

# Winter Readings

- Air Base Attack in Desert Storm
- Iraqi Air Power



# AIRPOWER

Winter 1992

JOURNAL



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# AIRPOWER

**JOURNAL**

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# EDITORIAL

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## Missing in Action?

RECENT testimony before the Senate Select Committee on POW/MIA Affairs revealed that high-level US government officials, including two former secretaries of defense, believed that live American servicemen remained under the control of North Vietnamese and/or Laotian forces at the conclusion of Operation Homecoming (the repatriation of American POWs) in 1973. Despite this knowledge, the withdrawal of US forces from Vietnam went ahead as scheduled, as part of the Paris Peace Accords.

Authorities disagree over whether the Nixon administration intentionally wrote off these men to expedite the peace process with North Vietnam or whether they just fell through the cracks. In any event, it is inappropriate to second-guess the actions of officials who, at a very difficult time in American history, surely did what they thought was best for their country.

The number of survivors in question is relatively small. Most of the 300 or so servicemen who disappeared in the jungles of Laos are thought to have been killed in action, but their remains were never recovered. In the case of missing airmen, the jungle is much like the sea, in that doomed aircraft and crews can seemingly vanish upon impact. Until recently, this was a comforting explanation by which one could rationalize the fate of MIAs. The Senate hearings, however, revealed that a few hardy souls evidently survived their crashes and were taken prisoner.

These "non-MIAs" remained in enemy hands after the war, but a lack of concrete evidence as to their whereabouts seemed to rule out rescue. The fate of these servicemen is unknown. The slim possibility that some may have lingered on for years is more horrifying than the more believable contention that they died quickly in captivity.

We all realize the inherent risks of being in the armed forces. Indeed, serving our country means that sometimes we put our lives on the line. Whether in peacetime training accidents or actual combat, military people die. We tell ourselves it's part of the job and force ourselves to move on. On another level, however, some casualties are more difficult to accept than others (witness the incidents of fratricide during the Gulf war).

The current revelations are especially compelling. The possibility that some American servicemen remain in Laotian or North Vietnamese hands long after all POWs were supposedly repatriated is deeply disturbing. We can only hope that this testimony is, perhaps, a final footnote to the frustrating tale of our involvement in Southeast Asia. The American public must consider the plight of these servicemen who may have been left behind and appreciate the fact that at a very difficult time in American history, they did what they thought was best for their country. We in the Air Force never forgot them . . . and never will. JJD



# R I C O C H E T S

*Letters to the editor are encouraged. All correspondence should be addressed to the Editor, Airpower Journal, Walker Hall, Bldg. 1400, Maxwell AFB AL 36112-5532. We reserve the right to edit the material for overall length.*

## COMPOSITE CONTROVERSY

It was with great interest that I read Maj Chris J. Krisinger's "A Carrier Air Wing for the Air Force: Challenges for the Composite Wing" (Spring 1992). As an exchange officer assigned to the Royal Air Force (RAF), I recently had the opportunity to present similar views to the RAF Staff College Basic Staff Course. My solution was to create what I called the air task force (ATF). In fact, the ATF sounds surprisingly like the composite air strike forces (CASF) mentioned by Major Krisinger, which just goes to show that what goes around comes around. The difference in the ATF organization, however, is that rather than reporting to a "paper headquarters" (Nineteenth Air Force) for operational control, the ATFs would be organized around and report to our new streamlined, existing numbered air forces. For example, an ATF in the eastern continental United States composed of F-15C, F-15E, F-16C, B-52, and KC-10/KC-135 aircraft would report to Ninth Air Force upon activation. The ATF would have flexibility in composition (e.g., it might or might not be politically prudent to "show the flag" with B-52s, depending on the situation). Additionally, other highly limited specialty aircraft such as the F-117, EF-111, EC-130, and TR-1 could be assigned as necessary or held back for more centralized control. As the article stated, by retaining monolithic functional wings, we could take advantage of economies of scale in such areas as supply, maintenance, and training.

Major Krisinger presents a very well thought out essay, although I believe he makes at least one erroneous assumption in comparing a Navy carrier air wing to an Air Force air wing/composite wing. The cyclic readiness posture of the Navy's wings is probably not a

result of the composite nature of the wing. Rather, training schedules, reassignment schedules, leave schedules, and so forth, are built around the carrier deployment schedule, which is cyclic. Since Mountain Home AFB, Idaho—or any other base—isn't going to put to sea, there is no reason to assume this workup schedule. Instead, training, manning, and, therefore, readiness should be no worse than they are under our current monolithic wing structure.

The bottom line to Major Krisinger's article is that there are alternatives to the composite wing concept now being implemented and further questions to consider. As we experiment with and refine the composite wing, we might also wish to experiment with a geographically separated force such as the CASF or ATF. Gen Merrill A. McPeak, Air Force chief of staff, has us headed for some turbulent—though exciting—times as we shape our new Air Force. "The Boss" has some interesting ideas, but in the end what really matters is not who came up with what ideas, but what works!

**Maj David M. Hindt, USAF**  
*RAF Boscombe Down, United Kingdom*

The proposed composite wing at Mountain Home AFB, Idaho, would provide improved command and control, reduced mission-planning time, increased flexibility, integrated training, and complete force-packaging advantages, resulting in a high degree of combat capability. However, with today's budgetary constraints, a wing of 72 primary authorized aircraft (F-16s) with role-specific equipment could provide 80 percent of the Mountain Home capability for about one-third the price.

In both the past and the present, the prime argument against using composite wings has been the support cost associated with maintaining the variety of aircraft types. Utilizing one type of multirole aircraft with role-specific equipment could allow support equipment

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# SADDAM HUSSEIN AND IRAQI AIR POWER

## JUST HAVING AN AIR FORCE ISN'T ENOUGH

1ST LT MATTHEW M. HURLEY, USAF

**B**AGHDAD arose early on 17 January 1991, rudely awakened by the opening shots of an air campaign unparalleled in history for its scope, intensity, and overwhelming success. Surprisingly, despite the ferocity of Operation Desert Storm, effective Iraqi opposition never materialized. During the 43-day campaign, only 41 coalition aircraft were lost in combat, all to surface-to-air missiles or antiaircraft artillery fire.<sup>1</sup> For its part, the Iraqi air force (IQAF) offered only feeble resistance. The IQAF shot down no coalition aircraft in air-to-air combat, conducted no successful air strikes against coalition positions, and put only a handful of planes into the air at any given time.



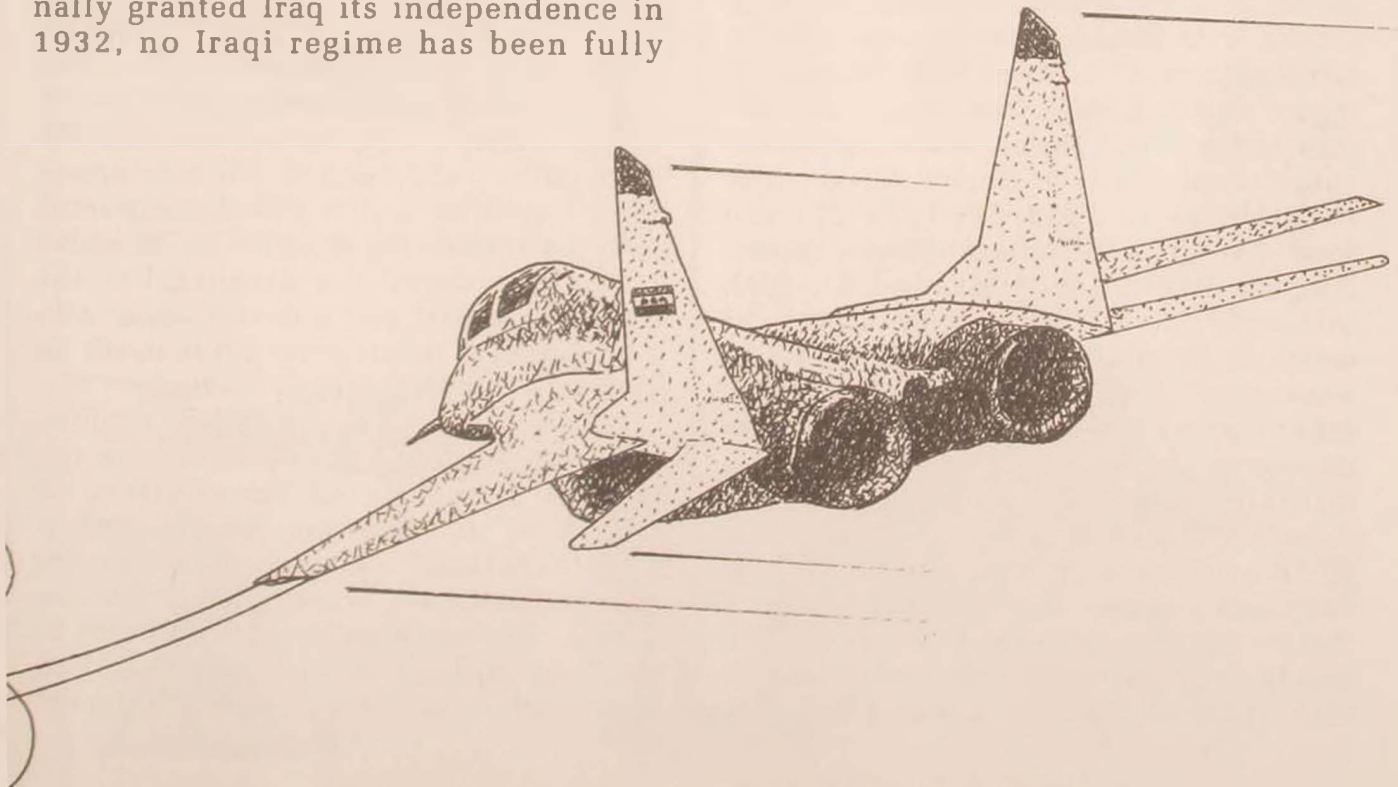
Where was the IQAF? Why didn't this air force, perhaps the largest in the region, put up a decent fight in defense of its homeland?<sup>2</sup> The answer may be found in the policies of Iraqi president Saddam Hussein. Since assuming power, Saddam—driven by a deep-rooted fear of military coups—has systematically undermined the IQAF's capability in order to maintain and maximize his personal rule; he therefore bears the responsibility for its failure. This article discusses the dangers Saddam perceived in a capable air force, his notions regarding the purpose and value of air power, and the subsequent measures he took to control the IQAF. It then shows that those policies led to the gross deficiencies in training, motivation, skill, and employment that lost the air war for Iraq.

### Saddam's Fear of the IQAF

Saddam regards the IQAF with an extreme caution that is rooted in modern Iraqi history. Since Great Britain nominally granted Iraq its independence in 1932, no Iraqi regime has been fully

secure from the threat of a military takeover, and no element of the armed forces has played as prominent a role in Iraqi politics as has the air force. During modern Iraq's first military coup in 1936, rebellious pilots established the pattern for IQAF involvement by bombing the office of the prime minister.<sup>3</sup> Similarly, the air force inaugurated the short-lived Baathist regime of 1963 with an attack against the Defense Ministry in Baghdad.<sup>4</sup> Key IQAF personnel or units led further attempts in 1965 and 1966, and two years later the air force backed the Baath party's second, successful bid to secure the reins of state.<sup>5</sup>

But the IQAF apparently grew dissatisfied with the government it helped to install. Following Saddam's ascension to power, coup attempts sponsored or supported by the air force continued, even at the height of the Iran-Iraq War.<sup>6</sup> More recent attempts, including a scheme in 1988 to shoot down the presidential jetliner and a reported plot in 1989 to bomb Saddam's reviewing stand during a parade, highlight a danger that seemed unlikely to abate on its own.<sup>7</sup>





Besides corrupting the armed forces to the point that "political intrigue became more important to the officer corps than military professionalism,"<sup>8</sup> constant military meddling in Iraqi politics has led to a fundamental characteristic of Saddam's rule. Frankly, he fears his own armed forces—especially the IQAF—and is determined to preclude their involvement in future coup attempts. This might explain why the Republican Guard and the Baath party militia, both established primarily to counterbalance the regular armed forces, are equipped with anti-aircraft weapons (French Rolands and Crotales), which are generally considered superior to the Soviet-made weapons of the IQAF's Air Defense Command.<sup>9</sup>

### Value of the IQAF

Though troubled by the IQAF's rebellious tendencies, Saddam also recognized in air power a potentially powerful asset. Established in 1931 to subdue dissident tribesmen, the IQAF had proven useful to the British and pre-Baathist Iraqi governments in their quest to maintain central control over troublesome regions and disaffected groups.<sup>10</sup> Despite his misgivings regarding the IQAF, Saddam relished the prospect of bombing wayward Iraqis into submission. In fact, during three major campaigns—in 1968–69, 1974–75, and 1987–88—the IQAF was employed against Iraq's independence-minded Kurdish minority, at times using chemical weapons to suppress the Kurds.<sup>11</sup> When necessary, Saddam has also subjected other opposition groups to air attack, as demonstrated by an IQAF strike against militant Iraqi Shiites in 1987.<sup>12</sup> As a potential asset as well as a threat, the IQAF warranted special treatment from Saddam's regime. He wanted an air force that he could employ or emasculate, as he saw fit, to preserve his rule—which meant that "most of the time it was effectively

powerless."<sup>13</sup> His efforts to that effect began even before he assumed the presidency in 1979.

### Control of the IQAF

By 1973 Saddam, then deputy chairman of the Revolutionary Command Council for internal security, had become the de facto strongman of the Baathist regime.<sup>14</sup> His position as Iraq's chief "enforcer" permitted him both to ensure his ultimate assumption of total power and to eliminate potentially threatening elements within Iraq. Towards that end, he intensified a long-running series of military purges. Ranking air force officers frequently fell among the victims, including IQAF commander Hussein Hayawi, who was unceremoniously dismissed in 1975.<sup>15</sup>

By the end of the decade, the purges had reached a fever pitch. Saddam's "cleansing operation" of 1978 resulted in some 60 military executions and the removal of dozens of other officers, among them the latest air force commander.<sup>16</sup> Hundreds more military officers were imprisoned, exiled, or killed after Saddam became president in 1979, and heads continued to roll at a brisk pace during and after the Iran-Iraq War.<sup>17</sup> Even as war with the US-led coalition approached, Saddam apparently feared his military leadership more than the impending assault. In December 1990, he ordered the dismissal of the defense minister and a dozen senior officers, while 16 others were put to death for allegedly "plotting against the regime."<sup>18</sup>

Weeding out a relatively few troublesome individuals failed to ensure the long-term loyalty of the military as a whole, so Saddam engineered a "Baathization" campaign to further cleanse the armed forces of unreliable elements. The party restricted enrollment in the Iraqi Military Academy to Baathists, instructed its military members to ignore

the orders of suspect non-Baathist officers, and decreed the death penalty for military personnel who participated in any kind of non-Baathist political activity. Those party members who were thought to be sufficiently reliable to remain in the ranks were subjected to a steady barrage of Baathist indoctrination and propaganda at every turn.<sup>19</sup>

Of course, lip service to Baathist ideals would not fully guarantee the armed forces' loyalty to the regime. To further ensure their political purity, Saddam co-opted, expanded, and strengthened Iraq's already formidable network of internal security services. Organizations such as the Military Intelligence Department and Baath Military Bureau screen officer candidates, monitor the military and civilian activities of Iraqi personnel, and conduct surveillance in each unit under the guise of "ideological indoctrination."<sup>20</sup> Overseeing all intelligence and internal security operations is Party Intelligence, which also employs agents in the military and directs the party militia.<sup>21</sup>

It is hardly a coincidence that Saddam's half brother, Sibawi Ibrahim, runs Party Intelligence;<sup>22</sup> his family has also found a home in the Iraqi military. By the time Saddam became president, most senior military posts were restricted to his relatives and fellow members of the Tikriti clan,<sup>23</sup> but the process of patronage had begun much earlier. As early as 1969, Saddam sponsored Hussein Hayawi's

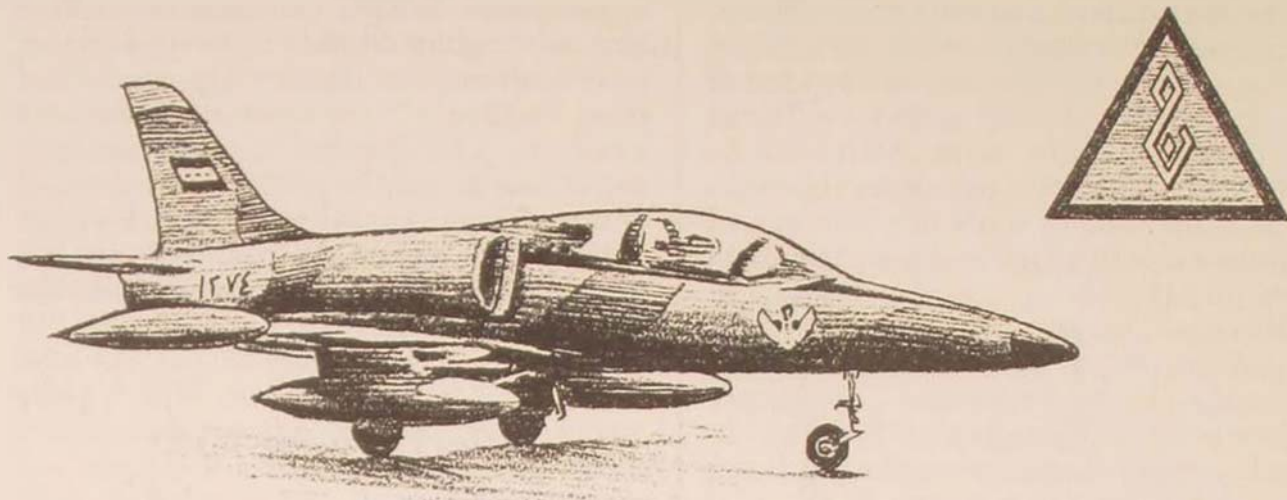
appointment as IQAF commander—not for any outstanding military or administrative qualifications, but because Hayawi hailed from Saddam's hometown of Tikrit and boasted solid Baathist credentials.<sup>24</sup> Regardless of the ties of family or clan, all commanders—including Hayawi—were "continually reshuffled to prevent anyone from establishing a power base within the armed forces."<sup>25</sup>

## Effects on the IQAF

The IQAF's woes were aggravated when Saddam assumed full operational control as commander in chief in 1979. By 1978 the IQAF's attack and long-range bomber squadrons had already been placed under his personal direction to preempt their use in a plot against his regime. To further reduce the chance of an IQAF-supported coup, he severely restricted its operational training.<sup>26</sup> By the beginning of the Iran-Iraq War, the best Iraqi attack pilots—those who would fly the initial strikes against Iranian airfields—were experienced only in attacking defenseless Kurdish villages and dropping dummy bombs on practice ranges.<sup>27</sup> Prospective Iraqi aces fared little better, for the IQAF had rehearsed only one-on-one engagements above 5,000 feet.<sup>28</sup> Iraq might have

*Iraqi air force MiG-29.*





*Iraqi air force L-39 training jet.*

alleviated such shortcomings in training by sending new pilots to its chief sponsor, the Soviet Union. However, Saddam deliberately curtailed the number of pilots sent abroad, fearing that “officers trained there might become subversives.”<sup>29</sup>

To further ensure his domination of the air force and to reduce pilot independence and initiative, Saddam tightened the IQAF's Soviet-style system of rigidly centralized command and control (C<sup>2</sup>). Although centralized C<sup>2</sup> is characteristic of many air forces, the system imposed on the IQAF was far more restrictive—even “personalized.”<sup>30</sup> Saddam directed the planning and execution of all Iraqi air operations in detail, a responsibility that reflected his desire to maintain full authority over every facet of military activity.<sup>31</sup> During the Iran-Iraq War, this system resulted in “rigidly preplanned missions that originated at high levels of command and [took] too long of a period to plan,” not least of them the pathetic counterair “campaign” that opened the Iran-Iraq War.<sup>32</sup>

In such a negative political climate, military professionalism and competence were bound to suffer. Iraqi commanders, eager to avoid accusations of disloyalty or

insolence, dutifully complied with Saddam's every whim, all the while professing their loyalty to the “president commander.” To deflect suspicion, individual pilots also directed their energies towards proving their devotion to Saddam, rather than making the best of what little training and operational planning he had allowed them.<sup>33</sup>

The motivation for these military “reforms” was neither ideological zeal nor the national interest, but Saddam's self-interest. To most observers, a program designed to render a military force virtually ineffective would seem absurd. But to the Iraqi president, who was weighing the potential threats against his personal rule, Iraq's own armed forces posed a greater danger than did any other likely adversary and had to be dealt with accordingly. In the process, Saddam's efforts created a climate in which competence, capability, and professionalism were regularly sacrificed on the altar of political conformity, thus breeding servile mediocrity and reluctance to decide even the simplest matters without explicit guidance from above. Although this result was precisely what Saddam wanted, the Gulf war of 1991—like the Iran-Iraq War before it—plainly demonstrated that political reliability and combat effectiveness are not necessarily compatible.<sup>34</sup>



That Iraq won its war with Iran—insofar as survival may be equated with winning—would seem to refute the theory that Saddam's policies had incapacitated the IQAF. Many analysts, in fact, cite Iraqi air power as a major factor in finally securing Iranian consent for a cease-fire.<sup>35</sup> Such arguments ignore the fact that air superiority will automatically fall to one contending air force when its opponent defaults. Following the Islamic revolution, Iran's air force had been wracked by purges and political devastation which even eclipsed like measures that Saddam had inflicted upon the IQAF, and by 1986 some 5,000 Iranian officers had been executed, imprisoned, or exiled.<sup>36</sup> Simultaneously, Iran's arsenal of American-made aircraft and air defense weaponry steadily dwindled because of a lack of spare parts and replacements, and between 1979 and 1983 the number of operable Iranian combat aircraft fell from over 400 to as low as 70. Iraq, on the other hand, had increased its stock of combat aircraft from 332 to 500 by 1986, adding advanced fighters like the MiG-25 Foxbat and the Mirage F1 to its inventory.<sup>37</sup>

Despite its ever-increasing qualitative and quantitative superiority, the IQAF could sustain only a limited and inconsistent campaign against Iranian targets for most of the war. Poor training, strict control, and Saddam's misguided strategies conspired to deny the IQAF a decisive role until Iraq's near-catastrophic defeat at the Fao Peninsula in 1986.<sup>38</sup> The loss of Fao precipitated a virtual mutiny among Saddam's generals, who demanded the freedom to prosecute the war with a minimum of political interference.<sup>39</sup> The professional latitude subsequently granted the IQAF, though temporary, precipitated "quantum advances" in its effectiveness.<sup>40</sup> For the first time in the war, the IQAF achieved some measure of its full potential and thus was able to weaken Iran's economic infrastructure and contribute to a string of Iraqi battlefield victories that

persuaded Teheran to accept a cease-fire.<sup>41</sup>

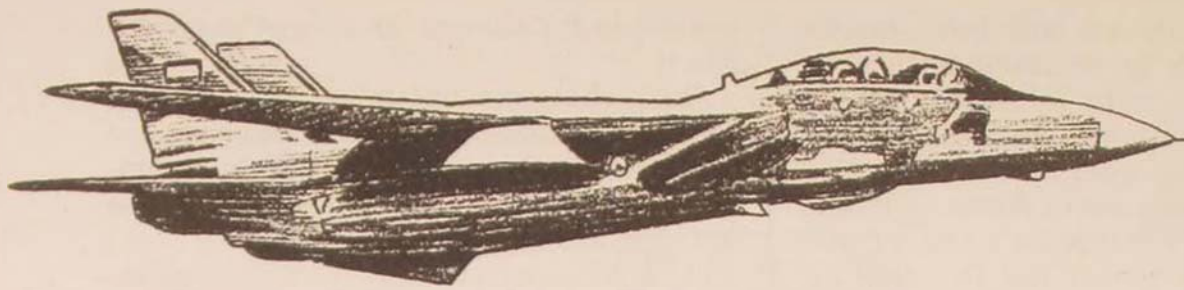
Once the guns fell silent in the Gulf, however, Saddam again turned a vengeful eye inward. To punish his military commanders for their insolence—and for the unforgivable sin of sharing credit for "his" victory—a new round of purges reverberated through the armed forces.<sup>42</sup> The political-control mechanisms were also fully restored, and IQAF training had again dropped to negligible levels by 1990.<sup>43</sup> Soon afterwards, as Saddam once again dragged his nation into war—this time against a capable and well-armed foe—the deleterious effects of his policies became readily apparent.

### The IQAF's Performance in the Gulf War

The first of 109,876 coalition sorties struck just before 0300 Baghdad time on 17 January 1991, less than 24 hours after the United Nations' deadline expired.<sup>44</sup> Television footage of antiaircraft fire over Iraq belied the fact that, despite the intensity of the coalition air assault, opposition was generally light. Coalition commanders initially ascribed the weak response to "a fairly high degree of tactical surprise,"<sup>45</sup> but the pattern persisted and eventually encompassed the entire Iraqi military.

The IQAF perhaps best epitomized this trend. In contrast to the 2,000-plus coalition missions flown on the first day of hostilities, the IQAF sortied only 24 combat aircraft, nine of which never returned.<sup>46</sup> On only four days did more than 40 Iraqi aircraft, including support types, take to the air. Though comparable sortie rates had arguably been adequate against Iran, the coalition's aerial blitzkrieg overwhelmed the Iraqis. After nine days of combat, the IQAF abandoned its attempts to intercept coalition aircraft, acknowledging the coalition's absolute mastery of the air.<sup>47</sup>





*Iranian air force F-14 (top) and F-4 (bottom).*

The restrictions that Saddam placed on the IQAF were most clearly demonstrated when Iraqi pilots did fly, particularly in air-to-air combat. The IQAF's tactics generally seemed confused, and its pilots displayed poor situational awareness by frequently allowing coalition fighters to close to within a few miles before taking defensive action.<sup>48</sup> Iraqi MiG-29 pilots in particular "appeared not to know how to fly,"<sup>49</sup> as demonstrated by an early engagement in which a MiG-29 pilot shot down his wingman and then flew his own aircraft into the ground some 30 seconds later. Iraqi MiG-29 pilots reportedly flew with the air-intercept radar button taped down to lock onto the first aircraft detected and continually depressed the trigger to fire their weapons as soon as they acquired a target.<sup>50</sup> Apparently, all Iraqi fighter pilots practiced these techniques, for when they managed to lock onto coalition aircraft, they launched their missiles at extreme ranges and missed every time.<sup>51</sup>

Attempts to engage coalition aircraft, however unsuccessful, were unusual;

once in the air, Iraqi pilots generally preferred to avoid direct combat. Rather than fight the approaching coalition warplanes, most Iraqi fighters would try to run for cover before coming within range of enemy air-to-air missiles.<sup>52</sup> As Royal Air Force (RAF) Group Capt Niall Irving remarked, "Every time [RAF Tornado F3 fighters] went in for attack, the Iraqis turned tail and put the airplanes back on the ground again."<sup>53</sup>

The strongest testimonial to the IQAF's poor performance in air combat is the final tally: coalition pilots scored 35 kills against Iraqi MiGs, Sukhois, and Mirages—15 in the first three days—while losing none of their own to Iraqi aircraft.<sup>54</sup> Incredibly, in the air-to-ground role the IQAF fared even worse. Its air "counteroffensive" was limited to a single, abortive Mirage F1 raid against Saudi Arabia; a planned Tu-16 chemical attack that never even made it off the ground; and an attempted strike against coalition shipping.<sup>55</sup> During the entire war, only one Iraqi surface-attack aircraft—an Exocet-laden Mirage F1—even went so far as to launch its weapon, which fell harmlessly into the sea.<sup>56</sup>

The IQAF's fourth-rate performance suggests that it was unable, unwilling, or not allowed to fight. The reality is a hybrid of all three hypotheses, and each can be traced to the same root cause: Saddam's concerns about security and associated military policies.

### *IQAF Unable to Fight*

Saddam's emphasis on political rather than military qualifications had promoted a standard of mediocrity within the Iraqi officer corps, whose effectiveness was degraded by the "incompetence and lack of determination bred by politicization" that inevitably resulted.<sup>57</sup> Still worse were the training restrictions Saddam had imposed to minimize the chances of an air attack against his regime. The IQAF's training from August 1990 to January 1991 was "insufficient to maintain an acceptable level of operational efficiency,"<sup>58</sup> and any flying activity that did take place appeared "aimless."<sup>59</sup> For example, IQAF squadrons shunned joint exercises with other air or ground units and never practiced in large formations to prepare a coordinated air defense or concentrated attacks against coalition formations.<sup>60</sup>

Perhaps the greatest obstacle hindering the IQAF's performance, however, was the operational control that Saddam wielded over the armed forces. His absolute authority at every level of military command ensured that his orders, however ill conceived, were carried out. The IQAF was made to suffer for his mistakes, for Saddam "had no idea what airpower is," remarked Gen Charles Horner, commander of the coalition air forces during the Gulf war. "He used his own air force so poorly."<sup>61</sup>

The rigid C<sup>2</sup> system that Saddam had forced upon the IQAF—a system that was crippled with relative ease in the opening hours of the war—proved to be a serious liability as well.<sup>62</sup> Iraqi pilots, suddenly without the direction they had been taught to depend on entirely, were forced

to rely on their own meager skills and initiative—which proved grossly inadequate.<sup>63</sup> When employed properly, centralized C<sup>2</sup> can be a valuable asset, giving the commander "positive control and a clear overview of the air battle."<sup>64</sup> Saddam's personalized system, however, put the Iraqi armed forces in an extremely vulnerable position, because "if any prop was knocked out, the entire strategy could collapse, and it did."<sup>65</sup>

### *IQAF Unwilling to Fight*

Saddam's Baathization campaign was partially successful in one respect: given the military's political priorities and the type of applicants they attract, many Iraqi officers have apparently come to view the armed forces primarily as a vehicle for advancement within the Baath party. As a result, Iraq's air force is sorely lacking in professionalism and esprit de corps.<sup>66</sup> Obviously, a combat death—however glorious—would end a young Baathist pilot's career plans; the more appealing option was to withdraw from the field and later claim a few aerial victories.<sup>67</sup>

Saddam's efforts to subjugate the IQAF had also further alienated Iraqi officers who were already opposed or neutral to the Baath regime. The parade of air force-initiated/executed coup attempts that have plagued Saddam's rule is one indication of the chronic dissatisfaction within the IQAF, a dissatisfaction that intensified as Saddam plunged Iraq into another military crisis. During Desert Storm, disgruntled Iraqi pilots refused to sacrifice their lives to support Saddam's ambitions and ill-formulated strategies, despite any notions of patriotism they might have entertained. One Iraqi defector, summarizing the view of many of his countrymen in the armed forces, complained that Iraqis were being forced to fight "not for the good of the country, and not to defend our own homes, but because of the whim of just one man named Saddam."<sup>68</sup> Consequently, many Iraqi pilots "refused

to fight for a regime they did not respect against an enemy they did,"<sup>69</sup> and rumors of a wartime IQAF plot to overthrow Saddam began filtering out of Baghdad.<sup>70</sup>

When the IQAF was forced to fight, the heavy losses that resulted from Saddam's policies further drained its pilots' combative spirit. Combat against the coalition air forces, whose incessant training could not have gone unnoticed, would be a daunting prospect for even a capable air force. For an Iraqi pilot, whose skills had never been allowed to mature, the natural reaction was to turn and run. It is tempting to attribute such behavior to the fear supposedly generated by the coalition's vaunted technology, but the IQAF itself possessed some very capable aircraft, such as the MiG-29 and Mirage F1. Indeed, those aircraft were the ones most involved in the fighting during the first few days, but they were also the ones most often shot down.<sup>71</sup> According to the Soviet newspaper *Izvestiya*, the mounting losses had "a very dispirited [sic] effect on the psychological state of the flight personnel of Baghdad's aviation."<sup>72</sup> Great Britain's commander in the Middle East, Lt Gen Sir Peter de la Billiere, summed up the situation more succinctly. The IQAF, he said, was simply "too frightened to fight."<sup>73</sup>

#### ***IQAF Not Allowed to Fight***

Saddam had imposed severe political restrictions on the IQAF to minimize the threat it might pose to his regime, but it is important to remember that he also considered the IQAF a valuable asset. Therefore, as losses mounted early in the war and it became apparent that Iraq's air force could not mount a sufficient defense, Saddam attempted to preserve some measure of air power as a precaution against future threats. His rationale is not so difficult to understand, for popular and sectarian revolts in the Middle East have often occurred in the wake of military defeat.<sup>74</sup>

Initially, Saddam sought to protect his aircraft in hardened aircraft shelters, but in late January coalition pilots began striking those shelters one by one, eventually destroying an estimated 141 Iraqi aircraft.<sup>75</sup> Saddam then sought alternate sanctuaries for his planes, including residential areas, remote roadways, important archeological sites, and previously bombed shelters. Those aircraft, dispersed singly and in pairs without logistical or maintenance support, remained grounded for the rest of the war.<sup>76</sup> Although of no further consequence in the fighting, aircraft so disposed did improve Saddam's chances of retaining a loyal in-country force in the event of a coalition victory.<sup>77</sup>

Even more telling, and much more perplexing, was the exodus of some 148 Iraqi aircraft to Iran.<sup>78</sup> A number of interpretations have been offered to explain this odd development, but it appears that the first aircraft were in fact flown by defecting Iraqi pilots. This possibility might explain why some of them ran out of fuel and crashed—indicating poor-to-nonexistent planning and a "last ditch" mentality—and why Saddam initially demanded the return of these aircraft.<sup>79</sup> Shortly thereafter, however, Saddam himself began ordering Iraqi aircraft out of the war zone to preserve "the flower of the air force," including Iraq's entire fleet of Su-24 strike aircraft and an assortment of Mirage F1s and MiG-29s.<sup>80</sup> The length and scale of the operation, which continued for some 15 days and in some cases included entire squadrons, support this explanation, as do reports that Iraqi fighters escorted tanker and transport aircraft to the border.<sup>81</sup> Captured Iraqi sailors claimed that they too had received orders "from the very top" to seek sanctuary in Iranian waters,<sup>82</sup> and people who have studied the Iran-Iraq War may recall that in 1980 Saddam dispersed Iraqi aircraft to friendly regional states to protect them from Iranian air attacks.<sup>83</sup>

Whatever the reason, the exodus ulti-



mately stemmed from Saddam's self-serving policies. Whether the pilots in question were Iraqis who despaired of their inability to fight and wanted to avoid almost certain death in the air, defectors who were simply unwilling to fight, or loyal officers following their president's orders, the root cause remains the same: Saddam's personal security policies drove the air force to Iran, just as they had crippled the IQAF over Iraq and Kuwait.

