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FEATURES

DEPARTMENTS

Flagship Status . . . So What?

OUR MORE perspicacious readers have noticed the listing of members of the recently reconstituted Editorial Board on the inside back cover. We brought the board members together last summer for meetings here at Maxwell and briefed them on the state of the professional dialogue. We explained the good and the bad news we've encountered and described the continuing challenges we face with our open forum for professional debate. We introduced them to our editorial-development strategy and operating limitations—from our budget to policy reviews. We discussed our ability to get the word out to professional airmen (although not viewed as such by their sister services) and our efforts to reach beyond the perceptual walls of Maxwell's academic circle. Then, we sat back and listened to their advice and ideas. We had hoped to turn them into advocates on our behalf but thought that might take a little cultivation and time. We couldn't have been more wrong.

The PowerPoint slides were still up when they spontaneously dictated a letter to the chief of staff (VFR-direct) regarding what would soon become several high-profile issues on his professional-development plate. Among them was the mission of the professional journal of the Air Force and something called "flagship periodical" status. A little known instruction defines a flagship periodical as the "premier periodical of the United States Air Force," and *Airman* magazine has always carried the chief's flag. *Airman* is the official conduit for Air Force public affairs information from the primary sources at the Pentagon and is a quality product produced by quality people. In no way seeking to supplant *Airman* magazine, the board essentially put to the chief the notion of how important our service's journal and professional dialogue should be, relative to other Air Force publishing missions.

In any profession, dialogue in journals and periodicals has always played a pivotal role in stimulating ideas of relevance. More than pursuit of professional development, we use our professional journals to communicate professional standards or evaluate those standards in open forum. Though the "company line" is stated correctly, it is often *targeted* in professional journals, and *Airpower Journal* has been working to sight-in the bigger guns. Still, we're not convinced that our story's on the streets yet. We're still stung by the words of a famous, retired Air Force major general, who, in another forum, simply stated, "The Air Force still lacks a journal of the quality of the *Marine Corps Gazette,* where tough-minded criticism is encouraged and published on a regular basis." He knows about us. We send him a copy each quarter.

What about you? Have you challenged a compatriot with an idea you've learned in your professional journal? Our surveys suggest that he or she has a one-in-six chance of never having heard about us. The distribution system we live with continues to squash our story. That's why word-of-mouth testimony means more than marginal gains for us. The chief has stepped up and put his flag where his heart is—with his professional journal. Our new Editorial Board came through.

Our new advocates were most helpful in getting our story told in ways we never could. Perhaps we'll hear from that major general. Better yet, perhaps we'll hear from you. That's what we've been up to for a while. Together we speak for our profession. Perhaps professional airmen are capable of strategic thought after all. That's great timing considering that the quadrennial defense review looms on the horizon and that each of us will need to articulate our profession and mission areas as never before. Our sister-service publications have been learning from us on-line (two years, three awards, and counting at www.cdsar.af.mil/air-chronicles.html). It's time we led the way in print as well. It would be great to have the extra people, budget, and quasi-official status that other professional journals enjoy. But it doesn't matter now.

We carry the flag for the Air Force—and we wouldn't want it any other way. □

Ricochets and Replies

We encourage your comments via letters to the editor or comment cards. All correspondence should be addressed to the Editor, Airpower Journal, *401 Chennault Circle, Maxwell AFB AL 36112-6428. You can also send your comments by E-mail to editor@max1.au.af.mil. We reserve the right to edit the material for overall length.*

ON SHULMAN

I was raised in the shadow of World War II. I always felt that combat veterans lucky enough to make it back were larger-than-life heroes who had made the penultimate sacrifice for freedom, democracy, and the American Way.

In his review of Craig Cameron's book *American Samurai,* Dr. Mark Shulman ("A Review Essay: Why Men Fight," Fall 1996) has disabused me of this misapprehension. Now I have learned that the marines who dismembered the Greater Asian Coprosperity Sphere and set the sun of Imperial Nippon were murdering, racist, homophobic misogynists. No doubt, the official US Marine Corps histories will soon indicate that amphibious warfare doctrine should have reflected inviting the Japanese defenders to sit on the beaches with us, holding hands and singing "Kumbaya."

I applaud these resolute authors for heroically using the dialectic to show us errors in our line, and *APJ* for allowing me to self-confess.

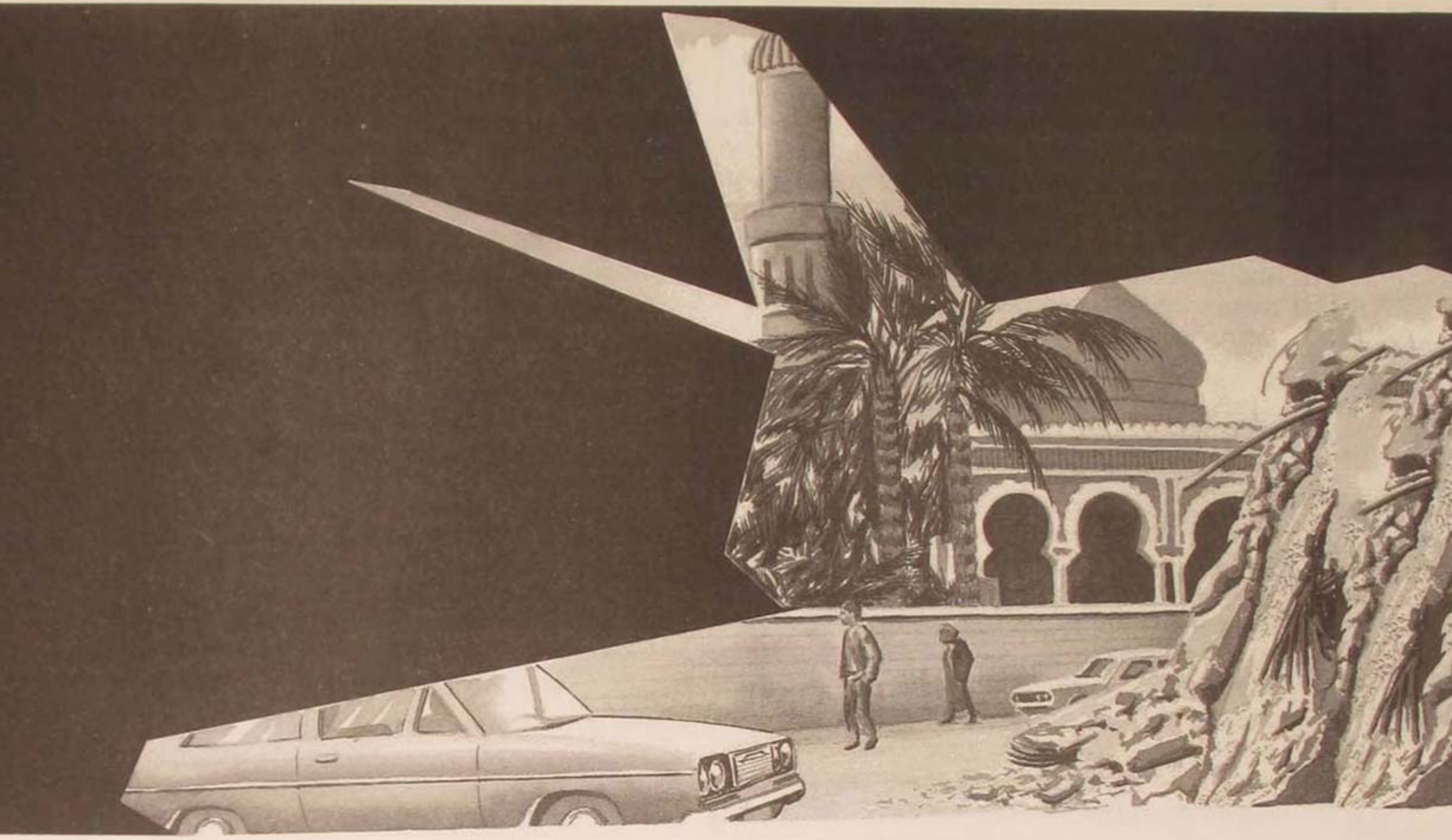
Lt Col George Humphries, USA
Leavenworth, Kansas

COUNTERLINKAGE

I get tired of seeing articles in which Carl von Clausewitz, the Prussian military commentator of the first half of the nineteenth century, is automatically assumed to be an unquestioned font of infallibility on all aspects of war, although he mostly expressed personal, subjective opinions not derived from any developed analytical process that can be tested and verified for logical consistency or factual accuracy. Merely seeming to make some statement by Clausewitz fit some contemporary military event or seem to substantiate some pet idea of a military writer hardly proves that Clausewitz had developed a coherent theoretical process that has wide applicability and validity.

I'm particularly irritated by the regularly seen practice of military writers misusing Clausewitzian statements out of context to

Continued on page 116



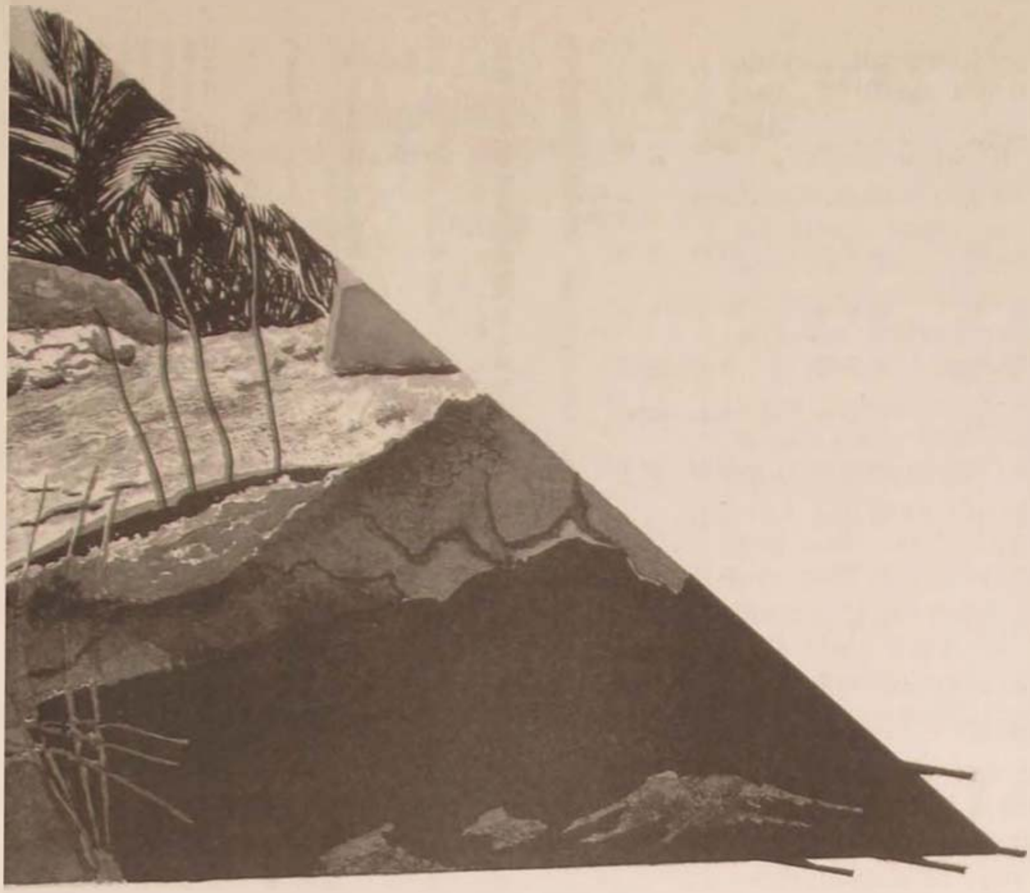
Baghdad

The Urban Sanctuary in Desert Storm?

William M. Arkin

WITH THE EARLY morning attack on the Al Firdos (Amiriyah) shelter on 13 February, Gen Colin Powell thought that Baghdad bombing had run its course. What's the value of "making the rubble bounce," he told his staff. "We have got to review things to make sure we're not bombing just for the sake of indiscriminate bombing."[1]

What an odd and inaccurate image for the chairman of the Joint Chiefs of Staff to hold. If ever there was a bombing campaign that was *not* indiscriminate, it was Baghdad in Operation Desert Storm. Yet for all the visibility of the Iraqi capital, and for all the briefings—public and classified—General Powell could not see what was happening. Years later, in his autobiography, he would still ask if airpower needed to "pound downtown Baghdad over a month into the war."[2]



Airmen might lament Powell's infantry bias, but such an institutional explanation glosses over far more important matters. If Desert Storm was the first information war, as some claim, the Air Force stumbled badly. Even the highest military and civilian decision makers evidently did not understand the bombing campaign. Moreover, disproportionate attention focused on Baghdad—an otherwise statistically minor part of the air war—bred misguided assumptions about targeting and strategy, ones that persist to this day.

Consider these facts:

• In 43 days of war, a mere 330 weapons (244 laser-guided bombs and 86 Tomahawk cruise missiles) were delivered on Baghdad targets (a mere three percent of the total of all *smart weapons* expended) (see tables 1 and 2).[3]

I don't think the danger in Berlin or Tokyo, either one, was particularly imminent as it is for Baghdad today.

—Walter Cronkite
CNN, 16 January 1991

Table 1

Bombs Delivered by F-117 "Stealth" on Baghdad Targets

	JANUARY										FEBRUARY														
	17	18	19	20	21	22	23	28	29	30	4	5	6	7	8	10	12	13	14	19	22	24	25	28	TOTAL
Leadership																									
Presidential(5)[1]	1	0	0	0	0	5	0	0	2	1	0	2	1	6	2	0	0	6	0	0	0	10	6	0	42
Government/Intelligence (5)[2]	0	1	0	0	0	1	0	2	2	2	0	1	2	0	0	3	1	12	0	0	0	4	0	21	52
Military (5)[3]	1	3	0	0	2	0	0	3	2	0	0	5	1	0	0	0	4	7	0	6	0	0	0	0	32
Air Defense (2)[4]	2	1	0	0	0	2	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	8
Airfields (1)[5]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	0	0	0	4	0	25
C^3																									
Telecommunications (9)[3]	5	0	1	4	0	6	2	0	0	0	2	0	2	1	2	0	0	6	8	0	0	0	0	0	39
Television/Radios(5)[7]	1	0	0	1	2	0	0	1	2	0	0	0	0	0	0	1	8	2	0	0	4	0	0	0	22
Bridges(4)[8]	0	0	0	0	0	0	0	0	2	6	1	0	4	0	0	2	0	0	0	0	0	0	0	0	15
Other																									
Storage (2)[9]	0	0	0	0	0	0	0	0	2	0	0	2	3	0	0	0	0	0	0	0	0	0	0	0	7
Refinery(1)[10]	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
TOTAL	10	5	1	5	4	14	2	4	13	9	3	10	13	9	6	6	13	33	0	29	4	14	10	21	244
Number of Targets Attacked	7	3	1	2	2	7	1	3	7	4	3	4	8	3	4	2	4	13	3	2	1	2	1	2	

Table 1 connotes bombs delivered, not necessarily hits (see table 2). Based upon information obtained by the author from AF/Checkmate, GWAPS, 37th Wing records, and the author's research and visits to Baghdad.

Most sources state that 116 Tomahawks hit Baghdad targets. However, 39 were launched on 17 January, 18 the next day, and some 29 followed on five days thereafter (19, 22, 25, and 26 January), for a total of 86 cruise missiles.[11]

Note: Baghdad-area electrical power plants—Baghdad south electrical power plant (S/GTPP) ("Rasheed" plant), Doura electrical power plant (S/GTPP), and Waziriyah electrical substation—were only targeted by Tomahawks.

1. This includes the "Amiriyah shelter" (Al Firdos C^3 bunker), VIP bomb shelter (Government Control Center South), New Presidential Palace, presidential residence and bunker, and Presidential Special Security Services compound.

2. This includes Ba'ath party headquarters, Baghdad Conference Center, Iraqi intelligence Service headquarters, Iraqi Regional Intelligence headquarters, Ministry of Industry, and Military Industrialization.

3. This includes Iraqi air force headquarters, Ministry of Defense (MOD), national computer complex, MOD headquarters, Military Intelligence headquarters and Republican Guard headquarters.

4. This includes Baghdad air defense headquarters (Wahda) and Baghdad RADREL terminal air defense headquarters.

5. This includes Muthenna airfield.

6. This includes "AT&T Building" (Rasheed Street), Baghdad automated multipurpose radio relay terminal, Baghdad telecommunications center, Baghdad transmitter station, Hurriya Square telephone exchange (Jadriya), Jenoub telephone exchange (Ma'moon in Al Karkh), Maiden Square (Bab al Muadem) telephone exchange, Saddam City exchange and radio relay, and Shemal Telecom PTT.

7. This includes Baghdad International RADCOM transmitter (AM), Baghdad International Receiver/RADREL, and Baghdad Primary TV XMTR/Antenna Center (Ahrar), "International TV/Press" center, and Ministry of Information and Culture.

8. This includes Ahrar Bridge, Al Jumhuriyah Bridge, Shuhada Bridge and 14 July (Arbataash) Bridge.

9. This includes Baghdad army storage depot and Baghdad SRBM assembly facility.

10. This includes Doura (Ad Dawra) refinery.

11. CNA, *Desert Storm Reconstruction Report*, vol. 2, pt. 1, 124, 142, 246, 340; vol. 4, pt. 1, 173, 251; and vol. 5, pt. 1, 386, 420–34; *Conduct at Persian Gulf War*, SECRET version, T-256, released under the Freedom of Information Act; Atkinson, 37; Gordon and Trainor, 216. January 17 targets included Ba'ath party headquarters, Ministry of Defense headquarters, the New Presidential Palace, Doura and Rasheed electrical power plants and Baghdad-area substations, and the Baghdad Doura refinery. January 18 targets included the Government Control Center South, MOD Computer Complex (Bab al Muadem), Doura and Rasheed electrical power plants and Baghdad-area substations, and the Doura refinery. The remaining strikes were all against leadership and C^3 targets.

Table 2

F-117 Baghdad Strikes, Hits, and Misses

	STRIKES	HITS	MISSES	NO-DROPS
January				
17	13	7	3	4
18	7	5	0	3
19	10	0	1	9
20	6	4	1	4
21	2	4	0	0
22	11	14	0	2
23	2	2	0	1
28	5	1	3	0
29	11	12	1	1
30	11	3	6	6
February				
4	10	2	1	7
5	10	9	1	0
6	16	12	1	3
7	8	8	1	1
8	6	6	0	1
10	8	5	1	3
12	13	11	2	0
13	37	29	4	4
14	10	7	1	2
19	28	25	2	1
22	2	4	0	0
24	9	12	2	0
25	8	6	0	2
26	35	0	0	35
27	2	0	0	2
28	21	25	0	5
Total	301	213	31	96

Strikes are individual bombing missions with one or two bombs designated to be dropped on targets. *Hits* are bombs delivered and scored by the 37th Wing as on or near aimpoints based upon onboard gun camera video. *Misses* are bombs obviously not delivered on designated aimpoints. *No-drops* are occasions when pilots did not deliver ordnance during their mission.

- Ordnance impacting in Baghdad totaled 287 tons (not even one-tenth of one percent of the total in the air war).[4] Contrast this with Linebacker II, during which aircraft dropped 15,000 tons on Hanoi in 11 days, 50 times the bomb tonnage on Baghdad.
- There were 18 days and nights when there were no Baghdad strikes at all. In eight additional days and nights, five or fewer weapons fell. There were only 14 nights when more than two individual targets were attacked within the city.
- Three of Baghdad's 42 targets—Iraqi air force headquarters, Muthenna airfield, and Ba'ath party headquarters—absorbed 20 percent of the effort.[5]
- The most intense "leadership" attack in Baghdad occurred on the last day of the war, when 21 bombs were delivered against the empty Ba'ath party headquarters.
- Only once, on 7 February, was a suspected presidential target hit with more than two bombs during an attack.

Some argue that such statistics prove the decisiveness of a few bombs.[6] Yet, based upon an on-the-ground survey, interviews with Iraqi and American officials, and detailed new data about the F-117 campaign in the capital, a different perspective emerges. Assessing the effects of strategic bombing has never been easy and Baghdad is no exception. But a close examination of city attacks leaves the undeniable conclusion that despite hyperbole to the contrary, Baghdad bombing in itself produced little identifiable military effect.

Indeed, the core focus mostly had civilian impact. The United Nations Children's Fund (UNICEF) stated immediately after the cease-fire that Baghdad "is a city essentially unmarked, a body with its skin basically intact, with every main bone broken and with its joints and tendons cut. . . ."[7] There was little rubble, and civilians were spared, but their life support systems—electricity, water, transportation, communications—were disabled.

To some, this is the very definition of *strategic*. In the words of Lt Col Daniel Kuehl, USAF, Retired, it was "the progressive entropic dislocation of the innards and connective tissue of the Iraqi society and infrastructure."[8] But did such conventional infrastructure ruin have the postulated effect on the Hussein regime? The answer can only come from a more candid appraisal of what really happened in the Iraqi capital.

Before proceeding further, one must explicitly define the geographic limits and the reason why Baghdad was a distinct part of the air campaign. Because Iraqi air defenses ringing the capital were highly regarded, "downtown" Baghdad was exclusively the domain of F-117 stealth fighters and cruise missiles.[9] Thirty-one targets were located within a three-mile radius extending from the Rasheed Hotel (see figure 1). In total, some 45 prospective Baghdad targets made it onto the bombing schedule (42 ended up being attacked, 39 by stealth).

With unsparing news media focus riveted on Baghdad, a hyperdiscriminate approach was chosen. Precision in weaponry and target identification facilitated pinpoint bombing to achieve "functional" as opposed to "physical" destruction. Yet the impression was always of far more intense bombing, and even these sparse attacks ended up being truncated, largely by Powell and Washington decision makers who felt civilian damage outweighed any military benefits. The end result was that there were only a few moments in 24 nights when the invisible jets were actually present above the Iraqi capital. And there were merely six days when Tomahawks made their presence felt.

