negligible. Air Force historian Robert Futrell spoke to these realities that saw a race unfold between “skilled pilots, equipped with modern, expensive aircraft, against unskilled coolie laborers armed with picks and shovels.”⁸⁶ With few alternatives, the interdiction campaigns continued.

Adding to the challenges were factors imposed by night operations. With trucks and trains easy targets for airpower to strike by day, the communist forces moved most of their supplies at night. Airmen had an incredibly difficult time finding these targets, hitting them accurately, and assessing the results of their attacks. In World War II, analysts in the European Theater of Operations estimated that it took aircraft between eight and nine strikes to hit a rail

Airmen had an incredibly difficult time finding these targets, hitting them accurately, and assessing the results of their attacks.

Figure 7: Paratroopers board a C-119 transiting from Japan to Korea. Air logistics proved critical in the Korean War, with limited airframes and aircrews stretched thin to meet demand.

Credit: [U.S. Air Force Photo](#)



line with sufficient accuracy as to knock it out of action.⁸⁷ Those numbers grew far higher for night strikes in Korea. As one B-26 crew member explained, “We can go out night after night and come home not too sure about what we have done. We are not able to measure our effectiveness.”⁸⁸ To this point, during March 1953, a B-26 crew accidentally mistook a South Korean vehicle column for an enemy force and attacked it. They claimed six trucks were destroyed. In reality, four South Koreans were killed, and two trucks had their tires punctured.⁸⁹

The net effect of these operations was compromised at best. They certainly suppressed enemy supply flows, but fielded forces were still able to subsist. FEAF Commander General Otto Weyland summarized the situation: “All but four or five percent of pre-war rail traffic in North Korea was stopped, but this was sufficient to form a solid base upon which to add enough truck and A-frame transportation to maintain a static supply line.”⁹⁰ The greatest accomplishment is likely the fact that communist forces were prevented from stockpiling sufficient resources to launch further offenses after lines stabilized at the 38th parallel. All the while, the risk to airmen was great. In April 1952, U.S. forces lost 243 aircraft and saw another 290 damaged flying interdiction missions. They only received 131 replacements.⁹¹ It was a brutal but necessary campaign, given the lack of strategic targets. As 8th Fighter Group Commander Lt Col

Levi Chase aptly summarized, “Our goal has reduced itself into a simple equation to achieve a maximum percentage of rail cuts in inverse proportion to personnel losses and battle damage to our aircraft.”⁹²

This struggle was not limited to strike missions. The exact same challenges confronted fighter pilots. Enemy forces obviously understood the rules of engagement and sought to use them to their advantage by basing their aircraft, including the venerable MiG-15, just opposite of the North Korean border. Airmen could literally see these bases, but rules of engagement prevented their direct attack. Instead, they had to patrol on the Korean side of the border and wait for communist pilots to engage. This yielded a brutal, frustrating war of attrition in the sky. Stretching their aircraft ranges to the absolute limit, fighter pilots did their best in this highly compromised form of air warfare.⁹³