## Lessons Learned and Relearned

Air power advocates hail Desert Storm's success as the vindication of long-held beliefs first expressed by the likes of Gen William ("Billy") Mitchell and Giulio Douhet in the 1920s. Coalition air supremacy certainly facilitated the rapid success of the ground campaign, prompting Gen Merrill A. McPeak, Air Force chief of staff, to proclaim that "this is the first time in history that a field army has been defeated by airpower."<sup>84</sup>

Perhaps so, but air power is a relative quantity. Coalition forces benefited as much from their enemy's inability and reluctance to fight as from their own skill, preparation, and technical prowess. In fact, by the end of the war, more IQAF aircraft had been intentionally rendered hors de combat by the Iraqi high command than had been destroyed by the coalition.<sup>85</sup> Had the IQAF been a competent, capable, and motivated force, it might have wrought considerable havoc on coalition forces, but Saddam's political shackles relegated any such scenario to the realm of fantasy.

By neutralizing his own air force, Saddam committed a blunder of a magnitude rarely seen in military history; hence, Iraq's case may prove to be unique. The US and coalition air forces must therefore

look to the Gulf war as a reminder that each threat is different, governed by considerations that fall outside bean counting and the stereotypes we tend to formulate. Only in this way can we avoid the mistake of planning for the last war, an all-too-common temptation for victorious forces. A future enemy may not make the same mistakes, and the methods employed so successfully against Iraq under such favorable conditions may not work as well against a less shortsighted foe.

For Saddam Hussein and the IQAF, two lessons of the Gulf war should stand out above all others. First, war is the province of professional soldiers. The Vietnam War, Saddam believed, taught that Americans would never again tolerate a prolonged or costly conflict. He ignored a lesson that American commanders had learned all too well: the chief executive's office is a poor place from which to plan and direct a battle. Thus, while President George Bush vowed that American forces would never again be committed to battle "with one hand tied behind their back,"<sup>86</sup> President Saddam sent his forces into the fray virtually bound, gagged, deaf, dumb, and blind.

Second, just having an air force isn't enough. On paper, the IQAF looked formidable indeed—both in terms of personnel and modern equipment. That qualitative and quantitative advantage might have been sufficient to prevent an Iranian victory in the 1980s, but against the coalition air forces the IQAF could offer little more than token resistance. A painfully obvious lesson of twentieth-century warfare, proven time and again, is that modern weapons are a waste of resources without operators who are willing and able to use them. Saddam serenely defied the lessons of history, and Iraq paid the price for his ignorance. Therefore, if the Gulf war was truly won in the air, the outcome was decided long before the first shot was fired, for Saddam Hussein did more damage to the Iraqi air force than did 2,000 coalition sorties a day. □



## Notes

1. Norman Friedman, *Desert Victory: The War for Kuwait* (Annapolis, Md.: Naval Institute Press, 1991), 353–56. The figure of 41 counts only fixed-wing losses, including aircraft shot down, aircraft that crashed on return due to battle damage, and aircraft that successfully returned to base despite battle damage but could not be repaired. Aircraft lost during the war are as follows:

USAF (14): 1 AC-130H, 5 A-10s, 1 EF-111A, 1 F-4G,  
2 F-15Es, 4 F-16s  
US Navy (8): 5 A-6Es, 1 F-14A, 2 F/A-18Cs  
US Marine Corps (7): 4 AV-8Bs, 3 OV-10Bs  
Royal Air Force (6): 6 Tornado GR Mk 1s  
Royal Saudi Air Force (3): 2 F-5Es, 1 Panavia Tornado  
IDS  
Kuwaiti Air Force (1): 1 A-4KU  
France (1): 1 Jaguar A  
Italy (1): 1 Panavia Tornado IDS

Different sources vary regarding the number of coalition aircraft lost during the war. Of those I have seen, this figure represents the "worst case."

2. According to the International Institute of Strategic Studies, in the summer of 1990 the IQAF boasted some 40,000 personnel and 689 combat aircraft. These included 16 bombers (eight Tu-22s, four Tu-16s, four Chinese H-6Ds), 360 fighter/ground-attack aircraft (30 Chinese J-6s, 90 MiG-23s, 64 Mirage F1-EQ5s, 30 Su-7s, 70 Su-20s, 16 Su-24s, 60 Su-25s), 275 air-to-air fighters (40 Chinese J-7s, 150 MiG-21s, 25 MiG-25s, 30 Mirage F1-EQs, 30 MiG-29s), 12 reconnaissance aircraft (five MiG-21s, seven MiG-25s), two airborne early warning aircraft (Il-76 "Adnans"), and a number of combat-capable trainers. Iraqi foreign minister Ahmad Hussein Khuddayer al-Sammarai later admitted that Iraq actually had 24 Su-24 Fencer strike aircraft. The International Institute of Strategic Studies, *The Military Balance, 1990–91* (London: Brassey's Defence Publishers, 1990), 106; and James Bruce, "Iraq Lists '148 Aircraft in Iran'," *Jane's Defence Weekly*, 27 April 1991, 684.

3. The Committee against Repression and for Democratic Rights in Iraq (CARDRI), *Saddam's Iraq: Revolution or Reaction?*, 2d ed. (London: Zed Books, Ltd., 1989), 206.

4. Ronald E. Bergquist, *The Role of Air Power in the Iran-Iraq War* (Maxwell AFB, Ala.: Air University Press, 1988), 22.

5. The Baathist coup of 1968 actually occurred in two stages. On 17 July the Baath party and military seized power in a joint takeover. The Baathists, dissatisfied with the power-sharing arrangements that followed, seized full control two weeks later. Edgar O'Ballance, *The Kurdish Revolt: 1961–1970* (Hamden, Conn.: Archon Books, 1973), 140; CARDRI, 212; and Phebe Marr, *The Modern History of Iraq* (Boulder, Colo.: Westview Press, 1985), 210.

6. Edgar O'Ballance, *The Gulf War* (London: Brassey's Defence Publishers, 1988), 43.

7. Efraim Karsh and Inari Rautsi, *Saddam Hussein: A Political Biography* (New York: Free Press, 1991), 207; Louise Lief, "Even Three Sets of Spies Aren't Enough," *US News & World Report*, 4 February 1991, 39; and Efraim Karsh, "Regional Implications of the Iran-Iraq War," in *The Middle East Military Balance, 1988–1989*, ed. Shlomo Gazit and Zeev Eytan (Boulder, Colo.: Westview Press, 1989), 105.

8. Bergquist, 21.

9. Samir al-Khalil, *Republic of Fear: The Politics of Modern Iraq* (New York: Pantheon Books, 1989), 31; Karsh and Rautsi, 190; Lief, 39; and Friedman, 25.

10. Bergquist, 19.

11. O'Ballance, *The Kurdish Revolt*, 151, 155–56; al-Khalil, 23; CARDRI, 197; and Karsh and Rautsi, 169.

12. Shahram Chubin and Charles Tripp, *Iran and Iraq at War* (Boulder, Colo.: Westview Press, 1988), 102.

13. Friedman, 23.

14. Karsh and Rautsi, 60.

15. al-Khalil, 294.

16. Karsh and Rautsi, 88.

17. *Ibid.*, 118, 185.

18. "Command Purged," *Jane's Defence Weekly*, 5 January 1991, 10.

19. Chubin and Tripp, 19; al-Khalil, 26–27; Karsh and Rautsi, 88; and CARDRI, 216–17.

20. CARDRI, 216–17; Lief, 39; and Chubin and Tripp, 19, 115.

21. Andrew Rathmell, "Iraqi Intelligence and Security Services," *International Defense Review*, May 1991, 393–94.

22. Lief, 39; and Karsh and Rautsi, 180–81. Before Sibawi—another of Saddam's half brothers—Barzan al-Tikriti directed Party Intelligence.

23. CARDRI, 216, 222; and Karsh and Rautsi, 190.

24. Marr, 213.

25. CARDRI, 222.

26. Anthony H. Cordesman, "Lessons of the Iran-Iraq War: The First Round," *Armed Forces Journal International*, April 1982, 38, 42; and Jasjit Singh, "Military Dimension," in *Iran-Iraq War* (New Delhi: ABC Publishing House, 1985), 95.

27. Anthony H. Cordesman and Abraham R. Wagner, *The Lessons of Modern War*, vol. 2, *The Iran-Iraq War* (Boulder, Colo.: Westview Press, 1990), 83.

28. Cordesman, "Lessons," 38.

29. Cordesman and Wagner, 44.

30. Yezid Sayigh, "Why Iraq Could Not Win," *Middle East International*, 8 March 1991, 6.

31. Karsh and Rautsi, 155; al-Khalil, 276; and Friedman, 247.

32. Cordesman and Wagner, 458.

33. Christine Moss Helms, "The Iraqi Dilemma: Political Objectives versus Military Strategy," *American-Arab Affairs*, Summer 1983, 79.

34. Chubin and Tripp, 116.

35. See, for example, Efraim Karsh, "Military Lessons of the Iran-Iraq War," *Orbis*, Spring 1989, 209–23; and Aharon Levran and Zeev Eytan, "Strategic Air Attacks in the Iran-Iraq War: The Gulf Campaign," in *The Middle East Military Balance, 1987–1988*, ed. Shlomo Gazit (Boulder, Colo.: Westview Press, 1988).

36. David Segal, "The Air War in the Persian Gulf," *Air University Review*, March–April 1986, 53.

37. Cordesman and Wagner, 162, 466.

38. For specific examples, see Cordesman and Wagner, 70, 81, 481; Cordesman, "Lessons," 47; Karsh and Rautsi, 155, 170–71; al-Khalil, 276; Bergquist, 69; and Chubin and Tripp, 61.

39. Karsh and Rautsi, 192.

40. Frederick W. Axelgard, "Iraq and the War with Iran," *Current History*, February 1987, 90.

41. David Segal, "The Iran-Iraq War: A Military Analysis," *Foreign Affairs*, Summer 1988, 957; Anthony H. Cordesman, *The Iran-Iraq War and Western Security, 1984–87: Strategic Implications and Policy Options* (New York: Jane's Publishing, Inc., 1987), 114; Levran and Eytan, 238–40; and Karsh, "Military Lessons," 217.

42. Karsh and Rautsi, 185; and Lief, 39.

43. Bill Sweetman and Anthony Robinson, "The

- Mechanics of Interdiction and Airfield Attack," *International Defense Review*, May 1991, 472; "Desert Storm: The First Phase," *World Airpower Journal*, Spring 1991, 33; and Karsh and Rautsi, 193.
44. Thomas B. Allen, F. Clinton Berry, and Norman Polmar, *CNN: War in the Gulf* (Atlanta: Turner Publishing, Inc., 1991), 142; and Barbara Starr et al., "Success from the Air," *Jane's Defence Weekly*, 6 April 1991, 531.
  45. John D. Morrocco, "Allies Attack Iraqi Targets; Scuds Strike Israeli Cities," *Aviation Week & Space Technology*, 21 January 1991, 20.
  46. Steve Morse, ed., *Gulf Air War Debrief* (London: Aerospace Publishing, 1991), 64, 226.
  47. Starr et al., 531.
  48. Murray Hammick, "Aerial Views: USAF Air-to-Air Combat," *International Defense Review*, May 1991, 744; and Jeffrey M. Lenorovitz, "Allied Air Supremacy Keeps Air-to-Air Engagements Limited," *Aviation Week & Space Technology*, 18 February 1991, 46.
  49. Hammick, 744.
  50. "Iraqi MiG-29 Shot Down Partner Aircraft, Then Crashed in Early Desert Storm Mission," *Aviation Week & Space Technology*, 18 February 1991, 63; and Friedman, 357.
  51. Hammick, 744.
  52. *Ibid.*
  53. "United Kingdom Takes Key Role in Attacks against Iraqi Targets," *Aviation Week & Space Technology*, 18 February 1991, 48.
  54. Morse, 226.
  55. Friedman, 191, 357; and Morse, 53, 80. According to Friedman, the two Mirage F1s that were shot down on 24 January—reportedly carrying Exocet missiles to strike coalition shipping—were in fact on a reconnaissance mission.
  56. John Roberts, "Gulf War: The Air Strategy," *Air Forces International*, no. 3 (1991): 23.
  57. James F. Dunnigan and Austin Bay, *From Shield to Storm* (New York: William Morrow and Co., Inc., 1991), 75.
  58. Sweetman and Robinson, 472.
  59. David A. Fulghum, "US Deploys U-2, TR-1 Spy Aircraft over Gulf in Intelligence Missions," *Aviation Week & Space Technology*, 3 September 1990, 31.
  60. David A. Fulghum, "Analysis Indicates Iraqi Air Force Weak on Innovation, CAS Role," *Aviation Week & Space Technology*, 17 September 1990, 113. This pattern is consistent with the IQAF's performance in the Iran-Iraq War before 1986. In its initial raids against Teheran, for example, the IQAF employed only three aircraft per attack, while ground and air operations appeared to be planned in "virtual isolation from each other." Nick Cook, "Iran-Iraq: The Air War," *International Defense Review*, November 1984, 1605; and Bergquist, 47.
  61. Richard Mackenzie, "A Conversation with Chuck Horner," *Air Force Magazine*, June 1991, 60.
  62. John D. Morrocco, "Allies Shift Air Attacks to Break Ground Units," *Aviation Week & Space Technology*, 28 January 1991, 20–21; *idem*, "War Will Reshape Doctrine, but Lessons Are Limited," *Aviation Week & Space Technology*, 22 April 1991, 43; and Starr et al., 530.
  63. Starr et al., 530.
  64. *Ibid.*
  65. Sayigh, 6.
  66. Charles Q. Cutshaw, "Lessons from the Gulf—A Time for Caution," *Jane's Intelligence Review*, July 1991, 318; and Dunnigan and Bay, 75.
  67. By 11 February, in fact, Baghdad claimed to have shot down 371 coalition aircraft and missiles. "The Losses of Both Sides Multiply," *Izvestiya*, 12 February 1991, 5, in "JPRS [Joint Publication Research Service] Report: Soviet Press Coverage of the Gulf War," Foreign Broadcast Information Service (FBIS), JPRS-UMA-91-008, 18 March 1991, 10.
  68. B. Ivanov, "The Persian Gulf: Negotiations Proceed as Explosions Rumble," *Izvestiya*, 16 February 1991, 4, in "JPRS Report: Soviet Press Coverage of the Gulf War," FBIS, JPRS-UMA-91-008, 18 March 1991, 19.
  69. Roberts, 21.
  70. News of the plot coincided with reports from the Soviet news agency Interfax that the commanders of the IQAF and air defense forces had been executed "for failing to perform their duties with sufficient zeal and determination." The alleged executions have never been verified, but at approximately that time Gen Mezahim Saib replaced Lt Gen Hamid Shaaben al Khazraji as commander of the IQAF. A connection between the two events is possible but difficult to confirm. Tom Masland, "Seeking Haven in Iran," *Newsweek*, 11 February 1991, 32; and Morse, 8.
  71. Of the 15 Iraqi aircraft lost in combat from 17 to 19 January 1991, six were Mirage F1s and five were MiG-29s. The remainder included two Chinese-built F-7s (MiG-21s) and two MiG-25s. Morse, 226.
  72. D. Veliky and B. Ivanov, "Persian Gulf: Allied Supremacy in the Air and at Sea," *Izvestiya*, 4 February 1991, 1, 4, in "JPRS Report: Soviet Press Coverage of the Gulf War," FBIS, JPRS-UMA-91-008, 18 March 1991, 6.
  73. John Boatman et al., "Bombing Campaign to Continue," *Jane's Defence Weekly*, 2 February 1991, 135.
  74. Following Iran's invasion of Iraqi Kurdistan in 1983, for example, Iraqi Kurds revolted against Baghdad in a rebellion that was not suppressed until 1988. Karsh and Rautsi, 168.
  75. The IQAF had some 594 hardened aircraft shelters, 395 of which were hit by coalition aircraft during the war. "A Friend in Need," *The Economist*, 2 February 1991, 19; Dunnigan and Bay, 148; and Allen, Berry, and Polmar, 126.
  76. Helen Dewar et al., "Ground War Not Imminent, Bush Says; Allies to Rely on Air Power 'For a While'," *Washington Post*, 12 February 1991, A13; and Friedman, 161, 164.
  77. John Boatman et al., "Saddam 'May Be Sitting It Out,'" *Jane's Defence Weekly*, 2 February 1991, 138.
  78. According to an official Iraqi statement, those aircraft included 115 combat aircraft, among them 44 Su-20/22 Fitters, 24 Mirage F1s, 24 Su-24 Fencers, nine MiG-23 Floggers, seven Su-25 Frogfoots, and four MiG-29 Fulcrums. Bruce, 684.
  79. Gen Michael Dugan, USAF, Retired, "The Air War," *US News & World Report*, 11 February 1991, 30; and "A Friend in Need," 19.
  80. David Hoffman and R. Jeffrey Smith, "Iraq Sheltering More Than 80 Jets at Sites in Iran, US Officials Say," *Washington Post*, 29 January 1991, A13; and Bruce, 684.
  81. Morse, 84–120 passim; and "A Friend in Need," 19.
  82. Veliky and Ivanov, 6; and "Evasions 'Ordered,'" *Jane's Defence Weekly*, 9 February 1991, 168.
  83. Those sanctuaries included Jordan, Saudi Arabia, Kuwait, Oman, North Yemen, and the United Arab Emirates. Nadav Safran, *Saudi Arabia: The Ceaseless Quest for Security* (Ithaca, N.Y.: Cornell University Press, 1985), 366; O'Ballance, *The Gulf War*, 32; and Cordesman, "Lessons," 47.
  84. "Airpower: Desert Shield/Desert Storm," US Air Force Internal Information Directorate Backgrounder, 1991, 7.
  85. Iraq began the war with about 689 combat aircraft. Confirmed Iraqi fixed-wing losses include 35 aircraft shot

down by coalition fighters, 81 destroyed in the open on the ground, and 12 captured intact in southern Iraq. An estimated 141 were also destroyed in hardened aircraft shelters, for a total of 269. One hundred and fifteen IQAF aircraft flew to Iran, and Saddam grounded the rest. In fact, coalition airborne warning and control system (AWACS) aircraft

detected not a single IQAF sortie after 12 February. "Desert Storm: Gulf Victory," *World Airpower Journal*, Summer 1991, 20-21, 27; and Allen, Berry, and Polmar, 126.

86. W. H. Parks, "Rules of Engagement: No More Vietnams," US Naval Institute *Proceedings*, March 1991, 27.

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# THE AIR FORCE MISSION (SINGULAR)

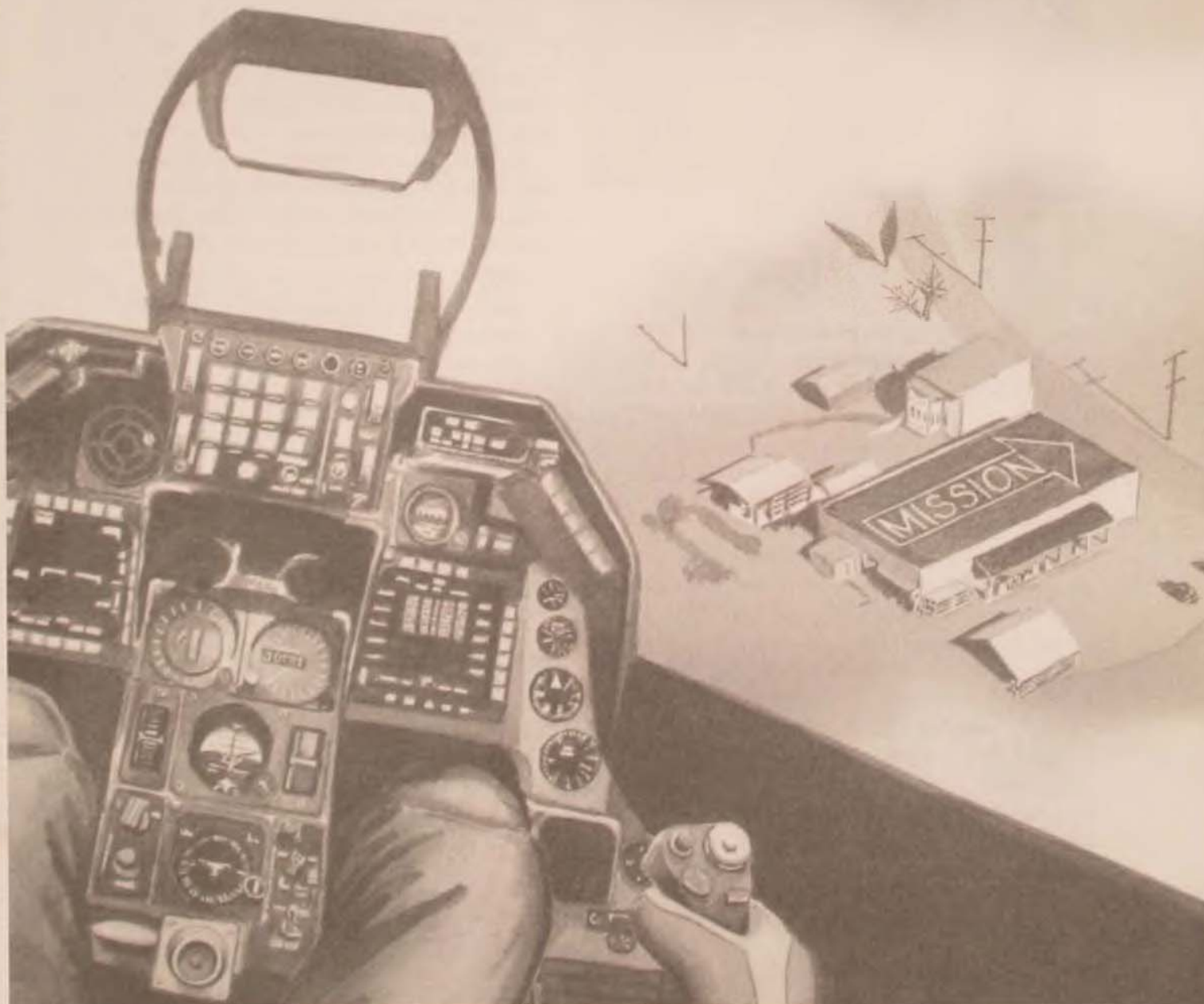
LT COL SUZANNE B. GEHRI, USAF

*MISSION: The task, together with the purpose, which clearly indicates the action to be taken and the reason therefor.*

—Joint Pub 1-02, *Department of Defense Dictionary of Military and Associated Terms*

*USAF MISSION: Our mission—the job of the forces we bring to the fight—is to defend the United States through control and exploitation of air and space.*

—Gen Merrill A. McPeak  
USAF Chief of Staff





**F**OR NEARLY 50 years, the United States Air Force has been without the very essence that defines both military action and institutional identity. Since 1947 we have organized, trained, and equipped air forces without establishing authoritatively the purpose for doing so. For nearly 50 years, we have been without a mission.

We have paid a price—in institutional identity and in our ability to define air power's unique contributions to joint and combined military action. But in the midst of turbulence and change, Gen Merrill A. McPeak, chief of staff of the Air Force, has offered us a way to break into the clear. His contribution is a compass bearing that gives us a heading into the future—a mission statement for the Air Force.

On 19 June 1992 at Maxwell Air Force Base (AFB), Alabama, in a low-key but powerful message to air power leaders and critics alike, the chief gave his best definition of a mission statement by identifying the *task* ("control and exploitation of air and space") and the *purpose* and *reason* for the task ("to defend the United States").<sup>1</sup>

There is room to critique his choice of words, and some people will no doubt take issue with his audacity in giving the Air Force an operational mission when Department of Defense (DOD) Directive 5100.1, *Functions of the Department of Defense and Its Major Components*, declares us to be a functional department.<sup>2</sup> Others will argue that the Air Force already has a mission (e.g., Global Reach—Global Power; organize, train, and equip; etc.) or—better yet—many doctrine-based missions (ranging from strategic attack to aerial refueling).

No stranger to controversy, the chief made clear that he welcomed such debate. Having laid his cards on the table, he challenged the audience to fold, call, or raise against his definition of mission: "Discuss it. Argue about it. Use it to help bind us together."<sup>3</sup>

For all of the controversy he has generated over reorganization, uniforms, and the primacy of "manly men," General McPeak has made a tough and accurate call—one that should touch the heart and soul of airmen in an institution undergoing massive change in an uncertain world. He said we need a mission to tell us who we are and what we do, and to bind us together. He is right.

What our mission should be and how it should be described are issues for argument and debate. What should not be at issue, however, is our critical need—as an institution facing a future that holds both danger and opportunity—for an official, recognized mission. Woven throughout the chief's speech was his conviction that we must generate, along with a shared mission and identity, "a rebirth of the traditions associated with the Air Corps Tactical School [ACTS]."<sup>4</sup> Of all the opportunities presented in his speech, this one holds the most promise and, indeed, the most challenge.

It was no accident that General McPeak asked Gen Charles G. Boyd, then commander of Air University, to host the gathering at Maxwell AFB. According to the chief,

The time, the place and the audience for this address were chosen with care. Some sixty years ago, the Air Corps Tactical School moved to Maxwell from Langley [Field, Virginia]. Here, men like Hal George, Ken Walker, and Muir Fairchild laid the theoretical and doctrinal foundations for an independent Air Force.<sup>5</sup>

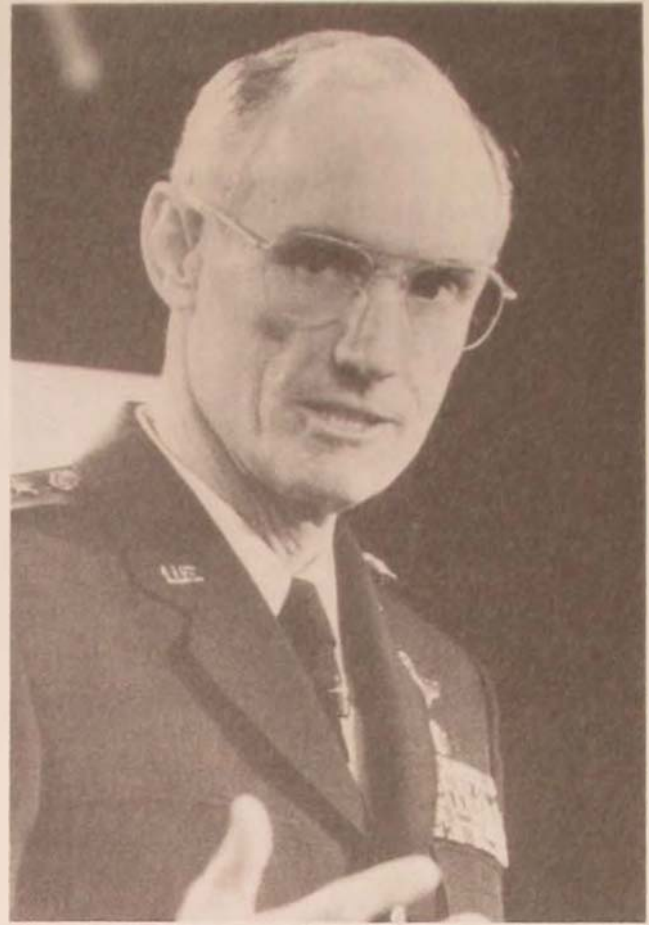
Here, General McPeak implied, during a time that is now recognized as the apex of air power vision and debate, the fledgling Air Corps defined who it was and what it did. For a short time, we had an identity, a purpose, and a clear reason for being.

On 15 September 1939, in an Air Corps Board report approved by the secretary of war, we "established 'for the first time'" what Gen George C. Marshall declared to be "'a specific mission [for] the Air Corps'."<sup>6</sup> It was a simple statement: "'Air

Power,'” the report declared, “‘is indispensable to our national defense, especially in the early stages of war.’”<sup>7</sup> The implications, however, were profound. Air power’s contribution to the Allied victory over Germany was, to quote the Strategic Bombing Survey, “decisive.”<sup>8</sup> One of the results of this performance was that the Air Force earned its independence in 1947.

But part of the price of independence was the severance of the new Department of the Air Force, as an institution, from its operational orientation, putting into peacetime practice the command logic of World War II. Theater commanders—not individual services—fight wars. Implicit in this logic was the assumption that the services did not need a combat mission statement to rationalize the functions which came to characterize their reason for being.<sup>9</sup> Chartered to “organize, train, and equip air forces,” the 1947 Air Force, perhaps unknowingly, came out of the starting gate without an operational framework that gave it a purpose for doing these things. In short, the new Air Force had a function but not a mission. It had nothing that told airmen who they were, what they did, and why. There was nothing to give shape and dimension to the concept of air power—nothing to give the Air Force an institutional identity.

As a result, airmen identified with organizations that *did* tell them who they were and what they did: squadrons, wings, and—ultimately—major commands (MAJCOM). Ironically, each of those organizations was required by regulation to have a mission statement, and the mission of each MAJCOM came to define and separate air power, weapons systems, and airmen, robbing the Air Force itself of an institutional identity.<sup>10</sup> Instead of integrated air power, MAJCOMs embodied different air power and support capabilities (e.g., strategic-nuclear, tactical-conventional, airlift, etc.). Further, the MAJCOMs developed separate weapons system “road maps” that led to no com-



*In a low-key but powerful speech at Maxwell AFB, Alabama, in June 1992, Air Force Chief of Staff Gen Merrill A. McPeak proposed a mission statement for the US Air Force.*

mon destination. Instead of airmen, we had MAC, TAC, and SAC troops, with infinite and intricate hierarchies within. Instead of one Air Force, we had many—each with its own internal identity, mission, culture, and agenda for the future. No single, unifying mission for the Air Force as a whole was officially set above the functions of “organize, train, and equip”—functions which each MAJCOM pursued down its own separate road. And along each MAJCOM road, highway markers reflected separate concepts of procurement, doctrine, and air power application.