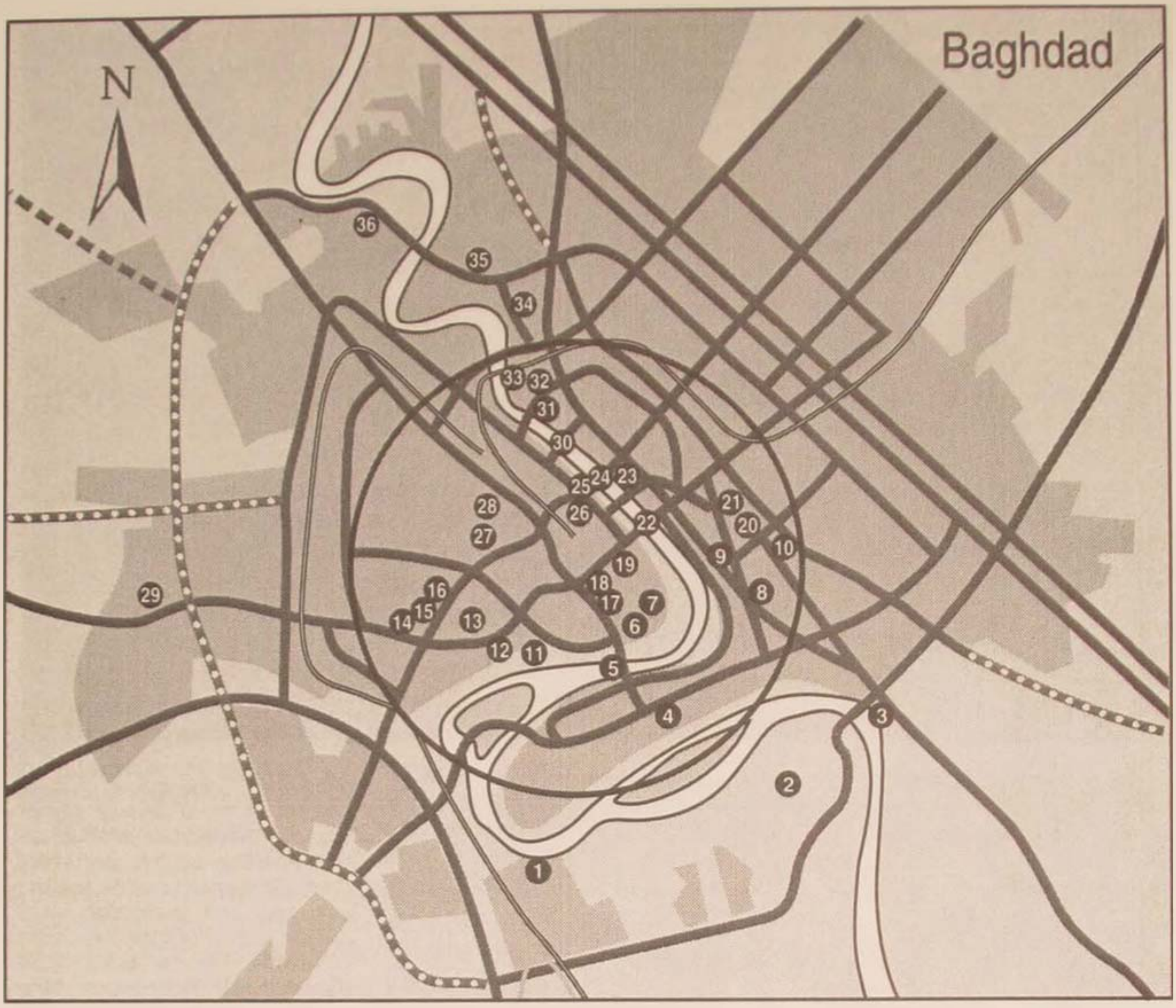
"Iraqis are real trigger pullers," one Air Force officer quipped, citing the mayhem of flak and surface-to-air missiles seen on television that gave the impression of intense bombing by coalition forces. The fireworks display, however, was a powerful image. Air Force leaders even melded the larger strategic campaign and the bombing of Baghdad together as if they were one and the same.[10] The erroneous message is that the proven strategy for any future war is to focus on a nation's capital—indeed a highly discriminate focus on its leadership. Yet, the air attacks against Baghdad do not offer the operational experience to form the basis for such postwar conventional wisdom. Nor is it proven that a combination of early attacks by stealth and precision guided weapons can defeat adversaries quickly and with a minimum of casualties.

A Stealth Mirage

A postwar *New York Times* dispatch from the Iraqi capital described "a people emerging from defeat after suffering *one of the heaviest aerial bombardments in history*" (emphasis added).[11] Echoed Middle East hand Milton Viorst in *The New Yorker*, "There was no Second World War–style urban destruction, *despite the tons of explosives that had fallen*" (emphasis added).[12] A dovish eyewitness wrote in *The Nation* that there were no more than three thousand civilian deaths. "This would be the lowest number of civilian deaths from the bombing of a major city in the history of modern war: Consider the London Blitz, Dresden, Tokyo, Hiroshima, Nagasaki."[13] How had the impression become so skewed that Baghdad could be compared with the Second World War, when tens of thousands of tons were dropped and tens of thousands were killed in individual raids?

Partly the answer lies with the news media, which spoke of massive attacks and an "avalanche" of bombs, highlighting Baghdad from the first night. US military spokesmen, who chose the quick and glitzy sound bite and video clip when more balanced and detailed explanation was required, contributed to the distortion.

Finger pointing nonetheless fails to take into consideration the very strategy of air war planners and targeteers, and the employment of the stealth fighter. Forty-two F-117s flew 1,296 sorties (and 2,358 separate strikes), dropping 2,077 bombs in Desert Storm, roughly 30 percent of Air Force guided tonnage.[14] Given stealth's highly valued accuracy and survivability, most think it was sequestered for high-threat areas where other planes might be more vulnerable or where collateral damage concerns precluded less ac-



Key

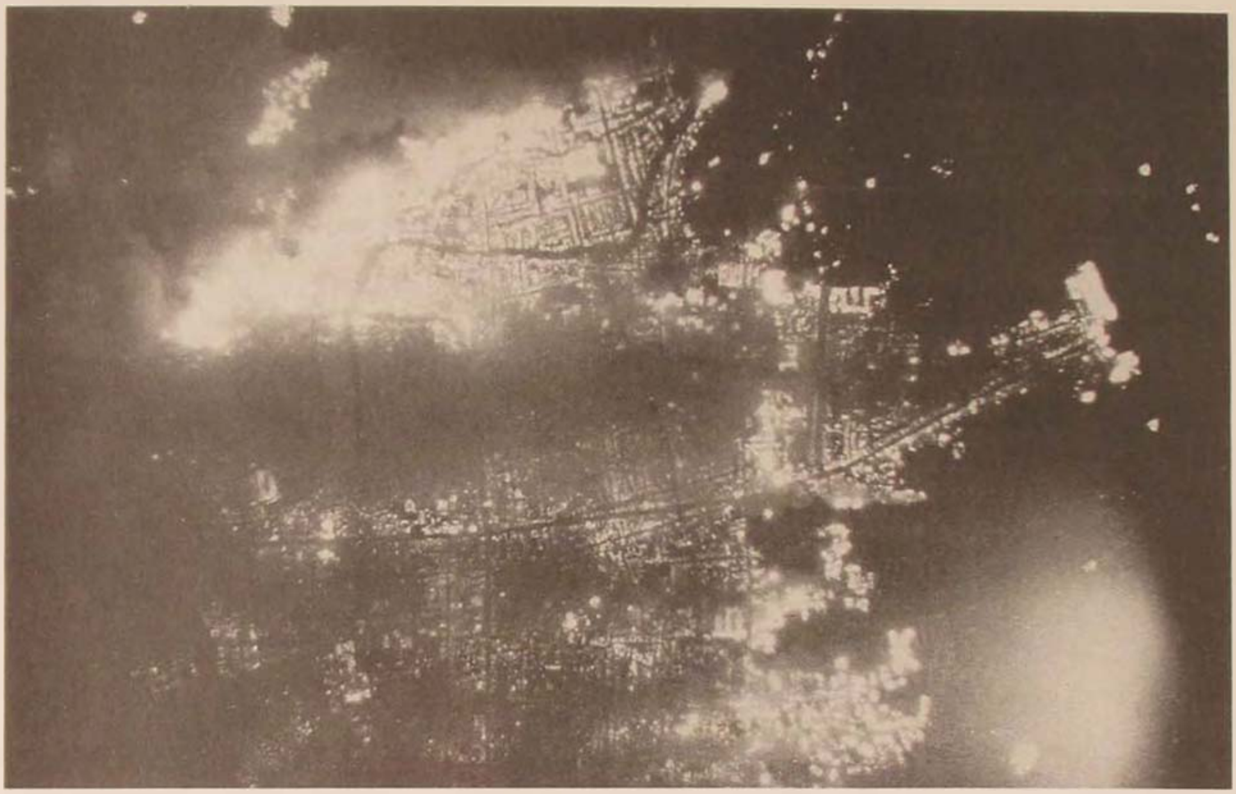
1 Doura electrical power plant
2 Doura refinery
3 Rasheed electrical power plant
4 Jadriya/Hurriya Square communications relay
5 14 July Bridge
6 Presidential palace/bunker
7 New Pesidential Palace/bunker
8 Baghdad air defense headquarters
9 Alwiya telephone exchange
10 Iraqi Intelligence Service regional headquarters
11 Ba'ath party headquarters
12 Presidential security force
13 Republican Guard headquarters
14 Ma'moon (Karkh) telephone exchange
15 Secret Police complex
16 Iraqi Intelligence Service headquarters
17 Ministry of Industry
18 Saddam Conference Center
19 Government control center south/bunker
20 Internal security headquarters
21 Nidal communications relay
22 Jumhuriyah Bridge
23 Rasheed Street telephone exchange (AT&T Building)
24 Ahrar Bridge
25 "Ministry of Propaganda"
26 State radio and television headquarters
27 Iraqi air force headquarters
28 Muthenna airfield
29 Al Firdos C^3 facility
30 Shuhada Bridge
31 Ministry of Defense headquarters
32 Maiden Square/Bab Al Muadem telephone exchange
33 Waziriyah electrical transformer station
34 Ministry of Defense computer center
35 Aadhimiya telephone exchange
36 Military intelligence headquarters

Off map: Baghdad SRBM assembly, international AM transmitter, Rasheed airfield

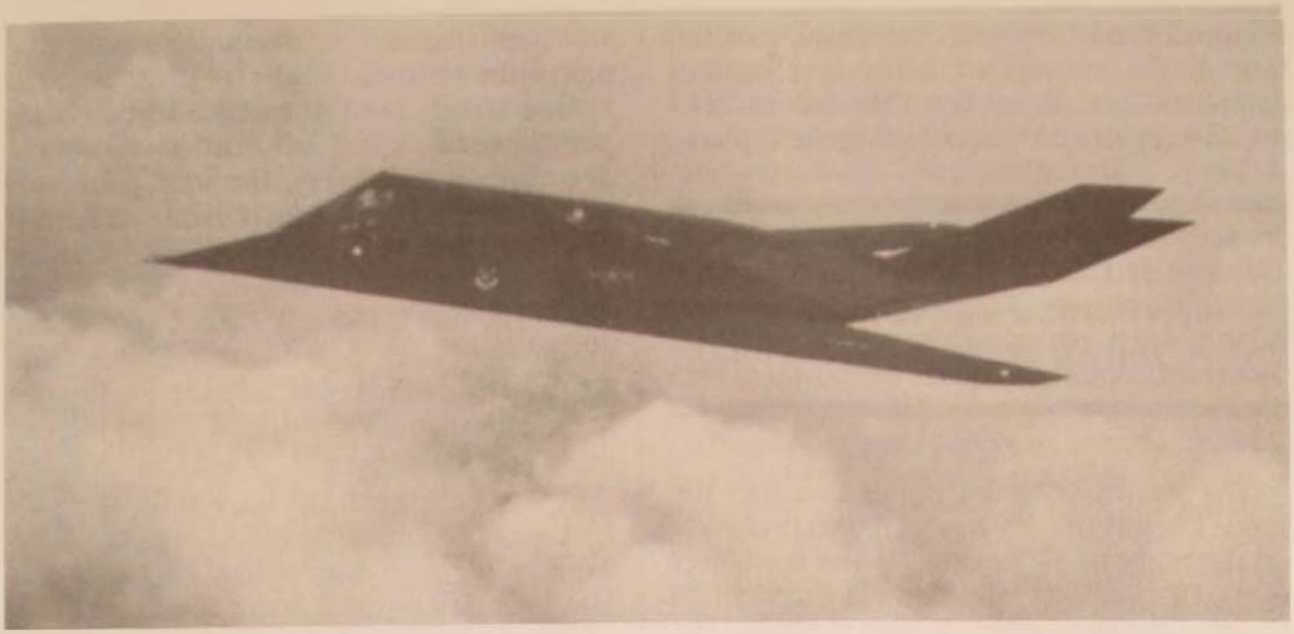
Unlocated: Army storage depot, Baghdad radio relay terminal air defense headquarters (near or collocated with no. 8, Saddam City communications relay).

Note: Baghdad radio relay terminal air defense headquarters and army storage depot are also located within the three-mile ring.

Figure 1. Baghdad Targets



(Above) A city burns. Ninety percent of the Japanese city of Toyama is in flames after an attack by B-29s on 2 August 1945. (Left) Schweinfurt erupts. Military, industrial, and residential areas are the subject of a dense pattern of bombs. Yet, the bombing of Baghdad was described as "one of the heaviest aerial bombardments in history" in a post–Gulf War New York Times *dispatch.*



A success? After the first three days, F-117s could report back that they had successfully delivered a total of six bombs on capital leadership targets, 16 bombs overall in Baghdad.

curate platforms. Stealth's focus "mostly against targets in the heavily defended areas of downtown Baghdad" is even cited in the Defense Department's *Conduct of the Persian Gulf War* as its decisive contribution.[15]

However, only 295 stealth strikes (12 percent of its effort) were against capital targets.[16] According to 37th Fighter Wing records, 493 of 2,358 strikes (21 percent) were against airfields located far from urban areas. And another 193 F-117 strikes (8 percent) were flown against targets in Kuwait and the Basra area.[17] Indeed, nine of the top 10 targets hit by stealth—accounting for 662 strikes (27 percent of all F-117 activity)—were targets repeatedly attacked by other air assets, even early in the war, far away from Baghdad. Only one—Ba'ath party headquarters—was located inside the ring.[18]

In terms of historic achievement, there is no question that stealth demonstrated that individual targets in defended airspace could be found amidst dense urban sprawl and that traditional collateral damage could be minimized in their attack. Yet the illusion of their habitual presence over Baghdad had a definite drawback: The public—even official—

A Tomahawk leaves the sea on its way to a target. Thirty-nine Tomahawks attacked targets in Baghdad in the first 24 hours.

impression of far greater numbers, particularly as the propaganda battle over civilian casualties heated up.[19] This led to subsequent restrictions on bombing the capital.

If Desert Storm was the first information war, as some claim, the Air Force stumbled badly.

The stealth-delivered bomb that had the single biggest impact was in the second wave on the night of 17 January. It was the object of the first publicly unveiled videotape when Lt Gen Charles Horner showed it hitting the 13-story Iraqi air force headquarters building on the southeast edge of Muthenna airfield.[20] Soon it became lore that F-117s "hit" more than 50 targets on opening night and "destroyed" 40 percent of all strategic targets.[21]

For all of the vivid reporting from Baghdad, nothing of the sort transpired. Only ten 2,000-pound bombs and 39 Tomahawk sea-launched cruise missiles attacked city targets in the first 24 hours, and only an additional five bombs and 18 missiles landed the next day and night. Though Air Force planners let out a cheer on the first night when the lights went out (all the work of Tomahawks; stealth *never* attacked an electrical power plant), the achievement obscured the fact that the feat was against one of the most fragile target groups and was achieved with attacks outside the capital.

After the first three days, F-117s could report back that they had successfully delivered a total of six bombs on capital leadership targets, 16 bombs overall in Baghdad. Though the countrywide score against leadership was better,[22] the capital assumed some degree of immunity. There was only a total of 14 stealth leadership strikes in the entire first week in Baghdad—less than 15 percent of the aircraft's overall effort. Air defenses and bad weather, as well as human factors and the "friction" of war, significantly disrupted the planned effort.

Iraq's first foray into counterbombing propaganda—the "baby milk" factory—occurred on 23 January, and soon public debate over civilian casualties escalated far out of proportion to physical reality. Tens of thousands of sorties had been flown, and television had aired less than a half dozen examples of civilian damage. Yet, each Iraqi-originating news morsel impacted with great force, and the two adversaries traded increasingly pointed parries.

A few days after the baby milk spat, the first news reports emerged of attacks on the Amman highway during Scud hunting. Even UN Secretary General Javier Perez de Cuellar spoke up for the first time, labeling strikes on oil tankers and refugee traffic "inadmissible."[23] The Soviet Union—ostensible partner in the international coalition—intensely complained to the Bush administration about the "savagery" of the air war.[24] The president assured in his State of the Union address that "Iraq's capacity to sustain war is being destroyed. . . . We do not seek the destruction of Iraq, its culture or its people."[25]

With Scuds and crises du jour intruding, Baghdad faded. During the entire second week of the war, a total of 32 bombs fell on capital targets; by the end of January, about 60 Baghdad strikes had been carried out, less than one-third the number originally planned.[26]

When news from Basra in early February suggested carpet bombing, Pentagon spokesmen seemed increasingly exasperated.[27] "We never said there would be no collateral damage," Lt Gen Thomas Kelly complained at one of his afternoon briefings:

> What we did say is that our pilots scrupulously adhered to good targeting . . . and in fact flew that target profile to the best of their ability. We go to great lengths . . . to avoid collateral damage. But war is a dirty business, and unfortunately, there will be collateral damage. There's no way one can prohibit it.[28]

Iraq wasn't claiming even five hundred civilian casualties,[29] yet military spokesmen were practically admitting hidden damage. One might have thought Dresden or Tokyo had occurred.

By the time the Al Firdos shelter was attacked on 13 February, there was widespread confusion regarding the capital campaign. Amiriyah was the worst single incident of civilian carnage—more or less equaling all Iraqi deaths in the past month—yet, that very fact did not seem to demonstrate how successful airpower had been in limiting collateral damage.

Did Iraq win the propaganda war, or did the United States lose it? After Ramsey Clark, former US attorney general, released a videotape of war-ravaged Basra, Rear Adm Mike McConnell, JCS intelligence chief, stated:

> There have been some instances of collateral damage, but in the grander scale of things . . . it's very, very small. What we've been able to monitor is that precision weapons have done exactly as they were intended to do.

McConnell defended accuracy by pointing out an unpopular fact no one wanted to hear: Iraqi propaganda was essentially truthful; there was little "hidden" damage. "Every time that I'm aware of civilian casualties, it's been [aired] on television," the admiral said. "If I think back, it was maybe two or three times."[30]

An Empty Center

From the first August 1990 Instant Thunder briefing, Baghdad *was* the air war's symbolic heart in a campaign to "incapacitate, discredit and isolate [the] Hussein regime, eliminate Iraqi offensive/defensive capability . . . [and] create conditions leading to Iraqi withdrawal from Kuwait."[31]

Whether Saddam Hussein was the true focus is not the subject of this article. Official Washington disassociated itself from any personal decapitation effort, while the Black Hole planners in the air component of Central Command (CENTCOM) came to agree that core attacks had the purpose of isolating Saddam and the Ba'ath regime. This would "disrupt" the "leadership's ability to communicate with [the] populace,"[32] create a "communications vacuum" to incapacitate leadership, and result in civil unrest or even overthrow.[33] Precision bombing in Baghdad would "communicate" to the Iraqi people the vulnerability of the regime, while attacks against leadership and communications would sever physical links.

Targeteers and planners interviewed US and foreign contractors and diplomats, Iraqi defectors, and emigrés, all with the hope of locating important aimpoints in the capital. Standing in front of a satellite photo, Col John Warden, chief of the Checkmate group in Headquarters USAF, said:

> They would say, for example, "There was a military command center on the second floor of that building. I drove by it on the way to work." We'd check the information against other sources, and if it checked out, we'd put it on our list of targets.[34]

Countrywide, a total of 33 leadership targets were found, a category second in number only to air defenses and general military support on the eve of the war.[35] Twenty-five potential command centers,[36] many with "state-of-the-art bunker construction,"[37] were identified. In Baghdad, five presidential-associated targets (including two bunkers) were pinpointed, with another half dozen in nearby Abu Ghraib and Taji (outside the three-mile ring). By far, however, the largest number of Baghdad targets were 18 in the command, control, and communications (C^3) category, including telephone exchanges, television and radio stations, and suspected fiber-optic cable-carrying bridges.

Brig Gen Buster Glosson, chief of the Black Hole group, feared, and General Schwarzkopf tended to agree, that the air war might not be allowed for more than a few days. "All of a sudden the war was going to stop and . . . we [would] have a hell of a lot more stuff to do," Glosson said.[38] Hence, the plan was to spread out the attacks as widely as possible over the entire target base. "Standard" bombing practice of concentrating on one target group after another in sequence was rejected, and the number of bombs to be used at each individual target was reduced.[39] Stealth became the main instrument of this "veneer" strategy, and the Black Hole planners changed the assumption of eight F-117s dropping eight bombs on a typical target in a single attack to just one or two bombs per target.[40]

Indeed, nine of the top 10 targets hit by stealth . . . were targets repeatedly attacked by other air assets, even early in the war, far away from Baghdad.

Believing that only a small window of opportunity existed for surprise, strikes on leadership were also "front ended" with the hope of achieving an early blow.[41] Eighteen capital targets were earmarked to be bombed in the first three days,[42] ten in the leadership and national C^3 categories.[43] However, each target, no matter how large or important, received the same degree of attention. Military, party, intelligence targets, even Saddam's residences, were attacked with a single 2,000-pound bomb or three to six 1,000-pound Tomahawk cruise missiles.

There was considerable prewar attention to potential collateral damage. The administration was fully briefed on the plan for the first 48 hours, and Secretary of Defense Dick Cheney and Secretary of State James Baker reviewed the target list in some detail.[44] An urban map was prepared along with annotations describing the area around each target—"isolated," "sparsely populated," "residential," or "industrial"—and special flags designated whether targets contained chemical weapons, or were near hospitals or mosques.[45] Stealth pilots carried maps annotated with "sensitive" installations such as foreign embassies.[46]

When the Black Hole group started to target four downtown bridges at the end of January, suspecting that they provided fiber-optic conduits used for Scud missile launch commands,[47] micromanagement intruded. A deadly bridge attack in the southern town of Nasiriyah on 4 February had proven yet another Iraqi propaganda success,[48] and though no adverse stories had yet emerged from similar Baghdad bridge strikes (including the mistaken bombing of the Central Bank on 30 January),[49] General Powell equated bridges with added danger. He told Schwarzkopf that Baghdad bridge attacks were not worth the risks, and more than a week before Amiriyah, Schwarzkopf told Glosson to hold off bombing them.[50]

At about the time of Powell's initial order to rein in capital attacks, the Central Intelligence Agency (CIA) concluded that Baghdad's ability to communicate with the Kuwaiti theater of operations (KTO) by secure means was only "moderately degraded" and that alternate routing was still available.[51] Networks proved more redundant and more able to be reconstituted than targeteers anticipated. Underground coaxial cables, fiber optics and computerized switching systems in particular "proved particularly tough to put out of action."[52]

With bridges and a suspected communications node under the Rasheed Hotel off the target list, the Black Hole planners refocused on other C^3 links, flying 37 stealth strikes over Baghdad on 13 February, the highest total of the war (see table 2). One of those targets was the Al Firdos C^3 bunker.