The Lessons of Korea Applied Today_____

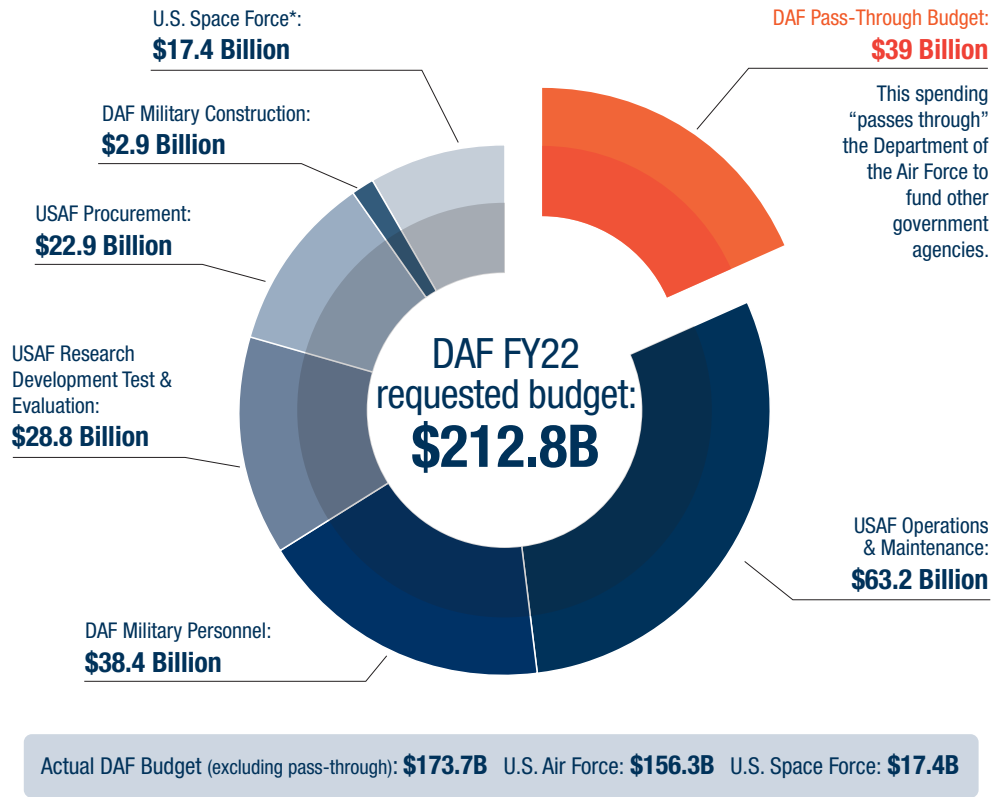
No Bucks, No Airpower

While these circumstances may seem distant when viewed 70 years later, they actually hold particular relevance given where the United States and its allies find themselves today, especially in the context of the threat posed by China in the Pacific. First and foremost, the Department of the Air Force (DAF) faces a severe set of resource challenges akin to what the airmen in the early 1950s experienced. The department took its largest funding hits in the years after the Cold War. Between Fiscal Year (FY) 1989 and FY 2001, the Air Force’s procurement budget fell by 52 percent. This was nearly 20 percent more than the other services. In the wake of 9/11, much was asked of the Air Force, but budget increases failed to keep pace with demand. New joint missions, like the surge in remotely piloted aircraft, were largely funded out of hide.

Figure 8: \$39B of the total annual DAF budget is allocated to other agencies in DOD, and the Air Force exercises no control over this substantial percentage of its own budget.

Credit: Mitchell Institute

Looks Can Be Deceiving: Department of the Air Force Budget is 20% Smaller Than It Looks



* Includes all budget categories related to space.
 ** Numbers may not add exactly due to rounding error.

Source: USAF

Operations in Afghanistan and Iraq were ground-centric, and the money tracked as such. The passage of the Budget Control Act in 2011 made the situation worse. In fact, FY 2013 saw the Air Force with the lowest level of funding for new aircraft in its history. The creation of the new Space Force in 2019 was largely an unfunded mandate that saw the Air Force assuming increased responsibility within its existing budget wedge. Two services resourced through the budget confines of one should alarm defense leadership. As if this were not bad enough, \$39B of the total annual DAF budget is allocated to other agencies in DOD—the Air Force exercises no control over this substantial percentage of its “own” budget. That is enough to buy around 400 F-35s, and it would also go far in the military

space realm. The other armed services do not get taxed at this aggressive rate.⁹⁴

Years of underfunding have left the U.S. Air Force with the oldest, smallest aircraft inventory in its history. Bomber and fighter inventories stand well below their Cold War levels. Mobility; command and control (C2); and intelligence, surveillance, and reconnaissance (ISR) inventories are similarly fragile. Nor is it just raw numbers. It comes down to the technological relevance of aircraft too. Attributes like stealth are in incredibly short supply, with just 20 percent of the USAF fighter inventory and 13 percent of the USAF bomber inventory possessing this necessary capability. Spare parts inventories are frequent targets for budget savings and have a direct correlation to aircraft mission capability rates.

The service also faces key shortfalls when it comes to pilots, maintainers, and other key mission specialties.⁹⁵

Just like the air commanders in Korea found, it takes aircraft and airmen to get the job done. Strategies and operational concepts are of little value unless they can be put into action. That takes a balanced force built around both capability and capacity. Today's service is one that has suffered from years of under investment. The shortfalls experienced by airmen in Korea 70 years ago appear quite similar to present challenges. Attrition and reserve inventories do not exist from both an aircraft and personnel vantage. The force has been optimized for a commercial-like logistics structure, where concepts like just-in-time delivery have been promoted over what may be required in a contested battlespace. This also is reflected in the way complex new weapons systems must be maintained: they rely more on centralized depot services than what can be maintained in austere conditions on a flight line. Concepts like Agile Combat Employment (ACE), while offering tremendous promise, will not work unless the logistics and sustainment enterprise radically