The cumulative effects of 50 years without a common purpose were finally recognized in 1989 in an internal white paper produced by Headquarters USAF, Director

of Plans. The theme of the paper was not politically correct at the time, but it was right:

The Air Force has lost a sense of its own identity and of the unique contributions airpower makes to warfighting. . . . The lack of [such] an integrating vision [reveals] a tendency to be tied only loosely to the larger institution, a sense of loyalty more commonly given to airframes or commands, an inclination to focus on systems before missions. . . . Fragmentation thus permeates our internal planning and consequently the way we present ourselves to others.<sup>11</sup>

Graphic evidence of our failure to present a "coherent, strategic vision" to Congress, the white paper continued, was the Air Force's declining budget share: "Between 1985 and 1989, Congressional cuts to the Air Force budget exceeded Army and Navy cuts combined." Even more telling, perhaps, was our inability to articulate to what strategic end our desired billions were going. As a result, concluded *Inside the Air Force* in its review of the white paper, "without a clear mission unique to the Air Force, the service ends up in a subordinate role to the Army or Navy."<sup>12</sup> After undergoing a "narrow but important" circulation, the white paper, as could be expected, caused a great deal of controversy inside the Pentagon. The authors eventually decided not to publish it.

Nevertheless, they had at least put into limited circulation a gutsy appraisal of our fundamental problem as an institution. General McPeak both validated and vindicated their effort on 19 June 1992 when he posed this powerful question to his audience: "How can you reorganize, restructure, how can you build a Quality Air Force if you cannot say, in clear, simple language, what the purposes of our organization are . . . in brief, what our mission is?"<sup>13</sup> The answer he gave to the first part of the question was, You can't. His answer to the second part was a simple, clear, and brief statement of the mission,

meant to encompass a purpose for an institution and its people: "Our mission . . . is to defend the United States through control and exploitation of air and space."<sup>14</sup> Does the Air Force need a mission? Yes. Is this the right mission? For the first time in 50 years, airmen are challenged and encouraged to debate the fundamental and enduring questions of air power to find the answer.

Will the chief get the quality debate that he and his cause deserve? The move toward physical integration, reflected in our current restructuring, is fertile ground for the next logical step: an integration of purpose and spirit. But there is also some cause for concern. Will the "new generation of missionaries"<sup>15</sup> he is calling for to preach the gospel of a single mission be stillborn? Will the new MAJCOMs be willing to subordinate their particular weapons systems, views of air power, and demands for resources to the greater interest of an *Air Force* mission? Will senior Air Force leaders, whose public self-images often reflect primary loyalty to a particular weapons system, foster and—above all—*value* argument and debate about an overarching mission that would relegate their weapons systems to simply one of many means available to achieve the mission's end? Airmen look to their senior leaders for priorities, attitudes, identities, and values. If these leaders give only lip service to the chief's call for joining the debate on mission, then the debate will be without substance. Where they lead, the force will follow.

To arrive collectively at who we are and what we do as a single, integrated institution, however, requires more than just individual effort or behavioral change. When the chief called for a "rebirth of the traditions . . . of the Air Corps Tactical School," he asked for a great deal. What was unique about ACTS was not just the quality, vision, and dedication of its faculty and students—it was the extraordinary value its leadership placed on the *efforts* of those people.



The spirit of ACTS was one that valued the knowledge and study of air power and the art of warfare as much as it did its execution. George, Walker, and Fairchild, together with Haywood Hansell, Laurence Kuter, and Carl ("Tooney") Spaatz—to name a few of the great ACTS faculty in the 1930s—were not only warriors, but scholars as well. On the eve of World War II, they put their knowledge of mission, doctrine, tactics, and training together and built Air War Plans Division-1 (AWPD-1), the first strategic air war plan.<sup>16</sup> Neither the president of the United States, nor General Marshall, nor Gen Henry H. ("Hap") Arnold, nor Gen Dwight D. Eisenhower called their effort "ivory-tower BS." The knowledge of air power contained in AWPD-1 and its successor plans was more than valued by these leaders—it proved to be invaluable to a nation at war.<sup>17</sup>

If General McPeak wants a new generation of missionaries to embody the spirit

of those who studied, debated, and tested the true mettle of air power—and if he wants them to help him unify the Air Force under a single, overarching mission—he must support a change in culture among the very leadership of which he is the defining example. Senior Air Force leaders must reexamine the value they assign to the study of air power, strategy, and doctrine—all of which are fundamental to our ability to execute our mission, but none of which can be done properly unless framed by a mission. Senior leaders must create an incentive structure to encourage and reward warriors who choose to study the strategy, history, and doctrine of air power.

*Gen Henry H. ("Hap") Arnold, chief of the Air Corps (right, with Maj Gen Elwood Quesada), charged the best minds from the Air Corps Tactical School with devising the first strategic air war plan—Air War Plans Division-1 (AWPD-1). This document proved invaluable to the US after it entered the Second World War.*





By asking for debate on the Air Force mission, General McPeak has also implicitly challenged our doctrine to support this mission in a thorough and systematic way. Without the common end of an institutional mission, however, there has been no real anchor for doctrine to develop this logical relationship with mission. Long fragmented among MAJCOMs and the Air Staff, our current process of doctrine development may not be up to the task of mission support.

If the chief wants a mission to help "build a Quality Air Force," he must also put the Air Force's process of doctrine development to the quality test—for the two should be linked. In March of 1939, Secretary of War Harry H. Woodring tasked the Air Corps Board to "consider and recommend the fundamental policies that would govern the tactical and strategic employment of the Army's air force under current national policies."<sup>18</sup> In a private memo to General Arnold, chairman of the board, Colonel Spaatz (who served as a board member) indicated that the Air Corps Board "could not perform its tasks until it first determined the Air Corps' mission, the doctrines for its employment, and the characteristics of the

*Appreciation for the rigorous study of air power, strategy, and doctrine declined after the heyday of the Air Corps Tactical School. Current indications, however, point toward a resurgence of esteem for our colleagues in the "ivory tower." Above, doctrine analysts prepare for a planning session in Air University's Center for Aerospace Doctrine, Research, and Education (AUCADRE), at Maxwell AFB, Alabama.*

forces it would require."<sup>19</sup> Arnold concurred, and the board—in precise order—stated a mission for the Air Corps. This gave Spaatz the rationale to task his Air Corps plans section to finish the Air Corps' basic doctrinal manual, which had been stalled for many years.<sup>20</sup>

First mission, then doctrine, Spaatz insisted. Once this sequence was established, planners were able to build force requirements and produce AWPDP-1 in just nine days. Forty-eight years later, eight days after the Iraqi invasion of Kuwait, Gen H. Norman Schwarzkopf received and approved the first briefing on what became known as the strategic air campaign for Operation Desert Storm. Filed with that briefing of 10 August 1990 was an underlined copy of appendix 4, paragraph 2, of AWPDP-1. Its title? "The Air Mission."<sup>21</sup> With specific national objec-



tives constituting our mission in the Gulf, the logic of Spaatz's sequence was repeated in Desert Storm. Air power doctrine—the fusion of experience and judgment—was the medium used by Desert Storm air planners to translate mission objectives into strategy, and strategy into force requirements. As our victory showed, the logic of this connection between mission, doctrine, and force requirements is fundamental to both strategic success in war and to a coherent, effective vision for the future of air power. And it begins with a common definition of a mission for an institution and its people.

General McPeak has offered us a beginning, not an end—a starting point, not a specific destination. "Understanding our mission," he said, "will [give] us a steady compass bearing to get through this heavy weather and into the clear."<sup>22</sup> But understanding our mission means that we must make some fundamental changes to the *culture* of the Air Force as well as to its organization.

Organizational restructuring has already begun, and it is a decisive step in the right direction—forging a single Air Force identity. The real test will be our ability to subordinate command parochialisms to an overarching mission supported by a dynamic and effective doctrine. Taking up the chief's challenge to argue and debate, to restore the spirit of the Air Corps Tactical School, and to derive unity and identity from a single mission requires Air Force leaders who will recognize, encourage, and value the uninhibited, *critical* study of air power, doctrine, and strategy as much as they have the technical application of air power.

General McPeak has called it right. A reorganizing Air Force in an uncertain world must forge a common identity and state an institutional purpose in order to survive. Both identity and purpose are embodied in a mission statement. Are we ready, from the top down, to make the fundamental changes required to give that

mission a chance to work—to make a single, powerful, and relevant Air Force out of the many that exist today? We should be more than ready. □

#### Notes

1. Gen Merrill A. McPeak, "Does the Air Force Have a Mission?" text of speech to a dining-in at Air University, Maxwell AFB, Ala., 19 June 1992, 5.

2. The first major function of the Air Force, listed under the heading "Primary Functions of the Air Force," is "to organize, train, equip, and provide forces for the conduct of prompt and sustained combat operations in the air." DOD Directive 5100.1, *Functions of the Department of Defense and Its Major Components*, 25 September 1987, 19.

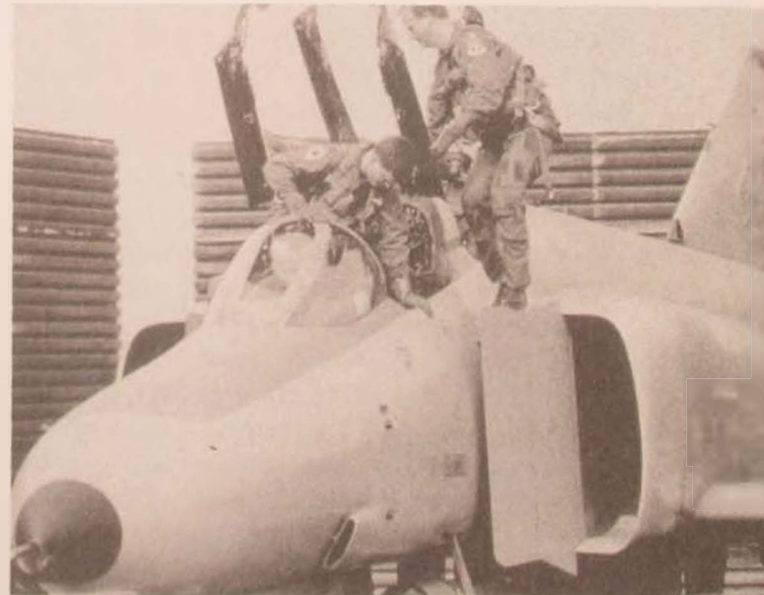
3. McPeak, 10.

4. *Ibid.*

5. *Ibid.* Capt Harold L. George, Lt Kenneth N. Walker, and Maj Muir S. Fairchild all held faculty positions at ACTS in the 1930s and were considered some of the premier thinkers in the fledgling Army Air Corps. Robert Frank Futrell, *Ideas, Concepts, Doctrine: Basic Thinking in the United States Air Force*, vol. 1, 1907–1960 (Maxwell AFB, Ala.: Air University Press, December 1989), 109.

6. Futrell, 95. "Following the practice of other arms and services, an Air Service Board was established at Langley [Field, Virginia] in 1922." It was redesignated the Air Corps Board in 1926 and moved with ACTS from Langley to Maxwell Field, Alabama, in 1931. The board was comprised of those senior Air Corps officers who were available for cre-

*The coalition victory in Operation Desert Storm showed that the connection between mission, doctrine, and force requirements is fundamental to both strategic success in war and an effective vision for the future of air power. Here, a crew prepares an F-4 Wild Weasel for the trip back home following the conclusion of the Gulf War.*





ative thinking in the early 1930s and became, in effect, "an arm of the Office of Chief of the Air Corps on detached location at Maxwell Field," with senior ACTS faculty doubling as members of the board. By 1935 the board's mission included preparing uniform tactical doctrine for all types of Air Corps units, making recommendations on air force organization, making tactical evaluations of equipment, and wrapping all that up into long-range planning. Futrell, 62-79.

7. *Ibid.*, 95.

8. *The United States Strategic Bombing Surveys (European War) (Pacific War)* (30 September 1945 and 1 July 1946; reprint, Maxwell AFB, Ala.: Air University Press, October 1987), 37.

9. On 26 July 1947, President Truman signed the National Security Act, which "created the National Military Establishment and made substantial changes in the nation's defense organization to include a separate Air Force . . . nominated James Forrestal as the first secretary of defense and issued an executive order prescribing the functions of the several armed forces." Futrell, 196. Truman's executive order charged the Air Force to organize, train, and equip air forces for air operations, including joint operations.

10. Air Force Regulation (AFR) 20-, 21-, and 23-series require organization and mission statements for USAF general, department, and field units.

11. "Closely Held USAF White Paper Warned Lack of Vision Could Cost Service," *Inside the Air Force* 2, no. 20 (17 May 1991): 13-14.

12. *Ibid.*, 12.

13. McPeak, 1.

14. *Ibid.*, 5.

15. *Ibid.*, 10.

16. Former ACTS faculty member Lt Col Harold George headed the Army Air Forces Air War Plans Division, which was tasked on 9 July 1941 by President Roosevelt and the War Department to determine the aircraft production and strategic concepts required to defeat potential enemies. George's entire Air War Plans Division consisted of only three other officers: Lt Col Orvil Anderson, Lt Col Kenneth Walker, and Maj Haywood Hansell—all former ACTS faculty. Quickly augmented by several other Air Corps officers (including Maj Hoyt Vandenberg and Maj Laurence Kuter), the Air War Plans Division began serious planning on 4 August 1941. On 12 August 1941, they completed AWPDP-1, "Munitions Requirements of the Army Air Force." Futrell, 109.

17. Futrell's assessment of AWPDP-1 reflects not only the value of the plan itself, but the high degree of faith and trust placed by the president and General Arnold in the efforts of a handful of air planners. "The completion of the first major strategic air war plan by the newly formed Army Air Forces staff in only nine days was a notable achievement, which marked both the apex of prewar air force doctrinal thought and a blueprint for the air war that would follow." Futrell, 109. For a short but compelling story of how AWPDP-1 was created, read James C. Gaston's *Planning the American Air War. Four Men and Nine Days in 1941: An Inside Narrative* (Washington, D.C.: National Defense University Press, 1982).

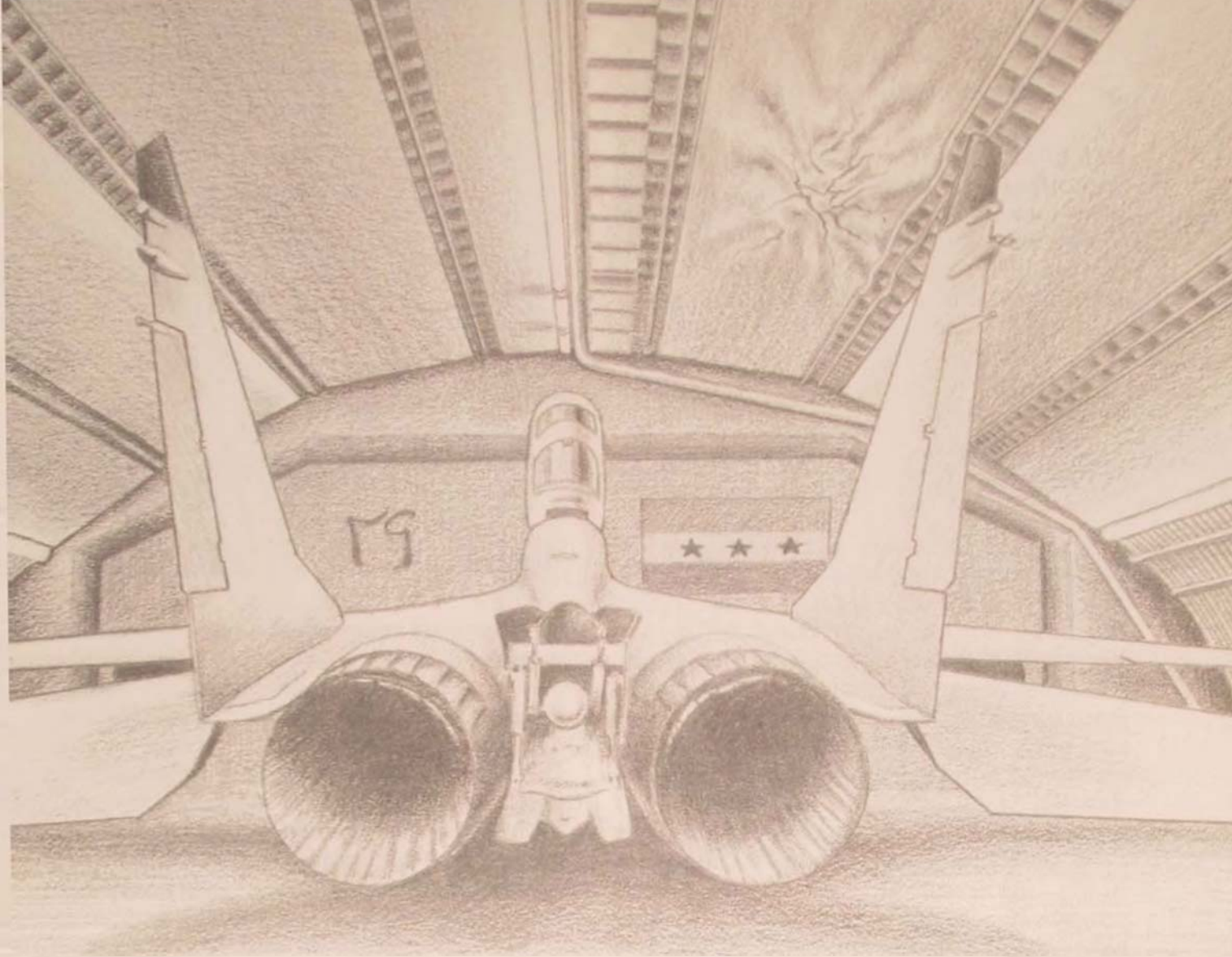
18. Futrell, 92.

19. *Ibid.*, 92-93.

20. *Ibid.*, 93.

21. *Ibid.*, 109.

22. McPeak, 9-10.



# IGNORANCE IS RISK

## THE BIG LESSON FROM DESERT STORM AIR BASE ATTACKS

CHRISTOPHER M. CENTNER

**M**ANY observers have declared that the air campaign was *the* decisive component of Operation Desert Storm and that air base attacks were a critical component of the campaign. These attacks helped achieve air superiority, destroy many of Saddam Hussein's weapons of mass destruction, and lessen the long-term threat that Iraq poses to its neighbors. The video images from the campaign tend to give spectators the impression that air base attacks were flawlessly planned and executed. In reality, the anti-air base component of the air campaign highlighted a major—and dangerous—omission in the US Air Force's strategic analysis. Specifically, we lack an organization that studies the design and opera-

tion of foreign air bases for the purpose of exploiting weaknesses. This article briefly describes how the coalition planned and executed air base attacks during Desert Storm and explains how some of the lessons learned are in reality only symptoms of this more significant omission.

## Target: The Iraqi Airfield Network

Iraq's violent past had taught its air force that air base attacks were a grave menace. Iraqi airfields had undergone recurring onslaughts by Great Britain (in World War II), Israel, and Iran (during the Iran-Iraq War). In particular, the various Arab-Israeli conflicts demonstrated to Iraq that wars could be won or lost as a result of airfield attacks. This fact was most evident in 1967 when, on the dawn of the Six-Day War, a surprise Israeli attack destroyed the Arab air forces at their airfields. Arab aircraft were caught parked wingtip-to-wingtip at their main operating bases (MOB). They were not in shelters because the Arabs had planned to disperse them to other bases for wartime survival. Consequently, at a cost of only 19 aircraft, Israel destroyed 375 Arab aircraft on the first day of the war.<sup>1</sup>

This bitter lesson inspired a sudden surge in the construction of hardened aircraft bunkers (HAB) and personnel bunkers at Arab air bases. Other critical airfield components—such as petroleum, oil, and lubricant systems—were made more redundant and robust. By the time the Arab-Israeli war of October 1973 broke out, Israel faced well-protected enemy air forces. Because their adversaries' aircraft were now protected by dispersed concrete HABs, Israeli pilots resorted to runway attacks (in conjunction with attacks against command and control [C<sup>2</sup>] facilities).<sup>2</sup> These runway attacks were only temporarily effective, however, since Arab



repair teams restored the runways in just nine to 12 hours.<sup>3</sup>

In Desert Storm, coalition air forces faced a formidable Iraqi air base network, the product of a massive hardening and survivability program that may be considered a model for air forces worldwide. For instance, the Iraqis had extended their air base network to include a ring of identical, hardened dispersal bases along their border. Each base in this network—known as Project 505 and begun during the Iran-Iraq War—contained 12 widely dispersed HABs with half-meter-thick concrete walls, eight fuel tanks, two power stations, and squadron operations facilities.<sup>4</sup> Buried and hardened airfield support components were scattered throughout each air base, many of which covered 5,000 acres.<sup>5</sup> Iraq also organized airfield-repair teams that were supplied with fast-setting concrete and other critical material.<sup>6</sup> Almost 600 HABs built to NATO standards (or better) were constructed in Iraq by British, Belgian, French, and Yugoslavian contractors.<sup>7</sup>

At the heart of the Iraqi airfield network were three bases built for—and as—strategic assets. Planned as early as 1975 and code-named Project 202, these airfields were designed to function during chemical, biological, and even nuclear war and were dubbed “superbases” by the press.



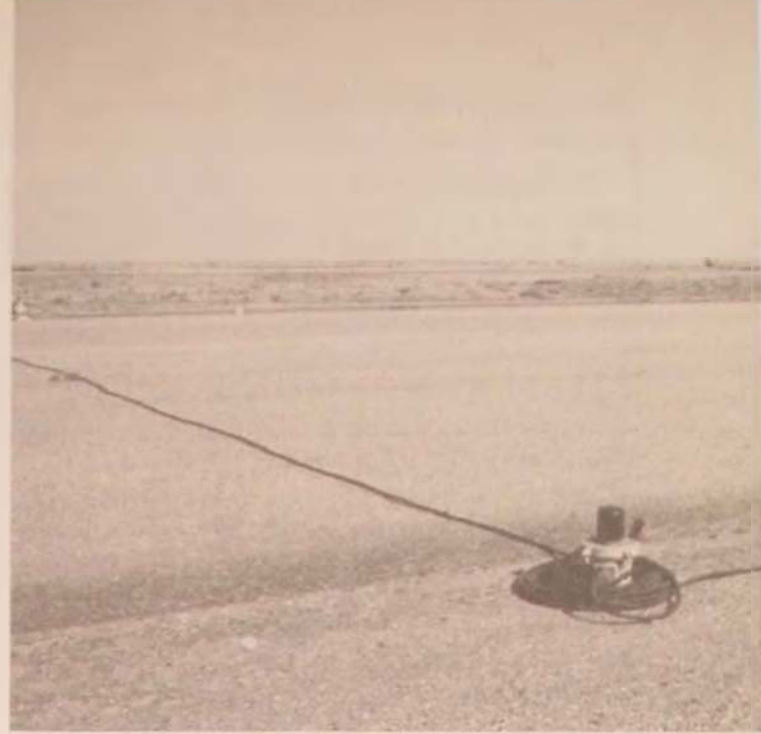
*Initial attempts by RAF Tornado aircraft to crater Iraqi runways may have been ill-advised because many airfields were built to withstand such attacks and continue operating. Left, Iraqi repair teams have filled a crater on the flight line and, right, have installed mobile runway lights to mark undamaged routes along taxiways at Jalibah Southeast Dispersal Air Base, Iraq.*

Construction of these bases for Iraq's strategic strike aircraft apparently began in the mid-1980s.<sup>8</sup> Every airfield component was protected by layers of thick concrete. "I will admit that this air base literally overwhelmed me," declared Lt Col Sergey Bezlyudnyy, a former MiG-29 flight instructor stationed in Iraq. "I had never seen anything like it before, although while serving in the [Soviet] Union I had been in scores of garrisons. The equipment, shelters, and blast walls—everything was the last word in equipment and of outstanding quality."<sup>9</sup> The aerodynamic-looking HABs at the airfields were "superhardened," built to withstand all conceivable threats. "As far as I could see," said Colonel Bezlyudnyy, "it would have been virtually impossible to destroy this [HAB] with tactical weapons, even superaccurate ones, and probably only by using nuclear warheads."<sup>10</sup>

Desert Storm was to be the first war that matched the USAF against an adversary with first-rate, modern air bases. Indeed, Iraq hadn't built mere airfields; it had built fortifications. As described to the US Air Staff in December 1990 by an intelligence analyst, the air base hardening program had "made [Iraq's] airfield network the strongest component of [its] air force."<sup>11</sup>

## Air Base Attack Priorities

Planners shaping the coalition's air base attacks faced formidable obstacles, the biggest of which was the meager information initially available on Iraqi airfields. Although documents on adversary aircraft



and tactics written by analysts at the Foreign Technology Division and Tactical Air Command were available to coalition pilots, similarly detailed documents on Iraq's air bases were nonexistent.<sup>12</sup> No USAF organization was dedicated to analyzing *air base* performance and weaknesses, and the few experts on Iraqi air base operations were scattered throughout the globe.<sup>13</sup> Fortunately, the coalition had over five months to consolidate information before Desert Storm began. Even so, critical air base information was still being fed into the theater long after the bombs began to drop.<sup>14</sup>

Priorities assigned to particular Iraqi air bases reflected the various priorities of the campaign as a whole. Desert Storm's primary goal was the liberation of Kuwait, a feat which required air superiority over Kuwait and southeastern Iraq. Additionally, the campaign sought to neutralize Iraq's weapons of mass destruction (chemical and biological weapons), which threatened the coalition, Israel, and the entire region. Finally, planners wished to break the long-term military threat that Iraq posed to its neighbors by significantly reducing its overwhelmingly large conventional military force.<sup>15</sup> Each of these goals mandated that different, but overlapping, sets of air bases be attacked.

During the war's initial phase, planners estimated the damage required to render a particular air base inoperable and then created air tasking orders (ATO) that specified the size of strike packages against each air base. They also anticipated reattacks to maintain the required level of damage or to destroy particular target sets. Bomb damage assessment (BDA) was to be a crucial component in determining further attack requirements after the initial attacks.

### *Air Base Target Sets*

The coalition targeted bases according to their importance to the Iraqi air base network, their location, the type of aircraft they housed, and the presence of weapons of mass destruction. Planners dropped many of Iraq's 66 air bases from ATOs because attacking them would not help accomplish the campaign's strategic goals.

During the process of determining the amount of effort to expend on a particular air base, planners paid strict attention to the base's geographic location. They targeted Tallil, Jalibah Southeast, and other air bases because they were only a short flight from the Kuwaiti theater of operations. Air bases used to defend Baghdad's air defense sector and avenues of approach, especially bases that housed advanced aircraft such as the MiG-29, were attacked early in the campaign. Bases north of Baghdad opposite Turkey or Iran were a lower priority.

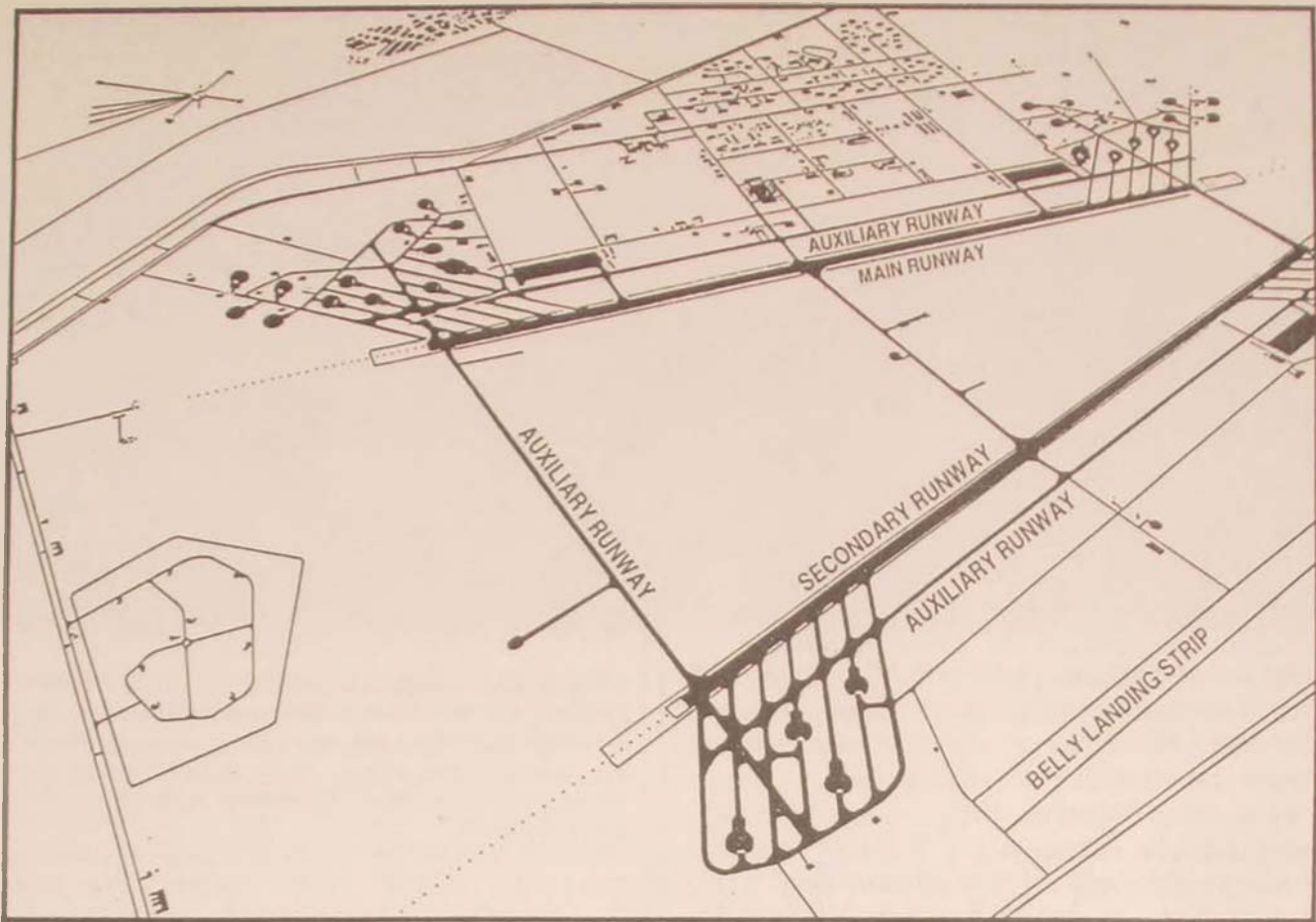
Iraq's deployment bases situated along the Saudi border (e.g., As Salman North and Wadi Al Khirr New) were targeted because of their importance to Iraq's total air base network, as well as their geographic location.<sup>16</sup> In peacetime these bases were used infrequently since most of Iraq's aircraft were stationed at interior airfields. However, Iraq's combat aircraft generally lacked sufficient range to attack Saudi targets from peacetime locations.

Damaging these deployment bases would reduce Iraq's ability to mount counterstrikes and would force Iraqi aircraft to remain at their MOB's. In short, attacking the dispersal airfields would decrease the Iraqi air threat and increase the value of attacks on the MOB's.

Chemical and biological weapons were among the greatest threats facing coalition forces. The coalition intended to smash Saddam Hussein's chemical warfare (CW) capability with swift, massive attacks upon production centers (Samarra and other major sites), storage locations (munitions depots), delivery means (artillery, ballistic missiles, and strategic aircraft), and C<sup>2</sup> nodes. These goals mandated that CW storage sites at or near airfields be attacked as part of the anti-air base campaign. Additionally, planners targeted air bases in western Iraq that housed air-delivered chemical weapons or Scud missiles aimed at Israel. Finally, air bases with long-range aircraft (the Mirage F-1 and Su-24 Fencer) capable of delivering these deadly weapons deep into coalition territory were high-priority targets.

### *Individual Target Sets*

The first Desert Storm attacks were launched against Iraq's C<sup>2</sup> facilities, which coordinated operations throughout the nation's air defense network. Coalition F-117s and other aircraft simultaneously attacked Iraq's air force headquarters, the air defense operations center, sector operations centers, intercept operating centers, and observation posts. These assaults immediately shattered the formidable Iraqi air base network into isolated air bases, thus eliminating the enemy's ability to coordinate operations.<sup>17</sup> By continuing its attacks on air force-related C<sup>2</sup> nodes throughout the campaign, the coalition prevented the Iraqis from reestablishing any semblance of a unified air defense system.<sup>18</sup>



### *The Pavement War*

The first round of air base-specific attacks was directed primarily against runways and operating surfaces. Planners hoped that these attacks would prevent the Iraqi air force from contesting coalition air superiority. However, Iraq's airfields frequently had two or more widely separated and lengthy runways connected by redundant taxiways, at least one of which was long enough to use for emergency operations.<sup>19</sup> Multiple-approach taxiways connected each aircraft bunker to the runway. The bunkers were clustered at the ends of the runway, and each bunker's approach taxiway was linked to its neighbor's, thereby providing redundant means to gain access to operating surfaces. Additional emergency operating surfaces were available along highway strips that were wide enough to accommodate Soviet-built Il-76 transports.<sup>20</sup>

*Balad Southeast Airfield is one of the finest examples of Iraq's meticulous program of air base hardening. Hardened aircraft bunkers (HAB) at the ends of runways are linked by multiple-approach taxiways, and several auxiliary runways are available if the main runway is damaged. All other critical air base components are widely scattered and hardened.*

Although trained runway-repair teams and repair equipment were present at Iraqi air bases, the coalition planned no concurrent attacks against these teams or their stockpiles.<sup>21</sup> Thus, the pavement attacks addressed only half of the problem: the pavement would be damaged, but the capability to repair it remained viable.