After the attack, Washington insisted on approving all city targets.[53] A variety of "senior Pentagon" and "administration" officials went off the record, claiming that Amiriyah was an important back-up "leadership" hideout activated because of the success of the air campaign.[54] But by the time of Amiriyah, the Iraqi leadership had assimilated a far simpler message: Stay away from visible facilities, sit tight for the Americans will soon be finished and then they will be gone. General Kelly himself inadvertently communicated this immunity: "I would say to the people of Iraq the safest place for them at night is home in their beds, because we're not bombing neighborhoods."[55]

Home in Their Beds

When Peter Arnett interviewed Saddam Hussein on 27 January, it was in a modest residential house in northwest Baghdad, far from the downtown presidential compound.[56] As Soviet envoy Yevgeny M. Primakov began his shuttle diplomacy, he also met the Iraqi leader in normal private homes, not in government facilities.[57]

Before the war, the Iraqi leadership debated where Saddam and the inner circle should operate from. The office of the president and Saddam's personal guard, well known for their impenetrable security screen, had multiple buildings and residences to choose from. Though the presidential grounds, a five-square-mile enclave in the elbow of a twist in the Tigris River, contained numerous obvious targets—including underground command centers[58]—it also contained dozens of VIP residences and innocuous "safe houses." And there were scores of additional government and Ba'ath party offices and homes dotted elsewhere throughout the city.

Just before the UN deadline, the Iraqi government informed the foreign diplomatic corps that it would move all functions out of the capital,[59] and civil defense exercises were held to practice civilian evacuation. When the bombing started, many people flooded from the capital to stay with relatives and friends in the countryside and avoid what they perceived to be the impending cataclysm in the center.

But the inner circle soon realized that much of its formal contingency planning didn't need to be implemented. Both the Soviet and French governments, officials claim, assured them that the coalition would not destroy the capital, not pursue its capture, nor attempt the occupation of Iraq. Bombing did not contradict this assurance.

Iraqi officials state without exception that after the first few days, they recognized what types of targets were going to be hit and how circumscribed the damage would be. Though Iraqi public bluster is that Saddam was in Kuwait with the troops when the bombing started, sources close to the president state that he was actually in Baghdad, in a residence specifically chosen for its innocence. After the first few days, however, he moved back to his compound. A national-level "tactical" command center set up in Babylon near Hillah, less than 45 minutes south of the capital by car, was only occasionally used.

Though Warden opines that through C^3 attacks, Saddam was "reduced" to running the war with a command system "not much more sophisticated than that used by Wellington and Blücher at Waterloo in 1815,"[60] this is mirror imaging of American electronic dependence. US intelligence was well aware that Saddam made use of face-to-face meetings and special couriers to deliver "official" messages to subordinates. During the Iran-Iraq war, he would visit the front unannounced, or summon leaders to Baghdad (this was only a few hours' drive or a 30-minute helicopter ride) in order to assert his personal control and intimidation.[61] Numerous military actions (e.g., authorization of Scud missile firings, escape of aircraft to Iran, the Khafji incursion) required Baghdad's approval, but bombing of leadership targets and disruption of communications did not seem to have much effect. Instructions normally would have been written and transmitted via courier, Iraqi officials say. And most targets hit were not occupied anyhow.

When asked to describe the impact of Baghdad bombing on either government decision-making or military capability, knowledgeable officials state that given their assumption of a short war (at least a short air war), they could think of only minor effect, particularly given emergency generators used to handle the most important needs. In terms of work habits or daily lives, officials could not give any examples of adverse impact other than the expected "inconveniences" of war.

Though the psychological impact of strategic bombing is one of its cardinal qualities, and attacks of specific targets were meant to convey discreet messages,[62] Iraqi officials gloat that the precision was soothing rather than disconcerting. In a city the size of metropolitan New York with a population of over four million, scattered and occasional strikes seemed to validate their decision not to give in to the coalition. In early February, people evidently agreed, for they started returning to the capital, and normal basic commerce resumed.

Pinpoint bombing of leadership might have been meant to "send a message" to the Iraqi people, but most Baghdadis knew little of what went on within Saddam's complex. Ironically, then, there were few visible signs that Saddam or the Ba'ath were in fact seriously threatened.[63] The limited bombing effort was its own messenger. "If you are asking about the effect in Baghdad, clearly more intense bombing would have made a greater impression on the people," a Foreign Ministry official said in 1993.

Quick and accurate destruction of many targets across Iraq's strategic depth is the main evidence airpower advocates use to prove the air war's success. Postwar surveys confirm precise destruction of C^3 facilities,[64] but from this, it is difficult to conclude that physical damage cut the leadership off. "When command communications suffer extreme damage, as they did in Iraq," Warden asserts, "the leadership has great difficulty in directing war efforts." He goes on to state that "the lack of communications not only inhibits the bolstering of national morale but also facilitates rebellion on the part of dissident elements."[65] Granted the war made communications with the south difficult if not impossible, but there is little evidence as to the effect on directing war efforts. American postulations are merely of what effect precision bombing *should* signal and achieve.[66]

Similarly, the RAND Corporation's study *A League of Airmen* states that Baghdad bridge attacks "downed fiber-optics communications cables. . . ."[67] There is no evidence that the mission was successful; RAND merely repeats the presumed result. Indeed, at the end of the war, the Defense Intelligence Agency (DIA) concluded that the coalition's

> inability to permanently degrade SRBM command and control is . . . significant, despite determined efforts to incapacitate Iraqi military and civilian national networks. Even in the last days of the war, Baghdad retained a sufficient capability to initiate firings from new launch areas and to retarget SRBMs from urban to military and high-value targets, such as the Dimona nuclear reactor.[68]

Long before the 28 February cease-fire, Iraqi cleverness and resource were apparent, both in the use of decoys and deceptions and in preparations for pinpoint bombing. Throughout the country, a massive effort was undertaken to strip manufacturing and control facilities of valuable production equipment, computers, records, and materials. At telephone exchanges, electrical power plants, oil refineries, and other installations, even at Baghdad museums, valuables, sensitive equipment, and spare and repair parts were removed and taken to places thought less likely to be bombed.[69]

After spending more than six weeks in postwar Baghdad in two trips in 1991 and 1993 inspecting virtually every target attacked, what seemed clear to me was that the *jihad* against Saddam was never more than a clash with Saddam's buildings.[70] Visits to ministries, headquarters, and communications sites exposed one of the ironic weaknesses of precision bombing. Attacks indeed did little damage to surrounding areas. And buildings were indeed rendered unusable. But Iraqi officials prepared themselves by evacuating their normal places of business. And alternate communications were able to be established, facilitated by a pinpoint strategy that never threatened the entire communications fabric during any single focused period.

"Veneer" bombing and precision secured the safety of military and civilian leadership. The Defense Ministry, for instance, moved into a Ministry of Youth building. The office of the president operated from the Central Planning Ministry building inside the Tigris complex, a mere two hundred feet from the bombed Jumhuriyah bridge.

There is no concrete evidence that any Baghdad leadership target was actually in use at the time of attack. Ministers and key staff evacuated buildings before 17 January, removing with them equipment and files. In the case of some targets—telephone exchanges and radio relays, bridges, and electrical plants—a well-placed bomb or two was indeed enough to achieve the sought-after functional kill. But there is a lack of proof from these examples that small numbers of bombs can defeat "leadership" or the core of any society in a short war.

Further, while there is no evidence of adverse psychological impact on the civilian population as a result of Baghdad bombing, the very modesty of the campaign had a disastrous countereffect. In areas where bombing was more "traditional" and far more intense—such as in Basra and the south and in northern cities—civil unrest was far greater and the grip of the central government was indeed undermined. Granted these are Kurdish and Shi'ite areas prone to hostility towards Baghdad anyhow. But the civil war at the periphery was neither planned nor anticipated.

In Baghdad, where bombing was circumscribed, Saddam Hussein retained firm control. Immediately after the cease-fire, people cautiously awaited coalition pressure or military action to facilitate the regime's downfall. When nothing occurred, most quickly resumed their prewar existences. The regime used the "massacre" at Amiriyah and the bombing of the baby milk factory to demonstrate Iraq's unjust victimization. The sparseness of Baghdad attacks made such propaganda claims seem more credible, for what else could the explanations be other than intentional pain when so many other government targets went unbombed?

Air war bravado over bombs dropped down elevator shafts and through doorways of Saddam's palaces and ministries notwithstanding,[71] the true fabric of governmental control—internal security and Ba'ath party elements at the local level, government offices, urban military camps—emerged unscathed. Target selection and the veneer strategy is to blame; the silly debate about bombing statues and the futile attack on the empty Ba'ath party headquarters building on the last day of the war demonstrates the depletion of Air Force "strategic" thinking as Desert Storm continued. Saddam could not control the air over his own capital, and the US could bomb pretty much anything it wanted. What a great achievement for airpower. Baghdad, however, ended up as a symbol, an effigy for adherents of the leadership cult. The primary contributor to Saddam's decision to withdraw—attacks on leadership, traditional strategic bombing, tactical strikes, the ground war—remains utterly mysterious. □

Notes

1. Rick Atkinson, *Crusade* (Boston: Houghton Mifflin, 1993), 288–89.

2. Colin Powell with Joseph E. Persico, *My American Journey* (New York: Random House, 1995), 513.

3. Of more than 215,000 individual weapons dropped, 10,500 were laser guided. Of these, fewer than 8,000 were used against "strategic targets." See Thomas A. Keaney and Eliot A. Cohen, *Gulf War Air Power Survey* (hereafter *GWAPS*), vol. 5, pt. 1, 549–54.

4. A total of 84,200 tons were dropped by US aircraft. Department of the Air Force, *Reaching Globally, Reaching Powerfully: The United States Air Force in the Gulf War: A Report* (Washington, D.C.: Department of the Air Force, September 1991), 28; Department of Defense, *Conduct of the Persian Gulf War: Final Report to Congress*, vol. 2 (Washington, D.C.: Department of Defense, 1992), T-78.

5. The Ba'ath party headquarters took 28 bombs, Iraqi air force headquarters took 17, and Muthenna airfield took 25. In-

formation taken from an informal F-117 strategic target list and "scorecard," 37th Fighter Wing, obtained by the author. Six Tomahawks were also fired against Ba'ath party headquarters on 17 January. *GWAPS*, vol. 4, pt. 1, 173; and vol. 2, pt. 1, 124, 246.

6. See for example John A. Warden III, "Employing Air Power in the Twenty-first Century," in *The Future of Air Power in the Aftermath of the Gulf War*, ed. Richard H. Schultz Jr., and Robert L. Pfaltzgraff Jr. (Maxwell AFB, Ala.: Air University Press, 1992), 81; John R. Pardo Jr., "Parallel Warfare: Its Nature and Application," in *Challenge and Response: Anticipating US Military Security Concerns*, ed. Karl Magyar et al. (Washington, D.C.: Government Printing Office, 1994), 283; Casey Anderson, "'Hyperwar' success may alter AF doctrine," *Air Force Times*, 22 April 1991, 24; idem, "Air Force looks at going deep quickly in future wars," *Navy Times*, 29 April 1991, 27; "Catching up with doctrine," *Jane's Defence Weekly*, 29 June 1991, 1174.

7. Quoted in Samir al-Khahl, "Iraq and Its Future," *New York Review of Books*, 11 April 1991, 10.

8. Private written communications with the author.

9. This excludes Rasheed airfield and targets in the suburbs of Abu Ghraib and Taji.

10. "We did not carpet bomb downtown Baghdad," said Gen Merrill McPeak, Air Force chief of staff, in his end of the war briefing. "It's obvious to anyone who has been watching on television, the pictures of *Baghdad* neighborhoods untouched, people driving around, walking around on the sidewalks and so forth . . ." (emphasis added). Gen "Tony" McPeak, USAF, DOD news briefing, Friday, 15 March 1991, 2 P.M. EST. "To do the things that we did *in Baghdad* in the old days would have taken large numbers of bombs with a lot of damage to surrounding areas," added Lt Gen Charles Horner. "These guys went out there night after night and took out individual *buildings*" (emphasis added). Eric Schmitt with Michael R. Gordon, "Unforeseen Problems in Air War Forced Allies to Improvise Tactics," *New York Times*, 10 March 1991, A1.

11. Paul Lewis, "Iraq's Scars of War: Scarce and Precise," *New York Times*, 22 April 1991, A1.

12. Milton Viorst, "Report from Baghdad," *The New Yorker*, 24 June 1991, 58.

13. Erika Munk, "The New Face of Techno-War," *The Nation*, 6 May 1991, 583.

14. There were actually 2,592 potential opportunities to drop bombs, but many strikes were aborted. See *Conduct of the Persian Gulf War*, vol. 2, T-75; USAF *Fact Sheet*, "37th Fighter Wing, Operation Desert Shield/Operation Desert Storm," current as of November 1991. A strike is to be distinguished from a sortie by the fact that most F-117 sorties included two distinct strikes with one weapon earmarked to be dropped on one aimpoint and a second bomb earmarked to be dropped on a second aimpoint. Occasionally, the aimpoints were at the same target, but far more often, they were at different ones, sometimes at great distances apart. Information on ordnance expenditures was provided by CENTAF in response to a Freedom of Information Act request: 1,316 GBU-10, 33 GBU-12, 718 GBU-27, and four Mk84LD. The slightly different 2,077 figure is contained in letter, 37th Fighter Wing (37 OSS) to the author, subject: Freedom of Information Act (FOIA) Request #92-01, 11 February 1992.

15. *Conduct of the Persian Gulf War*, vol. 2, T-75.

16. Informal F-117 strategic target list and "scorecard," 37th Fighter Wing. These aircraft dropped 244 bombs (11 percent of stealth's total). A total of 96 Baghdad sorties were aborted and weapons were not dropped due to weather, air defenses, the inability of the pilots to acquire the target, or equipment malfunctions (see table 2).

17. Ibid.

18. The ten top stealth targets include the Samarra chemical weapons plant (149 missions), Salman Pak biological and chemical weapons development facility (72 missions), Ubaydah bin Al Jarrah airfield in Kut (72 missions), Balad airfield (60 missions), Tallil airfield (57 missions), Tuwaitha nuclear research center (56 missions), Ba'ath party headquarters (55 missions), Al Asad airfield (48 missions), H2 airfield (47 missions), and Qayyarah airfield (39 missions).

19. Perhaps the White House's pressure on news media executives to remove their reporters from Baghdad prior to the bombing had other purposes, but the news media understood Marlin Fitzwater's personal entreaties as a warning that people in Baghdad were "in grave danger" given the intensity of bombing that would occur. Peter Arnett, *Live from the Battlefield* (New York: Simon & Schuster, 1994), 363-64. See also John R. MacArthur, *Second Front: Censorship and Propaganda in the Gulf War* (New York: Hill and Wang, 1992), 185-87.

20. Gen H. Norman Schwarzkopf and Lt Gen Charles A. Horner, CENTCOM news briefing, Riyadh, Friday, January 18, 1991, 7 P.M. EST.

21. Air Force Posture 1995, *Joint Statement of Secretary of the Air Force Sheila E. Widnall and Chief of Staff General Ronald R. Fogleman: Testimony before the House National Security Committee*, 22 February 1995, 18; *Conduct of the Persian Gulf War*, 156, 222. See also Lt Gen Charles A. Horner, *Stealth and Desert Storm, Testimony before the House Defense Appropriations Committee*, 30 April 1991, 2; "The Value of Stealth," *Testimony by General John M. Loh before the House Defense Appropriations Subcommittee*, 30 April 1991, 3.

22. By the end of the first week, a total of 51 stealth and 36 Tomahawk missile strikes, supplemented by eight F-16s and four F-111Fs, were scored as having been flown against leadership targets. *GWAPS*, vol. 5, pt. 1, 419-25. F-16 sorties were flown against 3d Corps headquarters in Kuwait, formally part of the leadership category. Four F-111Fs were tasked to hit Saddam's "Tikrit summer house" on the first night, and one strike was reported as successful. F-111F target list and "scorecard" obtained by the author.

23. On 30 January, Jordan's Foreign Ministry said that four of its nationals and one Egyptian were killed in deliberate and brutal allied air attacks on the Baghdad-Amman highway. BBC World Service, *Gulf Crisis Chronology* (London: Longman Current Affairs, 1991), 209. See also UPI (United Nations), "UN Leader Condemns Reported Bombing of Jordanian Drivers by Allied Forces," 4 February 1991; Rick Atkinson and Dan Balz, "US: Iraq Exploiting Civilians," *Washington Post*, 5 February 1991, A1. The President of Tunisia, Zini El Abadine Ben Ali, told the UN on 30 January that the destruction of Iraq was "intolerable."

24. James A. Baker III with Thomas M. DeFrank, *The Politics of Diplomacy* (New York: G.P. Putnam's Sons, 1995), 402, 404.

25. The president's address before a joint session of Congress on the State of the Union, 29 January 1991, contained in *Foreign Policy Bulletin*, January-April 1991, 58.

26. Michael R. Gordon and Bernard E. Trainor, *The Generals' War: The Inside Story of the Conflict in the Gulf* (Boston: Little, Brown, 1991), 312-13. Gordon and Trainor state that about a hundred strikes had occurred in Baghdad by the two-week mark, but they overestimate (see table 1).

27. Mark Fineman, "Smoke Blots Out Sun in Bomb-blasted Basra," *Los Angeles Times*, 5 February 1991, 7; Nora Boustany, "Iraq Waits 'Impatiently' for Ground War to Start," *Washington Post*, 8 February 1991, A16; Carol Rosenberg, "Scenes of war's havoc," *Philadelphia Inquirer*, 10 February 1991, 1A. Brig Gen Richard Neal responded to the claims with a lengthy explanation that substantiated hidden damage: "It's important to understand that Basra is a military town in the true sense. . . . As a

result of all of these different targets that are close to radio transmission stations, communications places, POL [petroleum, oil, and lubricants] storage, chemical plants, significant warehousing capabilities . . . it's very difficult for us to separate these. But even having said that, I think our targeters and the guys that deliver the ordnance have taken extraordinary steps to try and limit collateral damage. But I will be quite frank and honest with you, that there is going to be collateral damage because of the proximity of these targets close to, abutting civilian sites." (CENTCOM news briefing, 11 February 1991, 10 P.M. EST)

28. Lt Gen Thomas Kelly, DOD news briefing, 7 February 1991, 11:30 P.M. EST.

29. On 5 February, Foreign Minister Tariq Aziz said that 428 Iraqi civilians had been killed and 650 wounded in bombing attacks since the war began. On 6 February, the *New York Times* reported that 108 Iraqi civilians had been killed and 249 wounded in attacks on residential neighborhoods. Alan Cowell, "Iraq Suspending Fuel Sales, As Raid Widens Shortages," *New York Times*, 6 February 1991, A11. On 8 February, some 600 civilian fatalities were quoted. Nora Boustany, "Iraq Waits 'Impatiently' For Ground War to Start," *Washington Post*, 8 February 1991, A16. The Iraqi Minister of Religious Affairs claimed on 11 February that "thousands" of civilians had been killed or wounded in bombing, a significantly higher figure than the previous 650 dead and 750 wounded given out by the Information Ministry. "Iraqi Lifts Estimate of Civilian Loss to Thousands," *New York Times*, 12 February 1991, A13. The statement was obviously intended for Arab audiences.

30. Rear Adm Mike McConnell, DOD news briefing, 22 February 1991, 3:30 P.M. EST.

31. Air Force/Checkmate briefing (TS/LIMDIS), "Instant Thunder: Proposed Strategic Air Campaign," 14 August 1990, declassified and released under the Freedom of Information Act (FOIA).

32. GWAPS, vol. 1, pt. 1, 109. Given Iraq's highly centralized decision making, "isolation and incapacitation" was labeled a bombing objective of "overriding importance." *Conduct of the Persian Gulf War*, 199. See also *GWAPS*, vol. 2, pt. 1, 22. "The intent was to fragment and disrupt Iraqi political and military leadership by attacking its C^2 [command and control] of Iraqi military forces, internal security elements, and key nodes within the government. . . . The target set's primary objective was incapacitating and isolating Iraq's senior decision-making authorities," the report went on to say. *Conduct of the Persian Gulf War*, 126–27.

33. *GWAPS*, vol. 1, pt. 1, 157.

34. *Airpower in the Gulf*, 45.

35. *GWAPS*, vol. 1, pt. 1, 10, 115; vol. 2, pt. 2, 280.

36. *GWAPS*, vol. 2, pt. 1, 206.

37. Air Force/Checkmate briefing, "Desert Storm," n.d. (postwar circa 1992), released under the FOIA.

38. *GWAPS*, vol. 1, pt. 1, 164. At Warden's briefing on 17 August, Schwarzkopf said that "by the end of the first week we'll have all kinds of pressure to get out! The [United Nations] Security Council will scream. If we can be done in six days, we can say we're sorry and get out. [It] may not be pretty, but we're gonna get this." Richard T. Reynolds, *Heart of the Storm: The Genesis of the Air Campaign against Iraq* (Maxwell AFB, Ala.: Air University Press, 1995), 109.

39. *GWAPS*, vol. 1, pt. 1, 165.

40. *GWAPS*, vol. 1, pt 1, 123; vol. 1, pt 2, 173.

41. *GWAPS*, vol. 2, pt. 2, 282.

42. These targets included the Rasheed street communications center (the so-called AT&T Building), Baghdad international RADCOM transmitter, Jenoub (Ma'moon) communications facility, Baghdad international receiver/radio relay station (north of Al Firdos), Baghdad military intelligence headquarters, Baghdad RADREL terminal air defense headquarters (Wahda), Ba'ath party headquarters, Doura electrical power plant, Iraqi air force headquarters, Baghdad TV center, Iraqi Intelligence Service headquarters, Maiden Square telephone exchange (Bab al Muadem), Ministry of Defense headquarters, Ministry of Information/Culture, the MOD/National Computer Center, New Presidential Palace, the Baghdad presidential residence and bunker, and the Shemal telecommunications exchange.

43. These included Baghdad internal security headquarters, Baghdad military intelligence headquarters, Ba'ath party headquarters, Iraqi air force headquarters, Iraqi Intelligence Service headquarters, Ministry of Defense headquarters, Ministry of Information/Culture, the MOD/National Computer Center, New Presidential Palace, and the presidential bunker.

44. *GWAPS*, vol. 1, pt. 1, 90; vol. 2, pt. 2, 78; Gordon and Trainor, 365.

45. *GWAPS*, vol. 1, pt. 1, 89.

46. *Conduct of the Persian Gulf War*, 133.

47. *GWAPS*, vol. 2, pt. 2, 285–87; *Conduct of the Persian Gulf War*, 238; Atkinson, 295.

48. The announcement by Iraq was made on 6 February. "Iraqis Sever Ties with Six Nations," *New York Times*, 7 February 1991, A1; Nora Boustany, "Iraq Charges High Civilian Toll in Air Raids," *Washington Post*, 7 February 1991, A1; Alfonso Rojas, "A bridge too near for civilians as bombers strike," *Guardian* (London), 8 February 1991.