evolves to meet these new requirements.⁹⁶

The rudimentary challenges found by airmen operating from austere airfields in Korea merely suggest at the challenges airmen might find today operating across a far broader swath of territory and subject to attack by an adversary with tremendous sensing and strike capabilities. While aircraft like F-80s, F-84s, and F-86s may have seemed complex in their time, they are nothing compared to the levels of sophistication found in modern combat aircraft and related systems. Given the unrelenting high operational demand and such a low quantity of so many elements of the Air Force's aircraft inventory, ensuring readiness rates will be a critical challenge but necessary to overcome to project ample combat volume in a crisis. Limiting sorties for want of parts or ample maintenance, as happened in Korea, would risk defeat against a modern peer threat.

These pressures bring to mind an observation that Korean War Fifth Air Force Commander General Earle Partridge shared in the wake of the conflict: "One of my biggest failings has been to take a look at chips I have and say, how can I



Figure 9: 5th generation fighters and stealth bombers are high-demand, low density assets—just like F-86s in Korea.

Credit: U.S. Air Force Photos [left](#) | [right](#)

“One of my biggest failings has been to take a look at chips I have and say, how can I best accomplish my mission with what I have? What we should have done was to sit back and scream for more and get what we needed to fight a war and accomplish our mission.”

-General Earle Partridge

best accomplish my mission with what I have? What we should have done was to sit back and scream for more and get what we needed to fight a war and accomplish our mission.”⁹⁷ The reality is that when a war erupts, time does not exist to backfill deficiencies with personnel and materiel. This is especially true given the technical complexity of current weapons systems, limited production capacity, and personnel training bandwidth. Commanders must be postured to fight and win from day one or risk defeat in the modern era, especially when facing peer threats like China.

Airminded Leadership Counts

When it comes to leadership issues, the circumstances airmen experienced in Korea are particularly relevant. For the past 20 years, ground commanders have held a near lock on joint command positions. Just as General MacArthur dual-hatted himself both as CINFE and AFFE, joint task force commanders have an established record of doing the same thing today. As a result, land-centric thinking dominates joint deliberations, staff representation, and, ultimately, decision-making. As a 2017 RAND report on joint leadership balance concluded, “The Air Force is, in fact, consistently underrepresented in the joint positions that interviewees saw as most critical to the nation’s warfighting apparatus.”⁹⁸ A balanced, inclusive process that considers problem sets in a domain-agnostic ends, ways, and means vantage is exceedingly difficult in

these circumstances. One must look back 30 years to General Norman Schwarzkopf in Operation Desert Storm to find the last joint task force commander double-hatted as the land component commander who was able to measurably bridge this joint divide. Failing to achieve that balanced perspective, as has been the case in operations over the last 20 years, results in decision-makers with a strong bias toward land-centric capabilities and strategy. They know little about airpower, and it shows when they engage in strategic deliberations. The parallels with the misapplication of airpower forces in the Korean War are clear.

Even when operations do not involve the predominant use of ground forces, Army leaders have continued to hold joint command positions. Operation Inherent Resolve stands as a preeminent example. Even though the vast amount of force employed was airpower, Army leaders headed the joint task force. It takes years to develop tactical competency, over a decade to develop operational proficiency, and multiple decades to cultivate strategic abilities in a given domain. Clearly, command assignments must better reflect the need for balanced perspectives.⁹⁹

Airmen must speak out more vocally when they are not represented in a balanced fashion. Korea exhibited multiple instances when air commanders were willing to challenge the status quo and advocate for a pathway that would ultimately better serve joint interests. Whether looking at General Stratemeyer seeking overarching



Figure10: Air Force aircraft and airmen will prove vital in any future conflict.

Credit: U.S. Air Force Photos | [left](#) | [right](#)

coordinating control of air assets over Korea or air leaders working with General Clark to push back on the Army’s desire for organic control of air assets—air commanders in Korea prudently leaned into the joint leadership challenges they faced. That sort of engagement has too often been lacking in recent years. After 20 years of operations in Afghanistan and Iraq, it is time for a roles and missions review to ensure mission functions are being executed in the most effective, efficient fashion possible.