In the early-morning calm of Desert Storm, packages of from four to eight Panavia-built Tornados sped over at least 10 Iraqi airfields. Flying at levels as low as 30 meters in pitch darkness, the aircraft sped along the enemy aerodromes, releas-





ing submunitions and mines from JP233 runway-denial weapons.<sup>22</sup> The taxiways between the HAB groups and the runway were the attackers' aiming points.

Determining what effect, if any, the runway attacks actually had on the Iraqi air force is difficult. It is true that Iraqi combat sorties declined after hostilities commenced. The Iraqis quickly found that challenging coalition pilots was tantamount to suicide and essentially remained inactive throughout the remainder of the war. The runway attacks apparently complicated Iraqi air base operations, but there is little evidence to indicate they severely hampered sortie rates.<sup>23</sup> The JP233 submunitions were quite small, creating quickly repairable scabs,<sup>24</sup> and the redundant taxiway system provided ample alternatives to reach the runway.

During the war's first week, Tornado aircraft attacked daily to hinder Iraqi airfield operations. But proper delivery of the JP233 required the aircraft to fly low across the Iraqi airfields, allowing anti-aircraft artillery and short-range shoulder-fired missiles to take a disastrous toll. In the war's opening phase, at least four Tornados were lost during ineffectual airfield attacks, and about 100 JP233s were expended.<sup>25</sup>

*The Arab-Israeli conflicts taught Iraq to construct HABs to protect its aircraft. However, the coalition's bunker-busting program effectively ended the enemy air threat by forcing Iraqi aircraft to flee to Iran. HABs at Tallil Airfield, Iraq (above and right), show the damage inflicted by these precision attacks.*

Mines—the second component of the JP233—along with cluster-bomb submunitions may have had a more significant impact on air base operations. Indeed, the constant reseeded of airfields by aurally dispensed mines and cluster-bomb submunitions may have eventually overwhelmed the capability of any Iraqi explosive ordnance disposal unit. A Russian account of the campaign describes the coalition's use of cluster bombs to cover terrain with a dense, lethal blanket that “trapped” personnel and equipment.<sup>26</sup> When US Marine Corps forces attempted a night assault against Iraqi-occupied Kuwait International Airport, they reportedly were held up, not by fierce resistance, but by unexploded coalition cluster-bomb submunitions and mines.<sup>27</sup> Photographs taken of captured Iraqi air bases show areas so thick with unexploded submunitions that they were virtually impassable.

### ***Busting Bunkers***

As Iraq's pilots learned they were no match for coalition pilots in the air, they decided upon a strategy of remaining within their fortified HABs. Saddam probably assumed that the bunkers would protect enough of his air force for it to be decisive against the inevitable coalition ground offensive.<sup>28</sup> US Air Forces, Central Command (CENTAF) eventually decided that since Iraq's air force would not exit the HABs to fight, the shelters would have to be destroyed, one by one.

Air Force planners originally formulated a quick, massive offensive to destroy the 594 Iraqi HABs in just a few days.<sup>29</sup> The bunkers would be destroyed in groups, preventing the Iraqis from playing a shell game or dispersing their aircraft. The actual operation, however, did not go as quickly. The target set was too large for the limited number of aircraft capable of delivering precision guided munitions. Poststrike BDA was too slow for the rapid combat tempo, resulting in some restrikes against targets that were already destroyed.<sup>30</sup> Inclement weather also forced some missions to abort.

Night after night, F-111Fs dropped laser guided bombs on the Iraqi bunkers.<sup>31</sup> According to Col Tom Lennon, commander of the 48th Tactical Fighter Wing, initial strike packages consisted of six aircraft, while later ATOs "would put up 20 to 24 aircraft against one airfield at one

time."<sup>32</sup> On the average, USAF aircraft destroyed 10–20 HABs per night.<sup>33</sup> By the end of the war, about 375 HABs sheltering an estimated 141 aircraft had been destroyed.<sup>34</sup>

Despite the bunker-busting program's initial success, many of Iraq's most advanced aircraft remained unscathed in the "superbunkers" of Project-202 air bases. The first attack against a superbunker, on day seven of Desert Storm, failed to penetrate the target. To Iraqis, this failed attack must have affirmed the HAB's invulnerability to conventional weapons. The second attack, on day nine, penetrated the superbunker and pulverized its contents. Now faced with certain destruction if they remained in the HABs, the cream of Iraq's air force—including Mirage F-1s, Su-22s, MiG-29s, and Su-24s—began their hasty escape to Iran the next morning.<sup>35</sup> The total number of advanced aircraft flown to Iran by the end of the war was 137.<sup>36</sup> According to news reports, on the same day the exodus began, Iraq's air and air defense force commanders were executed.<sup>37</sup>

Once its best bunkers were penetrated, Iraq dispersed its remaining aircraft in small groups, parking them near mosques, in villages, and close to priceless archeological treasures.<sup>38</sup> Attacking these aircraft without killing innocent civilians would have been impossible. Other aircraft that were spread throughout the







*The destruction of some of its best HABs prompted Iraq to move a number of its aircraft to safer locations near mosques and villages. However, coalition fighter-bombers were able to destroy some of them in transit to these sites.*

countryside could be repositioned faster than US Central Command could respond to information about their position.<sup>39</sup> Nevertheless, this dispersal assured the Iraqi air force's defeat since it could not conduct combat operations from the dispersal sites. Dispersal did, however, allow the aircraft to survive the war.

#### **Other Major Air Base Targets**

The coalition also attacked other elements crucial to air base operations at the same time it attacked runways and bunkers. These strikes were not designed to kill aircraft maintenance workers, logisticians, civil engineers, and other air base support personnel. Instead, crucial air base support components—especially aircraft maintenance and logistics facilities—were attacked, severely degrading Iraq's long-term sortie sustainability. By the end of the war, at least 50 percent of Iraq's aircraft maintenance facilities were destroyed. Although coalition warplanes generally ignored airfield support vehicles, which are critical to nearly all aircraft maintenance and support functions, many of these vehicles that were parked

in HABs were destroyed during the shelter attacks.

### **Postwar Assessments**

Trying to second-guess Desert Storm planners has become a major US pastime. Certainly, air base attacks were the primary means by which the coalition defeated the enemy air force. Nevertheless, we should take note of the following miscalculations that occurred in planning and executing air base attacks:

- The initial runway attacks were ill considered because Iraqi airfields were specifically designed to withstand and operate under the type of attack mounted by the Tornados. As a result of the efficiency and responsiveness of Iraqi airfield-repair teams, damage caused by the JP233 submunition was inconsequential. Furthermore, the JP233 delivery profile forced Tornados to fly into the face of massive anti-aircraft artillery. The fact that many of Iraq's frontline fighters were able to escape to Iran clearly indicates that many runways remained accessible and useable, despite the coalition's best efforts.

- The bunker-busting program effectively ended the threat from Iraq's aircraft by forcing them to flee and disperse. However, had the coalition used more resources to attack the right bunkers earlier, Iraq's best aircraft may not have escaped to become a formidable component of revolutionary Iran's air force.

These issues, however, are actually symptoms of a far larger and more troublesome problem: prior to the war, the USAF lacked—and still lacks—an organization responsible for the study of foreign air base operations and weaknesses. Although the USAF expends considerable effort to understand and counter enemy aerial tactics, it remains amazingly indifferent to studying a potential adversary's air bases, where enemy aircraft spend the



majority of their time.<sup>40</sup> Consequently, before 2 August 1990, CENTAF had little information on Iraqi air base design, support units, manning, runway-repair capabilities, and unique vulnerabilities. By Desert Storm's D day, the coalition had gathered sufficient information to formulate tactics customized to Iraq's air bases. Nevertheless, time constraints and uncertainty over the effect of various tactics may have pushed some coalition tacticians to resort to ill-suited and nearly stereotypical solutions, such as runway attacks. As a result, despite total air supremacy and over 3,000 dedicated air base attack sorties, coalition air forces defeated but did not eliminate their foe.<sup>41</sup>

Securing victory in future conflicts is likely to require a detailed understanding of the adversary's air base operations and weaknesses. Air bases around the world have undergone dramatic, even revolutionary, changes in the decades since the Six-Day War. Had Iraq's air force been more aggressive or its air defense system more effective, the coalition's air campaign may not have succeeded so overwhelmingly. And the more that air forces worldwide study Operation Desert Storm,

the less likely it is that the kinds of mistakes made by Iraq will occur again.<sup>42</sup>

The coalition air force exercised initiative, used the element of surprise, and enjoyed the advantage of overwhelming numbers, technical superiority, and over five months to prepare for conflict. Future USAF budget constraints, the proliferation of advanced weapons worldwide, and an increasingly volatile world make such advantages unlikely in the future. In future conflicts, successful anti-air base operations may mean the difference between victory and defeat. A USAF center to study and exploit weaknesses in the air bases of potential adversaries could ensure that Desert Storm's mistakes are not repeated against a more formidable foe. □

*Although over 130 Iraqi aircraft escaped the coalition's aerial assault by flying to Iran, approximately 141 were destroyed in their HABs. Pictured below is an Iraqi MiG-25 Foxbat, destroyed in its bunker by coalition precision guided munitions. Note the bomb's entrance hole in the roof of the HAB, just above the aircraft.*



## Notes

1. V. K. Babich, *Aviation in Local Wars* (Moscow: Voenizdat Publishing House, 1988), in *Joint Publications Research Service (JPRS) Report—Soviet Union*, JPRS-UMA-89-010-L, 2 October 1990, 51.
2. *Ibid.*, 50.
3. *Ibid.*, 52.
4. Fred Vandenbussche, "Belgians Helped Build Eight Air Bases during Gulf War; Iraqi Air Force Tough Nut to Crack," *Het Volk*, 27–28 October 1990, 2, in Foreign Broadcast Information Service cable, 4 November 1990.
5. Finaly Marshall, "Giant Bases Protect Iraqi Air Force," Nexis Information Services (press association news file), 25 January 1991.
6. Lee Dye and Mark Fineman, "Decade of Digging Aids Iraq; Hussein Imported State-of-the-Art Bunker Building Techniques," *Los Angeles Times*, 26 January 1991, 1.
7. Lee Hancock, "Saddam Has Long Readied for the Worst, Experts Say," *Dallas Morning News*, 30 January 1991; Dye and Fineman, 1.
8. "Iraq's Superbase Programme," *Jane's Defence Weekly*, 2 February 1991, 133.
9. Lt Col Sergey Ivanovich Bezlyudnyy, "I Taught Saddam's Aces to Fly," *Komosomolskaya Pravda*, 23 February 1991, 3, in *JPRS Report—Soviet Union*, JPRS-UMA-91-014, 5 June 1991, 62–63.
10. *Ibid.*, 62.
11. Christopher M. Centner, briefing to the US Air Staff, subject: Iraqi Air Base Hardening Program, 26 December 1990.
12. Norman Friedman, *Desert Victory* (Annapolis, Md.: Naval Institute Press, 1991), 169–70. The Foreign Technology Division is now the Foreign Aerospace Science and Technology Center.
13. Additionally, many planners selected tactics that were appropriate for the traditional European theater but ineffective in the new environment.
14. Author's observation. The lack of a centralized air base analysis center also hindered organizations trying to support US Central Command from afar in determining what information was lacking.
15. Friedman, 180–83.
16. Frank Chadwick and Matt Caffrey, *Gulf War Fact Book* (Bloomington, Ill.: GDW, Inc., 1991), 100.
17. Friedman, 158.
18. Some command centers were so deeply buried that they required specialized munitions. On the war's final dawn, a specialized penetrator, the GBU-28, destroyed Iraq's most hardened command facility. In the span of a few months, the Air Force Systems Command had constructed the 5,000-pound weapon from scrap artillery barrels. "It went through more than 20 feet of reinforced concrete like butter," stated Maj Dick Wright, the GBU-28's program manager. "We're now designing for the next generation of hard targets and delivery platforms. This is all the more important, because everyone now knows we can defeat the current technology of hardened, buried facilities." Capt Leah M. Bryant, "Big Bomb Digs Deep," *Leading Edge* 33, no. 6 (June 1991): 18–20.
19. Airfields in the Middle East frequently have runways well over 13,000 feet long. Qatar's Doha International Airport maintains a runway 15,000 feet long (*The Air Traveler's Handbook* [New York: St. Martin's Press, 1988], 16). Sizzling summer temperatures reduce aircraft lift and thrust, necessitating long takeoff and landing rolls. In Iraq's case, long runways on military bases allowed airfields to handle transport and commercial aircraft in emergencies.
20. Dye and Fineman, 1.
21. R. Jeffery Smith, "Iraqi Engineers Quickly Repair Some Airfields," *Washington Post*, 27 January 1991, A-11.
22. "Industry Update," *Defense & Diplomacy* 9, nos. 5–6 (May–June 1991): 4–6.
23. Although not stated publicly, the JP233 attacks were probably intended to hinder operations at air bases for at least a day. Instead, runways were reportedly repaired in as little as four to six hours. "Air Attack Short of Goal; Hussein's Force Intact, Defense Aides Say Privately," *Newsday*, 24 January 1991, 5.
24. Any runway damage will slow aircraft operations, simply because it takes time to determine the location and extent of the damage. Thus, if an attacker is trying to temporarily pin down the enemy's aircraft, runway attacks are appropriate.
25. Modern airfield-attack weapons used by Western forces are typically composed of submunitions delivered across operating surfaces, thus ensuring damage in a single pass. The trade-off for "assured damage," however, is that one delivers small amounts of explosive across a large area. The weapons' designers arrive at the submunitions' explosive requirements by determining the minimum amount of explosive necessary to upheave a "typical target" pavement. Runways, however, are unique. They may rest upon soil that ranges from rock-hard permafrost to impact-absorbing sand. Subbases under the operating surface may range from only several inches of sand to several feet of lean concrete. The operating surface may be built of asphalt, reinforced concrete, or unreinforced concrete. Furthermore, changes in operating requirements and simple wear and tear may mandate runway renovations with overlays, extensions, and reinforcements (G. I. Glushkov, *Airport Engineering* [Moscow: Mir Publishers, 1988], 305–406). Thus, the submunition is unlikely to encounter anything approximating the pure surface for which it was optimized. The damage produced by submunitions can vary from craters to easily repairable scabs or spalls. In contrast, a large precision guided unitary bomb can ensure massive damage at critical junctures on nearly any surface.
26. "Air War Doctrine Affirmed," *Jane's Defence Weekly*, 4 May 1991, 738.
27. D. Velikiy and B. Ivanov, "Bombs of a New Generation against the Iraqis," *Izvestiya*, 13 February 1991, 3, in *JPRS Report—Soviet Union*, JPRS-UMA-91-008, 18 March 1991, 11.
28. Jeffrey M. Lenorovitz, "Allies Fly Defensive Missions After Air War Smashes Iraq," *Jane's Defence Weekly*, 11 March 1991, 18–19.
29. Robert Green, "U.S. Puzzled—But Says It Unfazed—by Iraqi Tactics," *Reuter Library Report*, 23 January 1991.
30. Friedman, 400.
31. Further, assessors and planners were discussing different issues. Some BDA reports listed aircraft bunkers as having "minor" damage because the assessor was reporting damage to the bunker's structural integrity. The planner, however, was more concerned about the aircraft in the bunkers.
32. Some unoccupied dispersal bases were also attacked by B-52s. F-15s, F-16s, and even A-10s were used against various airfield targets.
33. Alfred Price, "Deadly Darkness," *Flight International*, 10–16 July 1991, 34.
34. "USAF Developed 4,700-lb Bomb in Crash Program to Attack Iraqi Military Leaders in Hardened Bunkers," *Aviation Week & Space Technology*, 6 May 1991, 67.

34. Friedman, 400.

35. "After the Storm," 738; Operation Desert Storm Update, on "NBC Nightly News," 28 January 1991; and "Interview with Gen Thomas Kelly," *Defense Dialog*, 29 January 1991, 2.

36. Briefing, US Central Command, subject: Operation Desert Storm Update, 4 March 1991.

37. "Soviets Say Saddam Had Air Chief Killed." *USA Today*, international edition, 26 January 1991, 3A.

38. "Gulf Peace Plan Weighed As Gulf Ground War Looms." *Aviation Week & Space Technology*, 25 February 1991, 22.

39. Friedman, 161.

40. Some Air Force personnel have the attitude that air base attacks are irrelevant to ultimate victory. At an airfield-attack munitions conference several years ago, when I was explaining the difficulties in cutting runways, a member of the conference interjected, "That's OK; give me enough AMRAAMs [advanced medium-range air-to-air missiles] and I'll take 'em all out." Despite total coalition air supremacy, Iraqi aircraft were still able to escape into Iranian airspace. It is doubtful that AMRAAMs would have made much difference.

41. This number does not include airfield attacks designed to destroy stockpiles of chemical/biological

weapons and delivery systems or attacks against certain HABs and other air base facilities believed to store ballistic missiles.

42. Other air forces facing the possibility of going up against an air campaign like the one waged in Desert Storm are already revising their air defense and air base operability requirements. As stated by Air Commodore Jamal Hussain in Pakistan's *Defence Journal*, no. 8 (1991): 38-39,

We must be able to bear the brunt of the first assault, absorb losses while inflicting heavy attrition on the attackers. We must be able to bounce back quickly and make the enemy pay heavily in terms of aircraft and pilots [sic] losses. From then on, our air strategy should become more offensive. Excellence in air combat, good ECM [electronic countermeasures] capability, enhanced active and passive air defence and efficient RRR [rapid runway repair] capability are areas which PAF [Pakistani Air Force] would need to constantly work at to absorb enemy offensives and retaliate strongly.



Fall 1992

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Lt Col John G. Humphries, USAF

for his article

### Operations Law and the Rules of Engagement in Operations Desert Shield and Desert Storm

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# THE NEW AFM 1-1 Shortfall In Doctrine?

LT COL ROBERT N. BOUDREAU, USAF

**I**N THE early days of World War II, Alexander P. de Seversky, a prophet of air power, wrote that a flawed intellectual vision had limited the growth of air power to such an extent that only a land- or sea-centered strategy was possible to win the war. He believed a different vision would have led to the development of long-range bombers to strike Japan from Alaska, rather than to the his-

toric, island-hopping campaign in the Pacific. In essence, he argued for air power with global reach. A different intellectual vision would have prepared the nation for war management based on air power.<sup>1</sup>

I argue that our vision of aerospace power in Air Force doctrine presented in the new Air Force Manual (AFM) 1-1, *Basic Aerospace Doctrine of the United*





*Air Force C-141s air-drop paratroopers in a familiar, "D-day style" utilization of airlift forces during Operation Just Cause. AFM 1-1 addresses the role of airlift in armed conflict but not in supporting the economic or political interests of the nation.*

*States Air Force, is likewise flawed because it addresses aerospace power far too narrowly. The critical shortfall is its failure to explore adequately the flexibility inherent in aerospace power to achieve national security objectives short of war. Both volumes of the new AFM 1-1 address military activities "below the level of*



war."<sup>2</sup> However, neither addresses directly the concept that military power, especially aerospace power, may be used to influence situations before counterinsurgency, counterterrorism, raids, or unconventional warfare become necessary.<sup>3</sup> Our goal should be to achieve our objectives before the situation deteriorates to the point where we must kill an enemy. Aerospace power can be used to support the economic, informational, and political—not just the purely military—instruments of national power. Our doctrine should reflect that breadth.<sup>4</sup> My central example is the shortfall in doctrine concerning airlift because I am an airlifter. However, the same arguments could easily be made for other elements of American aerospace power, especially special operations, that offer tremendous operational flexibility to achieve objectives short of a resort to armed conflict.

Let's begin by looking at the language of the new AFM 1-1. It very ably addresses the nature of aerospace power, stating that "aerospace power grows out of the ability to use a platform operating in or passing through the aerospace medium for military purposes."<sup>5</sup> This sentence casts a net large enough to encompass all military aviation today and space operations for today and tomorrow. Another statement summarizes the key difference separating air from land and sea warfare: "Elevation above the earth's surface provides relative advantages. . . . Aerospace power's speed, range, flexibility, and versatility are its outstanding attributes."<sup>6</sup> These statements are crucial because they are all-encompassing. All aerospace power and its potential uses fall within their realm.

AFM 1-1 then becomes more specific, dividing aerospace platforms into roles and missions. This is the crux of the issue, the area where our new doctrine is too narrow in focus. Four basic roles are distinguished: aerospace control, force application, force enhancement, and force support.<sup>7</sup> Each of these roles is subsequently discussed in terms of its integra-

tion into a theater campaign in an armed conflict. The four roles are a meltdown of the six basic tasks outlined in our first attempt at coherent doctrine published in July 1943 as well as tasks/roles in subsequent doctrine manuals, including the 1984 edition of AFM 1-1.<sup>8</sup> Given our new doctrine's almost-exclusive focus on combat at the campaign level, airlift, special operations, surveillance and reconnaissance, and electronic combat fall naturally under force enhancement. Of course, it is true that airlift provides the necessary mobility for time-critical maintenance, munitions, and personnel support during an air campaign in an actual conflict.

In addition to supporting aerospace operations during combat, both volumes of the new AFM 1-1 lay out a role for airlift in the fast deployment and sustainment of surface forces—global reach. Airlift is characterized in our doctrine as both strategic and tactical (or theater). Both types are defined in terms of combat force support and include strategic deployment of force from the United States to distant theaters as well as the deployment of tactical airlift assets to support those forces in theater.<sup>9</sup> Currently, the C-141, C-5, KC-10, and aircraft of the Civil Reserve Air Fleet perform strategic lift; and C-130s deploy to theaters as part of theater air forces. The C-17 will combine the roles to a degree, being capable of carrying large payloads directly to forward areas for end use.<sup>10</sup> This airlift force structure dovetails with the new doctrine. When the United States military undertakes a military campaign against an enemy, the airlift force is designed to support (enhance) the deployed combat forces. AFM 1-1 addresses well the role of airlift in actual armed conflict at the campaign level, but only that role.

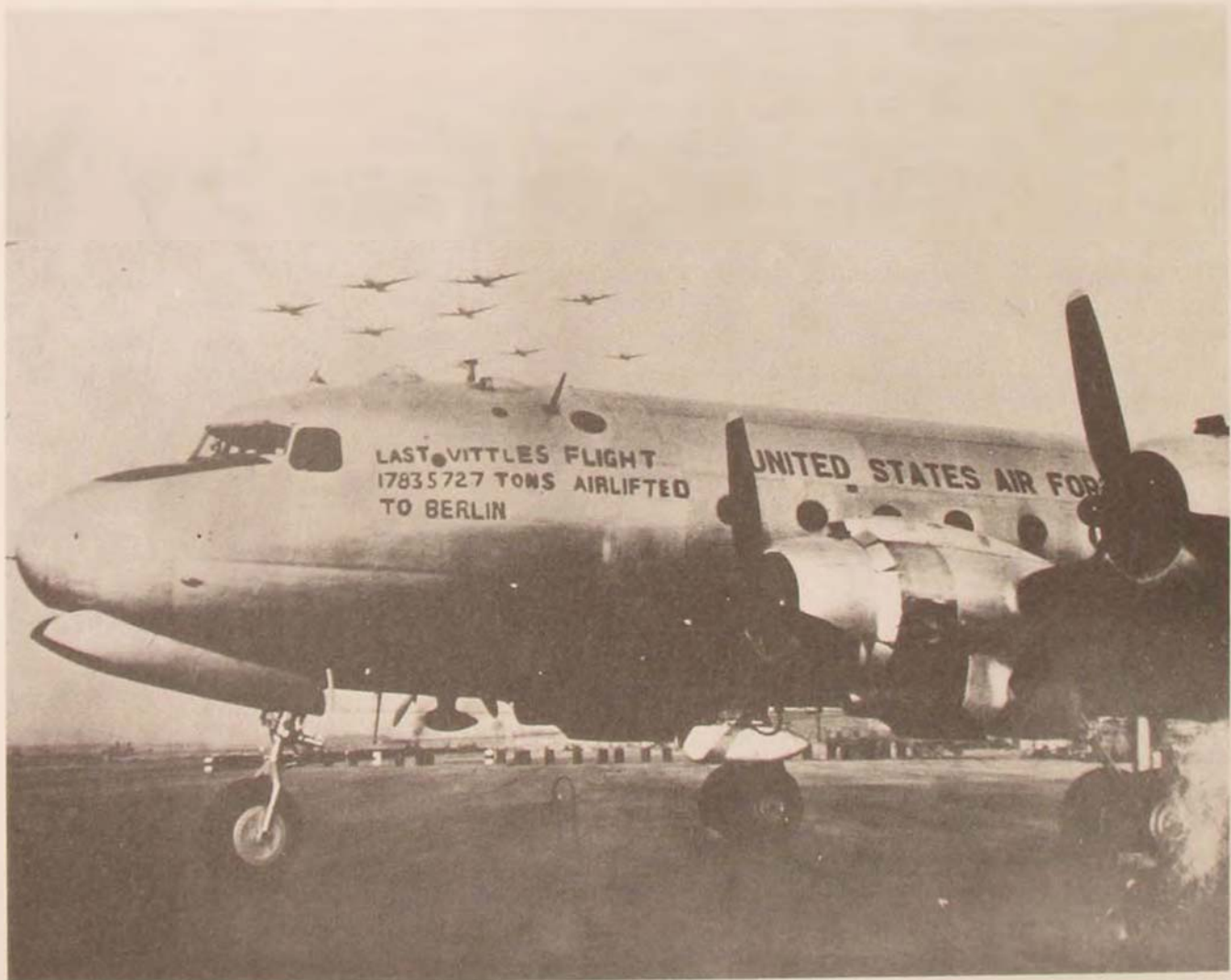
Aerospace power, however, has a far broader application as an element of national power than combat operations. Airlift demonstrates this conclusively. Beginning with the Berlin airlift in 1948, airlift provided an option other than

direct combat for the execution of national policy. In Berlin, airlift was effectively used to control the escalation of the crisis. A strong foe was bent to our will without applying combat power, but not without applying air power. Roger Launius, historian for the Air Mobility Command, wrote that the Berlin airlift was the "first large scale demonstration of the use of airlift in executing national policy."<sup>11</sup>

Although using airlift as an option for executing policy is not addressed in the doctrine, such activities are common. Operation Provide Comfort, mounted from Turkey to feed Kurdish refugees in northern Iraq following Desert Storm, is a recent example of aerospace power—airlift and special operations forces—executing policy rather than enhancing combat

operations. Another example of the non-lethal, constructive use of aerospace power to achieve national objectives occurred during the 1986 El Salvador earthquake relief effort. El Salvador suffered tremendous political and economic upheaval through the eighties, and the earthquake threatened the fragile new democracy. The United States, using military airlift at the request of the State Department, was able to provide assistance immediately—medical supplies and

*The Berlin airlift, referred to as the "first large-scale demonstration of the use of airlift in executing national policy," allowed the United States to control the escalation of the crisis without the application of military force. Below, A C-54 touts the success of the airlift, and right, grateful Berliners off-load a new shipment of flour.*





teams, food, and building materials. Using Salvadoran government agencies as well as American in-theater assets, the central government was able to distribute aid to thousands, saving many lives and gaining political credibility.<sup>12</sup>

Today, with the collapse of the Soviet Union and the end of the cold war, the world has entered a new era. In this era, military power in the form of aerospace power has a far broader role than combat. Influence on the actions and policies of foreign nations, hard to measure but even more critical to have in the face of weapons technology proliferation, is a national policy objective the American military can help achieve.<sup>13</sup> The concept that most clearly embraces this new broad role is "peacetime engagement."<sup>14</sup>

President George Bush, in the *National Security Strategy of the United States*, August 1991, stated that the foundation for peacetime engagement is provided in our fundamental interest to seek "a stable, secure world, where political and economic freedom, human rights and democratic institutions flourish."<sup>15</sup>

The definition of peacetime engagement is similar to the traditional application of military power as part of a national strategy that combines and coordinates elements of national power—economic, diplomatic, informational, and military—to achieve our national interests in a region or country. The ultimate goal of using military forces and other elements of national power in peacetime engagements is to facilitate the continued growth







of democracy and free-market economies. The concept is applicable in many areas, including the emerging states of the former Soviet Union, which only recently were freed from dictatorships and discredited ideologies. An excellent example of an airlift supporting the tenets of peacetime engagement is Operation Provide Hope, which was flown by C-5 aircrews to key areas in the former Soviet Union.<sup>16</sup> The airlift provided food to areas where starvation and consequent political unrest were likely. Such unrest in the collapsing empire is in no one's interest. Aerospace power provides the quickest, most visible, and most flexible form of such engagement.

Airlift provides the glue that sustains peacetime engagement, but it is only one of the elements of aerospace power involved. Special operations can serve informational and political elements of

*The devastation wrought by the 1986 earthquake in El Salvador threatened that country's maintenance of a democratic government. At the request of the State Department, the Air Force airlifted tons of food, medical supplies, and building materials to the area in support of the relief effort.*

national power. The targeting precision and intelligence provided from space operations are essential to special operations and airlift. The use of aerospace power in the form of airlift, special operations, and space is far less provocative than an air strike or employment of combat surface forces. Our doctrine should explicitly outline this breadth of application. Aerospace power should not be cast simply in terms of a military campaign against an armed foe in a regional conflict.

Several additions to the current AFM 1-1 should be considered to achieve the necessary breadth of thinking. First, enlarge

the discussion of military activities below the level of actual combat. Specifically, link military power and its ability to support other elements of national power. Aerospace forces—tasked at the national level and employed through the chain of command—may be used to support achievement of political, informational, and economic goals in a region or country. State clearly not only that military forces can achieve national objectives by providing options other than the application of force but also that commanders and airmen at all levels should understand this to be a major goal of aerospace power.

Second, enhance the chapter discussing operational art. Place stress on the role the air component commander can play in a particular theater to bring aerospace power to bear so that regional goals are achieved short of violent conflict. Nation building, humanitarian efforts, and other host-nation support missions would be part of the overall aerospace effort to secure our objectives. The idea is to use aerospace forces constructively. The goal is to help create conditions where the United States can wield such influence that our objectives are attained and conflict is avoided. Such an approach, included in our formal doctrine and thereby in the charter of the air component commander, would integrate aerospace power into the effort to coordinate national power “so that our programs reinforce one another and contribute to an overarching security agenda.”<sup>17</sup> However, note that such actions are not entirely benevolent. A spin-off of such prehostility activities would be that the theater-specific experience gained would make us much better prepared to apply combat power if it becomes necessary.

Third, expand the discussion of airlift, special operations, and space surveillance and reconnaissance in volume 2. For example, the current essay on airlift casts it solely in terms of its most recent accomplishments in Operations Desert Shield and Desert Storm—the first major regional

conflict faced by the nation since Vietnam. The Berlin airlift, although mentioned once in the essay “Military Activities Short of War,” is not mentioned in the airlift discussions in either volume 1 or volume 2 of the new AFM 1-1. Strategic airlift is divided into two types—combat insertion and unopposed deployment and redeployment, the discriminator being that one requires defense-suppression support, the other does not.<sup>18</sup> Many times airlift is used to achieve policy ends without the use of force and only rarely is it called upon to support a theater campaign against an armed enemy. The other roles need to be highlighted in the airlift essay. Naturally the insertion, deployment, and redeployment of combat forces remains the critical task for airlift forces. However, such actions, though necessary, may signal the breakdown or failure of our overall policy of preventing conflict. I will leave for those more qualified to suggest improvements to the discussions in our doctrine on special operations, space, and surveillance and reconnaissance.

United States military forces are employed virtually every day in noncombat activities that support the other nonmilitary elements of our national power in pursuit of national objectives.<sup>19</sup> Why, if we believe so much in doctrine, is what we routinely do in practice so poorly incorporated in our doctrine? AFM 1-1 must establish the relationship between aerospace power and other elements of national power. Establishing such a relationship would provide a sound foundation for introducing the key idea that airlift, spacelift, special operations, and surveillance and reconnaissance offer much more than mere force multipliers or enhancement tools. They can function in direct pursuit of US economic, informational, political, and strategic objectives.