49. On 30 January, an attack against the downtown Ahrar bridge, near the Mansour Melia Hotel, mistakenly hit the Central Bank in the old market area; there were no casualties. Baghdad bridge attacks were reported in R.W. Apple Jr., "Heaviest Shelling by the Allies Yet Rips South Kuwait," *New York Times*, 13 February 1991, 1; "Two Government Departments Hit in Allied Air Strikes on Baghdad," *New York Times*, 13 February 1991, A14; "Iraqi Lifts Estimate of Civilian Loss to Thousands," *New York Times*, 12 February 1991, A13. During a visit to the Marines, Schwarzkopf was asked about the bombing of the Baghdad bridges on 13 February. He stated that there was "a very, very, very good reason for bombing that bridge in Baghdad," which he wrongly said was part of a key supply route that was being used to support Iraqi troops in Kuwait. UPI (Northern Saudi Arabia), "Schwarzkopf Defends US Bombings," 14 February 1991. The bombing of the Central Bank was first reported in Lee Hockstader, "Battered Baghdad Struggles On: Citizens of Iraqi Capital Bemoan Reversal of Fortunes," *Washington Post*, 28 February 1991, A1.

50. The *GWAPS* speculated that television's publicizing of the Nasiriyah bridge strike on 4 February may have influenced Powell. "Civilian deaths at that site may have increased Powell's reaction to F-117 night strikes against bridges in downtown Baghdad." *GWAPS*, vol. 2, pt. 1, 221. "Decision makers in Washington appear to have concluded that these effects [from severing the bridges] were not worth the adverse media publicity that a systematic attack on Baghdad's bridges would, in all likelihood, have produced. . . . *GWAPS* could find no unequivocal documentary record of bombing restrictions emanating from Washington." *GWAPS*, vol. 2, pt. 2, 287. See also Eric Schmitt, "Iraq Said to Hide Key War Center in a Baghdad Hotel For Foreigners," *New York Times*, 14 February 1991, A1; and R.W. Apple Jr., "Allies to Review Air Target Plans to Avoid Civilians," *New York Times*, 15 February 1991, A1.

51. Department of the Army, Operation Desert Shield/Storm, MI [Military Intelligence] History, vol. 2, n.d. (1991), 8-113, partially declassified and released under the FOIA. On 6 February, CENTCOM reported that "Iraqi leadership appears to remain in control of its military forces." CENTCOM SITREP for 6 February 1991, released under the FOIA.

52. *GWAPS Summary Report*, 70. Since communications were reestablished, the targets "required persistent restrikes." *Conduct of the Persian Gulf War*, 127. National-level capability could be repaired, "and thus needed to be attacked repeatedly." Ibid., 201.

53. In the words of the *Gulf War Air Power Survey*, "To all intents and purposes the civilian losses ended the strategic air campaign against targets in Baghdad." *GWAPS*, vol. 2, pt. 1, 206. See also Gordon and Trainor, 326–27.

54. See for example Rick Atkinson and Dan Balz, "Bomb Strike Kills Scores of Civilians in Building Called Military Bunker by U.S., Shelter by Iraq," *Washington Post*, 14 February 1991, A1; R. Jeffrey Smith, "Building Was Targeted Months Ago as Shelter for Leaders," *Washington Post*, 14 February 1991, A25; Michael R. Gordon, "U.S. Calls Target a Command Center," *New York Times*, 14 February 1991, A17.

55. Lt Gen Thomas Kelly, USA, and Capt David Herrington, USN, DOD news briefing, Wednesday, 13 February 1991, 3:30 P.M. EST.

56. Arnett, 399–400.

57. *Literaturnaya Gazeta*, 27 February 1991, quoted in *GWAPS*, vol. 1, pt. 1, 68.

58. Targets identified by the US in this area included the Baghdad Conference Center, the Rasheed Hotel, the Ministry of Industry, Government Control Center South (a communications/command center northwest of the New Presidential Palace), the New Presidential Palace and command center, a presidential residence and command center, Ba'ath party headquarters, Republican Guards headquarters, and the Presidential Security Service compound.

59. *Conduct of the Persian Gulf War*, 95.

60. Atkinson, 274. By the end of the second week, the Air Force wrote, "With even back-up communications systems disrupted, Saddam Hussein was *reduced to* sending orders from Baghdad to Kuwait by messenger; the trip took at least 48 hours" (emphasis added). *Reaching Globally, Reaching Powerfully: The United States Air Force in the Gulf War*, 23. Schwarzkopf also stated that "Saddam Hussein and the Iraqis have been forced to switch to backup systems, and those systems are far less effective and more easily targeted." Gen Norman Schwarzkopf, Brig Gen Buster Glosson, CENTCOM news briefing, Riyadh, Saudi Arabia, 30 January 1991. "The bombing campaign seriously degraded Iraq's national communications network by destroying Saddam Hussein's preferred secure system for communicating with his fielded forces." *Conduct of the Persian Gulf War*, 200.

61. *GWAPS*, vol. 1, pt. 1, 69. Iraqi deserters in Desert Storm indicated high reliance on couriers. Interrogations of captured sailors after the Battle of Bubiyan revealed that secret orders were hand delivered from Iraqi naval headquarters in Basra to the captains of the Polnocnyy LSMs ordering them to sail their ships to the Bandar Khomeini port in Iran. CNA, Desert Storm Reconstruction Report, vol. 6, 4–7, partially declassified and released under the FOIA.

62. Destruction of central C^3, Glosson thought, would "put every household in an autonomous mode and make them feel they were isolated. I didn't want them to listen to radio stations and know what was happening. I wanted to play with their psyche." *GWAPS*, vol. 1, pt. 1, 93.

63. Though a large dose of "strategic psychological operations" was meant to influence the people of Baghdad, for a variety of reasons, the PSYOP campaign was never implemented.

64. A UN postwar survey stated that at least 400,000 telephone lines "were damaged beyond repair" that "the main microwave links connecting most of the cities were also damaged," with additional C^3 targets damaged to various degrees. International and regional communications, consisting of the two satellite earth stations at Dujail and Latifiyah, two international exchanges in Baghdad, and microwave and coaxial cable links to Turkey, Syria, Jordan, and Kuwait, were destroyed. Sadruddin Aga Kahn Report, 15 July 1991, 3, 7, annex 10. Also based upon the author's observations in Iraq in August–September 1991 and February 1993.

65. John A. Warden III, "Employing Air Power in the Twenty-first Century," in Schultz and Pfalzgraff, 65.

66. Even postwar analysis seems to accept without question that the bombing was having a psychological impact in Baghdad. "Undoubtedly," one postwar report states, "the impact of six Tomahawks hitting the Iraqi Ministry of Defense between 1010 and 1017 [on 17 January] did little to improve morale of those in the building or neighborhood." *GWAPS*, vol. 2, pt. 1, 143. "The destruction of several of the Iraqi government's larger buildings in Baghdad would obviously have had psychological effects on both government and people" (167).

67. *A League of Airmen*, 130.

68. Defense Intelligence Agency, "Iraqi Short-Range Ballistic Missiles in the Persian Gulf War: Lessons and Prospects," defense intelligence memorandum, March 1991, obtained by the author, and also quoted in Gordon and Trainor, 498. The General Accounting Office also falls into the trap of crediting physical destruction with functional effect, stating in a report on the performance of the Tomahawk missile that its use during daytime "had the added benefit of maintaining psychological pressure on the Iraqis in and around Baghdad." US General Accounting Office, "Cruise Missiles: Proven Capability Should Affect Aircraft and Force Structure Requirements," NSIAD-95-116, April 1995, 25. Tomahawk was only an occasional visitor in the sparse campaign and psychological pressure was merely the alleged impact.

69. Author's observations in Iraq in August–September 1991 and February 1993, and interview with Ministry of Oil, Telecommunications, and Defense officials. UNSCOM concluded that "virtually the entire computer capacity" at Tuwaitha, as well as elements like electromagnetic isotope separation components and nuclear materials, had been removed before the war began. The materials had been moved to "emergency storage" in pits located in a farmland area a few miles from the nuclear facility. *GWAPS*, vol. 2, pt. 2, 365–66. UN inspection teams discovered that "most production equipment, components, and documents had been removed before the beginning of the air campaign." *Conduct of the Persian Gulf War*, 208. See also US Congress, House Foreign Affairs Committee, *Iraq Rebuilds Its Military Industries*, staff report, 29 June 1993, 9; and John Simpson, *From the House of War* (London: Arrow Books, 1991), 159.

70. John Warden wrote as much after the war, stating that "first-day attacks did considerable damage to headquarters *buildings* (and presumably to files, computers, and communications)" (emphasis added), never with a hint of irony. John A. Warden III, "Employing Air Power in the Twenty-first Century," in *The Future of Air Power in the Aftermath of the Gulf War*, 70.

71. *Reaching Globally, Reaching Powerfully: The United States Air Force in the Gulf War*, 21. Lockheed, in its promotional brochure about stealth, states that "pilots were informed in advance of certain key rooms within these buildings that should be hit, and the videotape records demonstrate that they did so with astonishing precision." "Stealth: Our Role in the Gulf," *Lockheed Horizons* 3, no. 1 (June 1991): 5. See also "War's New Science," *Newsweek*, 18 February 1991, 38; Philip Caputo, "War Torn," *New York Times Magazine*, 24 February 1991, 34; Michael A. Dornheim, "F-117A Pilots Conduct Precision Bombing in High Threat Environment," *Aviation Week & Space Technology*, 22 April 1991, 51; and *Triumph Without Victory: The Unreported History of the Persian Gulf Conflict* (New York: *Times* Books, 1992), 217.

Stalingrad

An Examination of Hitler's Decision to Airlift

Joel S. A. Hayward

AFTER FEBRUARY 1943, the shadow of Stalingrad ever lengthened ahead of Adolf Hitler. The battle for that city had ended in disastrous defeat, shattering the myth of his military "Midas touch," ending his chances of defeating the Red Army, permanently damaging relations with Italy, Rumania, Hungary, and other allied nations,[1] and, of course, inflicting heavy losses on his eastern armies. More than 150,000 Axis soldiers, most of them German, had been killed or wounded in the city's approaches or ruins; 108,000 others stumbled into Soviet captivity, 91,000 in the battle's last three days alone. (Although Hitler never learned of their fate, only six thousand ever returned to Germany.)

The battle has attracted considerable scholarly and journalistic attention. Literally scores of books and articles on Stalingrad have appeared during the 50 years since Stalin's armies bulldozed into Berlin, bringing the war in Europe to a close. Most have been published in Germany and, to a lesser degree, Russia, where the name "Stalingrad" still conjures up powerful and emotional imagery.[2] Comparatively few have been published in the English-speaking world, and this is understandable. Because no British,

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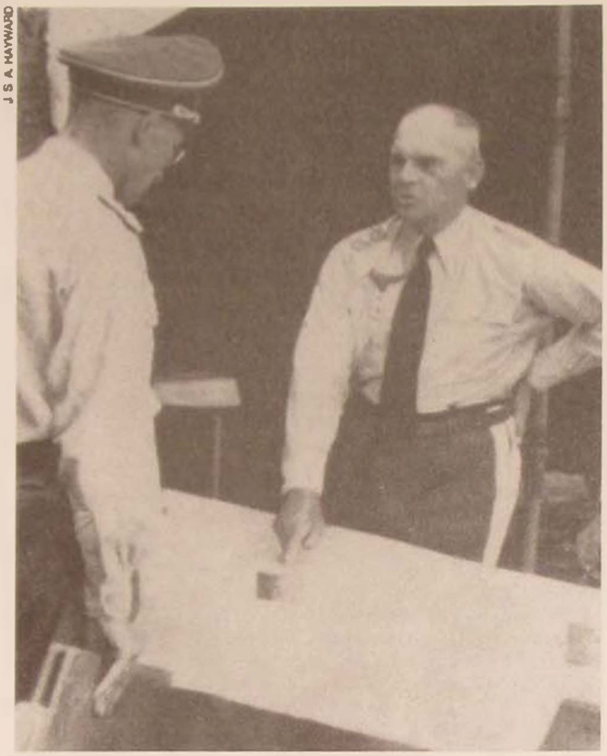

Generalleutnant Martin Fiebig, in charge of the air corps given the task of keeping Sixth Army alive, repeatedly insisted it was an impossible mission. His views were ignored.

Commonwealth, or American forces took part in the battle, they can number none of their own among its many heroes, martyrs, prisoners, and victims. Moreover, although the German defeat at Stalingrad was immediately seen in the West as a turning point, its effects were not directly felt by the Anglo-American nations.

The main focus of Stalingrad historiography, including the dozen books published in 1992 and 1993 to commemorate the battle's 50th anniversary, has been the fighting, encirclement, suffering, and destruction of Generalfeldmarschall Friedrich Paulus's Sixth Army. Few books and articles have devoted adequate attention to the activities of the Luftwaffe, although it made substantial contributions to all battles throughout the 1942 summer campaign—of which Stalingrad was the climax—and it alone was responsible for the maintenance of Sixth Army after Marshal G. K. Zhukov's forces severed it from all but radio contact with other German army formations. Even fewer works—and none in English—have analyzed in depth Hitler's decision to supply the forces trapped at Stalingrad from the air, even though this decision led to the destruction of those forces after the Luftwaffe failed to keep them adequately supplied.

Of course, most writers on the Battle of Stalingrad do briefly touch on the decision to airlift before launching into their descriptions of Sixth Army's suffering or the Luftwaffe's poor performance. Their treatment of the decision-making process, however, is invariably weak and unpersuasive. Almost all blame Hermann Göring, the Luftwaffe's ineffectual commander in chief. When Hitler asked him what the air force could do, they claim, Göring made rash promises of an airlift, hoping its success would restore his flagging prestige. Lacking dissenting voices and trusting Göring, Hitler went ahead and ordered the airlift. Typifying this line of argument, Generalfeldmarschall Erich von Manstein wrote: "I am unsure whether Göring's frivolous assurances to Hitler were due to a false appreciation of existing capabilities, or of a desperate need for admiration. Whatever the cause, Göring was responsible."[3]

Many early writers on Stalingrad (including von Manstein), it should be noted, were participants in the events. Their biases and preconceptions are evident in their self-serving, blame-shifting accounts. However, their works were influential in shaping scholarly opinion in the first decades after the war, and their descriptions and explanations have been, with a few exceptions,[4] accepted uncritically to the present day. In a recent work on Stalingrad, for example, Franz Kurowski repeats many errors and concludes: "What had moved Hitler to give this death order to Sixth Army? During a telephone conversation on 23 November 1942, he asked Göring directly whether the supply of Stalingrad by air was possible. Göring replied, 'The thing appears feasible.'"[5] Likewise, Samuel Mitcham writes in his own book on the Luftwaffe:

> The only way the Reichsmarschall could redeem himself in the Führer's eyes was to score a spectacular military victory. Stalingrad seemed to be his ticket. He promised Hitler that the Luftwaffe would resupply Stalingrad by air . . . . It was the major turning point of the war.[6]

Göring was certainly among those responsible for one of the war's most ill-considered decisions, but he does not deserve sole blame, as this study tries to demonstrate. It attempts to recreate the decision-making process from surviving sources—including the diaries of Luftwaffe commanders in the Stalingrad sector, who found their opposition to the airlift ignored by their army counterparts and by the High Command—and tries to determine culpability in a more evenhanded, dispassionate manner than previously attempted.

When the Soviet Fifth Tank and Twenty-first Armies launched their massive counteroffensive northwest of Stalingrad (code-named Uranus) on 19 November, an exhausted Hitler was enjoying a brief holiday at the Berghof, his mountain retreat in Berchtesgaden, southern Bavaria. His relaxation came to an abrupt end that afternoon when he took a telephone call from his headquarters in East Prussia. Clearly agitated, Kurt Zeitzler, chief of the Army General Staff, shouted down the line that hundreds of Soviet tanks had shattered the Rumanian front exactly where Hitler had earlier predicted and that the Rumanian formations were in full flight.[7] Repeated updates throughout the afternoon convinced Hitler that the situation was serious, although he still felt that Generalmajor Ferdinand Heim's LXVIII Panzer Corps could, if properly deployed, contain the enemy breakthrough. He promptly ordered Generaloberst Maximilian von Weichs, commander of Army Group B, to abandon all further offensive operations within Stalingrad and transfer forces from the city to the broken flank.

When the Soviet Southwestern Front breached the Axis flank south of Stalingrad the next day, Hitler realized that his Fourth Panzer and Sixth Armies were in grave danger of encirclement by the two great pincers. He immediately contacted Generalfeldmarschall von Manstein, whom he considered his best army operational commander. He ordered him to abandon the planned attack at Velikiye Luki in the far north of Russia and to take charge of a newly created command, Army Group Don, in the Stalingrad sector.[8] Von Manstein was ideal for the job because of his fine strategic mind and unparalleled experience with Rumanian units. Although delighted by Hitler's trust, the field marshal was initially discouraged to learn the composition of his new army group: Rumanian Third Army, which had crumbled wherever struck; Fourth Panzer Army, a large portion of which (including most of its tanks) lay trapped between the quickly closing Soviet pincers; and Sixth Army, completely bottled up. The latter was also worn down after months of constant action, with all battalions far below strength. Hitler did tell the field marshal to expect reinforcements totaling six infantry and four panzer divisions, a Luftwaffe field division, and some flak units. Of these formations, however, only two infantry divisions were at hand. The others would not arrive until early in December.

Göring was certainly among those responsible for one of the war's most ill-considered decisions, but he does not deserve sole blame.

Generaloberst Hans Jeschonnek, chief of the Luftwaffe General Staff, arrived at the Berghof that same day (20 November). Hitler had summoned him from his headquarters in East Prussia to discuss the air force's role in any attempted breakout or relief operations.[9] Göring was "too busy" to attend; he was presiding over an oil conference at Karinhall, his country estate in Berlin. No verbatim records of Hitler's conversation with Jeschonnek have surfaced, but the basic facts are known: Hitler explained that Sixth Army would probably be totally cut off within days, that he had organized a new army group under von Manstein, and that it would launch a relief effort as soon as possible. He hoped not only to free Sixth Army within a short time, but also to regain lost territory and rebuild a strong defensive line. Apparently understanding Sixth Army's encirclement to be temporary, Jeschonnek assured Hitler that if both transport planes and bombers were used, and if adequate airfields inside and outside the pocket could be maintained, the Luftwaffe could airlift sufficient supplies to the army. After all, he pointed out, the air force had successfully sustained one hundred thousand men in the Demyansk pocket for several months during the previous winter.

The* [Luftwaffe] *had sucessfully sustained one hundred thousand men in the Demyansk pocket for several months during the previous winter.

The comparison with Demyansk was specious, as Jeschonnek himself probably realized as soon as he had time to think through the issues (seldom possible when dealing with Hitler, who always wanted immediate answers to his questions). The one hundred thousand men of II Army Corps trapped at Demyansk had required no less than three hundred tons of supplies per day.[10] Because of low operational rates caused by winter conditions, the Luftwaffe had been forced to commit almost five hundred Junkers Ju-52s to the airlift in order to ensure that sufficient planes—around 150—could carry that tonnage each day.[11] Further, the presence of the VVS (*Voyenno-vozdushnyye sily*, the Soviet Air Force) at Demyansk had been negligible, allowing almost uninterrupted German air operations with low losses.[12] The situation at Stalingrad was very different. First, almost three times as many men were encircled there than had been at Demyansk. If one hundred thousand men had needed three hundred tons of supplies per day, then, logically, 250,000 men would need around 750 tons, an almost impossible tonnage to deliver (as calculations made at Hitler's headquarters a few days later confirmed).[13] Second, the Luftwaffe did not possess anywhere near enough transport aircraft and available bombers to deliver such tonnages. Third, VVS forces at Stalingrad were now far stronger than they had been at Demyansk. They would greatly hamper airlift operations and inflict high losses.

Jeschonnek's spontaneous and ill-considered assurance that the air force could sustain Sixth Army at Stalingrad pleased Hitler. He could hardly allow the army to abandon that city after he had proclaimed to the entire German nation in September that "you can be certain no one will get us away from there!"[14] and, only two weeks earlier, had trumpeted in the Munich Löwenbräukeller that his forces had taken that "vitally-important city . . . with Stalin's name," where the "real" war was being fought.[15] Unable to eat his words, Hitler now found himself committed to holding Stalingrad. On the afternoon of the 21st, therefore, he sent a message directly to Paulus, ordering him to stand firm "despite the danger of temporary encirclement." He was to hold open the rail link as long as possible. "As to airlift," he added, "orders will follow."[16]

Neither Hitler nor Jeschonnek envisaged an airlift of the Demyansk scale or duration. They still thought that von Manstein would soon break the encirclement and restore the southern front. Sixth Army would only need to be supplied by air in the meantime. Yet that is clearly not the way army commanders in the field, faced with the grim realities of their predicament, interpreted Hitler's references to an airlift. Sixth Army's senior officers

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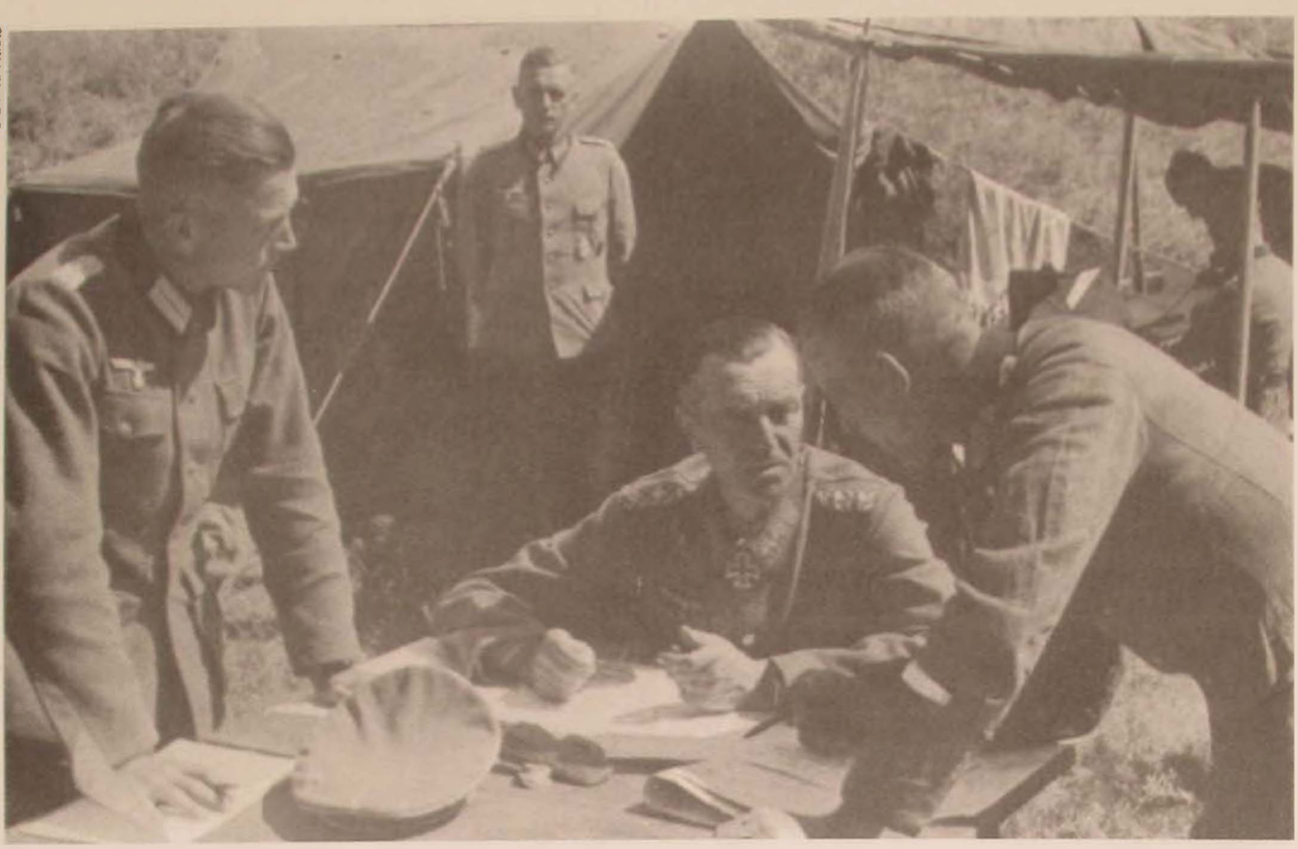

A cautious commander with little tactical imagination, Friedrich Paulus (center) lacked the strength of character and decisiveness needed to state dissenting views to Hitler. His failure to do so was taken by Hitler as support for his decisions.

felt that unless they broke out immediately (which they unsuccessfully advocated), their army would have to be supplied by air for weeks, if not months. They stated that it would need 750 tons of supplies per day (reducing this figure to five hundred tons within a few days). Their statements to this effect horrified local Luftwaffe commanders, whose depleted units would have to carry out the airlift.