Joint does not mean everyone gets to engage in each mission area. It means developing centers of gravity for each domain and allowing them to articulate their value to a joint commander who assembles a menu of capabilities that will best net the desired strategic effect, regardless of the domain from which they originate. As airpower expert Lieutenant General David Deptula, USAF (Ret.) explains, “Jointness is recognizing that to be joint, the U.S. and its allies require separate services, and that it’s an imperative that service members understand how to best exploit the advantages of operating in their

domains. Articulating the virtues and values of your service is in fact ‘being joint.’”¹⁰⁰ An example where these principles need to be applied forcefully is in the long-range strike mission area. Army investment in a wholly organic long-range strike solution—the munition, launch vehicle, and C2ISR construct—speaks to the exact opposite of a balanced joint construct. The same holds true for the lack of consolidation that has yet to occur in the Space Force, with the individual service branches retaining a tremendous volume of organic space capabilities. A major reason behind establishing Space Force in the first place was mission consolidation under dedicated space expertise. If this undisciplined approach is deemed acceptable, then Space Force should be allowed to invest in ships, the Air Force in tanks, the Marine Corps in ICBMs, and the Army continue its investment in long-range strike. Air commanders in Korea rightfully pushed back on these sorts of non-joint approaches, and it is time for such thinking to return to today’s Air Force.¹⁰¹

Limited Wars Demand a Wide Range of Options

The issue of limited warfare faced by airmen in Korea presents incredibly useful areas for today's Air Force leaders to consider, especially as the United States and its allies focus on a renewed era of peer competition with a specific focus upon China. While the United States and its allies must prepare for a conflict with China, the chances for a direct confrontation with the Asian superpower are far from certain. What is far more likely is a series

The issue of limited warfare faced by airmen in Korea presents incredibly useful areas for today's Air Force leaders to consider, especially as the United States and its allies focus on a renewed era of peer competition with specific focus upon China.

of conflicts through proxy states, much like what occurred during the Korean and Vietnam wars. That means we may fight Chinese forces and their equipment, not China directly. That would see the return of similar rules of engagement that would prevent direct attacks on the very centers of gravity empowering adversary combat capabilities. This places a major directive on the U.S. national security

enterprise to develop strategies, both military and diplomatic, that would yield desired effects given likely force projection limitations in a conflict with China.

A major advantage the United States and its allies would enjoy in this sort of a contest, which they did not possess during the Korea War, is a robust sensor-shooter construct. Lacking the ability to strike truly strategic targets would place an impetus on targeting operational level centers of gravity such as C2 centers, logistics lines, supply sites, equipment depots, space downlink sites, and fielded forces. These sorts of targets were incredibly difficult to locate, strike, and assess in an effective, sustainable fashion in the Korea War due to the lack of robust intelligence and precision strike capabilities. That is no longer the case. It

speaks to why concepts like Joint All Domain Command and Control (JADC2), Fifth Generation sensor-shooter aircraft like the F-35 and B-21, and a robust space enterprise are so critical to future military success.¹⁰²

While not directly addressed by this paper, there is also another lesson that can be taken from the Korean War experience when it comes to choosing to decide whether to engage in a war that will be governed by limited rules of engagement: military leaders must carefully consider whether they have the ability to achieve the desired outcome given the actors involved. As Afghanistan and Iraq have amply proven, military prowess is of little value if there is a fundamental disconnect between strategic objectives and the indigenous population. A favorable outcome was secured during the Korea War because there was a common objective shared between the UN, the United States, and the people of South Korea. Such alignment is the foundation on which any successful campaign must be pursued. Such unanimity was fundamentally lacking in Afghanistan and Iraq.

In 2018, then-Secretary of the Air Force proclaimed, "We must see the world as it is. That is why the National Defense Strategy explicitly recognizes that we have returned to an era of great power competition. We must prepare."¹⁰³ This call to action, subsequently echoed by all Air Force leaders, speaks to why the airpower lessons of the Korea War are so critical. They are not simply a distant range of events documented in faded, dusty books, but instead, they serve as a highly instructive set of experiences to guide today's airmen. Airpower has been a crucial facet of victory in every successful military campaign in the 20th century. When Chief of Staff General Hoyt Vandenberg considered events on the Korean Peninsula, he proclaimed, "In my opinion, the United States Air Force is the single potential that has kept the balance of power in our favor. It is the one thing that has up to date kept the Russians from deciding to go to

war.”¹⁰⁴ Airpower is going to make that sort of difference throughout the 21st century—it will come down to “Victory Through Airpower.” We must embrace the lessons of the past and apply them to the challenges of the future.

To meet the perilous challenges ahead, the United States and its allies must together embrace the rich and enduring lessons of the Korean War. The alternative is embracing defeat.✪

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