Some may argue that this proposal will result in a loss of focus and that watering down our doctrine with discussions of noncombat activities could lead to a focus on training and activities that lessen our

capability in wartime. I reject this argument. In the case of airlift, the wartime and peacetime missions are very similar. As long as our aircraft are designed to meet the needs of the surface and air combat forces they support in conflict, inclusion of peacetime engagement-type options in our basic doctrine will not detract from the central wartime mission. Operations in the target countries will actually improve our performance if a conflict or contingency arises.

In the years ahead, much less of our combat power will be permanently forward deployed. The visible flagship of our national power will often be our aerospace forces, especially our airlift forces. Our intellectual vision of how to use our aerospace forces requires a broad and flexible view of aerospace power in war if necessary and in shaping peace.

*The success of the massive airlift effort before and during the Gulf war should not dilute the importance of lessons learned from other major airlift endeavors. Here, an assortment of airlifters crowd the ramp at Rhein-Main Air Base, Germany, during Operation Desert Shield.*

Aerospace power should play as vital a role in the open hand of our post-cold war policy as it does in providing a mailed fist. Until such breadth exists in our doctrine, there will continue to be a shortfall in our thinking and our doctrine. □

#### Notes

1. Alexander P. de Seversky, *Victory through Air Power* (New York: Simon and Schuster Press, 1942), 335.
  2. AFM 1-1, *Basic Aerospace Doctrine of the United States Air Force*, vol. 1, March 1992, 3.
  3. AFM 1-1, vol. 2, 56.
  4. S. J. Deitchman, *Beyond the Thaw: A New National Security* (Boulder, Colo.: Westview Press, 1991), 94-96.
  5. AFM 1-1, vol. 1, 5.
  6. *Ibid.*
  7. *Ibid.*, 7.
  8. Field Manual (FM) 100-20, *Command and Employment of Air Power*, 21 July 1943, 6. The six tasks listed were (1) destroy hostile air forces; (2) deny the establishment and destroy existing hostile bases from which an enemy can conduct operations on land, sea, or in the air; (3) operate against hostile land and sea forces; (4) wage offensive air warfare against the sources of strength, military and economic, of the enemies of the United States and its allies; (5) operate as a part of the task forces in the conduct of military operations; and (6) operate in conjunction with or in lieu of naval forces.
- AFM 1-1, *Basic Aerospace Doctrine of the United States Air Force*, 16 March 1984, 3-2. This edition listed nine basic missions: strategic aerospace offensive, strategic aerospace defense, counter air, air interdiction, close air support, spe-





cial operations, airlift, aerospace surveillance and reconnaissance, and aerospace maritime operations.

9. AFM 1-1, vol. 2, 1992, 186-89.

10. Lt Col Charles E. Miller, *Airlift Doctrine* (Maxwell AFB, Ala.: Air University Press, 1987), 423.

11. Roger D. Launius, "The Berlin Airlift, 1948-49," *Air Power History* 36, no. 1 (Spring 1989): 8.

12. History, Military Airlift Command, 1986-1987, vol. 1, 343-44. (Secret) Information extracted is unclassified.

13. Office of the Assistant Secretary of Defense for Special Operations/Low Intensity Conflict, "Peacetime

Engagement," working paper, Washington, D.C., 5 November 1991.

14. *Ibid.*, 1.

15. George Bush, *National Security Strategy of the United States: 1990-1991* (Washington, D.C.: The White House, August 1991), 4.

16. David Hoffman, "West Begins Aid Airlift to Ex-Soviets: U.S. Planes Ferry Food, Medicine, Take Some Flak from Critics," *Washington Post*, 11 February 1992, Sec. A.

17. "Peacetime Engagement," 11.

18. AFM 1-1, vol. 2, 1992, 188.

19. William Matthews, "U.S. Military 'Nation Building' in Honduras," *Air Force Times* 52, no. 43 (1 June 1992): 25.

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# O CLUBS

## TRADITION OR CONTRADICTION?

CAPT CLAY K. CULVER, USAF



*We have kept at the forefront of our conviction that the most important part of our business is the human part.*

—Gen Merrill A. McPeak  
Chief of Staff, US Air Force

**C**HANGE IS inevitable. Some welcome it; others feel very uncomfortable with it. Rarely, however, can anyone stop change, especially social change. Rather than being feared, change should be

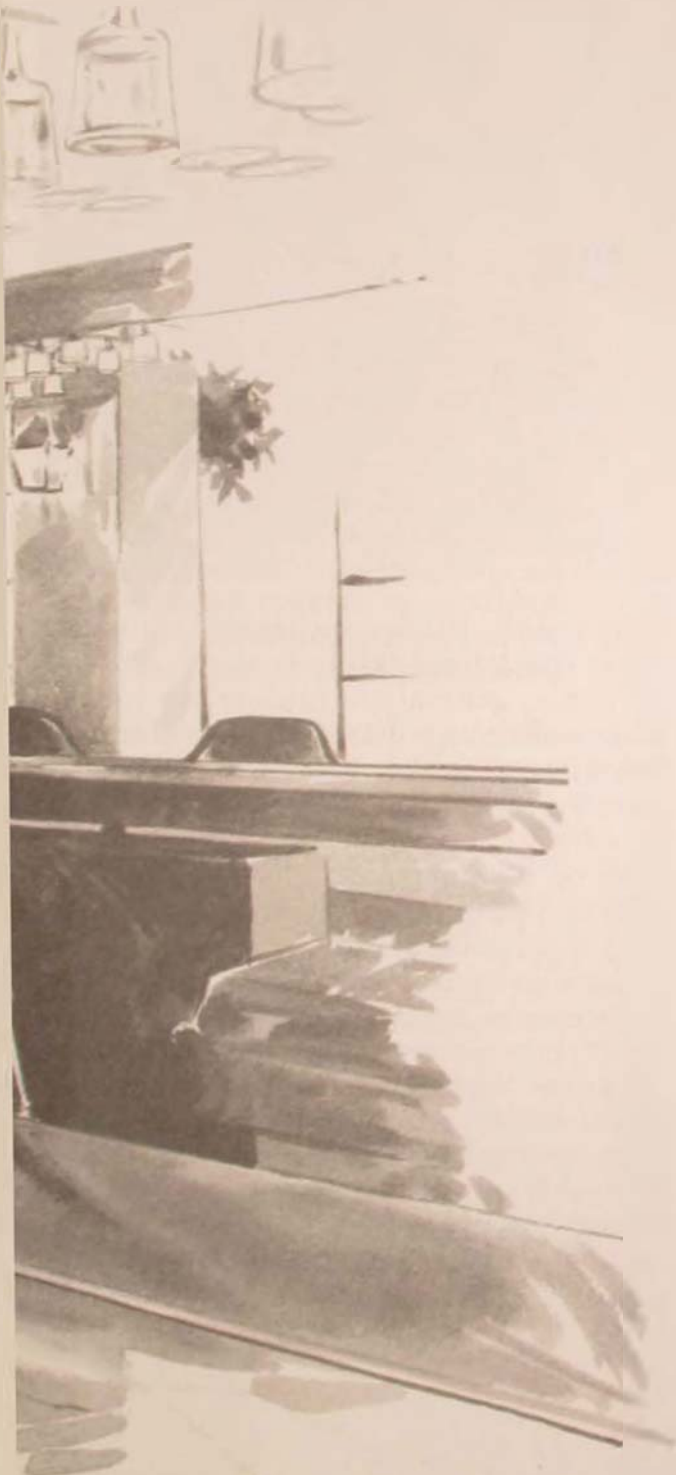
understood. That's the first step toward dealing with it. Since change affects people and people rate the highest priority, certain changes within our Air Force demand a closer look.

Recent difficulties experienced by many officers' clubs, or O clubs, indicate that our Air Force is experiencing significant change. Although the nature of this change has been debated for years, its effects on the club escape widespread attention. Basically, professional reconditioning within the last decade shifted the traditional definition of officership away from generalist to specialist; and not surprisingly, the club is like a petri dish for studying these divergent officer values. Whether this metamorphosis is deliberate is not clear, but it's causing confusion among officers and forecasting trouble in the future.

Problems such as underfunded club operations and waning officer participation create headaches for wing commanders who need more solutions rather than more problems. Combat readiness, on the other hand, must remain the premier objective for all commanders. Certainly the officers' club could serve a major function here. Making the officers' club a place where attendees learn tolerance of other specialties can encourage cohesiveness and enhance combat effectiveness directly. Also, by creating a place where family ties are strengthened, the club would produce an indirect yet positive effect on our combat capability. An understanding of this relationship might lead to an increase in combat readiness as well as fewer club problems. To formulate solutions, we must first examine the traditional definition of officership.

### Tradition versus Specialization

Despite the demonstrated growing concern for officership qualities and professionalism,







*Sociological shifts in American society, such as the women's movement and the subsequent proliferation of women in the work force, have contributed to the decline in officer club participation. Busy working couples prefer quality time with family over an evening at the O club. At the end of the duty day, many parents are found collecting their children from child development centers, such as the one pictured, on bases throughout the Air Force.*

the Air Force has not addressed the issue squarely by providing a clear, officially sanctioned statement of expected officer qualities.

—Maj Richard W. Stokes  
*Preserving the Lambent Flame*

Many Air Force officers feel caught in a philosophical tug-of-war. At odds are traditionalism and specialization, each pulling the officer in opposite professional directions. While commissioning sources emphasize traditional aspects of

officership, follow-on training courses stress specialized skills. In the traditionalist camp, generalism reigns; but today's high technology demands specialization. For clarity's sake, it would be ideal to have a perfect model of traditional officer roles, but it is extremely difficult to develop a single, all-inclusive definition. Officer training manuals do, however, provide some guidelines.<sup>1</sup>

Consensus seems to hold that the first three items on an officer's job description are (1) take responsibility for your actions, (2) know yourself and seek self-improvement, and (3) know your job. But what is "your job"? Substatements under "Know Yourself and Seek Self-Improvement" direct officers to analyze the successes and failures of others, to develop the art of good writing and speaking, and to

increase the scope of their knowledge by reading and making new friends. The various "jobs" of the generalist are apparent. Even today, an officer's winding career path strongly hints of a USAF generalist philosophy, as stated in *The Armed Forces Officer* of 1950:

In civil life, the man who flits from job to job is soon regarded as a drifter and unstable. In the military establishment, an ability to adjust from job to job and to achieve greater all-around qualification by making a successful record in a diversified experience becomes a major asset in a career. Generalship, in its real sense, requires a wider knowledge of human affairs, supported by specialized knowledge of professional techniques. Those who get to the top have to be many-sided men, with skill in the control and guidance of a multifarious variety of activities. Therefore, even the young specialist who has his eyes on a narrow track, because his talents seem to lie in that direction, is well advised to raise his sights and extend his interest to the far horizons of the profession, *even while* directing the greater part of his force to a particular field.<sup>2</sup>

But while officers traditionally are encouraged to be generalists, advanced technologies require specialization that tends to contradict generalism. In 1984, then-Maj Richard W. Stokes wrote,

From the early Air Force days of the late forties through the late sixties, our expressed intent was to commission officers with broad-based liberal arts educations to become generalists. The specific requirements for technical expertise to support increased technical sophistication has apparently obviated that practice. . . . The young people we are bringing into the Air Force as officers today question the value of traditional officership concepts.<sup>3</sup>

Not that we could have executed Desert Shield/Desert Storm-type missions without our technical sophistication. The point here is only "to portray the degree to which specialization has altered the complexion of the officer corps."<sup>4</sup>

In short, historical traditionalism has necessarily yielded to compulsory specialization, but not without backlash. Along with the generalist, officers' clubs and their patrons are paying a high toll for our technological edge.

## Back to the Club

Clearly, currents of change are churning up officership roles, and officers' clubs tumble along with them. Club activities and clientele are shifting. The needs of older officers and retirees are often different from those of lesser rank; and even among younger officers, marketing surveys reveal major differences in club usage. Researching these discrepancies revealed two broad trends strongly influencing officer redefinition. First, the sociology of the military is changing due to unhampered influences from its parent society; and, second, certain Department of Defense (DOD) policies and Air Force practices act as catalysts in redefining long-standing definitions of officership. Some limited preliminary research, though inconclusive as yet, indicates that ominous qualitative differences in officer roles are already entrenched (table 1).

These broad, synergistic trends forecast a decline in O club membership and participation by causing a redefinition of officer roles. In fact, they suggest total abandonment of the club without some sort of "strategic and tactical" intervention. Solutions are at hand; both long- and short-term suggestions for institutional change are outlined later in this article. Metaphorically speaking, the O club need not be an "OK Corral" where officers shoot it out over disputed professional roles; one must only analyze the emerging officer corps and provide a clear definition of officership to resolve current institutional disagreements.

TABLE 1

## Thoughts of Officers Who Think Officership Is Redefined (61%)

- 
- Don't attend club as much. (When they do, they associate mostly with "like specialists.")
  - Don't believe club attendance builds camaraderie.
  - Don't believe it's the center of camaraderie for the nineties.
  - Two to one believe it's a promotional "square-filler."
  - Two to one would drop their membership were it not for pressure.
  - Don't like the way the club operates on several issues.
  - Do believe officers have responsibility to change it!
- 

Source: Informal survey of rated and nonrated officers taken at McConnell AFB, Kansas, in 1991 by the author.

### Catalysts for Change

The two major trends listed above, societal change and DOD/USAF practices, are the simple distillation of numerous other forces. Understanding these influences is basic. Early research generally confirms the hypothesis of the presence and impact of these influences by showing a majority of officers (67 percent) wish to be free of their blue club cards, *but not all for the same reasons*. Six minor phenomena seem to account for the officer redefinition and resultant lack of interest in the O club.

Sociological changes in American society, the first major trend, umbrellas three social phenomena: (1) working spouses, (2) a "New-Dad" syndrome, and (3) a bias against alcohol. The second trend, DOD policies and USAF practices, also has three distinct elements: (1) pay raises and club fund decreases, (2) a shift in job

description for the rated force, and (3) changes in the Officer Performance Report (OPR). Exactly how these factors influence the collective mind of the Air Force officer corps is the crux of the O club problem. Of the two major trends, sociological changes in the broader society of which the Air Force is a microcosm, will be analyzed first. One of these three social phenomena is well documented due to its pervasive impact on American life-styles.

### Societal Change

The women's liberation movement of the 1970s forced a final and definite realization that women had a right to work outside the home. With that fact well established, the Air Force was forced to deal with this issue. While adapting its *structure* for working women (child-care facilities; increased family services; and new morale, welfare, and recreation [MWR] activities), our Air Force still hasn't fully recognized changes in the *hearts and minds* of its people. For instance, whereas colonels and generals witnessed these changes as adults, captains and lieutenants literally grew up within this social upheaval. To see Mom and Dad both working was a natural part of their childhood. This was the norm for them, as it was for their future spouses growing up then also. Now, 20 years later, the fact that an officer's spouse works outside the home is neither abnormal nor nontraditional. It should be completely understandable that since oftentimes both partners in civilian couples work outside the home, both partners in military couples would too (table 2).

However, the fallout of such an arrangement smacks military tradition in the face. After work, the majority of couples want to relax together and share their day. Such behavior strengthens a marriage. One psychologist noted that in families where both parents worked, marriages



were under more stress. "[It] was not their *division* of labor. It was the huge *amount of time* that housework, [children], and careers were taking from their marriage."<sup>5</sup> A detour to the club approaches absurdity in these households—not because the military person is "henpecked" but because the couple is genuinely more interested in each other's day, even to the point where traditionally required "face time" at the club is no longer the stronger influence.

TABLE 2  
American Family Employment Patterns

Level in Company	Family Type		
	Traditional Family (%)	Work Dual (%)	Single/Single Parent (%)
Top executive	54	39	8
Middle manager	13	50	37
Clerical worker	—	50	50

Source: Arlie R. Hochschild, *The Second Shift: Working Parents and the Revolution at Home* (New York: Viking-Penguin, Inc., 1989), 287.

Janet Giele of Brandeis University points out that "families are responding to a new social climate, one that recognizes a variety of options, supports individual self-determination, and is supportive of the changing realities of family life."<sup>6</sup> Air Force families are no exception. Officers see these changes among their civilian friends and expect the same treatment in the military. In their study on this subject, Hamilton McCubbin and Martha Marsden state that "the conflict between the two social institutions—the military and the family—over the same resource, the service member, produces strains and dilemmas for all concerned."<sup>7</sup> Does this mean that officers don't feel the impact of their choice not to visit the club? Make no mistake; they understand the stakes

(table 3), but a prioritization has taken place and the club fell second, behind the family. This phenomena is even stronger when Baby comes along.

While babies haven't changed, their parents have. The stereotyped family of the

TABLE 3  
Perception of the Unofficial Practice of "O Club Blackmail"

Question	Answer (%)	
	Yes	No
Do you believe club membership affects promotion?	58	40
Are you a member because of this belief?	46 (22 partially)	31
Would you consider dropping your membership if you thought it would have no effect on your career?	62	35
Are you a member solely to appease your superiors?	71	28

Source: Informal survey of rated and nonrated officers taken at McConnell AFB, Kansas, in 1991 by the author.

1940s, 1950s, and 1960s rarely exists anymore. In particular, fathers have drastically changed their minds about fathering. A New-Dad syndrome has emerged ("evolved" is more accurate since this situation is the expected consequence of the change in attitudes caused by the women's movement), and Father now wants to be Daddy. Arlie Hochschild, in her book *The Second Shift*, details the evolution of this New Dad:

In the history of American fatherhood, there have been three stages, each a response to economic change. In the first, agrarian stage, a father trained and disciplined his son for employment . . . while his wife brought up the girls. As economic life and vocational training moved out of the family in the early nineteenth century, fathers left more of the

rearing of their children to their wives. . . . [In] these stages, the father was often distant and stern. Not until the early twentieth century, when increasing numbers of women began to work outside the home, did the culture rediscover the father as an active presence in the home, and establish the idea that "father was friendly." . . . Today, most families are in the third stage of economic development but in the second stage of fatherhood. [However, some men] lead the way into that third stage of fatherhood. But they've done it privately. . . . Lacking a national social movement to support them in a public challenge to the prevailing notion of manhood, they've acted on their own.<sup>8</sup>

The New-Dad label also applies to officers whose spouses work at home. While some fathers maintain the traditional division of family chores, many more race

*Officer club revenue fell as a deglamorization of alcohol consumption emerged in the military. Active drug and alcohol abuse awareness programs (below) educate personnel on the effects of overindulgence.*

home after work to play with their children and relieve Mom, who has been with the kids all day. This complex relationship has not gone completely unnoticed by military leadership. Gen George L. Butler, then commander of the Strategic Air Command, acknowledged not only the importance of the family but also how it has been neglected:

If there is anything I regret in my military career, it is that it has taken so long for us to properly recognize and care for families. Ultimately, as in society at large, the strength of our military comes down to the strength of the family. If life at home is not well-founded, relationships not strong, values not well-rooted, then ultimately that will spill over into the workplace. With a solid, secure, loving foundation at home, we and the nation are clearly the beneficiary.<sup>9</sup>

Culturally, New Dad is a hit! Fathers receive praise from wife, children, and society when they take an active role in



child rearing. In fact, the nation pleads for Dad to come home in order to solve many of the nation's ills. With so much pressure to bring Dad home in the 1990s, it should be no shock that the club is less important. Perhaps the traditional man of the house is trading his beer-drinking, joke-telling buddies for the rewarding pleasures of family and home.

Speaking of beer, it's no joke that the military officer is up against an entirely different pressure—substance abuse—in modern America, and herein lies the last sociological influence. Regardless of one's marital or parental status, drugs and alcohol are out in the 1990s. Accordingly, the club loses again. In many ways, younger officers are allowed to drink as much as their superiors ever did; actually, “healthy” diet alcoholic drinks, a nearby “designated driver” sipping a cola, and

free taxi-ride cards make “guilt-free” drinking easier.<sup>10</sup>

Given this “permission” for public drinking, why then aren't more officers flocking to the club? To answer this, first remember that human behavior synergistically combines ideas and life-styles in such a manner as to derive the best of all worlds (Maslow's hierarchy of needs manipulated by smart people). Combined with the forces mentioned earlier, many officers who do drink want to go home and enjoy cocktails with their spouses; or perhaps couples will get together at home

*Officer pay raises in the early 1980s and a simultaneous cut in appropriated funding put officer clubs in direct competition with now-affordable off-base eating establishments. Many students lunch at the Air University Officers' Club, below, in part because of its proximity to the various professional military education schools.*





or elsewhere. And for those health-conscious officers who feel alcohol is bad news, a workout before going home or a jog after work might seem a better use of their time (and, don't forget, the family can be included!). In a phrase, "Just say no" translates into "Adios, O club!"

In summarizing the effects of a changing society on an officer's self-definition, analysis of late twentieth-century sociology could have predicted a decline in the number of reasons for attending the club—or, more correctly stated, *an increase in the number of reasons for not attending*. So, society is guilty as charged. But it hasn't worked alone.

## Institutional Change

Obviously, as society changes, so does the military. The Department of Defense and the Air Force have always been obliged to respond to societal and global change. Unfortunately, many of our institutional decisions are constructed to solve immediate shortfalls, and it seems that little thought is given to the potential long-range outcome of such decisions, especially their effect on the human spirit.<sup>11</sup> "It is noteworthy that both the early Air Force intent to recruit generalists and the recent evolution to specialists appear to be reactions to the increasing complexity of aerial warfare rather than a result of planning or foresight," noted Major Stokes.<sup>12</sup> USAF and DOD officials made several such decisions in the 1980s. Three specific policy changes, acting in tandem with the social forces addressed earlier, foster this definite and observable redefinition of officership. These changes include (1) an increase in officer pay combined with the elimination of governmental funding of clubs, (2) the elimination of additional duties from the young rated force, and (3) the introduction of the OPR with its exclusive emphasis on an officer's primary duties. This redefinition, assuming it to be an Air Force concern, certainly

took a backseat to the more immediate problems of the late 1980s that were the targets of these three policies. To understand this complicated interaction, we must study these three policy changes in context.

In the past, the officers' club provided a haven for officers, who swelled with pride when hosting family and friends at the club. Such royal amenities as silver, crystal, and fine eating for such a low price were a fringe benefit—one not overlooked by accountants when assessing an officer's total compensation. In addition, the club's back-room bars historically attracted fun-loving and rowdy officers quick to share a drink and hair-raising war stories. But all that has changed.

Beginning in the early 1980s at the outset of the Reagan military buildup, military pay rose steeply. Officer pay began to compete with civilian pay, starting with a 10 percent jump in 1981 and continuing since then with raises of 3 or 4 percent annually. At the very same time, undoubtedly due to direct competition for funds, Congress decided that taxpayers should not be subsidizing such frivolity as military clubs. So, all officer and enlisted clubs were dropped from the appropriated funds lists and suddenly were on their own. Consequently, the club fell from grace again from competition with restaurants and off-base clubs that were now affordable to the officer.

We can only guess whether Congress or the Department of Defense considered the long-term consequence of these two divergent actions. More important, how would the Air Force deal with the situation? In all fairness to our Air Force, Congress overrode the USAF's insistence that just such a chain of events would occur given these circumstances. But we lost, widening the gap between old and new officer definitions. Furthermore, other factors of USAF origin were at play during this same era.

In the mid-1980s, senior USAF leaders grappling with pilot-retention problems

formulated a new policy called "Depth before Breadth." Among other changes, this policy eliminated many additional duties and shifted emphasis to one's primary job to the exclusion of all else during the first 10 years of service. Obviously, such action contributes to the fundamental redefinition of officership; and while this may actually be the goal, our Air Force may lose cohesiveness in the long term.

In terms of classical Darwinian theory, Air Force officers are evolving into a variety of highly specialized organisms, comfortable performing in a niche designed for their particular type of training. Unfortunately, such specialization is the antithesis of O club involvement. Major Stokes writes, "As we concentrate greater numbers of accession quotas on the technologists necessary to support the continuing complexity of our weapon systems inventory, we should anticipate even greater difficulty preserving a traditional officer ethos."<sup>13</sup> If officers are no longer rewarded for traditional officer behavior and their largest rewards come from specialization, why attend the club? Simply stated, specialization hurts traditional institutions like the club, and we are encouraging such behavior in two important ways.

First, slashing additional duties from rated officers' job descriptions directly affects their self-definition as officers. The mere deletion of such leadership and management duties from their job description forces officers to develop a stricter job definition than would otherwise be derived. It's not the deletion of actual duties that causes consternation but the absence of them from a new officer's internal job description. Undoubtedly, opportunities for management present themselves throughout the year; but knowing such "occasions" lie outside the realm of one's primary job furthers the redefinition process.

Second, no longer having relatively easy and uncomplicated programs to work,

many junior rated officers will not taste leadership and management issues until years later. Many will not have the chance to "cut their management and leadership teeth" until a time when such experience would normally already be expected, a complaint oft voiced by civilian corporations about military managers.



*At Squadron Officer School, above, students of all specialties strengthen their writing, briefing, and planning abilities through various seminar activities. The increased emphasis on specialization in one's primary job may deny some junior officers the opportunity to develop such traditional, generalist officer skills.*

Fortunately, many nonrated officers have earlier opportunities to develop leadership and management skills; however, rated officers will likely continue to make up the bulk of the senior leadership despite the reduced opportunity in their early years.

Evolving job descriptions send mixed messages to officers commissioned in the 1980s, especially rated officers. In fact, the blurry evolution of officer roles can be easily traced using the ongoing series of ideal officer slogans: a leader, leader-manager, leader-manager-warrior, or warrior-leader. And now, as if reducing additional duties didn't elicit the desired response, we started using the OPR, which actually disallows credit for nearly



everything that has traditionally defined an officer.

The OPR, another mid-1980s invention, has significantly altered the professional outlook of officers. Regardless of precommission training and despite the Lieutenants Professional Development Program and Squadron Officer School dogma, years of strictly structured OPRs have "taught" captains and lieutenants what the Air Force expects of them. Since writing, briefing, and public-speaking skills, community and base involvement, as well as limited additional duty credit, are all absent from an officer's primary performance report, a very limited professional definition has developed. Moreover, combine this OPR system with an "up-or-out" philosophy, the perception of a "one-mistake Air Force," and fierce competition in an atmosphere of unprecedented personnel reductions, and most officers will not attempt any variation to this expected professional behavior. "The only problem is, unless you're willing to accept change—or maybe create some of your own—you'll never know if things might be better than they have always been."<sup>14</sup> Herein lies the real long-term harm for our Air Force.

Like the natural selection process in Darwin's theory, the OPR now reflects increased specialization and is used as a guide for weeding out undesirables. If an officer's new approaches to problem solving are unsuccessful, his branch on the officer evolution tree is cut and more "politically correct" branches survive. This "unnatural selection" will explode in the coming years, and the generalist will become an "endangered species." Perhaps this is the ultimate goal of USAF senior leadership, but the result will be a more pronounced move toward civilian corporateness.

Ultimately, culpability for the demise of the O club rests equally on the Air Force and society. Both are responsible for "civilianizing" the force. Officers have been weaned from that which makes them

traditional officers, that semblance of unity and common purpose. Indeed, initial indications show a majority of club attendees tend to interact only with friends of similar specialty. Interestingly enough, more nonrated officers attend the club than rated ones; but once there, both groups associate with friends of their own specialty by a 3:2 ratio.<sup>15</sup> Specialization definitely affects one's self-definition.

## The Problem Revisited

The focal point for this entire discussion has been the officers' club. The O club problem is really a symptom of the officer corps' unclear self-definition and identity crisis. In the midst of this crisis, officers are told that being a member of the club is part of being an officer—that membership increases officer corps camaraderie. And yet, in practice, the opposite is perceived. In one preliminary study, 70 percent of the respondents said they did not feel officer camaraderie is increased by O club membership. On the other hand, 67 percent said camaraderie was increased through club participation (club membership is not viewed as analogous to participation). Forty-six percent felt the club was not the appropriate center for developing camaraderie in the 1990s, and only 42 percent thought it could be if certain changes were made. Curiously, even though a majority of officers view theoretical participation in O club events as good for esprit de corps, only a minority attend.

In addition, the emerging corps of "redefined officers" resents forced membership since specialization dictates that membership enhances none of the required skills that the Air Force rewards. On the contrary, the kind of encouragement they receive to accept club membership seems to run counter to everything the commissioned officer represents. Does this unofficial practice of promotional or positional blackmail work? From a human behavior viewpoint, cer-



tain phenomena can be predicted; unofficial coercion does indeed maintain healthy membership rates, but the psychological realities of specialization and civilian sociological influences cause sharp drops in participation. So, predictably, membership is up, participation is down, and resentment runs high.

Without some credible solution that acknowledges the redefinition of officership, the O club, like the generalist officer, will die out. The question is whether senior leadership can accept the psychological dynamics that result from societal change in combination with directed policy and guide our force out of this situation. Common ground can and should be found.

## Recommendations for Change

An understanding of the human situations associated with the job go far to solve the technical problems; in fact, such understanding may be a prerequisite of a solution.

—Joseph M. Juran  
*Federal Total Quality  
Management Handbook*

It's not a question of improving the appearance or service of clubs; it's a question of redefining its purpose based on a redefinition of officers' needs and desires in combination with the service's needs. In light of our changing needs and the realization that some clubs are in good working order, the following five suggestions are some options to study for the clubs that are struggling:

- Close the club and retain the building for a pay-as-you-go bar and meeting hall. Any needed food service would require a caterer, paid for by the sponsors of the meeting. In light of all the changes discussed earlier (specialization, DOD costs, membership issue, patrons' needs), the pros and cons of this option should be studied, and indeed have been bandied

about already. But despite the last decade's move toward corporateness in the Air Force, senior leadership insists on officer corps camaraderie via formal and informal wing functions; so, for now, the service still requires the club, making this option improbable.

- Close the club, bar, dining room, and meeting hall. Transfer all of these functions to our squadrons (a transitional trend that is already occurring in large numbers, contributing to the further reduction of club effectiveness). This option is curiously rejected by younger officers, products of dichotomous training (traditional officership and modern specialization). Not surprisingly, they desire monuments of tradition that blend with their specialized work environment—a union unlikely to happen without disunity of the corps. While this option might find favor with some officers, our Air Force would not function as a traditional military unit—a prospect not currently endorsed.

- Retain the club, eliminate membership status, and run it as a competitive civilian restaurant complete with large rooms available for wing events. This option has merit but would require drastic changes in the way DOD views military clubs. Most officers do not enjoy the club's current function or usage and would not increase their participation even if clubs were nicer; however, commanders must meet operating costs. Nevertheless, the membership issue is a wedge that further drives would-be participants away. This option may be the ideal fix but would require numerous, simultaneous adjustments in financing and attitudes.

- Retain the club, eliminate membership status, and pay for it by reducing officer base pay by \$20 per month and shifting these funds to clubs. We would have to convince Congress that the clubs are a military necessity and educate officers in the importance of the club's existence (i.e., re-define officership). This option

parallels the last with a possible financial solution included. It also suggests that leadership actually take the lead in educating Congress and the corps on the purpose and traditional role of military clubs. If the club's basic role changes, then so must this option.

- Add more diverse "areas" to existing clubs. Have a family hall including a kids' corner with wipe-off tables and a noisier, well-lit atmosphere. Have a fast-food hall to stimulate business at all hours and to better fit the 1990s life-style. For clubs to be most effective, we should consider removing competing fast-food restaurants on base or at the base exchange. We could still retain the back bar so as not to scare off the after-work crowd. In general, this option is designed to make the club more diverse to fit the different life-styles of its clientele and simultaneously promote the club as the center of base togetherness. McCubbin and Marsden write:

If the military expects to maintain an all-volunteer force with a select group of motivated and skilled professional soldiers, it cannot ignore the potent influence of the military family. Neither can it fail to shape and project the kinds of policies needed to develop a military community that will support the new military. Policies that focus on the superior soldier, the cohesive and effective unit, and the military mission but that subordinate the family unit can only hamper the military's effort to achieve its mission and will ultimately lead to losses in valuable manpower, training, and equipment.<sup>16</sup>

Again, changes in attitudes are imperative.

In addition, certain changes in our own Air Force practices should coincide with changes in club structure. The following three possible options reinforce the club, make participation more desirable in light of the current social changes, and can be instituted immediately:

1. Add a child-care center directly into the club's facilities. This allows parents

of small children to drop by together after work and not feel remiss in parental duties or marital togetherness.