Later that day (21 November), Generalleutnant Martin Fiebig, commander of Fliegerkorps VIII, the Luftwaffe corps responsible for all air operations in the Stalingrad sector, telephoned Generalmajor Schmidt, Sixth Army's chief of staff, to discuss the army's intentions. Paulus listened on another phone. Fiebig's report on this conversation reveals the tension that quickly developed between army and air force commanders when the former readily embraced Hitler's suggestion that the air force would keep alive the trapped army:

> In response to my questions about Sixth Army's intentions, General Schmidt replied that the army commander proposed to deploy his army in a hedgehog [that is, all-around] defense of Stalingrad . . . . Regarding the possibilities of this hedgehog defense, I asked how they planned to keep Sixth Army supplied, especially when the supply line from the rear looked certain to be cut very soon. General Schmidt replied that supplies would have to be carried in by air. I replied that supplying an entire army by air was impossible, particularly when our transport aircraft were already heavily committed in North Africa. I warned him against exaggerated expectations. Generaloberst Paulus entered the conversation occasionally on his other telephone line. Next morning, at 0700, I telephoned General Schmidt

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Hitler shaking hands with Generaloberst Wolfram Freiherr von Richthofen in Russia, mid-1942. The two got on famously, although Hitler never learned until much later that von Richthofen strenuously opposed the decision to airlift.

> again, telling him that he was counting too strongly on air supply. I stressed to him again that, after long deliberations, based on my experience and knowledge of the [limited] means available, supplying Sixth Army by air was simply not feasible. Further, the weather and enemy situations were completely unpredictable factors.[17]

Another prominent air leader shared Fiebig's view: the highly decorated Generaloberst Wolfram Freiherr von Richthofen, commander of Luftflotte 4, the air fleet in charge of all Luftwaffe operations in southern Russia (including the Ukraine, the Crimea, the Black Sea, the Caucasus and, of course, the Stalingrad sector). Von Richthofen's views carried far more weight than those of Fiebig, his subordinate. Not only was he considered to be Germany's leading operational air commander, but he was also liked and respected by the person who mattered most: Hitler himself. In fact, Hitler admired von Richthofen, a committed National Socialist, aggressive commander, inspiring leader, forthright adviser, and loyal follower.

Von Richthofen considered it sheer madness for Paulus and his staff to plan an all-around defense at Stalingrad and pin their hopes on the Luftwaffe to sustain their army. The air force simply lacked the ability to keep it supplied, he frantically warned everyone who would listen. "Sixth Army believes that it will be supplied by the air fleet in its hedgehog positions," he complained in his diary on the 21st.[18] "I make every effort to convince it that this cannot be accomplished, because the necessary transport resources are not available." During "dreadfully many

Von Richthofen repeatedly insisted to senior army commanders and the High Command that his air fleet could not possibly sustain Sixth Army by airlift. His warnings fell on deaf ears.

telephone calls . . . until late in the night," he emphatically insisted to almost every relevant air force and army leader–including Göring in Berlin, Zeitzler in East Prussia, Jeschonnek at Berchtesgaden, and von Weichs at Army Group B headquarters–that he lacked the means to supply Paulus's army. It should immediately attempt to break out.[19] His protests fell on deaf ears and, despite several requests, no one would put his call through to Hitler.

The following day, Generalmajor Wolfgang Pickert, commander of the 9th Flak Division and the senior Luftwaffe officer trapped in the pocket, echoed these sentiments to Paulus and Schmidt during a conference in Nizhne-Chirskaya, attended by these generals and Generaloberst Hermann Hoth, Fourth Panzer Army's commander. According to Pickert's subsequent version of what transpired (the only surviving account), Schmidt asked him at one point what he thought should be done. "I would gather together all the forces I could and break out to the southwest," the flak general bluntly replied. Schmidt explained that Hitler had expressly ordered Sixth Army to stand fast at Stalingrad, that the army lacked sufficient fuel for a proper breakout attempt, and that the terrain itself complicated matters. The Soviets held higher ground to the west, meaning that Sixth Army would be exposed to their guns if it attempted to break out. Such an attempt would have to be made without heavy weapons, in any event, because of the fuel shortages. Moreover, it would be necessary to leave 15,000 sick and wounded soldiers to their fate. For these reasons, Schmidt added, a breakout would probably turn into a "Napoleonic catastrophe."[20]

Pickert rejected this as "nonsense," insisting that a breakout was the only solution. His flak forces could help considerably, he added. He had numerous heavy batteries for covering fire, and his men could carry his 20 mm flak guns (160 of them) and their ammunition across the steppes. "No," Schmidt concluded, "the army has been ordered to stand fast at Stalingrad. As a result, we shall form hedgehog defenses and expect supplies from the air." The flak commander, who apparently had no knowledge of Fiebig's previous debate with the army on the matter, was flabbergasted. "Supply an entire army from the air?–absolutely impossible! It simply cannot be done, especially in this weather." Despite repeatedly pleading with the Sixth Army to break out and explaining at length the reasons why the Luftwaffe could not keep it supplied, Pickert was unable to persuade the army. Paulus had remained silent throughout the discussion, but finally told the airman the two most important things in his mind: that Hitler had ordered him to stand fast, and that a breakout attempt with the means available would probably only end in disaster. Schmidt remained adamant about the airlift. "It simply has to be done," he stated, adding that his men would do their bit to cut down the supply level by eating the thousands of horses within the pocket.[21]

Thus, Luftwaffe commanders in the field were unanimous both in their belief that the air force could not supply the entire Sixth Army and in their condemnation of the idea to local army commanders and to the High Command itself. They eventually made several converts, most notably Zeitzler (as will soon be shown) and Generaloberst von Weichs, commander of Army Group B. The latter had listened carefully to von Richthofen's arguments. Persuaded, he sent a teletyped message to the High Command on 22 November.[22] The prompt withdrawal of Sixth Army was essential, he said, especially because "the supply by air of the twenty divisions that constitute this army is not possible. With the air transport available, and in favorable weather conditions, it is possible to carry in only one-tenth of their essential daily requirements." Von Weichs added that although a breakout would "entail heavy losses, especially in materiel," it was the only viable option and would, if successful, "result in favorable developments in the situation as a whole."

Von Richthofen considered it sheer madness for Paulus and his staff to plan an all-around defense at Stalingrad and pin their hopes on the Luftwaffe to sustain their army. The air force simply lacked the ability to keep it supplied, he frantically warned everyone who would listen.

Several of the army corps commanders bottled up in Stalingrad also agreed that the war was over for them if the High Command refused a breakout and ordered an airlift. On 22 November, while Pickert was battling Paulus and Schmidt in Nizhne-Chirskaya, a meeting between corps commanders took place at Gumrak, within the pocket.[23] Acting on his own initiative, Walther von Seydlitz, commander of LI Army Corps, summoned the other corps commanders—Generals Erwin Jaenicke of IV Army Corps, Walter Heitz of IV Army Corps, Karl Strecker of XI Army Corps, and Hans Hube of XIV Panzer Corps—to discuss the situation. They all agreed that they must gather all their strength for an attempt to break through the encirclement. They scheduled their attack for the 25th and, in agreement with von Weichs (but not with Paulus, who had no knowledge of their plans at that stage), began regrouping for the operation.

However, Paulus—like his chief of staff—was apparently not persuaded by the airmen's warnings. He vacillated throughout the 22d and 23d, afraid to contradict Hitler's order to stand fast even though he knew his opportunities for a successful breakout were disappearing with every passing hour. On the 22d, he did request "freedom of decision in the event of failure to construct southern defensive positions." Yet, totally ignoring von Richthofen's, Fiebig's, and Pickert's logical arguments against an airlift, he stated that as long as he could close his exposed southern front "and receive ample airborne supplies," he intended to hold the area still in his possession.[24] Next evening, in response to Hitler's fresh order to construct all-around defensive positions and await relief from outside, the general replied with another teletype message. This time he did allude to mounting opposition to the proposed airlift, but said only that "timely and adequate supply has been ruled out."[25] His army must break through the encirclement to the southwest, he stated, because it was now suffering acute fuel and ammunition shortages and increasing enemy attacks against certain sectors. As the army could not hold out for long, he again requested "freedom of decision." His five corps commanders, he added, shared his views on the situation.

Hitler's ears were now deaf to such pleas. His mind was firmly made up. After arriving back at his East Prussian headquarters on the 23d, he replied to Paulus by radio in the early hours of the 24th. Sixth Army (which he now designated "Fortress Stalingrad") would stay and defend itself vigorously. "Air supply by a hundred more Junkers is getting under way," he said, trying to reassure the frantic army commander.[26] By now, Hitler's notion of an airlift operation had changed considerably since Jeschonnek had first assured him that Sixth Army could be supplied by air. He had then described the army's encirclement as temporary, and Jeschonnek had made his rash assurance with that in mind. Now he clearly envisaged a Demyansk-style airlift, only even larger and longer lasting. "Sixth Army will stay where it is," he yelled at Zeitzler in the evening of the 23d, according to the latter's postwar account. "It is the garrison of a fortress, and the duty of fortress troops is to withstand sieges. If necessary they will hold out all winter, and I shall relieve them by a spring offensive."[27]

The firmness of Hitler's conviction that the "fortress" should stand fast and that the Luftwaffe could keep it adequately supplied had grown considerably in the two days since Jeschonnek had first mentioned it. One of the main reasons for his increased conviction was the almost unanimous support for the decision expressed by those around him. At Berchtesgaden, and during his long train journey to East Prussia on the 23d, Hitler had no contact—personal or telegraphic—with the army and air force commanders at the front. During that critical decision-making period, he did not speak to von Richthofen, Fiebig, or Pickert, whose air forces would have to carry out the massive supply operation and who were now frantically warning almost everyone else that they lacked the means to sustain Sixth Army. Nor did he communicate with von Weichs, who shared their view and advocated an immediate breakout. Hitler learned of their views from Zeitzler, who had finally "come around" and now defended their assessment. Yet, because their warnings were not delivered personally, but only passed on by the army's "overanxious" chief of staff, they carried little weight. Hitler merely accused Zeitzler of being too pessimistic and advised him to stop paying heed to "defeatist" commanders who couldn't see the forest for the trees.

The military advisers accompanying Hitler—his faithful paladins, Wilhelm Keitel and Alfred Jodl, and their skeleton staffs—were in no position to make detailed assessments or offer informed advice. The sycophantic Keitel, who seldom expressed views contrary to Hitler's, acted true to form throughout this crucial period. "The Volga must be held! . . . Sixth Army must hold out!" he repeatedly told Hitler. Although Jodl was no lackey, despite the efforts of many postwar writers to paint him as one, he was still smarting from the rough treatment Hitler had dished out when he sided with Generalfeldmarschall Wilhelm List against him in September. He was not yet ready to receive more. He therefore gave Hitler far more cautious but still agreeable advice: although Sixth Army was certainly in a predicament, he argued, and its destruction looked certain if relief was not forthcoming, the vast territorial gains made during the summer campaign should not be abandoned before von Manstein's relief operation was attempted. In the meantime, the Luftwaffe should keep the army supplied.

Aside from Zeitzler's, the only dissenting voice Hitler heard during his last two days in Berchtesgaden and his long journey north to East Prussia belonged to Jeschonnek, who had abandoned his earlier position and now meekly suggested that Sixth Army should break out.[28] He regretted his earlier assurances to Hitler. Almost as soon as the words were out of his mouth, he wished he could swallow them again. After having his staff check his figures and after talking with von Richthofen several times by telephone, he quickly realized that nothing close to adequate logistical support of Sixth Army by air would be possible, even with consistently favorable weather and taking no account of VVS action. He and von Richthofen were close friends, but the latter clearly dominated their relationship and, when they disagreed on matters, usually managed to win Jeschonnek over. This was clearly one such case. However, although Jeschonnek notified Hitler that he might have been too hasty when he made his earlier assessment, his retraction carried no weight. Not only did Keitel and Jodl believe Sixth Army should stay, Hitler retorted, but Jeschonnek's own superior, Reichsmarschall Göring, had now given his personal assurance that the air force could fully meet the army's supply needs.

Responsibility for the decision to supply Sixth Army . . . rests with three individuals: Jeschonnek, Hitler, and Göring.

Determining when Göring first specifically assured Hitler that the Luftwaffe could supply the army is difficult because of the paucity of reliable and detailed sources. However, David Irving, who has reconstructed Göring's movements in this period, believes that Hitler had first phoned him on 21 November, a full day after Jeschonnek had made his rash promise and shortly after Hitler had first mentioned the airlift to Paulus.[29] This view gains support from von Richthofen's diary description of a discussion he had with Hitler at the "Wolf's Lair" on 11 February 1943, almost two weeks after Paulus surrendered and his surviving troops staggered into Soviet captivity. Hitler admitted to von Richthofen that Göring was not entirely to blame for the failed airlift; he had himself promised Sixth Army that it would be supplied by air, "without the Reichsmarschall's knowledge."[30]

When Göring first discussed an airlift with Hitler on 21 November, he lacked up-to-the-minute information on Sixth Army's encirclement and statistical data with which to make air supply calculations. He therefore gave no specific assurances about his force's airlift tonnage capabilities, insisting instead that Sixth Army should stand fast and that, as Jeschonnek had said the previous day, the Luftwaffe would do all in its power to meet the army's needs. As soon as he got off the phone, he summoned his quartermaster staff and ordered every available transport plane—including his own courier flight—to be mobilized for the operation. Göring's actions are remarkable, considering that he had not yet studied detailed data or consulted air supply experts. He later told von Richthofen that at the very beginning of the Stalingrad episode, he had played the optimist and supported Hitler in his decision to stand fast there.[31] At that point, von Richthofen added, Göring had still believed Sixth Army's encirclement to be temporary.

Göring's assurances became much stronger on the following day (22 November), when he arrived in Berchtesgaden. Hitler asked his bulky deputy whether he still supported the air-supply proposal. Göring replied confidently, "Ja, it can be done." He could give no other answer, he later told Generaloberst Bruno Lörzer, his close friend, because the Nazi leader used the worst kind of emotional blackmail:

> Hitler said to me: "Listen here, Göring. If the Luftwaffe cannot carry this through, then Sixth Army is lost!" He had me firmly by the sword-knot. I could do nothing but agree, otherwise the air force and I would be left with the blame for the loss of the army. So I had to reply: "Mein Führer, we'll do the job!"[32]

He could hardly have rejected the airlift proposal anyway, he lamely explained afterwards to Paul Körner (undersecretary of state for the Four Year Plan), because his own chief of staff had already convinced Hitler that the air force could supply the encircled forces. "Hitler already had Jeschonnek's papers before I set eyes on them," he told Körner, doubtless trying to shift some blame to his chief of staff. "I could only say, 'Mein Führer, you have all the figures. If they are correct, then I place myself at your disposal.'"[33]

Jeschonnek's original figures were not accurate, however, as Göring learned just hours later. Oberst Eschenauer, Jeschonnek's supply officer, informed his boss that the standard "250 kg" and "1,000 kg" air-supply containers on which he based his calculations actually carried only around two-thirds of those loads.[34] Their names derived solely from the size of the bombs they replaced on bomb racks. Jeschonnek, an honest man who admitted his mistakes, immediately told Göring, and asked him to warn Hitler that their calculations were based on incorrect data. Göring winced when his young chief of staff confessed to this error, but, believing it was "too late now," expressly forbade him to tell Hitler. Instead, he phoned Hitler, repeated his unconditional assurances that the Luftwaffe could do the job and invited him to phone Generalfeldmarschall Erhard Milch, his deputy and Air Inspector-General, if he still felt unsure. When Milch finally learned of this in 1946, he angrily scrawled in his diary: "Deceit plus incompetence equals one Reichsmarschall! I guessed it already, but now I get proof of it, it makes me want to throw up all over again."[35]

According to Zeitzler's postwar claims, after Hitler arrived back in East Prussia late next evening—23 November—he vigorously tried to persuade Hitler that Göring's promises were impossible to keep. After explaining at length the tonnages required and the lack of aircraft to carry them, Zeitzler told Hitler that "having examined the facts in detail, the conclusion is inescapable: it is not possible to keep the Sixth Army supplied by air."[36] Hitler remained outwardly calm, but, with annoyance evident in his voice, stated, "The Reichsmarschall has assured me that it is possible." When Zeitzler stood his ground, Hitler sent for the air force chief. "Göring," he asked, "can you keep the Sixth Army supplied by air?" The airman raised his right arm and said, "Mein Führer, I assure you that the Luftwaffe can keep the Sixth Army supplied." Hitler cast Zeitzler a triumphant glance, but the general refused to back down. "The Luftwaffe certainly cannot," he insisted, to which Göring angrily retorted, "You are not in a position to give an opinion on that." Hitler was surprised by the undisguised hostility between his commanders, but granted Zeitzler permission to challenge Göring's promises. "Herr Reichsmarschall," he said. "Do you know what tonnage has to be flown in every day?" Caught off-guard, the embarrassed air leader spat back, "I don't, but my staff officers do." Zeitzler had come armed. His own staff had made detailed calculations, which he immediately summarized:

> Allowing for all the stocks at present with Sixth Army, allowing for absolute minimum needs and the taking of all possible emergency measures, the Sixth Army will require delivery of three hundred tons per day. But since not every day is suitable for flying, as I myself learned at the front last winter, this means that about five hundred tons will have to be carried to Sixth Army on each and every flying day if the irreducible minimum average is to be maintained.

"I can do that," Göring shot back. Losing his temper, Zeitzler shouted: "Mein Führer! That is a lie!" Hitler thought for a minute before replying: "The Reichsmarschall has made his report to me, which I have no choice but to believe. I therefore abide by my original decision [to supply the army by air]."

Zeitzler's frequently cited description of this argument with Göring should not be treated as a verbatim record because it is based on his subjective recollection of the exchange and was apparently not written down until the following day. However, the account is almost certainly an honest attempt at reconstructing the event. Zeitzler's open opposition to the airlift is mentioned in several reliable sources, including von Richthofen's diary, as is his courage to express opinions contrary to Hitler's. But placing this account chronologically within this crucial decision-making period poses problems. Zeitzler himself could not remember the date, noting

Generalleutnant Erich von Manstein initially thought Sixth Army should remain at Stalingrad, supported by the Luftwaffe, until he could mount a relief operation. His report to this effect hardened Hitler's resolve that the Luftwaffe would have to keep Sixth Army alive and operational.

only that it took place "between 22 and 26 November."[37]

Most writers place the argument in the early hours of 24 November—that is, shortly after Hitler arrived from Berchtesgaden and shortly before he issued his fateful order to Paulus that his army must stand fast, that a relief operation was being launched, and that the Luftwaffe, bolstered by "a hundred more Junkers," would keep the army supplied.[38] If the argument did occur at that point, then it represents the last major appeal to Hitler to change his mind and the most weighty challenge to Göring's unconditional assurances that his air force would meet the trapped army's supply needs. It shows not only that Hitler had already firmly made up his mind before he arrived back in East Prussia, but that his deputy's embarrassing unfamiliarity with the tonnages he had promised to supply should have raised grave doubts in his mind about the reliability of those promises. Before it was too late, Hitler should have reexamined the tables and graphs drawn up by Jeschonnek, Zeitzler, and the army quartermaster-general; and he should have spoken to von Richthofen, whose air fleet was to carry out the air supply operation.

However, the argument with Zeitzler did not take place on the 24th, before the airlift began. It could not have. After Göring visited Hitler at the Berghof on the 22d, he departed for Paris in "Asia," his luxurious command train. He spent the next four days—when he should have been organizing the airlift—visiting Parisian art dealers and galleries.[39] Von Richthofen was appalled. "I urge Jeschonnek and Zeitzler to report my views to the Führer," he wrote in his diary on the 25th, "and to harness the Reichsmarschall, but he's in Paris!"[40] Göring arrived back at Hitler's headquarters in Rastenburg on the 27th, and his heated exchange with Zeitzler probably took place at that point; that is, three days after Hitler had given the final go-ahead for the airlift. Despite the claims of numerous writers, therefore, the argument played no part in the decision-making process. The die had already been cast.

Hitler's decision to keep Sixth Army at Stalingrad and support it from the air until a relief operation could break its encirclement was poorly received by the commanders in the field. Von Richthofen again tried desperately to convince everyone who would listen that Hitler must be given an honest appraisal of the facts. He phoned Jeschonnek (three times), von Weichs, and Zeitzler, once more pleading with them to have his views made known to Hitler (which they did, to no avail).[41] He was disappointed by what he correctly perceived to be Jeschonnek's lack of courage in Hitler's presence, noting that "Weichs and Zeitzler share my view. Jeschonnek has no view at all." He was most upset the next day to learn that the airlift would proceed, despite their warnings:

> The Führer heard everything we had to say, but decides against it because he believes the army can hold on and he does not think we could reach Stalingrad again. I stand by my own opinion. Still, orders are orders and everything will be done pursuant to the orders received. It is tragic that none of the locally-responsible commanders, although purportedly possessing [the Führer's] confidence, has any influence at all now. . . . As things are at present, operationally speaking, we are nothing more than highly-paid non-commissioned officers.[42]

Von Richthofen was stunned that the High Command expected him to fly in at least three hundred tons per day. "We supply [the pocket today] with all our Ju-52s, but we only have 30 available for that." He added in his diary on the 25th:

> Of yesterday's 47 Ju 52s, 22 made sorties [into the pocket]; of today's 30, 9 made sorties. We flew in 75 tons today, instead of the 300 tons ordered by the High Command, which is not possible with the few Ju 52s available. I report[ed] this to the Reichsmarschall.

Von Seydlitz, commander of LI Army Corps, also complained that Hitler's order was impossible to fulfill. He sent Paulus a lengthy report, which warned that there could be no question of standing firm: "The army has a clear choice: it must break through to the southwest in the general direction of Kotelnikovo or face destruction within days."[43] The army's supply situation, he insisted, would decide the matter. To believe the Luftwaffe could keep the army supplied was grasping at straws, especially since only 30 Ju-52s were at hand and, even if the other hundred aircraft Hitler promised actually materialized, they could still not meet the army's needs in full. Unfortunately, von Seydlitz's report contained several careless inaccuracies which robbed it of its persuasiveness. He stated, for example, that even one thousand tons of supplies per day would not be sufficient, whereas Sixth Army's own quartermaster had just reported that the army could survive if the Luftwaffe carried in five hundred tons each day (three hundred cubic meters of fuel and two hundred tons of ammunition).[44] Schmidt and Paulus still sent the report to von Manstein, adding that, although they disagreed with many of von Seydlitz's reasons, they shared his view that the army should break out immediately.

Unfortunately for all those opposed to Hitler's "stand fast" and airlift decisions, von Manstein made his own thorough assessment of the situation and sent the High Command a far more optimistic appraisal.[45] His position was similar to Jodl's: while he agreed that a breakout was the safest course, and that the army remained in danger if it stayed in its present positions, he was not convinced by Army Group B's insistence on an immediate breakout. If a relief operation could start in early December, he argued, and if the promised reinforcements arrived in time, it was still possible to save the army. Of course, he cautioned, if it proved impossible to launch the relief operation or meet the army's supply needs by air, then it should break out. Hitler felt vindicated. He highly valued von Manstein's opinions (as did most of his senior officers), and proudly informed Zeitzler and his other advisers that the field marshal's assessment was far more in keeping with his own views than those of his "defeatist" generals. The debate was over; he had won—for now.

Thus, responsibility for the decision to supply Sixth Army—one of the most fateful decisions of the war—rests with three individuals: Jeschonnek, Hitler, and Göring. Jeschonnek rashly made the first assurances that the Luftwaffe was capable of meeting the army's logistical needs before he had consulted air transport experts, made detailed calculations of his own, or sought the views of von Richthofen and the other air force and army commanders at the front. Their evaluations of the situation and the capabilities of their respective forces would have been far more detailed and reliable than the situation assessments made by Hitler and his entourage (thousands of kilometers away in

Hitler's alpine retreat in southern Bavaria), whose main source of information was Zeitzler's telephone "updates." Jeschonnek should have requested a little time to do homework before presenting an opinion on the matter.

When Jeschonnek gave his initial assurances to Hitler, however, he believed that the army's encirclement would be temporary and, therefore, that its long-term survival did not depend on the air force's ability to keep it supplied. Had he known then that Sixth Army would need supplying for several weeks, if not several months, he certainly would not have promised Hitler anything without extensive research. To his credit, when he did learn that Sixth Army's encirclement would last longer than originally claimed, that von Richthofen and Fiebig forcefully opposed the airlift, and that his own hasty calculations were inaccurate, he immediately admitted his mistakes and tried to dissuade Hitler and Göring. He lacked both a forceful personality and the respect of his bosses, so, as a result, they simply ignored his warnings. Jeschonnek's culpability, then, stems from rashness, a faulty original assessment of the situation, and an inability to stand up to stronger personalities. It does not stem from dishonesty or incompetence.

When considering Hitler's responsibility for the decision to supply Sixth Army by air, one should note that he was unable to focus solely on that matter. He had to divide his attention between events at Stalingrad and what he mistakenly perceived to be the equally critical situation in North Africa. Only a fortnight after Gen Bernard Montgomery launched his offensive against Erwin Rommel's positions at El Alamein and four days after his army captured them (which threw Hitler into a fit of rage), major Anglo-American landings took place in Morocco and Algeria on 8 November. French resistance quickly collapsed, and subsequent events forced Hitler to launch Operation Anton, the occupation of Vichy France, on the 11th. To make matters worse, he felt he needed to pour scores of thousands of troops into Tunisia to counter the advance of Anglo-American forces pushing eastward towards Rommel's Afrika Korps, still falling back westward before Montgomery's Eighth Army. Anton quickly reached its successful conclusion. Yet, when Stalin launched Operation Uranus on 19 November, events were still going very poorly for German troops in North Africa and Hitler's mind was focused on their survival and, he hoped, on operations to restore the situation. Thus, distracted by events in the Mediterranean, Hitler was unable to focus his attention solely on the grave situation in the east. Had he chosen to concentrate on Stalingrad and the security of the Don/Donets region, strategically more important than Tunisia, he may have made different choices than the ones that eventually led to the loss of an entire army.

Deciding to supply Sixth Army by air was not Hitler's only mistake. His decision to pour men and equipment into Tunisia during this critical period rates as one of the worst he ever made. As historian Vincent Orange noted, "The campaign, however prolonged, could have only one result: an Axis defeat."[46] The Allies, he explained, "enjoyed command of the sea, the air and an enormous advantage on land in numbers of troops, tanks, guns and supplies of all kind (especially fuel)." Thus, the 81,000 German troops landed in Tunisia between November 1942 and January 1943,[47] plus the 250 Ju-52s used to transport them, were wasted in a campaign with little strategic value and no chance of success. Those men and aircraft could have made a crucial difference to German fortunes in the far more important Don/Donets region had they been sent to von Manstein and von Richthofen instead.

Hitler's responsibility for the airlift outweighs Jeschonnek's. First, his own initial perceptions about the developing encirclement and the fate of Sixth Army were not based on rationality, but egotism. His "iron will" alone had saved his eastern armies during the previous winter, he believed. It would do so again. This explains his comment to Zeitzler on the first night after he returned to East Prussia. "We must show firmness of character in misfortune," he lectured. "We must remember Frederick the Great."[48] Second, he also considered it essential to stand fast at Stalingrad because he could not withdraw, without losing face, from the "strategically-important" city that he had publicly vowed several times to keep. Third, because Jeschonnek's assurances supported his own preconceptions, he uncritically accepted them, although the airman had clearly not reflected or conducted research before making them. Fourth, from the moment he received those assurances, which suited his own views so well, Hitler closed his mind to alternative strategies. Fifth, he totally ignored the repeated appeals and warnings of his frontline army and air force commanders, unfairly calling them "defeatists" because they challenged the inflexible, "stand fast" formula that he had elevated to the status of doctrine. Sixth, he accepted Göring's promises and reassurances as uncritically as he had accepted Jeschonnek's, despite the fact that Reichsmarschall Göring had a poor track record, had exercised only nominal command of the Luftwaffe during the last year, instead delegating the force's day-to-day running to his subordinates, and, despite the crucial nature of the present situation at Stalingrad, had evidently made no real effort to familiarize himself with the issues involved. Lastly, he did not sack Göring and replace him with someone competent, or even demand that he act responsibly in this critical period. He should at least have forbidden him (in von Richthofen's words) "to swan off to Paris to plunder art galleries" and ordered him to stay in Rastenburg to organize and oversee the Stalingrad airlift, the largest in military history, upon which hung the lives of a quarter of a million men.

Göring's responsibility for the airlift decision equals Hitler's. When the Nazi leader first asked him whether the Luftwaffe could, as Jeschonnek had promised, fully meet Sixth Army's logistical needs, he should not have given an immediate answer. He should first have consulted his air transport experts, studied all available information on the situation at Stalingrad (enemy strengths and activities, the size and state of trapped forces, the condition and capabilities of Luftflotte 4, weather patterns and projections, and so on) and sought the opinions of von Richthofen and the Fliegerkorps commanders involved. Remarkably, Göring failed to do this, not only before making his first assurances, but also before making his final promises prior to leaving for Paris.

Göring aggressively dominated his own staff, driving two of his senior officers to suicide (Ernst Udet in November 1941 and Jeschonnek in August 1943). Yet, he proved incapable of standing up to Hitler. He rarely even expressed views contrary to Hitler's (at least in the latter's presence), especially after his obvious failure to defeat Britain from the air and to defend Germany's cities from ever-increasing Allied air attacks. These failures had steadily reduced his standing in Hitler's eyes throughout 1941 and 1942. Instead, he lapsed into subservience, hoping his slavish loyalty would repair their relationship. It is probable, then, that Göring's unconditional assurances that his air force could maintain Sixth Army stem from his inability to resist Hitler or challenge his views ("I gained the impression that he was afraid of Hitler," Milch once wrote[49]) and from his intense desire to restore his tattered prestige.

Hermann Plocher argued that Göring "may also have sincerely believed that he could accomplish the airlift operation to satisfaction, just as he had done in some instances in the past, by combining the influences of his several offices and adding his own brutal energy."[50] Plocher was wrong. Göring did not "sincerely" believe that he could do the job, otherwise no sense can be made of his comments to Lörzer that Hitler had him "by the sword-knot" and that he could "do nothing but agree" because he did not want to "be left with the blame." Also, his refusal to inform Hitler that Jeschonnek's original calculations were based on false premises and information removes any suggestion of "sincerity." He deliberately withheld embarrassing but important information from Hitler. Additionally, at no point during the course of the airlift did he throw his "brutal energy" into making sure it succeeded. On the contrary, rather than stay and organize and oversee the crucial operation himself, he disappeared to Paris on a shopping trip and then, on his return, only rarely attempted to involve himself in its progress.

To sum up, then, this article shows that Hitler's decision to leave Sixth Army trapped in Stalingrad with the Luftwaffe supplying it until a rescue attempt could be launched is more complex than presented in books on these events. First, more people were involved in the decision-making process than just Göring and Hitler, and the final decision itself was not spontaneously made during the first discussion between those two. It evolved during several discussions between Hitler and his closest military advisers, several of whom gave poor counsel and prevented Hitler from hearing personally from those with dissenting views, especially von Richthofen, clearly the person best informed about Luftwaffe capabilities in the Stalingrad sector. Contrary to popular claims, the decision was not reached after Göring "duped" Hitler. No, thanks to Jeschonnek and the useless advice of Keitel and Jodl, Hitler already had it firmly in mind before he even spoke to the bulky demagogue. His fear of public humiliation, coupled with his stubborn inflexibility (which he called his "iron will") quickly transformed the airlift—really only one of several alternative strategies that he should have explored properly—into the only course of action. Those same subjective factors led him to ignore the dissenting voices of commanders he ordinarily trusted and to listen to those of men he held in low regard.

Notes

1. For the effect of the defeat on Hitler's allies, see Jürgen Förster's *Stalingrad: Risse im Bundnis 1942/43 Einzelschriften zur militärischen Geschichte des Zweiten Weltkrieges* (Freiburg: Rombach, 1957), 16.

2. An excellent treatment of Stalingrad historiography and the lasting effects of that battle on the collective memory of Germans and Russians is W. Wette and G. R. Ueberschär, eds., *Stalingrad: Mythos und Wirklichkeit einer Schlacht* (Frankfurt am Main: Fischer Taschenbuch, 1992); also see Jürgen Förster, ed., *Stalingrad: Ereignis-Wirkung-Symbol* (Munich: Piper, 1992).

3. Erich von Manstein, *Verlorene Siege* (Bonn: Athenäum, 1955), 347.

4. J. Fischer's "Über den Entschluss zur Luftversorgung Stalingrads: Ein Beitrag zur militärischen Führung im Dritten Reich," *Militärgeschichtliche Mitteilungen* 2 (1969): 7-67, is the best published study of the "decision to supply Stalingrad by air," although it makes no use of the diaries of Milch, von Richthofen, Fiebig, and Pickert, all used in the present study. David Irving's works on the Luftwaffe deal only briefly with the decision to airlift, but contain many valuable insights and place blame fairly.

5. Franz Kurowski, *Stalingrad: die Schlacht, die Hitlers Mythos zerstorte* (Bergisch Gladbach: Gustav Lübbe, 1992), 298. See Kurowski's earlier *Luftbrücke Stalingrad: Die Tragodie der Luftwaffe und der 6. Armee* (Berg am See: Kurt Vowinckel, 1983), 32-37, and *Balkenkreuz und Roter Stern: Der Luftkrieg über Russland 1941-1944* (Friedberg: Podzun-Pallas), 310; and Williamson Murray, *Strategy for Defeat: The Luftwaffe, 1933-1945* (Maxwell Air Force Base, Ala.: Air University Press, 1983), 151.

6. Samuel W. Mitcham, *Men of the Luftwaffe* (Novato, Calif.: Presidio Press, 1988), 184.

7. Fischer, 10.

8. Manstein, 326.

9. For Jeschonnek's meeting with Hitler, see postwar statements by the airman's staff—especially "Frau Lotte Kersten, damals Sekretärin bei Generaloberst Jeschonnek" and "Oberstleutnant Leuchtenberg, damals Adjutant des Generaloberst Jeschonnek"—in *Aussagen zum Problem der Luftversorgung von Stalingrad*, United States Air Force Historical Research Agency, Maxwell Air Force Base, Alabama (hereafter cited as USAFHRA), file no. K113.106-153.

10. Fritz Morzik, *German Air Force Airlift Operations*, USAF Historical Study 167 (Maxwell AFB, Ala.: USAF Historical Division, Air University, 1961), 145.

11. Ibid., 150.

12. Ibid., 157-60.

13. P. E. Schramm, ed., *Kriegstagebuch des Oberkommandos der Wehrmacht (Wehrmachtfuhrungsstab), 1940-1945* (Frankfurt am Main: Bernard & Graefe, 1961), vol. 2, *25 November 1942*, 1019; Cajus Bekker, *Angriffshohe 4000: Ein Kriegstagebuch der deutschen Luftwaffe, 1939-1945* (Gräfelfing vor München: Urbes Verlag Hans Jürgen Hansen, 1964), 363.

14. M. Domarus, *Hitler: Reden und Proklamationen, 1932-1945* (1965; reprint, Leonberg: Pamminger, 1988). The speech of 28 September 1942 is in vol. 4, 1912-14, of the reprint edition.

15. Ibid., 1933-44, esp. 1937 (speech of 9 November 1942).

16. Manfred Kehrig, *Stalingrad: Analyse und Dokumentation einer Schlacht: Beiträge zur Militär- und Kriegsgeschichte*, Band 15 (Stuttgart: Deutsche Verlags-Anstalt, 1974), 163.

17. Feldgericht des VIII. Fliegerkorps, Br. B. Nr. 7143, gKdos, Im Felde, den 26.1.1943, gez. Fiebig, appended to Tagebuch-Generalleutnant Fiebig (Stalingrad), 25.11.1942-22.2.1943, in USAFHRA, file no.168.7158-335.

18. Dr. Wolfram Frhr. von Richthofen, Persönliches Kriegstagebuch, Band 9, 1.1.—31.12.1942, 21 November 1942, in Bundesarchiv-Militärarchiv (Federal Military Archives), Freiburg, Germany, N671/9. Hereafter cited as BA/MA.

19. Ibid.

20. My description of the conference is drawn from Pickert's notes ("Aufzeichnungen aus meinem Tagebuch und von Besprechungen über operative ünd taktische Gedanken und Massnahmen der 6. Armee"), appended to his diary, USAFHRA file no. 168.7158-338: Aufzeichnungen des Generalmajor Pickert, Kommandeurs der 9. Flak-Division und Generals der Luftwaffe bei der 6. Armee, aus der Zeit vom 25.6.42–23.1.43) as well as from later correspondence between Pickert and Hans Doerr, USAFHRA file no. K113.309-3, vol. 9; and from an essay written by Pickert to Hermann Plocher in 1956 (same source).

21. Ibid.

22. OB HGr B an OKH/Chef GenStdH vom 23.11.1942, betr. Zurücknahme der 6. Armee, gez. von Weichs, published as Doc. 9 in Kehrig, 561.

23. H. Schröter, *Stalingrad: ". . . bis zur letzten Patrone"* (Lengerich: Kleins Druck-und Verlagsanstalt, n.d.), 85.

24. AOK 6/Ia an HGr B vom 22.11.1942, 1900 Uhr, betr. Lage und Absicht der Armee, published as Doc. 6 in Kehrig, 559–60.

25. Paulus an Hitler vom 23.11.1942, betr. Notwendigkeit des Ausbruches der 6. Armee, FuSpr (Entwurf) OB 6. Armee, gKdos Chefs. an OKH, nachr. HGr. B, vom 23.11.1942, 2130 Uhr, published as Doc. 10, ibid., 562.

26. Führerentscheid vom 24.11.1942, betr. Halten der Stellungen der 6. Armee und Ensatzstoss. FS OKH GenStdH/Op. Abt. (I/SB) Nr. 420 960/42 gKdos Chefs. vom 24.11.1942, 0140 Uhr, aufgenommen bei AOK 6 um 0830 Uhr, published as Doc. 11, ibid., 562.

27. K. Zeitzler, "Stalingrad," in W. Kreipe, G. Blumentritt et al., *The Fatal Decisions: Six Decisive Battles of the Second World War from the Viewpoint of the Vanquished* (London: Michael Joseph, 1956), 142.

28. David Irving, *Hitler's War* (London: Papermac, 1977), 456; and *Göring: A Biography* (London: Macmillan, 1989), 369.

29. Ibid., 367.

30. Von Richthofen, Persönliches Kriegstagebuch, Band 10, 1.1.-31.12.1943, 11 February 1943. BA/MA N671/10.

31. Ibid., 10 February 1943.

32. Bericht über eine Auskunft über Görings Stalingrader Zusage durch Generaloberst Lörzer (Befragung Hamburg-Othmarschen, 16 April 1956, durch Prof. Dr. Richard Suchenwirth, Karlsruhe). USAFHRA file no. K113.309-3.

33. Staatssekretär a.D. Paul Körner über Jeschonnek (Befragung am 19.9.1955 in München), USAFHRA file no. K113.309-3, vol. 9.

34. Milch Taschenkalender, 21 May 1946, part of the Irving microfilm series *Records and Documents Relating to the Third Reich*, distributed by Microform (Wakefield) Ltd., microfilm DJ-57.

35. Ibid.

36. Generaloberst Zeitzler über das Zustandekommen des Entschlusses, Stalingrad aus der Luft zu versorgen (Briefliche Beantwortung vom 11.3.1955 folgender von Prof. Suchenwirth mit Brief vom 3.3.1955 gestellter Fragen); Zeitzler, "Stalingrad," USAFHRA file no. K113.309-3, vol. 9, 144–45.

37. Ibid.

38. For Hitler's instruction to Paulus, see note 26. For the placing of the Zeitzler-Göring confrontation on 24 November, see Matthew Cooper, *The German Air Force, 1933-1945: An Anatomy of Failure* (London: Jane's, 1981), 251; Bekker, 363; Paul Carell, *Stalingrad: The Defeat of the German 6th Army* (Atglen, Pa.: Schiffer, 1993), 170.

39. Irving, *Göring*, 369–71.

40. Von Richthofen, Personliches Kriegstagebuch, Band 9: 1.1.-31.12.1942, 25 November 1942, BA/MA N671/9.

41. Ibid., 24 November 1942.

42. Ibid., 25 November 1942.

43. Gen d. Art. v. Seydlitz-Kurzbach, HG des LI. AK, an den OB der 6. Armee vom 25.11.1942, betr. Stellungnahme zum Armeebefehl vom 24.11.1942. Abschrift des AOK 6 für ObKdo HGr Don: Der KG des LI. AK Nr. 603/42 gKdos vom 25.11.1942, bei HGr Don 28.11.1942, published as Doc. 15 in Kehrig, 564–67.

44. AOK 6/OQu vom 24.11. an OKH/GenQu, HGr B/OQu, und vom 25.11.1942 an HGr Don, betr. Bedarfsanforderung für Luftversorgungsgüter, published as Doc. 16, ibid., 567.

45. Manstein an OKH/Op Abt vom 24.11.1942, betr. Beurteilung der Lage der 6. Armee. FS (Abschrift) ObKdo der HGr Don/Ia Nr. 4580/42 gKdos Chefs. vom 24. 11.1942, ca. 1300 Uhr, published as Doc. 14, ibid., 564.

46. Vincent Orange, *Coningham: A Biography of Air Marshal Sir Arthur Coningham* (1990; reprint, Washington, D.C.: Center for Air Force History, 1992), 128 (also see 127).

47. George F. Howe, *Northwest Africa: Seizing the Initiative in the West* (Washington, D.C.: Office of the Chief of Military History, Department of the Army, 1957), 683.

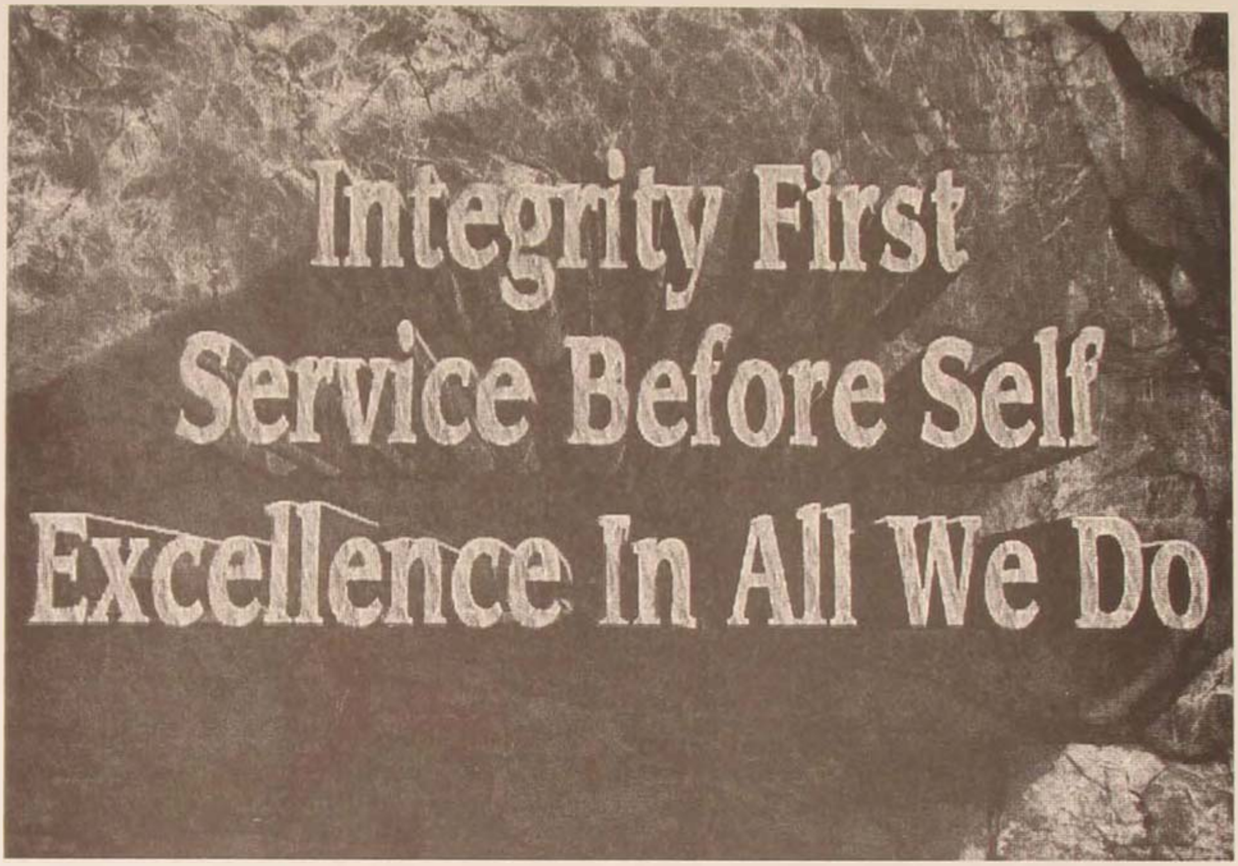
48. Zeitzler, "Stalingrad," 132.