2. Promote/reward generalist practices via OPR for such things as lecturing, writing, on- and off-base group activities, professional association, Girl/Boy Scout or Big Brother/Sister involvement, Little League coaching, and so forth. Such activities provide unlike specialties with a common identity, and they cultivate management and leadership skills. Most important, they reduce the trend toward overspecialization. "Where legitimate, appropriate, and realistic prerequisites exist, we must meet them with a supply of qualified candidates, but we cannot afford to become so enamored with technical credentials that we eliminate room for the generalist in the officer corps. The generalists must still offer a balance against a total reliance on technology to win our wars."<sup>17</sup> In other words, "as technology increases, the need for more personal interaction increases."<sup>18</sup> Generalists in society tend to remind us of such truisms.

3. Retask additional duties to the rated force. This highly screened and well-trained force can certainly concentrate on primary duties while learning what it takes to manage resources and to lead people, thereby providing self-discovery as well as personalized leadership techniques that are successful. "The military leader needs much more than the basic professional knowledge required to accomplish his combat mission. Any military man who hopes to become a great leader must therefore constantly increase the scope of his knowledge and his grasp of techniques."<sup>19</sup> In this way, rated officers become aligned with their nonrated counterparts who explore these concepts early in their careers, further promoting the idea of an officer *corps*.

## Conclusion

We know how to change the Air Force to be responsive to a changing world. And we in

the Air Force are intelligent enough, mature enough, smart enough and responsible enough to make this change effective and make the Air Force a smaller but a better and stronger force.

—Maj Gen Stephen B. Croker  
Commander, Air Combat Command  
(Provisional), 1991

These recommendations and variations of current practices address the trend toward declining participation in the officer's club, which indirectly affects our combat readiness. Simply demanding that officers join and participate in the O club will not increase morale or participation. On the contrary, such policies may smother individual spirit and directly affect our combat readiness. As General Patton reminds us:

Success in war lurks invisible in that vitalizing spark, yet as evident as the lightning—the warrior's soul—it is the cold glitter of the attacker's eye, not the point of the questing bayonet that breaks the line. It is the cataclysmic ecstasy of conflict in the flier, not

the perfection of his machine gun, which drops the enemy in flaming ruin. Yet volumes are devoted to armament; pages to inspiration.<sup>20</sup>

Given the changes occurring in military society and the renewed interest in participative management amid massive personnel cuts, we owe our people some smart solutions instead of forced ones. Whenever a cure for ailing military clubs is prescribed, it necessarily must include diversification and tolerance as ingredients. Acceptable remedies *will be* discovered by those remaining receptive, even intuitive, to their changing environment. These leaders understand that directing or managing change in the military as an inseparable part of a larger society is, in effect, their only true job description. The rest of the work will get done. □

The most reliable way to anticipate the future is by understanding the present.

—John Naisbitt  
*Megatrends*

#### Notes

1. J. B. Sweet, ed., *Essentials of Military Training: A Manual for Members of the Regular Army, Army National Guard, and Army Reserve* (Harrisburg, Pa.: The Stackpole Company, 1959), 152.

2. Department of Defense, *The Armed Forces Officer* (Washington, D.C.: Armed Forces Information Service, 1950), 36–37.

3. Maj Richard W. Stokes, Jr., *Preserving the Lament Flame: Traditional Values and the USAF Officer Accession Program* (Maxwell AFB, Ala.: Air University Press, September 1984), 4–5.

4. *Ibid.*, 5.

5. Arlie R. Hochschild, *The Second Shift: Working Parents and the Revolution at Home* (New York: Viking-Penguin, Inc., 1989), 162.

6. Janet Z. Giele, *Listening to America's Families: Action for the 80's: A Summary for the Report to the President, Congress and Families of the Nation* (Washington, D.C.: White House Conference on Families, 1980), 161.

7. H. I. McCubbin and M. A. Marsden, "The Military Family," in *The Changing World of the American Military*, ed. Franklin D. Margiotta (Boulder, Colo.: Westview Press, 1978), 211.

8. Hochschild, 186–87.

9. Quoted in Lt Col Michael B. Perini, "SAC Adjusts to a Post-Cold War Era," *Airman* 36, no. 1 (January 1992): 14.

10. Designated drivers and free taxi service are ideas highly encouraged by the military. While not specifically

endorsing alcoholic indulgence, this practice is similar to providing free condoms to high school students. What's a parent or general supposed to do?

11. American military leaders rarely are human behaviorists or psychologists but generally are engineering, business, or political science specialists well versed in military strategy. Such backgrounds rarely focus on the human dimension except as it relates to "the Mission." Perhaps this is now changing with the new emphasis on human personality and Total Quality Management.

12. Stokes, 4.

13. *Ibid.*, 10.

14. MSgt Dick Hodgson, "Accepting Change," *The Peacemaker* (Dyess AFB, Texas, base newspaper), 10 January 1992.

15. The retired officer community is not addressed in this article. Although they impact club activity and revenues, retired officers have little effect on changing officer roles and the move toward specialization and away from activities such as the club.

16. McCubbin and Marsden, 215–16.

17. Stokes, 47.

18. John Naisbitt, *Megatrends* (New York: Warner Books, Inc., 1982), 53.

19. Sweet, 152.

20. Martin Blumenson, *The Patton Papers, 1885–1940*, vol. 1 (Boston: Houghton Mifflin Co., 1972), 796–97.



# CLOSE AIR SUPPORT A DOCTRINAL DISCONNECT

LT COL BRIAN W. JONES, USAF

*The flashing orange MASTER CAUTION light burns into your view and traps your attention. Your heart races and time stands still as your tunnel vision moves to the corresponding warning on the enunciator panel. Your mind screams, "What's wrong? What's not working?" as the voice of the forward air controller rings in your ears: "That company's being over-run!" After you glance quickly at the flight and engine instruments, your adrenaline subsides, your stomach relaxes, and your eyes return to the DOCTRINAL DISCONNECT light on the panel. "Press on . . . save that company . . . no problem . . . or is there?"*

**T**HE PRECEDING operational story, though brief, highlights a continuing problem that demands high-level attention. The challenge of orchestrating air and ground forces to achieve military objectives goes back as far as World War I and has spawned much rhetoric on the conduct of combat operations. Senior commanders and staffs of US military forces publish documents that describe how their forces should operate in armed conflict and thus purportedly provide a conceptual framework for inter- and intraservice combat execution.<sup>1</sup> Whether or not they fulfill this purpose is debatable.



Oftentimes, when the United States must use force to defend its national security interests, some analysts seem to debate endlessly over whether or not we executed the way our doctrine said we would.<sup>2</sup> The close air support (CAS) mission represents perhaps the most complex aspect of orchestrating air and ground forces and is usually the cause of such debate on the gap between doctrine and execution. This article will not settle disputes over what we should have done—or even whether we did what we said we would do—in past conflicts. That discussion is necessary and healthy, leading to “reexamination of the evidence, and new reasoning.”<sup>3</sup> Instead, this writing maintains that to emphasize such concepts as *proximity* rather than *tactical control* in current CAS doctrine promotes confusion rather than clarity and puts our future CAS capability at risk.

Now that the US military has begun a major restructuring, it is essential that we clarify our doctrine on CAS if we are to close the gap between doctrine and execution. Without clear, concise doctrine, our restructured, smaller force—which nevertheless must perform multiple missions—will be hard pressed to support the joint battle. In view of these circumstances, this article defines and discusses the significance of CAS doctrine, points out some disconnects between current CAS doctrine and its execution in Operation Desert Storm, and mentions some institutional efforts to bridge the gap between current CAS doctrine and execution of the CAS mission, as well as making recommendations of its own.

## Close Air Support Doctrine

The link between current CAS doctrine<sup>4</sup> and combat effectiveness is evident in the following syllogism: If success in joint combat depends on centralized, flexible

application of air support assets throughout the theater commander's battlefield,<sup>5</sup> and if the organizing, training, and equipping of those air forces for employment is heavily influenced by a doctrinal description of CAS roles and missions, then the quality of our combat effectiveness depends upon the quality of our CAS doctrine. Another way of establishing this link is by noting the bidirectional nature of the path from doctrine to execution.

In an upward sense, doctrine “may influence acquisition and joint organization.”<sup>6</sup> That is, what the service chiefs say about the conduct of CAS today should directly influence the weapons systems and force structure available to conduct this mission in future years.<sup>7</sup> In a downward sense, doctrine directly influences combat execution by using the general guidance of senior commanders to formulate specific directives on missions, organizations, tactics, techniques, and procedures for employing combat forces. Combat readiness, then, should be the measurable product of exercising those forces in the accomplishment of their prescribed missions, under valid and realistic combat plans.<sup>8</sup> It follows, therefore, that effective doctrine leads to effective execution. However, the effectiveness of doctrine is a function of the clarity of its terminology.

We can assess that clarity by noting the definition of CAS in Joint Pub 1-02, *Department of Defense Dictionary of Military and Associated Terms* (“air action against hostile targets which are in close proximity to friendly forces and which require detailed integration of each air mission with the fire and movement of those forces”);<sup>9</sup> Air Force Manual (AFM) 1-1, *Basic Aerospace Doctrine of the United States Air Force* (“[air action that] directly supports the surface commander by destroying or neutralizing enemy forces that are in proximity to friendly forces”);<sup>10</sup> and Army Field Manual (FM) 100-5, *Operations* (“[air action that] supports land operations by attacking hostile

targets in close proximity to friendly surface forces").<sup>11</sup> Current joint doctrine offers no definition of the CAS mission, other than the general guidance that all joint operations require significant planning, coordination, and control.<sup>12</sup> Note that the term *proximity* (distance from enemy forces in time or space) is common to all three definitions cited and seems to be a source of confusion; for example, these statements might well lead us to assume that CAS can be used *only* for those targets in proximity of friendly forces. From a theater command perspective, CAS may not rate the highest apportionment, but "it may be the most critical [of the applications of aerospace forces] by ensuring the success or survival of surface forces."<sup>13</sup> For that reason, it is important to avoid the type of confusion that has long existed with regard to the term *proximity*.

### Execution of Close Air Support in the Gulf War

Although CAS dates from World War I, it evolved for the most part during the Vietnam War.<sup>14</sup> At that time, aerospace doctrine made headway in establishing a link to combat effectiveness by developing and applying better methods of tactical air control under a single air component commander. Yet, CAS execution was fast becoming the art of forward air control. The notion of proximity and the ability to distinguish between enemy forces and friendly forces on a nonlinear, jungle-canopied battlefield became critical elements in procedural control and execution. The inability to understand these elements, as well as disobedience of rigid rules of positive control for CAS, caused US munitions to fall on friendly forces. In the 20 years since Vietnam, we have argued, pondered, published, and preached, but we have yet to come up

with a more definitive or explicit doctrinal concept than *proximity* to define the CAS mission.<sup>15</sup>

A memorandum issued by the Rand Corporation in 1970 makes some significant observations about CAS doctrine: "Battle relevance rather than battlefield proximity is the useful criterion."<sup>16</sup> The report further stated that time and space were not the only criteria for defining method, and that command and control might be significant criteria which would require specialized training or weapon system capability. Battle history shows that, regardless of the services' parochial arguments over the definition of *proximity*, effective CAS occurs when ground commanders exercise tactical control over air forces in support of ground force objectives.<sup>17</sup> Joint Pub 1-02 defines *tactical control* as the "detailed and, usually, local direction and control of movements or maneuvers necessary to accomplish missions or tasks assigned."<sup>18</sup> Over the skies of Iraq and Kuwait in 1991, tactical control was a critical element in defining CAS.

Tactical air control in Operation Desert Storm was the product of nearly a century's worth of refining the application of air power, optimized to theater objectives. The effectiveness of CAS in the Gulf war provides some classic examples of how tactics and procedures can be effective, despite doctrinal deficiencies. That is, the application of aerospace doctrine produced relatively effective centralized control and decentralized execution for the coalition's air combat forces. At virtually all command levels, controlled interaction of air and surface forces provided the coordination and control required by our joint doctrine.<sup>19</sup> For example, although we adapted certain processes to the theater and mission, the tactical air control system operated just like it was presented in the Air-Ground Operations School.<sup>20</sup> Centralized command and control resided in the tactical air control center, which directed air tasking via an air tasking





*Success in joint combat depends on centralized, flexible application of close air support (CAS) assets throughout the theater commander's battlefield. Only a unified and clearly defined doctrine can effectively execute the various CAS missions. During the Vietnam War, CAS execution became the art of the forward air controller (FAC). Here, an O-2 Super Skymaster and OV-10 Bronco take part in Commando Hunt operations in Southeast Asia.*

order. Collocation and/or continuous communication with Gen Norman Schwarzkopf and his coalition commanders allowed theater command and control over the airland battlefield. Decentralized execution occurred through subordinate command and control agencies, including control and reporting centers, airborne warning and control system aircraft, airborne battlefield command and control centers, air support operations centers, airborne forward air controllers, and tactical air control parties. In terms of execution, then, we had our act together for CAS, but we have only to look at fire control procedures to begin to understand the nature of the doctrinal disconnect.

To achieve our objective of inflicting maximum damage on Iraqi forces, the tactical air control center divided virtually

all of Iraq and Kuwait into targeting areas. Known as "kill boxes," these areas allowed flexible tasking against time-critical targets such as Scud missiles, field artillery, air defenses, armor, supplies, or troops such as the vaunted Republican Guard.<sup>21</sup> Prior to the execution of the ground campaign, control of air missions in the kill boxes was important to mission effectiveness, but that control became absolutely essential when coalition ground forces began their rapid movement through the kill boxes toward their objectives (fig. 1).<sup>22</sup>

Of particular significance to these control procedures was the fire support coordination line (FSCL):

A line established by the appropriate ground commander to insure coordination of fire not under his control but which may affect current tactical operations. The [FSCL] is used to coordinate fires of air, ground or sea weapons systems using any type of ammunition against surface targets. . . . The establishment of the [FSCL] must be coordinated with the appropriate tactical air commander and other supporting elements.<sup>23</sup>

Proper fire-support procedure required that any ordnance expended on the friendly side of the FSCL be approved by coordination with the corps commander's fire-support element responsible for that sector.<sup>24</sup> Targets beyond (on the enemy side of) the FSCL, though they may have been nominated by the ground commander, were approved for destruction by the theater commander through the air tasking order or—to provide flexibility—by a CINC-designated element of the tactical air control system, such as the airborne battlefield command and control center or the control and reporting center. Doctrinally, missions against targets beyond the FSCL are considered air interdiction or, if the targets are of direct interest to (nominated by) the ground commander, battlefield air interdiction.<sup>25</sup> In a simple but very meaningful sense, CAS occurred when the ground commander tasked fixed-wing air assets to destroy enemy forces short of the FSCL, regardless of proximity to friendly ground forces.

Coordination with the fire and maneuver of surface forces generally worked as advertised via the intricate but effectively precise procedure of forward air control.<sup>26</sup> The critical element responsible for controlling fixed-wing air and for distinguishing friendly forces from enemy forces is the tactical air control party on the ground or—if available—the airborne forward air controller, both of whom provide the necessary integration of air and ground firepower. Inherent in these procedures are a number of disconnects between current CAS doctrine and execution that have implications for the mission's future effectiveness. Specifically, these are the doctrinal emphasis on proximity, the lack of emphasis on control, and the potential costs of unclear doctrine.

First, proximity is no longer the predominant factor in determining the ground commander's real-time or immediate need to increase his or her firepower and mobility with theater aerospace assets. To imply that such aerospace

power should be placed under the temporary control of the field commander only when hostile targets are in "proximity to friendly forces" invites discordant operations—the antithesis of joint doctrine. Uncertainty with regard to the notion of proximity can lead air and ground force commanders at various levels to either overcontrol or—worse—undercontrol air assets (e.g., by not using forward air control).<sup>27</sup> The former could diminish the effectiveness of aerospace firepower, and the latter could lead to losses to friendly fire—fratricide—which is clearly unacceptable to the American public. Though unavoidable weapons malfunctions may take their toll, one can minimize fratricide by following clear, well-rehearsed, and jointly accepted procedures for control and target identification.<sup>28</sup> During Desert Storm, coalition ground commanders could move their FSCLs within unreasonable distances of the nearest friendly forces, which induced overcontrol and thus reduced the effectiveness of air power. Their intent was to exercise tactical control over assets employed within their area of interest.<sup>29</sup> In short, they patched execution to doctrine by labelling all targets short of the FSCL as being in the "proximity of friendly forces." In this case, the lack of doctrinal clarity with regard to proximity had the effect of degrading the centralized application of air power.

Second, tactical control (albeit temporary) of aerospace forces by Desert Storm surface commanders became a key element in integrating the ground and air battle. Although procedures for establishing and communicating the position of the FSCL were very important in the mobile battle, around-the-clock operations in Desert Storm made proper tactical control of CAS a vital concern. To improve the effectiveness of air power in attriting the Iraqi army, we tasked fighter aircraft with highly capable sensors and good battlefield coverage to perform armed reconnaissance in the kill boxes and to relay

target information to airborne battlefield command and control centers and/or incoming fighters.<sup>30</sup> This “killer-scout” arrangement was ideal for interdiction sorties, but if the FSCL were moved forward too rapidly or if such movement were not communicated to the appropriate parties, we could have quickly fallen into the trap of mistaking friendly forces for the enemy—in the absence of procedural forward air control. Fortunately, misidentification by killer-scouts never led to serious consequences, but the possibility of its occurrence underscores the importance of emphasizing tactical control rather than proximity as a basic element of CAS doctrine.

Centralized control may be essential for the optimal application of air power in-

theater, but decentralized execution involves releasing tactical control—if for only the time it takes a 500-pound bomb to fall—to the ground commander, who should best know the immediate disposition of friendly and enemy forces. Procedurally, the US Air Force uses airborne forward air controllers or ground-based tactical air control parties to provide the operative tactical-control link between the ground commander and CAS aircraft. This procedure, executed very successfully in Desert Storm, shows that control should be a central element in the doctrinal description of CAS.

Finally, Desert Storm points to some of the pitfalls of unclear doctrine. When tactical control of fixed-wing air is necessary for field commanders to multiply their

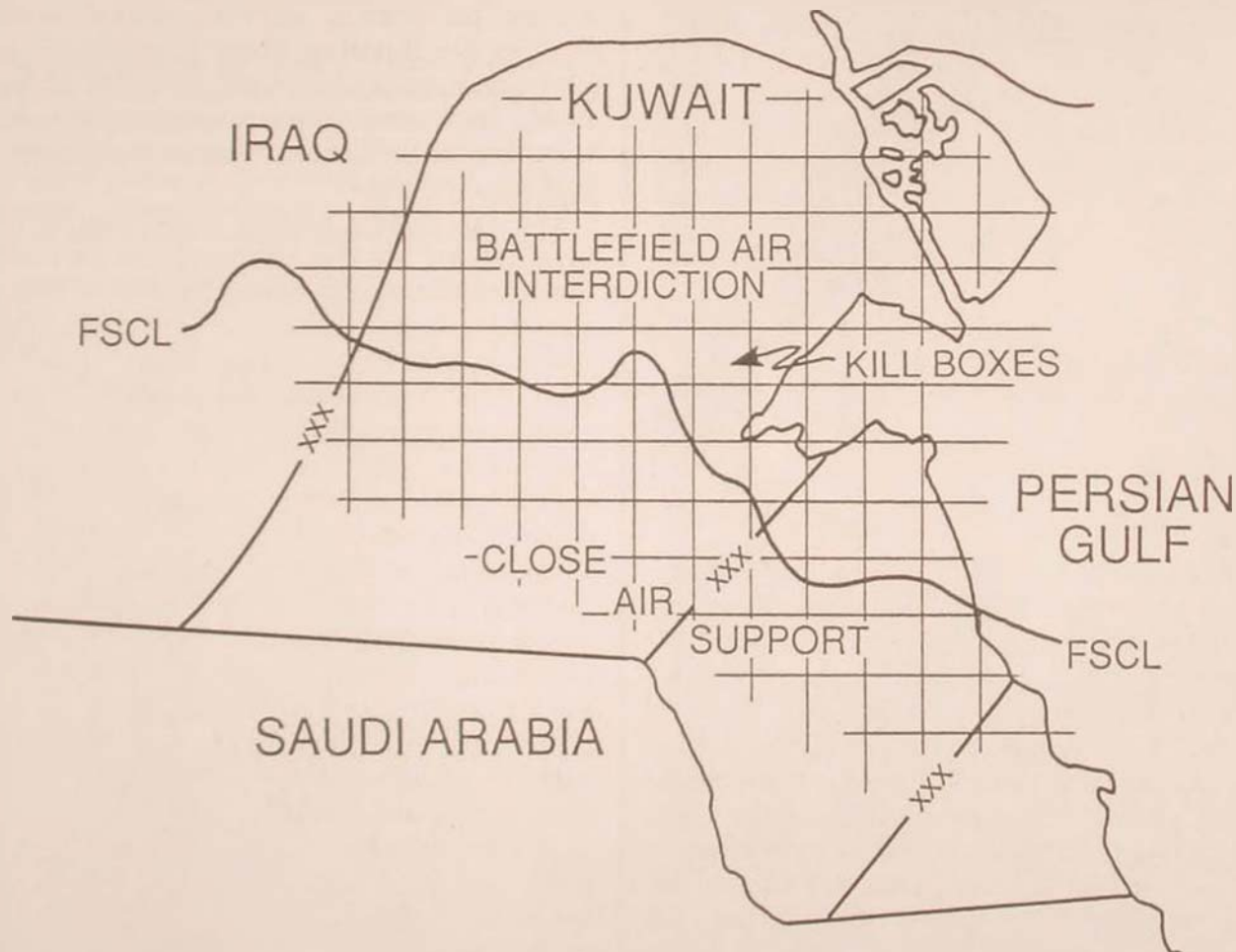


Figure 1. Areas of Responsibility in the Kuwaiti Theater of Operations





*Although doctrine may imply that CAS is used only against those targets in "proximity" to friendly forces, such was not always the case in Operation Desert Storm. Often, CAS occurred when the ground commander tasked fixed-wing aircraft to destroy enemy forces short of the fire support coordination line, even though the targets were not close to friendly ground forces. Here, a well-armed A-10 poses for an aerial portrait during the Gulf war.*

firepower, the CAS mission may determine the success of the battle or—ultimately—the campaign.<sup>31</sup> Although the services may argue among themselves over who should provide the "main effort," who supports whom in the battle, or who should define CAS requirements, such parochial arguments do not contribute to victory.<sup>32</sup> The imperative question for every force commander should be who supports what, the latter being the objective or mission specified in the operations or tasking order.

An examination of only the Persian Gulf war may encourage us to downplay the

significance of CAS because our ground forces had little need for additional firepower or mobility in their 100-hour campaign.<sup>33</sup> But when we did require CAS, as in the battle for Khafji, Desert Storm taught us that the process of integrating air and land forces—especially at night, in bad weather, and under demanding combat conditions—requires mission-specific training and equipment that must transcend parochial service boundaries. Unless we develop clear procedures for identification and control, the risk of fratricide increases. Clear, concise joint doctrine begets clear joint tactics, techniques, and procedures.<sup>34</sup>

We can justify patting ourselves on our blue backs for the tremendous achievements of aerospace power in Desert Storm, assuming that we do not ignore the less obvious but critically important CAS mission. Our success was the product of complex, coordinated, joint and combined operations. The fact that Iraqi resistance was crippled after 38 days of violent and devastating air attacks should not allow us to extrapolate that we should rewrite our doctrine to reflect the total dominance of one service over another. Such an assessment might lead us to the divisive conclusion that AC-130 gunships were "dominated" by US Army Rangers in Operation Just Cause or—further down that path—that aerospace doctrine should not even apply to such "military activities short of war" as Just Cause.<sup>35</sup> Instead, we should be beating our backs (and our doctrine) purple to prevent the loss of interoperable organizations and equipment that perform integrated, orchestrated, high-risk forward control of aerospace power.

Despite the shortcomings of our doctrine, the execution of CAS missions in Desert Storm was highly successful. What knowledge, then, of the proper application of aerospace power do we take from the deserts of the Middle East to the battlefields of the twenty-first century?

## Close Air Support for the Future

As mentioned earlier, the evolutionary nature of our CAS doctrine can serve to optimize future mission execution. That is, CAS combat capability can be significantly enhanced by modifications that

*Centralized command and control (C<sup>2</sup>) existed at the tactical air control center, which directed implementation of the air tasking order. Other C<sup>2</sup> entities, such as the airborne warning and control system (AWACS) aircraft and tactical air control parties on the ground, handled decentralized execution. Here, crew members on an E-3A AWACS monitor their screens during Operation Desert Storm.*

serve to close the gap between doctrine and execution. These modifications include Air Force reorganization, the future tactical air control system, and concepts for new US Army doctrine.

Recent restructuring of the US Air Force aligns combatant commands by theater mission (e.g., Pacific Air Forces and US Air Forces in Europe) and by functions of US-based "force providers" and "force augmenters" (e.g., Air Combat Command and Air Mobility Command).<sup>36</sup> As we refine our structure under the direction of Gen Merrill A. McPeak, Air Force chief of staff, we are improving mission capability by grouping mission-related air assets into objective, or composite, wing structures—witness the reorganization of the 23d Wing with attack assets such as A-10, OA-10, F-16, and AC-130 aircraft, as well as elements of the tactical air control system. Collocation of that wing with the 82d Airborne Division and the XVIII Airborne Corps increases our peacetime opportunities to conduct joint exercises in CAS. Such joint alignments with objec-



tive wings will further enhance our capability in multi-aircraft composite operations such as joint air attack tactics, tactical airlift escort, combat search and rescue, or gunship support. Current joint doctrine makes only a broad reference to the fact that coordination and employment of such composite missions are the responsibility of the air component commander, and aerospace doctrine speaks of these missions only in general terms.<sup>37</sup> Historically, surface-attack air forces, especially those that may be tasked primarily for CAS, will be the air component commander's choice for such composite missions as air-assault escort or drop-zone preparation (as in Vietnam) or combat search and rescue (as in Desert Storm).<sup>38</sup> Service doctrine must concisely describe the synergistic nature of these composite missions in force-application or force-enhancement roles.

Basic Air Force doctrine says that "Air Force forces should be organized to enhance centralized control and decentralized execution."<sup>39</sup> Our restructuring efforts are attempting to tailor tactical air control elements to objective wing structures so that loss of combat capability is held to a minimum. Recently, tactical air control wings redistributed their resources so that the deployability and combat capa-

bility of the tactical air control system would provide optimal support to combat commanders in their areas of responsibility.<sup>40</sup> As a follow-up to this reorganization, the chiefs of staff of the Air Force and Army should approve the Air Attack Action Plan, a concept originally published by Tactical Air Command and the Army's Training and Doctrine Command, which addresses aerospace force application on the future battlefield. This concept specifies tactics, techniques, and procedures (TTP) that link CAS doctrine and execution, thereby enhancing combat capability. In addition to providing a consolidated TTP manual for joint CAS operations, the Air Attack Action Plan proposes a more integrated planning process for air tasking orders and ground-force operations orders, improved training in joint air attack tactics, and helicopter-borne forward air controllers.<sup>41</sup> Also under development in joint TTPs are improvements to CAS procedures, such as the data-burst integrated data modem—a

*The author's suggestion that the joint force commander release temporary tactical control of CAS assets to a surface force commander may enhance aerial support to the ground pounders. Here, tanks from the US Army's 3d Brigade roll past a burning Iraqi T-72 tank a few kilometers outside of Kuwait.*





device for transferring a forward air control briefing—and better methods of identifying friendly ground forces to high-tech, long-range sensor systems.<sup>42</sup>

The most recent development in updating US Army doctrine is found in an Army publication titled *AirLand Operations: A Concept for the Evolution of AirLand Battle for the Strategic Army of the 1990's and Beyond*.<sup>43</sup> Its purpose is to “set the general azimuth for the evolution of doctrine, organization, training, material, and leader development by [the Army and the Air Force].”<sup>44</sup> Of significance to CAS doctrine, *AirLand Operations* mentions the “joint battle area,” a zone in the not-necessarily-linear battlefield of the future where Army and Air Force capabilities overlap and where CAS should occur; however, *AirLand Operations* does not provide a definition of CAS. An updated version of FM 100-5, which will incorporate airland operations doctrine, should certainly include a joint definition of CAS.<sup>45</sup>

## Principles of War and the Essence of Control

President Abraham Lincoln wrote the Emancipation Proclamation in about 120 words—less than two written pages. Gen George C. Marshall described the *Command and Employment of Air Power* in 1943 in just over 13 pages.<sup>46</sup> By way of contrast, today's primary joint and service doctrine publications (i.e., Joint Pub 1, *Joint Warfare of the US Armed Forces*; AFM 1-1; and FM 100-5) total 583 pages. Their sheer bulk alone suggests that our doctrine does not exemplify those very principles which it extols: economy, simplicity, and unity.<sup>47</sup> Effective communication is not well served by redundancy, excess, and overstatement. It is time to weed the garden. Doctrine needs to be clarified and simplified. The term *doctrine* itself must have a clear, consistent

definition to serve its powerful, bidirectional purpose. And it must be unified—consistent in both its joint and service-particular manifestations. Rear Adm U. S. Grant Sharp said it best: “In combined operations, keep it simple!”<sup>48</sup>

With unity, clarity, and simplicity as doctrinal objectives, service doctrine should support joint doctrine by speaking to specific mission and organizational capabilities. Each service must simplify its doctrine by describing unique and interoperable missions, and must forgo arguments that favor parochial interests. Descriptions of CAS in FM 100-5 and AFM 1-1 must be clear and consistent. The principles of centralized command and decentralized tactical control, authorized by the theater CINC, distinguish this unique mission and underlie the success it enjoyed in Iraq, Vietnam, Korea, or any victorious campaign. Such is the way we will execute CAS in the future. For that reason, I propose a new definition of CAS:

Close air support missions integrate aerospace assets into the fire and maneuver plan of surface force commanders at all levels; toward that end, the joint force commander procedurally authorizes temporary tactical control of CAS assets to surface force commanders for specified mission execution.

Service competition over both the command and control of assets should thus give way to the joint pursuit of combat objectives.

But what if it doesn't? What if we ignore that DOCTRINAL DISCONNECT caution light? As we have seen, the effects of unclear, unrefined doctrine on the mission capability of CAS are predictable and damaging. The answers to two fundamental questions effectively summarize the potential impact of this doctrinal disconnect: (1) Will the CAS mission disintegrate for lack of motivation, men, or machines? and (2) Will CAS mission effectiveness be significantly degraded? The answers, respectively, are *no* and *yes*.

The CAS mission will remain necessary to operations in the nonlinear battlefield of the future. "The joint battle area is where Army forces fight to the depth of all their weapons systems and where Army and Air Force capabilities overlap."<sup>49</sup> Therefore, even if we do not lay a clear foundation for CAS in our doctrine, the mission will still be critical.<sup>50</sup> Much less critical is the weapon system, for the mission is more important than the machine. For example, Desert Storm had F-16s pointing out battlefield air interdiction targets to A-10s and had OA-10s providing forward air control to any fighter tasked for the CAS mission.<sup>51</sup> But a tank at five miles looks the same in the infrared Maverick scope of an F-16 as it does in the scope of an A-10. Pilots who provided CAS to coalition forces in the deserts of Kuwait and Iraq are warriors who will fight the battle with whatever sword they are given. Perhaps one sword performs better than another for a specific mission,<sup>52</sup> but that does not change the fact that the mission will be accomplished, regardless of the doctrinal disconnect.

Mission effectiveness, however, is degraded by ineffective doctrine. Historically, two unerring axioms of CAS apply to every conflict. First, reduce the threat to friendly ground forces by maximizing firepower to kill as many targets as possible. In 1950 Maj Louis J. Seville gave his life to that honorable goal and was posthumously awarded the Congressional Medal of Honor.<sup>52</sup> Second (and perhaps more significant), kill *no* targets rather than risk the accidental killing of friendly forces. Expert, effective control is essential to successful CAS, and such expertise is a direct product of good doctrine. Disagreement over a proper doctrinal definition of CAS leads to disjointed control procedures, which in turn can lead to fratricide on the battlefield—something we all abhor. Although composite wings of the future may be less experienced than the units that fought in Desert Storm, they will certainly have broader missions; moreover, future fighter squadrons and detachments may be unable to pick up where ineffective doctrine leaves off.