49. Irving, *Göring*, 381.

50. Hermann Plocher, *The German Air Force versus Russia, 1942*, USAF Historical Study 154 (Maxwell AFB, Ala.: USAF Historical Division, Air University, 1966), 276. Although dated, muddled, and inaccurate in places, Plocher's discussion of these matters is among the best in English.

Sit down before a fact as a little child, be prepared to give up every preconceived notion, follow humbly wherever and to whatever abyss nature leads or you shall learn nothing.

—T. H. Huxley



THE CORE VALUES

FRAMING AND RESOLVING ETHICAL ISSUES FOR THE AIR FORCE

Col Charles R. Myers, USAF

THE CORE VALUES of the United States Air Force—integrity first, service before self, and excellence in all we do—are astonishingly simple and forceful. But are they too simple and too forceful? Are they so simple, so general, they can mean anything to anyone? If so, will they turn out to be only this year's slogan? Are they so forceful, so demanding, they are unrealistic? If so, will they lead to hypocrisy or cynicism?

Questions like these are not unreasonable—but they have good answers, and it is worth spelling them out. There are many good approaches to these questions, but I think distinctions and methods of moral philosophy offer an especially promising way to explain the tremendous appeal and power of the Air Force core values. That is what I attempt here—an explanation of the Air Force core values based on strategies of moral reasoning. I first describe possible misunderstandings about the core values. Then I claim that airmen can use the core values to frame and resolve ethical issues because the core values can represent all dimensions of the structure and purpose of morality. Understood in terms of the structure of morality, the core values represent the core concepts airmen need to frame ethical issues. Understood in terms of the purpose of morality, they represent the values airmen need to resolve those issues.[1]

Misunderstandings about the Core Values

There are several reasons to doubt the core values. None of them is sound, but it is imperative to confront them head-on. One reason for skepticism is that the core values may not last. They could be a fad. Organizations of all kinds—businesses, service organizations, and federal, state, and local government agencies—have "bought into" the notion of core values.[2] Management tools change, however, and core values may sooner or later go out of style.[3] If core values become tired formulas, leaders will need new devices to promote ethical behavior. But even if the core values fashion lasts a while, will the Air Force's current core values last? Will another secretary or chief of staff name new core values or restore the six the Air Force had before the current three were announced in 1995?

Asking whether a new administration might name new core values raises a more general question: On what basis does any administration pick the Air Force's core values? How do we explain why integrity, service, and excellence—and only these three—are the Air Force's core values? There is no doubt these values are vitally important to any ethical organization. But for that very reason, airmen may ask themselves how these values distinguish the Air Force from other organizations. Why are military virtues like courage and obedience not among the airman's core values? Then, too, how should the Air Force coordinate its core values with the other armed services and the rest of the federal government? Each of the armed services has a different list of core values.[4] *The Joint Ethics Regulation*, which describes itself as "the *single* source of standards of ethical conduct and ethics guidance" (emphasis added)[5] for all of the Department of Defense (DOD), has its own list of ethical values.[6] This variety of values just within DOD could lead some to conclude that any set of values is as good as the next.

Understood in terms of the structure of morality, the core values represent the core concepts airmen need to frame ethical issues.

A more troubling question about the core values is whether they are unrealistic—so unrealistic that they are irrelevant in practice or, even worse, will result in hypocrisy. It is not just that the values could seem too abstract to be meaningful or too difficult to attain in the real world. Rather, taken literally, they seem impossible to attain. Integrity, at least if understood as simple honesty, may seem easy—just tell the truth. But if we understand anything about human fallibility, it is that no one can be completely guileless with self and others all the time. Similarly, no one can be completely selfless all the time. In fact, it usually happens that the less military members think of themselves, the more likely they are to succeed; and so service before self could even become a kind of selfishness. And no one can excel at everything. Given human limitations, we achieve excellence in some areas by concentrating on them while accepting mediocrity in others. Thus, it seems everyone will sooner or later fail to meet the "zero defects" standard that integrity, service, and excellence appear to require. If it seems inevitable that airmen, including Air Force leaders, will fall short of these impossibly high principles, is it not just as inevitable that cynicism and hypocrisy will result? Claiming that the Air Force holds individuals accountable for breaches of these apparently unrealistic values can only exacerbate the cynicism and hypocrisy.

The most serious question about the core values is whether they can permit or even promote immorality. A person can be forthrightly honest, forget about self, and achieve excellent results—all for the sake of an evil purpose. Nazi leaders expected their officers to report truthfully the details of their crimes against humanity. In obedience to orders to commit these crimes, Nazis willingly put service before self. Indeed, they sacrificed their souls doing so. And Nazis constantly sought more efficient ways to excel in carrying out their atrocities.[7] Integrity, service, and excellence by themselves do not appear to guarantee morality. On the contrary, if they reduce morality to truthful reporting, working selflessly, and obtaining excellent results, the core values will mask fundamental ethical problems. An airman single-mindedly embracing honesty, selfless work, and excellent results might fail to ask what these values are for. They could as easily be for a lawless, immoral regime as for a law-abiding, moral democracy. Airmen whose values are simply to tell the truth, to follow orders at any cost, to perform well, and nothing more, could not draw an ethical distinction between the two. Taken this way, the core values could become means to an evil end.[8] But all these doubts are mistakes, and lining the core values up with the structure and purpose of morality shows why.

The Structure of Morality and the Core Values

The structure of morality, as I understand it, has three dimensions—agent, act, and outcome. Strategies for framing ethical issues line up along these three dimensions. This section first sketches the structure of morality and then describes a strategy of moral reasoning based on each of its dimensions and shows how that strategy refers directly to one of the Air Force core values. The result is to show that the core values point out for airmen all the kinds of strategies there are for framing moral issues—and that this accounts for the core values' comprehensiveness.[9] Finally, I use this analysis to answer the objections that the core values could be only a transitory slogan and that they are not particularly appropriate for the Air Force.

Agent, Act, and Outcome in Morality

Moral experience is often dense and complex, but its structure is simple. All of morality concerns persons doing things that affect others. The structure of morality is simply someone doing something to someone. The three dimensions of any ethical issue are thus: (1) the someone who does something, (2) the something that person does, and (3) the outcome of that act for someone. In particular cases the lines dividing these dimensions will be blurred because the three dimensions are inextricably linked together. A person performs acts, but those acts in turn help define who the person is. Acts produce outcomes, but acts are in part defined by their outcomes. And outcomes affect persons, but it is those persons who say what the outcomes mean for themselves and others. Still, one can discern these three dimensions—agent, act, and outcome—in every ethical issue. They are the logic or grammar of moral reasoning—the subject, verb, and object.

Because they can be lined up with these dimensions, the core values provide a forceful framework for moral reasoning. As the analysis below shows, each of the core values matches one of these dimensions. Integrity is about the person who acts—the agent. Service is about what the person does—the person's acts. And excellence is about what the acts produce—the outcome. In this way, the core values can completely describe any moral situation and so can provide a complete plan for framing ethical issues.

Integrity: Agent. In morality's structure as "someone doing something to someone," the first dimension is the someone who acts. Theories of morality refer to this someone as "the moral agent." The moral agent may be an individual—for example, an airman carrying out orders. Or the moral agent may be a group—for example, the staff of an Air Force organization working together as a team. The moral agent may be directly responsible—the aircrew who puts the weapon on target. Or the moral agent may act by supporting others—the ground crew who launches the mission.

The moral agent is the focus for one strategy for framing ethical issues. Agent-focused theories map significant features of the moral terrain by requiring us to ask what the moral agent should be like. These theories emphasize that in ethics, as in law, much depends on the agent's motives and intentions. For this strategy of moral reasoning, it matters, for example, whether an airman's motive for truthfully reporting the results of a mission is a sense of duty or a fear of punishment if caught lying. For these theories, in fact, the agent's intentions would typically matter more than what the agent in fact accomplishes.[10] Moral value would depend, for example, more on the fact that a crew struggled to rescue a downed airman than on whether they actually succeeded in doing so. The agent's intentions can also be called on to justify otherwise troubling results. For example, under "the principle of double effect" and subject to certain stringent conditions, airmen who kill or injure noncombatants in striking a target would be morally justified provided they did not intend to harm the noncombatants—even if they could foresee the harm.

Agent-focused theories also ask about the agent's moral character. Indeed, these theories often take the position that motive and intent must be wrapped into more general questions about the kind of person the agent should be. They ask what makes a person morally good or bad. For example, lying and slaveholding are wrong because they necessarily corrupt the moral character of the liar and slaveholder. Agent-focused theories study character in general and particular character traits called "virtues" and "vices." Character and virtue theories ask what the virtues are and how we learn and teach them. Western philosophy has its origins in such questions. Socrates practiced his belief that "the unexamined life is not worth living" by asking probing questions about courage, justice, and other virtues.[11] Aristotle's ethics also focused on virtues, claiming that moral virtues are habits acquired through practice by finding the mean between extremes.[12] The Beatitudes too represent this approach. And it is an approach that has an influential place in contemporary academic and popular moral philosophy—that is clear from the best-seller success of *The Book of Virtues*.[13] The agent-focused approach to moral reasoning is indispensable to airmen in framing moral issues—and it is one with which they are very comfortable because of their strong sense of personal honor.

A person can be forthrightly honest, forget about self, and achieve excellent results—all for the sake of an evil purpose.

The core value of "integrity first" points directly to the moral agent—to the airman's character. Integrity characterizes the moral agent. We talk about integrity as something an airman has, as a character trait the moral agent possesses to some degree or another. When we speak of the moral agent's integrity, we refer not merely to his or her proclivity for honesty, but more generally to the kind of person he or she is and the motives and intentions that matter to the agent. Indeed, integrity is not just one more character trait. Integrity defines the agent. As the etymology of the word shows, integrity is "integral" to the moral agent. It is integrity that "integrates" all of a person's moral traits. An airman's integrity is his or her character. Staking out integrity as a core value makes character crucial to moral reasoning in the Air Force. In framing moral issues, it is not enough for airmen to ask about acts and outcomes. They must also consider their character, the kind of persons they ought to be. They must ask what their integrity requires and how their acts will affect their integrity.

Service: The Act. In morality's structure as "someone doing something to someone," the second dimension is the "doing something." We can refer to this dimension as "the moral act." It may be active or passive, an act or an omission. It may cause something to happen—for example, an airman strikes and destroys a target. Or the moral act may allow something to happen—for example, leaders allow an accident to occur by failing to restrain a pilot known for unsafe flying.

Understood in terms of morality's "someone doing something to someone" structure, the core values are a comprehensive framework for moral reasoning.

Like the moral agent, the moral act also provides focus for a strategy for framing ethical issues. And like agent-focused theories, act-focused moral theories outline significant features of the moral terrain. They require us to ask what acts ought to be done or what acts ought not to be done. Act-focused theories ask, that is, whether the act itself is right or wrong. These theories hold that certain acts are morally right or wrong regardless of the agent's intentions, the act's consequences, or any other circumstances. For such theories, lying and slaveholding are inherently wrong regardless of motives or consequences. On this approach, a morally required act is required even if no particular benefit will result, and a morally prohibited act is prohibited even if little harm would result. According to this way of moral reasoning, it is simply wrong for an airman not to complete an item on a checklist—even if the airman knows the dereliction would not result in an accident or any other bad consequence. Thus, act-focused moral theories are usually "deontological" because they evaluate acts, as well as persons and results, in terms of duty. The moral agent has a duty to perform morally required acts and a duty not to commit morally prohibited acts. This familiar and forceful way of thinking about morality is as old as the Ten Commandments. Immanuel Kant's "categorical imperative" is the best known and most powerful philosophy of duty.[14] Because of their strong sense of duty for duty's sake, airmen understand that the act-focused approach to moral reasoning is just as indispensable in framing moral issues as the agent-focused approach.

The core value of "service before self" points directly to the moral act—to the airman's duty. Service describes what the moral agent does. Service is an act done at the direction of and for a superior. It is an act done out of a duty owed to a superior and without regard for the agent's personal interests. The superior for whom an airman performs a duty is someone in the chain of command to whom the airman owes obedience. In more general terms, however, the superior whom the airman serves is also the airman's organization, the Air Force as a whole, and the nation. Still more generally, the superior is simply duty itself. Service is performing a moral act for the sake of duty. In this way, service is not just a feature the moral act might have. It is the defining feature of the moral act understood as duty. Identifying service as a core value makes the moral act—the moral agent's duty—crucial to moral reasoning in the Air Force. In framing moral issues, it is not enough for airmen to consider their own integrity or their acts' outcomes. They must also ask what their moral duties are under the circumstances, what acts are morally right or wrong. They must ask, that is, what service requires of them.

Excellence: The Outcome. In morality's structure as "someone doing something to someone," the third dimension is the someone affected by the moral agent's act. This someone may be a person or a group of persons, and it may be or include the moral agent himself or herself.[15] We can refer to the effects of the moral agent's act as "the moral outcome." The moral outcome includes the immediate and the long-term consequences of an act, the direct and indirect consequences, and the intended and the unintended consequences. It is, for example, the neutralization of a target struck by an airman, the contribution of that sortie to the overall strategy, and the unintended collateral damage caused by the strike. The moral outcome is simply what happens to persons because of the moral agent's act.

Like the moral agent and the moral act, the moral outcome also focuses a strategy for framing ethical issues. Outcome-focused moral theories chart significant features of the moral terrain by asking what results ought to be attained and what results ought to be avoided. These theories consider whether or not the consequences of an act are morally desirable, and so these theories gauge moral worth on the basis of what an act achieves in actual benefits and harms to persons. According to these theories, certain outcomes—overall human happiness, for example—are morally more desirable than others. Moral worth depends more on achieving those outcomes than on the agent's intentions or the morality of the means taken to produce the outcome. On this approach, lying and slaveholding are wrong because the harm they cause outweighs any benefits they produce. Outcome-focused theories are typically "utilitarian" because they evaluate character and acts by reference to their utility for achieving morally desirable outcomes. Some variants of this approach hold that what really matters is not the outcome of a particular act, but rather the outcome of following the rule prescribing that act. In either case, however, it is still the "bottom line" that counts. This is a persuasive way of thinking about morality, and many find it hard to imagine how to evaluate character traits or acts except in terms of the real-world consequences of those traits and acts. John Stuart Mill's "greatest happiness principle"—that acts are right to the extent they maximize happiness—is the classic outcome-focused theory.[16] Because of their strong sense of mission and getting the job done, the outcome-focused approach to moral reasoning is as attractive to airmen and as effective for them in framing moral issues as the act-focused and agent-focused approaches. The core value of "excellence in all we do" points directly to the moral outcome—to the airman's mission. Just as integrity characterizes the moral agent and service characterizes the moral act, excellence characterizes the moral outcome. To the extent that a person's moral responsibility is to optimize morally desirable results, excellence is the morally required outcome. In this way, excellence is not just one more feature of what a person does. It is the defining feature of the morally expected outcome. It describes the level of success expected of the moral agent in producing an outcome—and for the airman the outcome that matters is the mission. Excellence is producing excellent results in carrying out the mission. Identifying excellence as a core value makes the moral outcome—the results the airman achieves—crucial to moral reasoning in the Air Force. In framing moral issues, it is not enough for airmen to consider their integrity or their duties. They must also consider the results they are morally expected to achieve in getting the job done. They must ask, that is, how to accomplish their mission with excellence.

The Core Values as a Framework for Moral Reasoning

Understood in terms of morality's "someone doing something to someone" structure, the core values are a comprehensive framework for moral reasoning. All of the core values, and only these three, are needed to frame moral issues. They are a map to any situation in which airmen plan what to do, carry out an operation, or draw "lessons learned." Integrity, service, and excellence name and link together all dimensions of the structure of morality—agent, act, and duty. And so they in effect activate all strategies for moral reasoning.

This explains why airmen must keep all three core values in sight. Agent, act, and outcome are inextricably tied together. Many mistakes in ethical theories and in practical moral reasoning result from reducing all of morality to a single dimension and claiming that dimension is the "foundation" of all morality.[17] Some agent-focused theories attempt to reduce act and outcome to aspects of character. A narcissistic focus on character will, however, invite some to excuse themselves from moral rules. They might reason: "I am a person of integrity, and so, by definition, I am right and rules others need to distinguish right and wrong don't apply to me." Some act-focused theories devalue character and consequences by insisting that there is moral worth only in doing the right thing. But a sense of duty that is limited to unthinking obedience to Air Force instructions will too readily divert airmen from character development and from finding ways to improve Air Force practices. Similarly, some outcome-focused theories see little value in character or in moral acts except to the extent that they produce results. There is some reason to worry that the Air Force officer and enlisted evaluation systems may contribute to this mistake. By focusing almost exclusively on "mission impact" and "performance," performance reports may cause airmen to undervalue character and to think too little about the means they use to achieve mission impact. The core values can prevent all these mistakes. The framework of integrity, service, and excellence allows—indeed requires—the airman to keep in balance the entire structure of morality—agent, act, and outcome.

It is for this reason that the Air Force's core values, understood as a framework for moral reasoning, cannot be a short-lived management program. Any plan for moral reasoning—in or out of the Air Force—will look something like the Air Force core values if it takes all of morality into account. Management styles (and ethical theories, for that matter) come and go. But the structure of morality and the strategies for moral reasoning based on it will not. The Air Force could call the framework's parts something other than "core values." The Air Force could use different labels for its core values—"honor," "duty," and "country," for example, come close to the same thing.[18] Whatever labels the Air Force uses, however, there will be this three-part framework of "values" that are "core" for thinking through ethical issues. Some airmen may question whether organizational core values are a fashionable management gimmick, but because the Air Force core values express the entire structure of morality, they have every reason to commit themselves to them.

Taking the core values as a framework for moral reasoning also answers the doubt that the core values are not particularly appropriate to the Air Force or to military professionals. As a framework reflecting morality's structure, the core values are not unique to the Air Force—nor are they intended to be. Anyone could profitably take them as a plan for moral reasoning. It is the Air Force's "core competencies" that describe its singular strengths. The core values show airmen how to develop and employ those competencies ethically. Reflecting the entire domain of morality, the core values are altogether appropriate for airmen of a nation committed to preparing for, waging, and winning its wars lawfully and ethically.

Another way of putting this is to say that it is airmen who make the core values appropriate to the Air Force. The Air Force's core values define airmen. Integrity defines who airmen should be, service defines what they should do, and excellence defines what they should achieve. But that is only half the story: airmen also define the core values. The core values do not themselves frame ethical issues. Airmen do that—using the core values. In many cases, airmen face multiple ethical demands. The toughest ethical choice airmen face is not telling right from wrong. Airmen know the difference between right and wrong. The toughest ethical challenges are balancing complementary and sometimes competing values.[19] It is often a challenge to balance the demands of being a morally good person doing morally right acts to achieve morally desirable outcomes. This is so for anyone, but especially true for airmen in the "fog" and "friction" of preparing for and waging war. Airmen must use the core values to put these complementary demands into balance for themselves and the Air Force. In that sense, airmen executing the Air Force mission for the nation fill in the definitions of the core values and make them military values and Air Force values. They do so by discussing the core values, by using the core values to guide their decision making, and by putting the core values into action. In the end, it is airmen who show what integrity, service, and excellence actually mean in the Air Force.

But how exactly can airmen use the core values not only to frame ethical issues, but also to resolve them and put their decisions into action? Taking the core values as a framework for moral reasoning dispels doubts that the core values are only an ephemeral slogan not especially appropriate to the military. This analysis, however, does not yet address the doubt that the core values are unrealistic and will not work in the real world. Nor does it show that the core values cannot in practice become good means for an evil end. To do that, it is necessary to show how the core values resolve ethical issues. And to do that, it is necessary to distinguish not only the dimensions of morality's structure, but also the dimensions of its purpose. While the structure of morality is the core of moral reasoning, the purpose of morality provides values for moral reasoning.

The Purpose of Morality and the Core Values

The purpose of morality, as I understand it, has two dimensions—regulation and inspiration. Values for resolving ethical questions line up along these two dimensions. This section outlines these two dimensions and then shows how each of the Air Force core values represents both regulation and inspiration. The result is to show that the core values point out for airmen standards and ideals—and that this accounts for their coherence.[20] This answers objections that the core values are unrealistic and that they could become a good means to an evil end.

Morality as Regulation and Inspiration

The purpose of morality is to show us how to attain the goals of a moral life. Every human enterprise, including morality, has means and ends. Often the line between the two is blurred, and the end of one activity is usually the means for another. But the basic pattern is that every activity provides its means to reach its ends.[21] The purpose of any human enterprise thus has two dimensions: (1) the tools or means it provides for reaching goals and (2) those goals or ends. The athlete reaches for the goals of playing the game well and winning by using the sport's tools—by following the rules of the game and exploiting its techniques and tactics. The military strategist reaches for the goals of military victory and peace by using the instruments of war—by following rules governing the technology, principles, law, and morality of war. In every human activity, practitioners follow the activity's rules—not just for the sake of following the rules, but for reaching the activity's goals. The enterprise of leading a moral life has these same two dimensions. Morality has various and complex roles, but its purpose is just to provide the means and ends for a moral life. If morality's structure is someone-doing-something-to-someone, its purpose is to provide the means and ends for doing so morally.

Service means duty, and duty means respect and dignity.