The disconnect is real. □

#### Notes

1. Air Force Manual (AFM) 1-1, *Basic Aerospace Doctrine of the United States Air Force*, vol. 1, March 1992, v-vii; and US Army Field Manual (FM) 100-5, *Operations*, May 1986, i.
2. Lt Col Edward C. Mann, "Operation Desert Storm? It Wasn't AirLand Battle," *Air Force Times*, 30 September 1991, 27, 61.
3. Lt Gen Charles G. Boyd and Lt Col Charles M. Westenhoff, "Air Power Thinking: Request Unrestricted Climb," *Airpower Journal* 5, no. 3 (Fall 1991): 14.
4. In this article, *doctrine* refers to information in AFM 1-1, FM 100-5, and joint publications of the 3-series (operations). *CAS doctrine* refers to descriptions of this term in the preceding documents. For information on the production of joint doctrine, see Lt Col William F. Furr, "Joint Doctrine: Progress, Prospects, and Problems," *Airpower Journal* 5, no. 3 (Fall 1991): 38-39; and Lt Col Edward C. Mann, "Beyond AirLand Battle: Concepts for the Future," *Air Force Times*, 16 December 1991, 1.
5. War Department FM 100-20, *Command and Employment of Air Power*, 21 July 1943, 7; and Col James A. Mowbray, "The Fabric of Air Warfare Doctrine, Operational Experience, and the Integration of Strategic and Tactical Air Power from World War I through World War II" (Paper presented to the Airpower Symposium, Maxwell AFB, Ala., March 1988).
6. Joint Pub 0-1, "Basic National Defense Doctrine," final draft, July 1990, I-3.

7. Department of the Air Force, *Air Force Restructure*, white paper, September 1991.
8. FM 100-5, 6; AFM 1-1, vol. 1, vii; and Joint Test Pub 3-0, *Doctrine for Unified and Joint Operations*, January 1990, II-1.
9. Joint Pub 1-02, *Department of Defense Dictionary of Military and Associated Terms*, 1 December 1989, 70.
10. AFM 1-1, vol. 1, 6.
11. FM 100-5, 49.
12. Furr, 43; and Joint Test Pub 3-0, III-12.
13. AFM 1-1, vol. 1, 13.
14. Dr Richard P. Hallion, "Battlefield Air Support: A Retrospective Assessment," *Airpower Journal* 4, no. 1 (Spring 1990): 161; and Gen William W. Momyer, *Airpower in Three Wars* (Washington, D.C.: Department of the Air Force, 1 January 1978), 258-62.
15. For a much more detailed and complicated doctrinal proposal, see Lt Col Gary Dikkers, "Battlefield Air Support (BAS)—A Doctrinal Definition," *AirLand Bulletin*, 31 December 1990, 3-7.
16. Edmund Dews, *A Note on Tactical vs. Strategic Air Interdiction*, Rand Memorandum RM 6239-PR (Santa Monica, Calif.: Rand Corporation, April 1970), v, 3.
17. The following discussion details the effectiveness of CAS in Operation Desert Storm, as well as the principles of tactical control that were responsible for the mission's success. The number of tanks, armored personnel carriers, and

artillery pieces destroyed by A-10 and OA-10 operations alone lends credibility to such claims of effectiveness. See "A-10/OA-10" (U), *Tactical Analysis Bulletin* (U) 91-2 (July 1991): 6-1 through 6-20. (Secret) Information extracted is unclassified. Further, General Momyer relates numerous examples of the significance of tactical control in conducting CAS in World War II, the Korean War, and the Vietnam War. See Momyer, *passim*.

18. Joint Pub 1-02, 361.

19. Joint Test Pub 3-0, II-1; and AFM 1-1, vol. 2, 113, 167.

20. For a detailed description of the tactical air control system, see Maj Thomas H. Buchanan, *The Tactical Air Control System: Its Evolution and Its Need for Battle Managers*, Research Report no. AU-ARI-87-1 (Maxwell AFB, Ala.: Air University Press, May 1987): 29-38; see also "A-10/OA-10" (U), 1-5. (Secret) Information extracted is unclassified.

21. Col William A. Scott, commander, 4th Tactical Fighter Squadron, Hill AFB, Utah, interview with author, January 1992; Dr Norman Friedman, *Desert Victory: The War for Kuwait* (Annapolis, Md.: Naval Institute Press, 1991), 75-76; and Maj James Blackwell, *Thunder in the Desert: The Strategy and Tactics of the Persian Gulf War* (New York: Bantam Books, 1991), 163-65.

22. The illustration shows only generic areas of responsibility in-theater and is not intended to depict the specific operations of any particular unit in Iraq or Kuwait.

23. Joint Pub 1-02, 144.

24. Joint Pub 3-09, "Joint Fire Support," is currently under development. Outside of Air Force tactics manuals, US Army FM 6-20, *Fire Support in Combined Arms Operations*, 28 January 1983, J-13, contains the best description of the basis for this procedure.

25. AFM 1-1, vol. 2, 165.

26. The conceptual basis for this procedure is in FM 6-20, E-4.

27. AFM 1-1, vol. 2, 165.

28. Richard MacKenzie, "A Conversation with Chuck Horner," *Air Force Magazine*, June 1991, 63.

29. Scott interview.

30. *Ibid.*

31. AFM 1-1, vol. 1, 13; and US Army Training and Doctrine Command (TRADOC) Pamphlet (Pam) 525-5, *AirLand Operations: A Concept for the Evolution of*

*AirLand Battle for the Strategic Army of the 1990's and Beyond*, 1 August 1991, 11.

32. Mann, 31.

33. Friedman, 198-203.

34. Furr, 40-41.

35. Lt Col Price T. Bingham, "Air Power in Desert Storm and the Need for Doctrinal Change," *Airpower Journal* 5, no. 4 (Winter 1991): 33; and [Lt Col] R[ichard] B. C[larke], "The Confidence of Quality," *Airpower Journal* 5, no. 4 (Winter 1991): 2.

36. *Air Force Restructure*, 6.

37. Joint Test Pub 3-0, III-12. In AFM 1-1, the closest one comes to a description of these composite missions is in the remarks on force enhancement. See vol. 1, pages 13, 106, 186, and 193.

38. Earl H. Tilford, Jr., *Setup: What the Air Force Did in Vietnam and Why* (Maxwell AFB, Ala.: Air University Press, June 1991), 69-70; and Malcolm McConnell, "Rescue in Iraq," *Reader's Digest*, June 1991, 75-82.

39. AFM 1-1, vol. 1, 18.

40. Lt Col David Tillotson III, commander, 729th Tactical Control Squadron, Hill AFB, Utah, interview with author, January 1992.

41. "Air Attack Action Plan—Operational Concept," *AirLand Bulletin*, 30 September 1990, 3.

42. See Furr, 43, for more information about joint TTPs.

43. TRADOC Pam 525-5.

44. *Ibid.*, i.

45. TRADOC Pam 525-5, at 45 pages, is almost three times as long as the section on "AirLand Battle" in FM 100-5. In the interest of clarity, one might hope that the US Army would consider a less lengthy rendition of its current doctrine for AirLand Battle.

46. War Department FM 100-20.

47. Joint Pub 1, *Joint Warfare of the US Armed Forces*, 11 November 1991, 21. For example, the nine principles of war found in Joint Pub 1 are repeated in AFM 1-1 and FM 100-5.

48. Joint Pub 1, 65.

49. TRADOC Pam 525-5, 11.

50. AFM 1-1, vol. 1, outlines the significance of the mission to the US Air Force (page 13).

51. Friedman, 176.

52. Joint Pub 1, 59.



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## Ricochets

*continued from page 3*

commonality, resulting in a decreased support budget and a reduced logistics tail.

The advanced medium-range air-to-air missile, low-altitude navigation and targeting infrared for night system, reconnaissance pods, all-weather munitions guidance systems, and autonomous equipment for suppression of enemy air defenses allow the F-16 to perform the counterair and force-application roles, as well as some elements of the force-enhancement role. Force-enhancement electronic countermeasures and force-support tanking; logistic support; and command, control, communications, and intelligence would still be required. These elements could be identified by task and could train with the F-16 wing as required, allowing the exercising of large force packaging.

This proposal would not be quite the same as operating from the Mountain Home wing; however, it could be much more cost-effective and could offer numerous advantages of its own. Eighty percent of the capability for one-third the cost makes sense today.

Maj B. Coutts, USAF  
RAF Brampton, United Kingdom

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## O-O-D-A LOOP TOOLS

Thanks to 1st Lt Gary A. Vincent for his excellent article, "In the Loop: Superiority in Command and Control," in the Summer 1992 issue. The Observation-Oriented-Decision-Action (O-O-D-A) loop provides a useful tool for analyzing command, control, communications, computers, and intelligence (C<sup>4</sup>I) processes and tools.

I was disappointed that Lieutenant Vincent made no mention of the airborne battlefield command and control center (ABCCC). ABCCC II was fielded in Vietnam in the mid-sixties. It used paper charts, plastic tags, and grease pencils to track friendly and hostile forces. ABCCC II saw action in Grenada (Operation Urgent Fury), as well as Panama (Operation Just Cause). Five ABCCC II aircraft were deployed to Operations Desert Shield/Storm and were key C<sup>4</sup>I nodes in the events described in Lieutenant Vincent's article.

From the perspective of O-O-D-A, ABCCC II's strength was its communications suite and crew composition. Specifically, friendly ground and air elements provided ABCCC II with information via radio. The crew could then plot an excellent orientation of the battlefield situation. This was enhanced by the ABCCC intelligence officer and technician, who not only received timely updates on bomb damage assessment and hostile intelligence, but were trained to fuse this information into a current picture. To support decision making, ABCCC II battle managers were trained to adjust the combat flow on a real-time basis. The linchpin was the director of the airborne battle staff, a fighter-qualified crew member who lent the viewpoint of the action agencies (strike aircraft) to each decision. If necessary, ABCCC could be manned with an airborne command element to provide expanded authority.

One hundred and ten days after ABCCC III was delivered to the government, we successfully deployed two of these systems to Desert Shield. The O-O-D-A cycle takes even longer. The battle staff now has computer and software tools optimized to support the orientation and decision processes. For example, during mission planning, the 800-page air tasking order is reformatted in minutes for the crew's use in flight. Once airborne, the crew has software tools which permit rapid matching of assets against targets. The computerized map display can be customized within seconds to support any orientation objective desired. Still, as with ABCCC II, the key elements are extensive communications, crew manning, and training.

Lieutenant Vincent's article suggests that the ability to execute faster cycle times is limited by command and control. In such target-rich environments as Iraq and Kuwait, ABCCC (II or III) could provide targets much faster than strike assets could be made available. This was further complicated by the desire of strike aircraft to work missions "as fragged"; diversions from ABCCC to unfamiliar targets entailed new unknowns and risks. I submit that ABCCC—with observation data from airborne warning and control system aircraft, joint surveillance target attack radar system aircraft, and so forth—has demonstrated O-O-D-A cycle times in hours. The decision cycle is strengthened by placing an airborne command element on ABCCC. But this still leaves a problem that was evident in the desert: How

do we provide strike-aircraft crews (the action guys) with the same orientation to a pop-up target received from ABCCC as they get for targets that have been fully mission planned/briefed? We in the C<sup>4</sup>I business are exploring possibilities, but that truly is the "long pole in this tent."

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### WHERE IS OUR DOCTRINE GOING?

The last few issues of *Airpower Journal* have sparked the beginning of what I hope is a long debate on Air Force doctrine, especially the new two-volume edition of AFM 1-1, *Basic Aerospace Doctrine of the United States Air Force*. My interest began when Lt Col Phillip S. Meilinger explored "The Problem with Our Air Power Doctrine" in the Spring 1992 issue. When I arrived at Fort Leavenworth, Kansas, for a year at the Advanced Operational Studies Fellowship, I was handed a copy of the new AFM 1-1. Coming from the "trenches," I did not even know we had a new manual. Lt Col C. J. Bohn III and Lt Gen Charles G. Boyd opened the discussion about doctrine even further with their letters to the editor in the Summer 1992 issue.

My major criticism of AFM 1-1 is best summed up in General Boyd's comment that we must reach "personnel at the wing level and below—the 'shop floor,' if you will—so we can produce a living document of which every airman is an integral part." The new manual is not something that is going to be discussed at a squadron staff meeting.

Does volume 2 contain doctrine? According to the purpose stated in its introduction, the answer is no. Volume 2 is, however, an excellent collection of articles about air power and goes a long way toward explaining operational art and the tenets and principles of air power. So where does that leave us? Volume 1 should be the encompassing doctrinal guide for the Air Force—something, as General Boyd suggests, that should reach down to, perhaps, the flight commander.

The new volume 1 does not, in my opinion, give an adequate definition of the term *doctrine*. Joint Pub 1-02, *Department of Defense Dictionary of Military and Associated Terms*, devotes one and one-half pages to defining

doctrine. The 1984 version of AFM 1-1 devoted three pages to the definition of *doctrine*—from basic through tactical levels. The introduction to volume 1 discusses the term, but volume 2 merely gives us a handful of quotes. Why is this important? As Colonel Meilinger's article stresses, airmen have a difficult time explaining our doctrine. I contend that if our basic doctrinal manual does not have a solid definition of the beast, our young airmen will have a very difficult time describing what it looks like.

Additionally, the new volume 1 may ask more questions than it answers. The section on "Air-mindedness" states that "*this viewpoint is not presented here as doctrine*" (italics in original). Then why is it in AFM 1-1? Chapter 2 introduces "tenets," which were not in the 1984 version. Volume 2, which is not "doctrine," is required to completely understand the new tenets of air power. Logistics, which was a "principle" of air power in the 1984 version, is relegated to the last few paragraphs of the 1992 edition.

The Army is currently revising Field Manual (FM) 100-5, *Operations* (to become *AirLand Operations*). The Training and Doctrine Command team is wrestling with several tough concepts, including operations short of war, conflict termination, and the role of airland operations in future conflict—namely, major regional crises. The latest AFM 1-1 mentions operations short of war but, at least to me, looks to the past, not the future.

I know criticism comes cheap. I do not have all the answers. But I totally agree with General Boyd's assertion that we must have a doctrine that is discussed and, more importantly, understood at the grass-roots level of the Air Force. Military doctrine has two primary functions: to guide actions in wartime and to provide a focus for training in peacetime. Squadron commanders need a doctrine that will guide their entire organization. We need more than a "roles and missions" document that is used to design the air tasking order at the operational command. Don't take so much out of AFM 1-1 that it becomes a hollow shell that must be supplemented by several volumes or clarified in other manuals. Give the captains, majors, and lieutenant colonels in the trenches a doctrine they can all sink their teeth into, no matter their career field—from pilot to public affairs. One need only read Sen Sam Nunn's speech on roles and



missions to the Senate on 2 July 1992 or study the debate on the budget in the out years to realize that we—and our doctrine—must be looking 10 to 20 years down track to keep the Air Force a strong, vibrant force ready to execute our national strategy.

In the last chapter of his book *The Professional Soldier: A Social and Political Portrait*, Morris Janowitz suggests that within the military there are “military intellectuals” and “intellectual officers.” Military intellectuals are usually associated with activities such

as academia, and they could easily make the transition to university life. Intellectual officers simply bring “an intellectual dimension to [their] job[s].” They can critically analyze things such as air campaign plans or doctrine. I feel that AFM 1-1 will stand a better chance in reaching the grass-roots level if it is written by intellectual officers instead of military intellectuals.

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## N E T · A S S E S S M E N T

**On Silver Wings: The Women Airforce Service Pilots of World War II, 1942–1944** by Marianne Verges. 201 E. 50th Street, New York 10022: Ballantine Books, 1991, 255 pages, \$20.00.

**Women Pilots of World War II** by Jean Hascall Cole. 101 University Services Building, Salt Lake City, Utah 84112: University of Utah Press, 1992, 165 pages, \$19.95.

These books tell of the women who flew all manner of military aircraft on a variety of missions for the Army Air Forces during World War II. As the Women Airforce Service Pilots (WASP), they ferried and tested aircraft and towed targets, providing essential support for the military war machine and freeing men for combat duty.

The stories of these women, who served for “God, country, and the thrill of it,” comprise the core of Verges’s and Cole’s texts, which fuse individual accounts into narratives capturing the mission of the WASP and the mood and milieu of the time. The authors provide valuable texts for reference, as well as information on the social experiment the WASP represented. Both books have been extensively and well researched, though the authors write from divergent points of view.

Cole begins her oral history with the memory of her first flight and the freedom she felt it

offered her; she then extends this first experience outward among her fellow classmates. For instance, she recalls one particularly demanding instructor through the narratives of various students.

Through chapters with titles such as “How It Began,” “Cross-Country and Advanced Training,” and “B-26 School,” Cole tracks her classmates’ progress through the phases of their training on through their experiences and adventures once they began their service, including night flights, midair collisions, in-flight emergencies, and an encounter with the as-yet-unidentified jet stream.

*Women Pilots* focuses exclusively on the lives of one class of the many women who trained at Avenger Field, whereas *On Silver Wings* offers a more complete historical summary of the WASP as a whole, based on personal interviews, private papers, and government files. Verges’s text begins with an incident portrayed in the film *Tora! Tora! Tora!*: flight instructor Cornelia Fort, flying over Hawaii with her student, encounters the waves of Japanese aircraft attacking Pearl Harbor. From that incident, Verges then backtracks to provide earlier details of Fort’s flying career and expands to the other women who became the nucleus of the WASP experiment. Verges also gives a “time capsule” of the decades before Pearl Harbor—of the events and the aviators who were extending the barriers of aviation.

Because of its greater scope, *On Silver Wings*

provides a more detailed portrayal of the WASP program and the policies and politics that created the program but which also plagued it. In addition to numerous profiles of lesser-known individuals, Verges carefully outlines the interplay between the "rascal" Jacqueline Cochran, who promoted the idea of a women's flying corps in 1940, and Nancy Harkness Love, a woman of "cool detachment," who was first appointed to oversee women pilots in the Ferry Division of the Army Air Forces (pages 11–12). She also documents the roles of Gen Henry H. ("Hap") Arnold and Col William Tunner, and the battle over militarization that contributed to the demise of the WASP.

Similar details are condensed in Dora Dougherty Strother's foreword to *Women Pilots*. Strother's contribution gives depth and background to Cole's text by describing the structure, requirements, and training of the WASP, as well as conclusions regarding the effectiveness of the organization. Cole's introduction also summarizes additional historical information, such as the sources and causes of resistance to the militarization of the WASP.

Both texts reveal the effect of five decades of social evolution in attitudes toward women's occupation of challenging positions and traditionally masculine roles, and the destructuring of work and social roles which the war allowed. The members of the WASP—a group of women from diverse backgrounds—were individuals for whom "flying was a passion, and some combination of daring, rebellion, and determination took [them] into the air" (Cole, page 7). The sense of puzzlement, frustration, and resentment which these "rebels" and their male counterparts sometimes experienced in their encounters with each other is frequently documented. Ultimately, these women aviators won the admiration and acceptance of their peers by flying missions which men did not want and by flying reputedly dangerous aircraft which the men feared, such as the B-26 and B-29 bombers.

Besides their value as research and reference aids, these two texts also provide a revealing glimpse into an era when women's abilities in flying military aircraft were unacknowledged, then soon forgotten. The WASP, due to its accomplishments, was an organization which military women frequently credit with paving their way into today's military aircraft. *Women Pilots* and *On Silver Wings* thus record an era of adventure, excitement, and dedica-

tion, and capture the sense of "pushing the boundaries" which Women Airforce Service Pilots themselves felt.

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**Military Ethics: Looking toward the Future** by Nicholas G. Fotion. Stanford University, Stanford, California 94305: Hoover Institution Press, 1990, 122 pages, \$12.95.

In *Military Ethics*, Nicholas Fotion invites us to closely examine, based on information about past wars, the relationship of the military-industrial-political complex to modern warfare. To determine the nature of military ethics, we are asked to assume the philosophical perspectives of pacifist, realist, and just-war theorists. We must then decide whether modern military technology has increased the lethality and probability of war and, if so, whether it has forced nations to constantly prepare for war or engage in war.

Although he recognizes the concerns of the realist and just-war theorists, Fotion concentrates on the "big argument"—the pacifist perception of ethics and warfare. The "big argument" can be subdivided into four parts: the destructiveness of modern weapons; the monetary and social costs of maintaining a military establishment and the latter's tendency to trigger warfare; the monetary and social costs of maintaining an industrial establishment and the latter's tendency to trigger war; and the costs of lost opportunities while a country wages war or maintains the constant vigilance needed to preserve peace. The author does not approve or disapprove of any particular theorist; instead, he attempts to retain the documented truth of each theorist's position, assimilating all of them in his conclusion.

Against the backdrop of the "big argument," Fotion examines the entire range of modern weaponry, countermeasures, and counter-countermeasures, discussing their lethality in every facet of warfare—from unconventional to nuclear. One of the most intriguing debates involves the unique qualities of nuclear, chemical, and biological weapons and their effect on a nation's strategy of deterrence. Finally, he reflects on the evolving nature of the people who control the military-industrial-political complex and the ability of that entity to make significant contributions to sustain peace between wars.

What does he conclude? Pacifists may well be correct in their criticism of the self-serving, myopic nature of individuals who control the elements of the military-industrial-political complex. On the other hand, realist theorists are equally correct in the certainty of the cold, calculating decisions often made by combatants. In turn, just-war theorists are correct about the decisions of conscience made by military and civilian leaders to limit unnecessary destruction. Ultimately, the increased lethality of modern technology has not made warfare deadlier than it was in the past. Still, Fotion realizes that none of the many elements contained within each theorist's argument are static. Indeed, he believes that a periodic review of all the arguments will be necessary in the future.

A detailed and thought-provoking work, *Military Ethics* takes the reader into uncharted territory. As with an adventure, there are perils—becoming lost is probably the greatest. A comprehensive understanding of the many types of pacifist, realist, and just-war theorists would reduce confusion and would allow one to focus solely on the author's thesis. Without this foresight, the reader must undergo Fotion's short course on philosophy to become familiar with the rudimentary elements of his discussion. Still, Fotion's descriptions are thorough and precise, making his book well suited for anyone interested in military history. Perhaps, like the Sherlock Holmes series of books, Fotion's sequel will provide us with a new, intellectually seasoned adventure!

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**Under Fire: An American Story** by Oliver L. North with William Novak. New York 10022: Haper Collins Publishers, 1991, 446 pages, \$25.00.

William Novak has done it again—helped a celebrity turn a personal story into a very readable book. Novak's past efforts include helping Lee Iacocca, Nancy Reagan, Tip O'Neil, and Sydney Biddle Barrows (the Mayflower Madam) tell their stories. This time, however, his collaboration with Mr Smith (Ollie North's pseudonym during the writing of the book) had to be done as a covert operation. Novak and North (oops, Smith) would meet once a week in a ground-floor room at the airport Marriott Hotel in Washington, D.C., where Ollie would

hide in the bathroom whenever room service delivered meals. Such secrecy was encouraged by his publishers and supported by his lawyers lest the manuscript and its associated research fall into the hands of North's persecutors (aka prosecutors).

Released in October 1991 with much fanfare, including extensive excerpts in *Time* magazine, *Under Fire* tells Ollie North's story from his "nearly idyllic childhood" to the dismissal of all criminal charges against him. In between, we learn that North, the quintessential workaholic and can-do Marine who excelled in combat, almost ruined his marriage, found God, and unselfishly carried out President Reagan's policies in Iran and "Nica-wog-wa," as CIA director William Casey always mispronounced it. We are painted a picture of a loyal, patriotic American who was abandoned, betrayed, hounded, persecuted, and prosecuted for his role in what became known as the Iran-Contra affair.

The book begins with a description of the cast of characters, including North's lawyer Brendan Sullivan, who is described as "not a potted plant." It ends with a recap of what happened to these characters, including Lawrence Walsh, "the vigilante who rode into town in 1986 as the special prosecutor [and] remains at large." In between, we are treated to North's depiction of the events and major players in the Iran-Contra affair and the subsequent hearings and trials. In these depictions, North constantly lets his emotions and prejudices show through. For example, he says that President Reagan must have known all about Iran-Contra but should be excused for not remembering because he "didn't always know what he knew." He describes both the congressional hearings and the special prosecutor as "ways for Congress to criminalize policy differences between coequal branches of government." He reserves especially strong contempt for Lawrence Walsh and his staff, stating, for example, that "unlike other public prosecutors, who are required to take cases as they come in, these guys were more like a lynch mob in pin-striped suits."

If you are looking for new insights or an in-depth analysis of the Iran-Contra affair, this book will be a real disappointment. We saw all that Oliver North has to offer on television in the summer of 1987. There is no "smoking gun," although North does try to convince us that a tape recording of a telephone conversa-



tion between two unidentified men proves that an unrevealed conspiracy exists. On the other hand, providing you are not tired of hearing about the Reagan years and Iran-Contra, *Under Fire* is an interesting tale which can provide some food for thought regarding what is important in life. As Ollie North discovered, there must be a balance between duty and family.

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**Raid on Qaddafi: The Untold Story of History's Longest Fighter Mission by the Pilot Who Directed It** by Col Robert E. Venkus, USAF, Retired. 175 Fifth Avenue, New York 10010: St. Martin's Press, 1992, 175 pages, \$21.95.

*Raid on Qaddafi* is a recounting of the 1986 raid on Libya (Operation El Dorado Canyon) by the man who was then vice-commander of the 48th Tactical Fighter Wing (TFW), based in Lakenheath, England. The book is interesting in that it offers the reader a tactical perspective of the events leading up to, during, and after the raid and keeps the operation very personal. It puts the reader in the boots of the senior wing-command staff and the crews who flew the mission. However, this intriguing tale is told with a thread of the author's bitterness woven throughout, and if his attitude is not taken in stride and recognized as a chance for the reader to learn, it could be a serious detraction.

From a positive perspective, there are several lessons to be learned. First, the book reaffirms the importance of considering the human dimension of war—that is, the fact that great plans have a knack for changing or going awry, and when they do, it's the well-trained people at the point of the spear who make them work. In this case, the size of the raid was tripled (from six to 18 F-111Fs) within 48 hours of takeoff, and several glitches occurred during the mission itself. But by showing great flexibility, the wing maximized results.

Second, the book presents an excellent "between-the-lines" study of organizational theory and the chain of command. This is the source of the author's bitterness. It appears that he was unable to keep his chain of command (specifically, the commander of Third Air Force) adequately informed during those periods when, as the vice-commander, he was left in charge of the wing. He openly discusses three faux pas that clearly led him to be considered noncompetitive for wing command. One of

these blunders highlights a flawed organizational structure or, in today's buzzwords, an "informal delayering without properly empowering those tasked to achieve the objectives." In short, as the author recounts, Headquarters US Air Forces in Europe (USAFE) bypassed Third Air Force and worked directly with the 48th TFW without formally informing Third Air Force. This left the 48th TFW with the less-than-quality relationship of trying to serve two primary masters in a timely manner. There were clearly two right ways to handle this setup, but the bypassing appears to be a wrong way that fell in the middle.

Third, the book does a good job of describing the mind-set of the attackers—their dedication, fears, and exhilarations. Colonel Venkus also offers his personal, subjective explanation for the one aircraft lost during the raid.

On the negative side, there are some sections that don't seem to fit into the theme of the remainder of the book or that become a bit too venomous. Examples include discussions of the lack of medals awarded to the wing, a personal vendetta against painting Lakenheath's buildings in the standard "TAC tan" colors, and a quick shot at the new Air Force uniform. There is also an awkward comparison between Operations Desert Storm and El Dorado Canyon that makes the author sound defensive. While discussing the results of the mission, Colonel Venkus uses some bombing-accuracy percentages and comparisons that lack definition, complete reference sources, and some degree of accuracy, thereby detracting from the point he tries to make. Finally—and this is a point that I'm sure can be attributed to publisher hype—part of the subtitle of the book (*by the Pilot Who Directed It*) will probably not get past military readers without causing at least a slight raise of the eyebrows. At best, since he was the vice-commander, it should read, *by the Pilot Who Helped Direct It*.

In summary, *Raid on Qaddafi* is a quick, easy read that gives a tactical perspective of Operation El Dorado Canyon, but it also contains implied lessons at the operational level. I recommend the book, but one should heed the author's own warning in the preface that this is a personal, subjective account. With that in mind, the reader will be able to learn much from this retired warrior who has obviously served his nation well.

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**The German High Command at War: Hindenburg and Ludendorff Conduct World War I** by Robert Asprey. New York 10019: William Morrow and Co., 1991, 558 pages, \$27.00.

Historical writing often moves in interpretive cycles, and this is especially true of World War I history. For the first decade after the war, military historians and commentators praised the wisdom and competence of the senior commanders. A reaction to this soon set in, so—beginning with Sir B. H. Liddell Hart's *The Real War, 1914–1918* (1930)—most of the generals came to be viewed as heartless incompetents whose blunders slaughtered a generation. Later, starting with Corelli Barnett's *The Swordbearers* (1963), a more sympathetic approach was taken in analyzing the World War I commanders. The commanders had human flaws and made some poor decisions, but Barnett refused to characterize them as heartless or foolish. Rod Paschall's *The Defeat of Imperial Germany, 1917–1918* (1989) argues strongly that the military leaders of the First World War were imaginative and capable professionals who were simply faced with impossible political and military situations.

With Robert Asprey's *The German High Command at War*, the interpretive cycle has turned back to the 1930s image of the incompetent, callous, and glory-seeking world war commander. Of the senior commanders of that war, only Gen Ferdinand Foch and Gen Aleksei Brusilov are presented in a favorable light. As for Field Marshal Paul von Hindenburg and Gen Erich Ludendorff, the villains of the piece, they are not only incompetent, unfeeling egomaniacs, but are "pigheaded, blind and greedy" as well.

Asprey's examination of World War I is simplistic in the extreme. The reader is left to wonder how an outgunned and outnumbered German army fighting a multifront war could have ever come so close to victory when it was led by the two Hunnish dunderheads that Asprey describes. Most military historians would agree that Ludendorff had a terribly flawed personality and that the German offensive of 1918 was a grand strategic mistake. But Asprey goes too far in minimizing the importance of Ludendorff's accomplishment in establishing a radically new system of offensive and defensive tactics and effectively training the whole army in those methods from 1917 to 1918. Asprey describes a High Command com-

pletely out of touch with the conditions at the front, yet the tactical and training directives of 1917–18—which Asprey shows little understanding of—show that Ludendorff had a better grasp of the conditions of modern warfare than most of the Allied generals.

Asprey's work is flawed by numerous thematic, stylistic, and research problems. His book is filled with a kind of military puritanism. A major theme is his continually expressed outrage at Hindenburg's and Ludendorff's wartime life-styles. The senior German commanders made their headquarters well behind the front lines, lived in comfortable villas, ate good food, and had champagne on their birthdays while the foot soldiers fought in the hell of the trenches. Actually, this sounds like the life-style of all the senior commanders in World War I and, for that matter, World War II. Asprey also regularly reminds the reader that Hindenburg and Ludendorff were extremely egotistical. Readers of military history will scarcely be shocked. I suspect that most generals of the last 3,000 years have usually possessed a more-than-average dose of egotism.

The discussion of important issues and events in *The German High Command at War* lacks depth. Barnett and Paschall are far better at describing the strategy of 1918. The superb collection of documents on the German collapse of 1918—the original eight-volume Reichstag Committee reports published in 1928—was not used in the research. Instead, Asprey relies on the two-volume edition of translated excerpts. Asprey gives only a few of the German tactical manuals and directives even a cursory examination. In short, the research is far inferior to many works that are already available.

The subject of the German High Command in World War I is important enough to merit further study and analysis. Unfortunately, *The German High Command at War* falls short in every respect. Indeed, its approach to the subject represents a regression in historical analysis. I do not recommend this as a work of military history.

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**Low-Aptitude Men in the Military: Who Profits, Who Pays** by Janice H. Laurence and Peter F. Ramsberger. New York 10010: Praeger Publishers, 1991, 185 pages, \$41.95.



In the early 1950s, the Air Force began studying the effect of assimilating low-aptitude recruits into its ranks. Air Force researchers found that most "marginals" were suitable only for nontechnical jobs in food preparation, security police, and administration. Many low-aptitude recruits, who could neither read nor write, were often found to be incapable of rendering any type of functional work. One serious problem was that technological growth and a career system based upon occupational skill and promotional ladders left scant opportunity for people with rudimentary skills and abilities. In the nuclear and jet age, the Air Force had little use for "career privates."

In *Low-Aptitude Men in the Military*, Janice H. Laurence and Peter F. Ramsberger recap much of the research on the use of marginals in the military and address the issue of whether or not military service has benefitted low-aptitude servicemen during their lives. The first three chapters cover the connection between military selection and social welfare programs, the history of Project 100,000, and the Armed Services Vocational Aptitude Battery (ASVAB) misnorming of the mid-1970s. The final chapters analyze data that compare low-aptitude veterans and nonveterans. The authors' conclusions are not surprising and echo many of the findings of Air Force personnel planners over 35 years ago. Marginal personnel tend to be one-termers who perform poorly, even after extensive training. Recruits of higher mental quality are easier to train and retrain, and have greater potential for promotion.

Chapter 5, the most original part of the book, contrasts the postservice lives of low-aptitude veterans who entered the military during Project 100,000 and ASVAB misnorming with the lives of low-aptitude nonveterans from roughly the same cohort. Using "traditional measures of success" such as postmilitary employment, income, education, and family variables, the data demonstrate that military service did little to enhance the marginals' opportunity to perform well in civilian society after discharge. In most cases, people with military experience had no advantage over nonveterans.

The authors do well when they analyze the results of their data but begin to wander when they attempt to ascribe causality. The problem is that they are insensitive to the workings of the military bureaucracy. Military planners are stereotyped as one-dimensional characters who

are myopic, crafty, dumb, and unfeeling. In one instance, the authors suggest—without hard evidence—that Air Force and Marine recruiters (hypothetically, of course) purposely perpetuated fraud, thus skewing Project 100,000 data. In this scenario, "clever" recruiters told brighter applicants to purposely do poorly on tests, thereby allowing them to fill quotas for low-aptitude recruits with standard personnel. In another instance, Laurence and Ramsberger accuse the Air Force Recruiting Command of mounting a campaign to discredit the recalibrated ASVAB test. Because the new test was more stringent and thus portended tough times for recruiters, the command felt "desperate" and attempted to prove that the ASVAB test should not be changed, contrary to known facts.

Unfortunately, the authors fail to recognize that the military is much like a large corporation with competing philosophies, organizations, and personalities. Given the turnover in leadership, the lack of a long-term corporate memory, outside social and political forces, and the "turf" struggles incumbent within a bureaucratic hierarchy, planners are neither very "clever" nor "dumb" but only seek to make their institution productive.

Despite these insensitivities, *Low-Aptitude Men in the Military* is an important book simply because it serves as a corporate memory for congressional and military policymakers who will undoubtedly face the prospect of using marginal recruits at some future time. For now, however, in light of the manpower reduction in the Department of Defense, the book simply reiterates what many astute observers of American life already have postulated—the New Deal and the Great Society are dead. If this is the case, then the military is the place for the up-and-coming, not the socially deprived.

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**Hitler Slept Late and Other Blunders That Cost Him the War** by James P. Duffy. New York 10010: Praeger Publishers, 1991, 176 pages, \$19.95.

An author who decides to write on the Second World War takes on a formidable task, especially with the recent outpouring of works



in honor of various 50th anniversaries. Unless one possesses a highly specialized knowledge of some facet of the conflict, or manages to find some previously unpublished primary source material, or has the intellectual horsepower to achieve some new interpretation or synthesis of existing material, one's work is apt to be old news. James P. Duffy's *Hitler Slept Late* is touted on the jacket as providing a "surprising reinterpretation of Hitler's impact on the outcome of WW II" and as "offering new insight into Hitler as a military leader." In my opinion, there is nothing surprising, reinterpretive, or new about it—in other words, it is old news.

To be fair, Duffy makes no claims of providing a definitive assessment of Hitler's military leadership, and the jacket comments can be dismissed as publisher's puffery. This leaves us with a slim volume that summarizes the standard wisdom regarding Hitler's impact on the course of the war. For readers unfamiliar with this field of study, this is as good a place as any to start.

Duffy identifies two major character flaws which prevented Hitler's conquest of Europe. The first of these was his propensity to "fly by the seat of his pants." In other words, Hitler never developed any truly long-range plans or strategy. The second was his insistence that he could make things happen by the force of his own will. Within this framework, Duffy then devotes a chapter apiece to eight blunders that, he says, cost Hitler the war. These are (1) the failure to destroy the British Expeditionary Force, (2) the failure to invade England, (3) the change of objective during the Battle of Britain, (4) the failure to take Moscow, (5) the mistreatment of people in occupied countries, (6) the declaration of war against the United States, (7) the delay in response to the Normandy invasion, and (8) the attempted extermination of the Jews.

Duffy is not a historian. Rather, this work is a result of his lifelong interest in military history. There is nothing inherently wrong with this, but his lack of academic rigor does result in a tendency to oversimplify, a tendency toward unsupported assertions, and a number of errors. For example, he oversimplifies the explanations of Hitler's decision making that resulted in these blunders, blaming everything on Hitler personally. In fact, these were very complex decisions in which the German military leadership played a crucial role, even though Hitler was indeed ultimately responsi-

ble. Duffy also tends to begin a number of sentences with "Hitler knew"—for example, "Hitler knew full well the weakness of the French mobilization. . . . He also knew that the bombing of German cities . . . would not materialize" (pages 11–12). Without support for these assertions, it is hard to believe that Hitler knew these things as facts. He may have hoped they were true or gambled on their being true, but to say *he knew them* stretches credulity. The third major weakness of Duffy's work is errors of fact, examples of which include his assertion that "mostly buried in the millions of pages written about World War II is the fact that Hitler threw away a real opportunity to defeat Stalin by his insistence that the 'eastern peoples' were subhumans" (page 98) or his claim that "[Hitler's] first tactical error was to assume, without any evidence, that the Normandy invasion was a feint" (page 123). The effect of Hitler's mistreatment of the Slavs is common knowledge rather than being "buried in . . . millions of pages," and to claim that Hitler regarded Normandy as a feint *without any evidence* is to ignore completely the extensive and successful Allied deception plan, the purpose of which was exactly that—to get Hitler to think Normandy was a feint. One final criticism, again from an academic perspective, is Duffy's annoying habit of providing footnotes only for direct quotes. He thus undermines his own credibility by preventing the reader from assessing his sources.

Although this critique is rather harsh, I don't mean to imply that there is no worth in this book. As mentioned above, if one is unfamiliar with this subject, *Hitler Slept Late* is a good place to start. In fact, in some respects, the very academic weaknesses of the work make it easy to read and digest. The military reader intent on enhancing professional knowledge, however, should seek more in-depth analyses of these topics.

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**Haig's Command: A Reassessment** by Denis Winter. New York 10010: Viking Press, 1991, 362 pages, \$27.95.

In a damning indictment of Douglas Haig, commander in chief of the British Expeditionary Force (BEF), and the military

system that advanced him to command, *Haig's Command: A Reassessment* uncovers patterns of career falsifications, battlefield ineptness, and a deliberate cover-up after World War I designed to perpetuate the Haig myth. This well-researched and fascinating reassessment sheds new light on Haig the commander and illuminates the fallibility of a closed institution without vitality in its thinking.

Denis Winter discloses the fabrication of Haig's career record, examines his personality, recounts the benefits that Haig received through the patronage system, and demonstrates how ill suited Haig was to command during three crucial battles in the British sector: the Somme, Passchendaele, and Cambrai. The bottom line is that Haig was unable to cope with the new conditions of war. Written from unpublished material recently released for public scrutiny, *Haig's Command: A Reassessment* appraises Haig's personal and professional credentials, finding that he was the wrong man for command. Winter shows that Haig's meteoric rise to commander of the BEF was based on marriage ties, patronage, and a seniority promotion system, and "owed little to proven professional competence and much to good fortune, good looks, ambition, and skilled diplomacy."

Winter clearly shows that due to professional immaturity and infertile intellect, Haig failed to appreciate the conditions on the Western Front in 1916, even after subordinates proposed new training and tactics to meet the challenges of the battlefield. According to this account, Haig continued to wage war based on outdated perceptions and not on the actual situation confronting his army. As a result, he did not modify operations, tactics, or training within the BEF through the end of the war. The consequences of his myopic thinking and putrefied methodology was 60,000 British casualties on the first day of the Somme, a battle based on unrealistic artillery techniques and faulty logistical assumptions formulated by Haig. According to Winter, it was a battle that never should have occurred.

Carl von Clausewitz, the preeminent military theorist, places the moral obligation of understanding the nature of warfare and conducting combat within those conditions squarely upon the shoulders of senior civilian policymakers and military commanders. Even though warfare is a complex human endeavor and sudden changes affect the circumstances wherein wars

are conducted, it is implicit in Clausewitz's paradigm that the adaptation to those new conditions likewise be the responsibility of commanders. Military leadership at the highest levels demands both moral and physical courage, objectivity, and imagination if it is to be capable of comprehending changing conditions, modifying operations in the conduct of war, and influencing people who execute the war. An interesting question raised by the book is, Can the perceptions of war as conceived by military leadership and influenced by institutional biases be modified to reflect the reality of war, or does a military institution's inertia make it unable to change its thinking during the conduct of war? Haig undoubtedly was not conditioned by the British system to be forward thinking and capable of change.

Before the war, Haig was quite sure he had uncovered all the rules of war. He wrote, "The fundamental principles of war are neither very numerous nor very abstruse." Continuity was paramount in Haig's thinking about the conduct of combat. This thinking became dogma in the form of the *Field Service Regulations* (FSR). Compiled in 1909 under the supervision of Haig, FSR was key to understanding Haig's mind-set because it shaped the British army throughout the war and explained many of the features that blunted the army's cutting edge. When viewed against FSR's dictates on battle, command in war, and the infantryman's role, Haig's weaknesses begin to make better sense. As Winter comments, FSR explains the selection of commanders from professionals alone, the low regard for machinery, and the denigration of the infantryman and is set in the context of a philosophy that bore no relation to the age of barbed wire and machine guns.

Where Haig's Army differed was in its inertia. The French and Germans changed tactics and organization continuously, searching for the best shapes. The BEF alone remained substantially the same. Haig was the incarnation of FSR. . . . He fought by a book of rules. His mind ran on rails.

Indeed, Haig had "the mind of a commander whose thinking had stopped in 1909," and he perpetuated that sterile thinking throughout his command.

According to Winter, Haig's maladroitness affected his decision making and underscored his pedestrian battlefield performance when circumstances dictated dynamic thinking and



realistic battlefield solutions. His misconceived judgment was three-fold: faulty selection of the battlefield, inability to break the crust of the enemy's defensive position at the outset, and failure to exploit the infrequent, fleeting opportunities for breakthrough when they occurred. He failed to comprehend the need for centralized command to penetrate the defenses and decentralized execution to exploit the initial breakthrough. Compounding the faulty selection of the battlefield, the force wielded by Haig was inappropriate for the task at hand because it was poorly trained and ill equipped. The reluctance of British leadership to deal with the revolution in firepower that had transformed the battlefield through tactics, equipment, and training meant that the BEF as molded by Haig was indeed "the bluntest of swords." In Winter's analysis, Haig epitomizes a generation of static-thinking senior military officers who continued to use the prongs of a claw hammer to extract a screw from a piece of wood.

Equally damning was Haig's distortion of the command's performance as distilled in the official histories, taken to be the sacrosanct account of British leadership on the Western Front. By rewriting portions of his personal diary, by influencing the chief historian chartered to write the official histories, and by editing the drafts of these histories, Haig—sanctioned by his government—falsified the record to guard his battlefield performance. Haig was more adept in rewriting the analysis of the conduct of the war and in preparing for postwar historical confrontations and character assassinations than he was in readying his army for the horrific battlefield conditions in Flanders. Haig was a man intent on protecting his battlefield image at the expense of future generations' learning the historical truth. In supporting the histories, the British government faced the crucial dilemma of exposing its professional army's disastrous faults on the Western Front when it expected a resumption of the same war within 20 years. The government chose to subvert the truth in order to shield its military institutions. Winter's exposure of a bankrupt "elitist" organization and introverted promotion system provides a cautionary note to all military institutions to reassess their process of grooming and selecting officers destined for high command.

Denis Winter's enlightening new book should be read not only by historians and

Anglophobes, but by all Air Force officers who wish to gain a clear appreciation of how institutional influences could affect their understanding of the conduct of war.

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**Force and Accommodation in World Politics** by Stanley E. Spangler. Maxwell AFB, Alabama 36112; Air University Press, 1991, 346 pages, \$15.00.

Stanley E. Spangler can't predict what the new world order will look like after the breakup of the Soviet Union. However, his book *Force and Accommodation in World Politics* is an excellent starting point for fresh and new approaches to international relations. Dr Spangler writes that "the United States will achieve more desirable results by following from the outset a policy of positive diplomacy rather than an inflexible policy based largely on military coercion, or even deterrence." *Positive diplomacy* is Spangler's term for an approach to adversarial relations that emphasizes mutual benefits and negotiation first and force or coercion second.

The book is divided into three major sections. The first section covers the factors that initially inhibited accommodative diplomacy. Section two contains five case studies, and the last section summarizes the lessons to be gained from the previous chapters of the book.

Overall, Spangler's writing is understandable. However, this book is not light reading. Because it is written from an academic viewpoint, a reader with little or no background in international relations or political science may miss some of Spangler's finer points. For example, he takes great care to distinguish his approach to international bargaining from the method of appeasement used by Great Britain in the thirties. The primary difference, according to Spangler, is that Great Britain was not able to balance the accommodative steps taken to appease Hitler with coercive threats. In the end, Spangler acknowledges that, in some cases, the only way to deter an individual bent on war is through the outright threat of military force.

On the other hand, Spangler's distinction between coercive and positive diplomacy is not as clear. He splits fine points that may be



important to a political-military theorist but easily missed by a casual reader. He writes,

The two strategies are similar in that they both employ force with restraint; both seek to persuade an opponent to follow certain actions rather than bludgeoning him into doing so; both rely heavily on effective communication for success; both rely on threats and inducements (sticks and carrots) to achieve their objectives; and both are highly context dependent. The differences, however, are substantial. The chief difference is that whereas coercive diplomacy is basically a coercive strategy with an element of accommodation, positive diplomacy is basically an accommodative strategy with an element of coercion.

The Quemoy crisis of 1958 (territorial disputes between China and Taiwan), the Berlin blockade of 1958–59, the Berlin Wall crisis of 1961, the Cuban missile crisis, and the Vietnam War are the five events reviewed in the book. Except for his coverage of the Vietnam War, Spangler has done a good job of integrating these historical examples into his theory. Spangler contends that coercive diplomacy often overshadows positive diplomacy because people tend to remember the military force associated with coercive diplomacy. Reading the case studies provides a wealth of material to correct this situation.

The problem Spangler confronts with the Vietnam War is that it was not a crisis. Further, the problems associated with the use of force there are diffuse and perplexing. For example, Harry G. Summers, Jr., and Andrew F. Krepinevich, Jr., have devoted entire books (*On Strategy: A Critical Analysis of the Vietnam War* and *The Army and Vietnam*, respectively) trying to define exactly what type of war was fought. In *The Limits of Air Power: The American Bombing of North Vietnam*, Mark Clodfelter exhaustively covers the strategic bombing campaign in an effort to define what can and cannot be done in such a war. Spangler's treatment of the Vietnam War is superficial, adds few new insights, and does not contribute to the overall understanding of his accommodative political theory.

*Force and Accommodation in World Politics* is not a history or military science book. It attempts to explain the proper role of diplomacy and force from a policy perspective. Spangler puts forward a controversial but unique way of dealing with international crises. As the old world order changes around us in the coming months and years, insights

derived from writers such as Spangler will be valuable. This book will not be superseded by current events.

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**Captive Warriors: A Vietnam POW's Story** by Sam Johnson and Jan Winebrenner. Drawer C, College Station, Texas 77843: Texas A&M University Press, 1991, 301 pages, \$24.50.

The striking aspect of most POW stories is the resiliency of the human spirit. Despite brutal circumstances, the human spirit soars to new heights previously unknown to the bearer. This perhaps underscores the Creator's wisdom or at least stands as a clear contrast to, and a strong refutation of, the claims of the many doomsayers of today who doubt and deplore humankind's ability to survive in adversity. This new book is a fine example of this observation.

The book is very straightforward, beginning with a predictable view of the events that got the United States involved in Vietnam and the errors that the politicians in general, and President Lyndon Johnson in particular, committed in the conduct of the war (i.e., operations directed from the White House, limitations placed upon airmen, political considerations above operational requirements). "Extremely conscious of public opinion, LBJ . . . worked to soften the visual effects of the war by limiting or prohibiting the use of the weaponry necessary to end it" (page 8). However, the authors make some blanket statements which, although possibly justified by anger, seem to this reviewer to be somewhat unfair: "Concern for U.S. interests and the protection of U.S. fighting men hung low on his [Johnson's] priority ladder. Again and again the military objectives of the war had been sacrificed for the sake of public opinion" (page 24). The book never defines what the military objective of the war should have been, although it obliquely implies that we should have at least pondered the possibility of using limited nuclear weapons to end the war:

LBJ's advisers convinced him that if the United States employed limited nuclear warfare, China would retaliate. Despite the fact that China had no such weaponry or capability for retaliation [which is incorrect for the first Chinese atomic explosion occurred on October 16, 1964, and their thermonu-

clear test in June 1967], LBJ announced that the United States would not employ limited nuclear weapons . . . the world's strongest military power was then forced to fight with one hand tied behind its back. (Pages 7-8)

These views really reflect the American military's frustration in having to wage a limited war for limited aims against an enemy for whom the war was indeed total. This is the legacy of Vietnam that I believe we have not yet fully dealt with.

The main part of the book deals with Colonel Johnson's story from the time of his capture on 16 April 1966 to his homecoming in February 1973. As in most POW stories, two aspects particularly stand out. One is the strong belief in God and country, which provides the basis for knowing that what you did is right and honorable and that this knowledge will help carry you through hell and back. The second is the need for communicating with others and, as a subset of this, keeping a sense of humor despite the awful circumstances of imprisonment. The book is filled with the anguish felt by the author while in isolation where even being called to be quizzed by his captors was regarded with an "ambivalent excitement" because "I felt stimulated at the thought of human contact, even if it was with the enemy" (pages 139-40). But the communication among prisoners, using the famous tap code, was what kept them together. As part of the communication process, humor is also of great importance, for it is central to the human condition, and this is something that needs to be stressed very strongly as a means of resistance in a POW situation. Colonel Johnson recalls that he and his roommate, Jim Lamar, were directed by the Vietnamese to write a history of the United States Air Force:

We decided we would produce a "history" of the U.S. Air Force, but it would be unlike anything the U.S. military had ever envisioned. . . . It had originated during the Civil War . . . with the confederacy's use of hot air balloons. . . . The Yankees discovered it and began making their own balloons. The first recorded "dogfights" took place in the air somewhere over the Mason-Dixon line. (Pages 110-11)

The book has a happy ending in that Colonel Johnson was able to come home and tell his story. The years of trial and tribulation are over after going to hell and back. However, this book should serve to remind us of the hor-

ror of captivity and of the honor of those who served our country dutifully under the most trying circumstances. Of even more significance, the book serves to remind us that we should never forget those warriors who may have been left behind and that we should continue to demand full accountability of those responsible. After all, it could be one of us someday whose duty will involve serving as a POW. Would you want to be forgotten?

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**Sitting It Out: A World War II POW Memoir**  
by David Westheimer. P.O. Box 1892,  
Houston, Texas 77251: Rice University  
Press, 1992, 358 pages, \$24.95.

This kind of prison camp memoir, even if written by an airman who spent more than two years in German prison camps constructed specifically for captured aircrew members, appears not to be terribly relevant or meaningful to today's airmen, especially now that the cold war has ended. It is hard to think of a similar situation of thousands of American aircraft going down over enemy territory and thousands of crew members incarcerated for months and even years. If anything, the memoirs of Vietnam imprisonment would seem to have more application for airmen.

On the other hand, incarceration is a common denominator, an occupational hazard that all flyers have to face when they participate in offensive air operations. Air missions commonly go deep into the enemy territory, and if an aircraft breaks down or is destroyed by enemy fire, capture and imprisonment of the crew is likely. How do young, dedicated, energetic airmen hold up to captive conditions? One answer, reiterated by Westheimer, is that the prisoners will survive, filled with a lifetime memory of their fearfulness and highly skewed living conditions.

The concept and writing of *Sitting It Out* are first class. A journalist, novelist, and scriptwriter, Westheimer has written about prison life before, including a novel made into a movie, *Von Ryan's Express*. Now in commemoration of the anniversary of World War II, he has compiled this account of the two years, four months, and 18 days he spent as a prisoner of war. His B-24 went down on a raid



against Italy in early December 1942. Eisenhower and Spaatz were just building up their forces in northwest Africa, hardly more than a month after the November 1942 Torch landings. Captured and imprisoned by the Italians, then the Germans, Westheimer missed the entire war, except from the disadvantaged point of various Italian stockades and German stalaglufts that had to be constantly expanded to contain burgeoning numbers of downed aircrews.

This memoir is a fascinating account, replete with minute details of daily life. One will get occasionally annoyed with the minutia, but the drama of the event, the realism, and curiosity to find out what happens next carries the reader forward. We learn what the men ate, how they played cards and other games, how they developed crude craft skills, how they read to fill in the time, and how it all changed over time. The author includes an intriguing description of the nightly rituals of finding the way to the bathroom (the diet made everyone susceptible to constant urination in the night, and night lights were forbidden in the barracks as well as in the horribly smelly and vile facilities).

There is repetition when the author is moved to new camps and repeats similar stories of daily life. The fact that this is a firsthand account by one who took notes and wrote stories, names, and dates in a manuscript form shortly after the end of the war, nearly 50 years ago, gives this autobiographical study special cachet as well as objective credibility.

A number of things were surprising to me. The flyers were always hungry, but probably less so than the German civilians suffering from food shortages later in the war. International Red Cross personal parcels provided the basics for survival in the form of food, clothing, medicines, and assorted sundries, including cigarettes, which were the most important item of trade. It was surprising that the prisoners got the recurrent Red Cross packages while the guards did without. Some prisoners tried to escape, often unsuccessfully, especially from the camps so deep inside Germany. Often guards could be bribed with a cigarette or two, and outright fraternization had to be checked by authorities on both sides of the fence.

Prisoners were fearful of being bombed by their fellow airmen, especially later in the war when bombers appeared overhead continually.

A couple of nearby bombings almost frightened the airmen senseless. The author learned later that army ground personnel were not so terrorized, as they had become used to artillery and air attacks. The air war was different from the ground war, whether the warrior was flying or in prison.

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**Decisions and Dilemmas: Case Studies in Presidential Foreign Policy Making** by Robert A. Strong. Route 9W, Englewood Cliffs, New Jersey 07632: Prentice Hall, 1992, 237 pages, \$22.35.

Robert Strong's book contains eight case studies involving nine American presidents from 1945 to 1990. The case studies illustrate how the scope of presidential power, the decision-making process, and the personality of American presidents shape American foreign policy.

The strength of Strong's book lies in the importance of the cases he has chosen, vis-à-vis US foreign affairs, and the political analysis he has provided. His research is reminiscent of Graham T. Allison's classic, *Essence of Decision: Explaining the Cuban Missile Crisis*, published in 1971. The broad scope of Strong's work permits the reader to contrast different presidential operating styles as well as the unique problems faced in each of the administrations, such as the Iran-Contra scandal.

For me, the most interesting aspect of Strong's treatise was his highlighting of presidential personalities. A case in point was President Jimmy Carter, whom Strong described as a man more concerned about doing what was morally right than what was politically expedient (page 157). Even though Strong amply identifies the strengths of Carter's character, he fails to explore why Carter did not become the great statesman he could have been, given his strong sense of moral justice and America's place as a leader in human rights. From reading Strong, I should have come away with an understanding as to why Carter was the wrong messenger with the right message, but I did not.

An in-depth analysis was probably lacking because of Strong's shotgun approach. The author's broad coverage was a strength and also



a weakness. Although Strong may not have needed to limit his thesis to one case study, as Allison did, his inclusion of eight studies and a ninth in the epilogue may have been too many. Again, using Strong's depiction of Carter's personality as an example, I would have preferred to see the author describe not just Carter's strengths but to explore why Carter was not able to capture the American imagination as could President Ronald Reagan or even President George Bush, whose charisma is not that of Reagan's. Strong also fails to delve into power politics as much as I would have liked and overlooks other variables impacting "personality" or "process." His study would have been more comprehensive if he had devoted more attention to group dynamics as was provided in *Victims of Groupthink* by Irving Janis, whose exploration of foreign policy fiascoes was very instructive.

In spite of the above criticisms, students of national security affairs and political science will find Strong's book highly readable and an invaluable reference source, specifically because it explores the constitutional powers of the president, analyzes the decision-making process, provides insight into presidential personalities, and includes a listing of chronological events and related documents for each case study. While Strong doesn't proffer any conclusions as to which approach—power, process, or personality—may be most relevant to the study of decision making, his analysis seems to suggest all are inextricably connected in the shaping of American foreign policy.

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**The Pineapple Air Force: Pearl Harbor to Tokyo** by John W. Lambert. 1051 Marie Avenue, Saint Paul, Minnesota 55118: Phalanx Publishing Co., Ltd., 1990, 214 pages, no price available.

This is a book for both the buff and the serious historian of World War II air power in the Pacific. John Lambert's *The Pineapple Air Force: Pearl Harbor to Tokyo* covers "a lot of action" and "a lot of territory" with first-person narratives and previously unpublished photographs and gun-camera stills. Lambert addresses an often overlooked theater of World War II aviation and caters to those who enjoy war stories telling it "the way it really was."

Twelve years in the making and growing out of the intention to tell an oft-neglected Air Force story in the Pacific, *The Pineapple Air Force* provides future historians of the air war a much needed source book and point of departure. For Lambert, this was a labor of love to "chronicle . . . the pursuit units of the old Hawaiian Air Force and their evolution as the Seventh Fighter Command . . . through the words of the participants—the alternating terror, boredom, humor—so that . . . the telling would impart . . . a true sense of this 1940s epic, the war that changed the world." Although part of the coffee-table, heroic genre celebrating those who fought in "the last good war," *The Pineapple Air Force* contains much insight into the mundane life of the aviator who had to learn to cope with faulty equipment, flawed doctrine, uneven leadership, confusing strategies, and hit-and-miss tactics. There is much anecdotal evidence here to reinforce the belief that survival in this far-flung watery theater rested either on a reliable wingman or the ability to fly by the seat of the pants. Especially for the fighter pilot, survival was as much happenstance, luck, and just plain muddling through as anything else. Yet the Pacific forced these aviators to solve new challenges. In doing so, they pioneered night fighting and long-range fighter operations over an ever-present ocean.

As with any collection of first-person narratives, the story line is often diffuse and uneven but never becomes boring. From the story of a whale that kept sharks away from a downed American pilot to the heroic flying of the legendary Japanese ace Sada-aki Akamatsu, who "made us look like a bunch of truck drivers," each page is filled with the "real stuff" of unit history that seldom makes the printed pages devoted to war's "big picture." On occasion, when sources permit, Lambert incorporates the view from the enemy's cockpit; his chapter entitled "December 7, 1941" brings to particular life the air action over Oahu on that day of infamy. For those of us who will always associate the beginning and end of World War II with the Pacific, *The Pineapple Air Force* is a fascinating record of the personal sacrifice and achievement of those who were always flying over water and who deserve a greater place in the annals of aviation combat history.

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*Notices of upcoming conferences, seminars, and other professional events of a noncommercial nature should be sent to the Editor, Airpower Journal, Walker Hall, Bldg. 1400, Maxwell AFB AL 36112-5532. We reserve the right to edit material for length and editorial content.*

### **USAFA Instructor Opportunities**

The Military Studies Division at the United States Air Force Academy is seeking highly qualified captains for instructor duty. This duty involves motivating and teaching cadets in university-level courses that stress air power, the art of war, military theory, doctrine, and force employment. Since its inception in 1980, the curriculum in professional military studies has evolved into one of the most interesting and demanding areas of study at the academy. A master's degree is required of all applicants. Preferred degrees for military studies instructors are in history, military history, political science, and international relations, or in area studies of the former Soviet Union, Eastern Europe, or the Middle East. Experience in tactical or strategic operations or in operationally related specialties is highly desirable. The division can sponsor a few highly qualified applicants with the appropriate background for a master's degree through the Air Force Institute of Technology (AFIT), with a follow-on assignment to the Military Studies Division. Applicants should have three to seven years of commissioned service, an outstanding military record, and impeccable military bearing and appearance. Interested individuals should consult chapter 8 of AFR 36-20, *Officer Assignments*, for application procedures or write Capt Jeff Cohen, Headquarters USAFA/CWIS, USAF Academy CO 80840-5421 or call DSN 259-3255/3258.

### **Presidential Leadership Symposium**

The Center for Congressional and Presidential Studies at American University and the

History Division at the National Aeronautics and Space Administration (NASA) are cosponsoring a symposium on "Presidential Leadership, Congress, and the US Space Program" at American University in Washington, D.C., from 25 to 26 March 1993. The purpose of this symposium is to explore the degree to which presidents have been able to exercise leadership within the government and in Congress with respect to the space program. There will be separate panels on the administrations of Eisenhower, Kennedy, and Johnson; the 1970s; and congressional relations and international aspects of the space program. Among the people presenting papers at the symposium are Fred I. Greenstein, Princeton University; Robert Dallek, UCLA; Joan Hoff, Indiana University; and Robert H. Ferrell, Indiana University. For information, write Roger D. Launius, NASA History Division, Code ADA-2, Washington, D.C. 20546, or call (202) 358-0384.

### **New and Forthcoming Publications from Air University Press**

Scheduled for release in late 1992 or early 1993 is *The Future of Air Power in the Aftermath of the Gulf War* edited by Richard H. Shultz, Jr., and Robert L. Pfaltzgraff, Jr. This book is a collection of essays by participants in the 1991 conference on "The United States Air Force: Aerospace Challenges and Missions in the 1990s," sponsored by the International Security Studies Program at the Fletcher School of Law and Diplomacy of Tufts University; the Air Staff; and Air University. Among the subjects addressed by the authors

are strategic factors that will influence future roles and missions, extended deterrence, power projection, future aerospace force structures, low-intensity conflict, and acquisition priorities.

A special series of 16 CADRE (Center for Aerospace Doctrine, Research, and Education) papers titled *The Future of the Air Force* confronts issues that are of interest to policymakers as they plan for the role of the US Air Force in the so-called postcontainment world. Decisions about these issues will determine the course of the Air Force not only for the rest of this decade but well into the early years of the next century. The authors address a variety of topics, ranging from cooperation between the USAF and Soviet air forces in World War II to the applicability of chance and luck to the high-technology systems utilized in space.

Other recent monographs:

*Tailoring the Tactical Air Control System for Contingencies* by Lt Col Robert J. Blunden, USAF, 1992 (monograph).

*Unit-Level Automation for Air Force Contingency Operations in Low-Intensity Conflict* by Maj Mark A. Cochran, USAF, 1992 (monograph).

*Principles of Information Resource Management: A Foundation for the Future* by Maj Paul D. Condit, USAF, 1992 (monograph).

To obtain a complete list of available publications or to order any of the above publications, contact the Air University Press, Publication Support Branch, CADRE/PTPB, Bldg. 1400, Maxwell AFB AL 36112-5532 or call DSN 493-6452 or (205) 953-6452; FAX number: DSN 493-6739 or (205) 953-6739.



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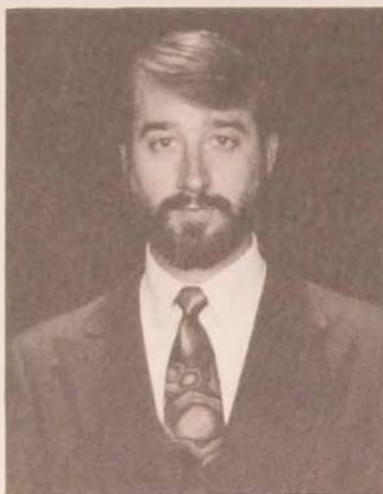


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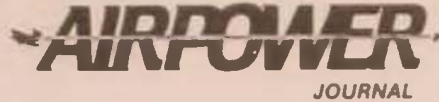
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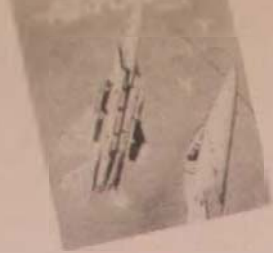
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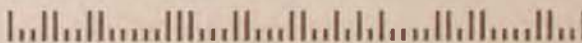


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