Morality's means are moral standards that regulate us, and its ends are moral ideals that inspire us. Morality is a system of obligations and also a source of aspirations, and the Air Force core values are best understood as representing both. Just as the core values require airmen to take into account all three dimensions of morality's structure, they should also be understood to point airmen toward both dimensions of morality's purpose.

The first dimension of morality's purpose is regulation. Morality does this through standards that impose moral obligations. Moral standards prescribe morally prohibited, permitted, or required character traits, acts, and outcomes. Airmen find these standards expressed in their law, regulations, policies, and customs—and in their core values. Obligatory standards maintain the military efficiency and the good order and discipline required to carry out the military's role. Because of the military's crucial role in national security, standards for airmen are more demanding than those outside the military. For example, it may be improper for others to be late for work or rude, but it is both a breach of morality and a criminal offense for a military member to be late or disrespectful. Moral standards are typically expressed in rules, and many of the rules impose a penalty for their violation. But whether or not a moral standard is formalized in a punitive rule, its violation is immoral, and the airman is accountable for the violation. When serving morality's regulatory function, the core values represent standards airmen must meet and answer for.

The second dimension of morality's purpose is inspiration. Morality does this through ideals that give us moral aspirations. If moral standards are "rules of the game" we must follow, moral ideals are the goals of "playing the game well and winning." Moral ideals portray character traits, acts, and achievements we should aspire to. For airmen, these ideals are implicit in their law, regulations, policies, and customs. They find them too in the examples set by their moral heroes and mentors. And they find them in their core values. These ideals show airmen how to use military efficiency and good order and discipline to triumph decisively and morally in carrying out the military function. Just as military standards are more demanding than civilian standards, military ideals also demand extraordinary dedication and sacrifice. Persons outside the military who do not constantly strive for moral ideals usually do not imperil others. But airmen who do not constantly exert themselves to reach for the ideals of the military profession put national interests and even national survival at risk. While moral standards are usually expressed in rules, moral ideals are often expressed in stories of extraordinary virtue, acts, or accomplishments. Moral standards demand compliance, and we hold violators accountable. Moral ideals, however, inspire striving, and we admire those who thrive on their ideals. Reflecting morality's inspirational dimension, the core values are ideals airmen must constantly strive for.

In any particular case, the line between standard and ideal may be blurred. Indeed, the ideal in some circumstances may be the standard in others. In ethics, as elsewhere, "the nice to have" at one time and place may be "the bare minimum" at another. Still, one can distinguish standard and ideal in every ethical situation, and it is important to do so because confusing them will confuse moral reasoning. When airmen use the core values for moral reasoning, it is important they see that each of the core values expresses both obligations and aspirations. Although it is by no means a complete account of all the standards and ideals the core values represent, the following analysis indicates how the core values can both regulate and inspire.

Integrity: Forthright Honesty and the Good Person

As a moral standard, integrity ordinarily means forthright honesty. It means being the kind of person others can rely on for accurate, complete, and timely disclosure of facts. Leaders at every level in any organization require truthful reporting from subordinates to make effective decisions. This is especially so for military leaders preparing for and waging war. Decisions about the procurement and employment of weapon systems, for example, must be based on full and exact reports about the systems' performance. Decisions taken "in the fog of war" are especially dependent on honest reporting about capabilities and operations. And if leaders at every level require truthful reporting from subordinates, subordinates also require honesty from their leaders. Good order and discipline and a high state of morale require complete confidence in leaders' words.

As a moral ideal, however, integrity demands more than being the kind of person who can be counted on to tell the truth. Integrity also demands that airmen be persons of good character. This, in fact, is the original sense of the word "integrity" as "integratedness," "wholeness," or "wholesomeness." It is a wholeness Plato described as a kind of harmony within a person among reason, spirit, and desire—a harmony possible only if reason is in command.[22] Airmen find this sense of integrity in the Air Force's "whole person concept." This does not mean "checking blocks" by obtaining academic degrees and doing volunteer work in the community. It means a continuing ethical responsibility to improve oneself. Integrity is an ethical responsibility to develop not just the virtue of truthfulness, but all the virtues. Carrying out the military role well requires not only that military professionals do their duty and have an impact on the mission, but also that they strive to be persons of good character. Integrity as honesty is "a rule of the game" from which airmen cannot deviate. Integrity as the whole person, on the other hand, is the goal of "playing well and winning" for which airmen must reach. They reach for this ideal not merely for the sake of playing well, but for the sake of being the air and space force needed to win the nation's wars. For the Air Force to perform its function well, it is not enough that airmen be truthful. They must also be good persons.

Service: Obedience and Respect for Human Dignity

As a moral standard, service before self ordinarily means always doing one's duties whatever the cost to self. Service is unconditional obedience to lawful orders. In this sense, military service is unlike any other calling. Persons in other professions, in ordinary jobs, can opt out. They can quit. Doing their jobs is conditioned on their continued interest in doing so. Military professionals, however, cannot quit. It is a criminal offense for them to disobey orders or absent themselves without authority. Beyond this legal obligation, however, they are under an ethical obligation always to place military duties before all other interests. They must avoid even the appearance of a conflict between personal interests and military duties. National security requires this. Their promise to defend the nation imposes an ethical obligation to put military duties first.

As a moral ideal, however, service before self demands more than obedience. Service also demands that airmen always serve out of respect for human dignity. Service means duty, and duty means respect and dignity. The entire meaning of moral duty is respect for human dignity.[23] The only basis for any moral duty—the only basis for claiming that some acts are right and others are wrong regardless of their consequences—is protecting and promoting the moral worth of each individual. Or, as Kant put it, we must never use persons only as a means for achieving some end. Airmen must treat each other not only as instruments for getting the job done, but also as individuals unquestionably worthy of respect. And airmen may not limit their respect for human dignity to other airmen. Their respect for humanity must extend to all persons—to the people they defend, to their allies, and even to their adversaries. Two axioms of the law and ethics of war—that we must discriminate between combatants and noncombatants when we apply military force and that our application of military force must be proportional to the military objective—are based on respect for human dignity. It is because of our respect for their dignity that our use of military force against innocents and noncombatants, as well as against combatants, is subject to the severest constraints. Even in war—or especially in war—airmen cannot lose sight of the moral worth of humanity. Many Air Force standards—targeting rules and rules prohibiting sexual harassment, for example—reflect respect for human dignity. Service as a moral ideal, however, requires not only that airmen comply with these specific standards, but also that they strive constantly to show respect for each individual's dignity. Service as obedience is "a rule of the game" from which airmen cannot deviate. Service as respect and dignity, on the other hand, is the goal of "playing well and winning" for which airmen must always strive. They strive for this ideal for the sake of serving as the air and space force needed to prepare for and to win the nation's wars lawfully and ethically. For the Air Force to perform its function well, it is not enough that airmen be dutiful. They must also act out of respect for human dignity.

Excellence: Mission Accomplishment and Constant Improvement

As a moral standard, excellence ordinarily means accomplishing the mission well. It means a determined focus on results—on getting the job done right the first time and on time. The military function is so important and so exacting that getting the job done demands more in the military than it does elsewhere. Mission failure in the military endangers national survival, and performing the military role requires capabilities and entails risks not found in other callings. For this reason, a standard of excellence is needed merely to get the job done in the military. Getting by with a minimal level of effort often suffices outside the military, but excellence is the only standard for accomplishing the military mission. The airman's promise to defend the nation imposes an ethical obligation to use every effort to accomplish the mission.

As a moral ideal, however, excellence demands more than mission accomplishment. Excellence also demands that airmen constantly produce more and better results. This is the meaning of "excel"—to surpass, to go beyond what is expected. As an ideal, excellence means exceeding the demands of duty to achieve results in excess of "getting the job done." To remain the world's most respected air and space force, the Air Force must constantly improve, must constantly innovate. Merely maintaining today's standard, merely achieving today's mission requirements, puts the Air Force in danger of falling behind. Airmen must be adventurous in "reinventing" the Air Force to protect and promote the nation's interests. They must take risks, and must encourage others to take risks, to improve everything about the Air Force—its organization, its processes, its doctrine. Excellence as mission accomplishment is "a rule of the game" airmen must observe. Excellence as constant improvement, on the other hand, is the goal of "playing well and winning" for which airmen must continuously strive. They strive for this ideal for the sake of producing the air and space force needed to fight and win the nation's wars. For the Air Force to defend the nation, it is not enough that airmen accomplish the mission. They must also constantly find ways to excel, to go beyond mission accomplishment.

The Core Values as Standards and Ideals

Looked at in terms of morality's purpose, the Air Force core values are moral standards and also moral ideals. They point out obligations and aspirations as airmen think through any situation in which they make a decision, execute the decision, or learn lessons from an operation. They point out both forthright honesty and the whole person, both obedience and respect for human dignity, and both mission accomplishment and constant innovation.

This explains why airmen must understand their core values as both standards and ideals. Of course, the labels *honesty*, *whole person*, and so on do not capture all the obligations and aspirations the core values contain for airmen. They do, however, show that the distinction between obligations and aspirations is a tool airmen can use to resolve ethical issues. It is a tool airmen can use together with the distinctions the core values draw among agent, act, and outcome to frame ethical issues. In meeting the challenge to be a morally good person doing the morally right act and achieving the morally desirable outcome, airmen must consider the varying weights that the core values have as standards and ideals in any particular situation.

Many mistakes in ethics and in practical moral reasoning result from confusing obligation and aspiration. Both are necessary: without moral standards it is not possible to maintain order, and without moral ideals it is not possible to direct that order toward moral victories. But we should not confuse them by making compliance with standards optional or by making achieving ideals compulsory. We admire and praise persons who embody moral ideals. We do not, however, praise them for observing standards. Truthfulness, obedience, and mission accomplishment are just what the Air Force expects. On the other hand, while we blame persons for their violations of standards, we don't blame them for their shortfalls in reaching for ideals. This explains some of the confusion about "the one-mistake Air Force." Airmen must be held to account for violating the Air Force standards expressed in the core values. But "accountability" misses the point in talking about the ideals expressed in the core values. Violations of Air Force standards are a kind of mistake, often a criminal mistake. Falling short of Air Force ideals may also be a kind of mistake, but a very different kind. For example, mistakes made in seeking to improve the Air Force are often the results of risks airmen should take in striving for the ideal of excellence. A fear of "accountability" should not deter airmen from searching for better ways to perform. But neither can the Air Force's willingness to accept such mistakes lead airmen to suppose that the Air Force condones violations of its standards.

If they [Air Force leaders] tolerate breaches of Air Force standards or if they selectively enforce them under a "double standard," there will be cynicism about the core values.

It is for this reason that the Air Force's core values, understood as obligation and aspiration, should not lead to hypocrisy or cynicism. The core values require airmen to meet Air Force standards, but they do not require airmen to be perfect. Air Force leaders must hold themselves and others accountable for failing to meet the Air Force standards expressed in the core values. If they tolerate breaches of Air Force standards or if they selectively enforce them under a "double standard," there will be cynicism about the core values. There is no reason, however, for cynicism about tolerating, learning from, and even encouraging those who strive for but fall short of the ideals expressed in the core values. It confuses the means and ends of morality to claim that the core values set unrealistically high standards that cannot be enforced. As standards of honesty, obedience, and mission accomplishment, the core values are not impossibly high. Air Force standards are indeed extraordinarily high because the military mission is crucial to society. But airmen can and do meet these standards everyday, and Air Force leaders can and do enforce the standards. As moral ideals, however, the core values are, in a sense, impossibly high. The whole person concept, unwavering respect for human dignity, and constant improvement are high ideals—even impossibly high ideals in the sense that they always ask more of airmen. Ideals that did not always ask more would be worth little to the Air Force. Air Force ideals ask airmen to go "above and beyond" throughout their careers. Without the distinction between standards and ideals, airmen could mislead themselves into cynicism about the core values. With the distinction, however, they will hold themselves to the Air Force's high standards and drive themselves toward the Air Force's high ideals.

The most serious mistake about the core values—that they could become a good means to an evil end—also gives way when we see that the core values are both standards and ideals. The core values cannot be a good means to an evil end simply because they are not mere means. As standards and ideals, they are both means and ends. It is true that a person can be truthful, put duty before self, and achieve excellent results—all for the sake of aggression, genocide, or some other immoral purpose. Criminals, including war criminals, may observe an "honor among thieves" with standards of honest reporting, putting the organization ahead of self, and achieving results. No one, however, can pervert the standards of integrity, service, and excellence toward an evil end when these standards are linked to their corresponding moral ideals. Integrity understood as the good character of the whole person is entirely irreconcilable with honest reporting in support of an evil goal. Service understood as respect for the dignity of all persons in and out of the Air Force is completely inconsistent with wrongfully harming the innocent. Excellent but evil results are not possible when excellence is understood as constant improvement of the air and space force needed to defend the nation morally and lawfully in pursuit of moral and lawful interests. A person of good character acting out of respect for human dignity to achieve the greatest benefits for the greatest number simply cannot serve an evil end. Understood as standards solidly linked to ideals, the core values do not limit the airman's ethical horizon to truthful reporting, working selflessly, and obtaining excellent results. On the contrary, they expand the ethical horizon to encompass inspiring and demanding ideals that ennoble airmen.

Conclusion

The Air Force core values are wonderfully simple and forceful. Their significance is self-evident. Still, in order to prevent misunderstanding and misuse of the core values, it is important to explain the tremendous potential they hold for the Air Force. I have attempted to do that in terms of the structure and purpose of morality. By no means is this the only way to account for the core values. There are other philosophical accounts of the core values, and it would be instructive also to examine the core values from perspectives offered by law, history, behavioral sciences, management theory, political science, religion, and so on. In addition, showing one role for the core values in framing and resolving ethical issues is, of course, only a first step toward actually framing and resolving those issues. Nevertheless, an analysis driven by the structure and the purpose of morality does turn out, I think, to be particularly useful for explaining the power of the core values.

Understood in terms of morality's structure and purpose, the core values are a comprehensive plan for framing ethical issues and also a coherent source of standards and ideals for resolving them. The core values encompass each dimension of morality's structure—agent, act, and outcome—and so map out the entire domain of moral reasoning. In this way, they represent core elements for framing ethical issues. Airmen frame ethical issues by asking how a person of integrity puts service before self to achieve excellent results in the Air Force. The core values also encompass both dimensions of morality's purpose—obligation and aspiration—and so stand for standards and ideals. They stand for integrity as both forthright honesty and the good person, for service as both obedience to duty and respect for human dignity, and for excellence as both mission accomplishment and constant innovation. In this way, they represent values for resolving ethical issues. Airmen resolve ethical issues by adhering to the high standards for which they hold each other accountable in order to carry out the military role and also by striving for the demanding ideals that propel them to build the most respected air and space force. It must seem fantastic to claim that the Air Force core values can somehow contain all dimensions of morality. But the three phrases the Air Force uses to name its core values are meaningful enough for airmen to understand them just that way. □

Notes

1. Two notes on terminology: (a) Although in some contexts it is useful to distinguish "ethics" and "morality" (and "ethical" and "moral"), I make no such distinction here. (b) The term *airmen* means everyone in the Air Force—officer, enlisted, and civilian at all levels. The roles of these three groups differ, as do the rules governing them; and so the detailed application of the core values to them may also differ. But generally, there is no need to distinguish among them in explaining the core values.

2. One has only to search for "core values" on the Internet to raise the question of whether there is an organization that hasn't identified its core values.

3. "All good ideas eventually get oversold. The importance of a corporate vision and values is no exception. . . . The idea was—and is—right. . . . But we must acknowledge how quickly values can age, becoming hopelessly narrow, ludicrously ramified—and at odds with a shifting marketplace. Ironically, the more virtuous the value (service, people), the greater the chance of long-term perversion. Why? Because the 'better' the value, the more 'the establishment' tries to make sure that you adhere to it *exactly* (emphasis added)." Tom Peters, *Liberation Management: Necessary Disorganization for the Nanosecond Nineties* (New York: Knopf, 1992), 616 .

4. For the Navy and the Marine Corps, the core values are honor, courage, and commitment. Until recently, the Army described its "ethos" as based on the values of duty, integrity, and selfless service; these values were in turn supported by the "professional qualities" of commitment, competence, candor, compassion, and courage. But in 1996, the Army identified seven core values: duty, integrity, loyalty, selfless service, honor, courage, and respect.

5. DOD Directive 5500.7-R, *Joint Ethics Regulation*, August 1993, paragraph 1-100.

6. DOD's 10 "primary ethical values" are: honesty, integrity, loyalty, accountability, fairness, caring, respect, promise keeping, responsible citizenship, and pursuit of excellence. DODD 5500.7-R, August 1993, paragraph 12-501. The *Joint Ethics Regulation* defines these values in terms of public service with no reference to war fighting. The *Joint Ethics Regulation* also provides a 10-step "ethical decision-making plan" (par. 12-601).

7. Himmler identified four "virtues of the SS-man"; he called them "the basis of this organization" and said they were of "decisive significance and importance." The four virtues were loyalty, obedience, bravery, and truthfulness. "Speech of the Reichsfuehrer—SS at the meeting of SS Major-Generals at Posen, October 4th, 1943," Document 1919-PS, *Nazi Conspiracy and Aggression*, vol. 4 (Washington, D.C.: Office of United States Chief of Counsel for Prosecution of Axis Criminality, 1946), 558–72.

8. "None of this should surprise us. After all, most mass killing has been in the service of rigid virtuous values . . . ." Peters, 616.

9. Numerous works in applied ethics put strategies of moral reasoning in three groups that approximate the three dimensions I identify here. For example, Abraham Edel, Elizabeth Flower, and Finbarr W. O'Connor describe three "families of concepts" we use to formulate ethical issues. They are "virtues and vices and the moral atmosphere," the "moral law: the straight and narrow path," and "the good: ends and means." *Critique of Applied Ethics: Reflections and Recommendations* (Philadelphia: Temple University Press, 1994),136–68. Rushworth M. Kidder describes "three principles for resolving" ethical dilemmas. They are: care-based thinking, rule-based thinking, and ends-based thinking. *How Good People Make Tough Choices* (New York: Morrow, 1995), 151–76. Christopher D. Stone finds in "the logics of moral discourse" a distinction between "moral grading" and "moral prescription." Grading concerns the evaluation of agents

(persons and institutions) while prescription concerns their conduct. Within the logic of prescription, he finds a further distinction between systems that prescribe a single "maximand" (e.g., classic utilitarianism) and other systems (e.g., Kantianism). *Earth and Other Ethics: The Case for Moral Pluralism* (New York: Harper & Row, 1987), 153–99.

10. "It is impossible to conceive anything at all in the world, or even out of it, which can be taken as good without qualification, except a *good will*. . . . A good will is not good because of what it effects or accomplishes—because of its fitness for attaining some proposed end: it is good through its willing alone, that is, good in itself" (emphasis added). Immanuel Kant, *Groundwork of the Metaphysic of Morals*, trans. H. J. Paton (New York: Harper & Row, 1964), 61–62.

11. In the *Apology*, Plato has Socrates explain why the unexamined life is not worthy of a human. The *Laches* is about courage, and the *Republic* is about justice in the individual and the state. A. E. Taylor, *Plato: The Man and His Work* (New York: The Humanities Press, 1937), passim.

12. *Nichomachean Ethics*, trans. Martin Ostwald (Indianapolis: Bobbs-Merrill Publishing, 1962), II.2 and 6.

13. William J. Bennett, ed., *The Book of Virtues: A Treasury of Great Moral Stories* (New York: Simon & Schuster, 1993).

14. "A categorical imperative would be one which represented an action as objectively necessary in itself apart from its relation to a further end. . . . There is therefore only a single categorical imperative and it is this: 'Act only on that maxim through which you can at the same time will that it should become a universal law'." Kant, 82, 88.

15. It is one of the more interesting tasks of moral philosophy to say which persons are morally relevant in assessing the outcome of an act. Do the "persons" we must take into account include future generations? Past generations? God? Nonhuman living things? The environment?

16. "The creed which accepts as the foundation of morals 'utility' or the 'greatest happiness principle' holds that actions are right in proportion as they tend to promote happiness; wrong as they tend to produce the reverse of happiness." John Stuart Mill, *Utilitarianism* (New York: Bobbs-Merrill Company, Inc., 1957), 10.

17. It is when this happens that "the structures known as ethical theories are more threats to moral sanity and balance than instruments for their attainment. They have these malign characteristics principally because they are, by nature, reductive. They restrict and warp moral reflection by their insistence that moral considerations are related in some hierarchical order." Edmund L. Pincoffs, *Quandaries and Virtues: Against Reductivism in Ethics* (Lawrence, Kans.: University Press of Kansas, 1986), 2.

18. Some other well-known triads of values also come close to the same thing. For example, it does not seem too much of a stretch to suggest that "faith" describes the kind of person the moral agent should be, "charity" describes what the moral agent should do, and "hope" refers to the outcomes the moral agent strives to achieve.

19. "When good people encounter tough choices, it is rarely because they're facing a moral temptation. . . . The really tough choices . . . don't center upon right versus wrong. They involve right versus right. They are genuine dilemmas precisely because each side is firmly rooted in one of our basic, core values." Kidder, 17–18. This is the theme too of W. D. Ross's theory "that there are these various and often conflicting types of prima facie duty." *The Right and the Good* (Oxford: Oxford University Press, 1930), 16–47.

20. Most moral theories rely to some degree on a distinction approximating the one drawn here between standards and ideals. Kant's distinction between "perfect" and "imperfect" duties is one example. Kant, 89–91. Other examples include Lon Fuller, who distinguishes "the morality of duty" and "the morality of aspiration." *The Morality of Law*, rev. ed. (New Haven: Yale University Press, 1969), 5–32. Bernard Gert points out: "Although the moral rules are the most important part of morality, they are not all of it. Morality consists not only of rules, but also of ideals." *Morality: A New Justification of the Moral Rules* (New York: Oxford University Press, 1989), 160.

21. "Every art or applied science and every systematic investigation, and similarly every action and choice, seem to aim at some good." *Nichomachean Ethics*, 3, 1.1, 1094a.

22. "And justice was in truth, it appears, something like this. It does not lie in a man's external actions, but in the way he acts within himself, really concerned with himself and his inner parts. He does not allow each part of himself to perform the work of another, or the sections of his soul to meddle with one another. He orders what are in the true sense of the word his own affairs well; he is master of himself, puts things in order, is his own friend, harmonizes the three parts . . . . He binds them all together, and himself from a plurality becomes a unity." Plato's *Republic*, trans. G. M. A. Grube (Indianapolis: Hackett Publishing Co., 1974), 107 (443d–e).

23. That is what Kant showed in formulating the categorical imperative first in terms of "universal law" and then in terms of the "end in itself." The second formulation of the categorical imperative is: "Act in such a way that you always treat humanity, whether in your own person or in the person of any other, never simply as a means, but always at the same time as an end." Kant, 96.

Official manuals, by the nature of their compilation, are merely registers of prevailing practice, not the log-books of a scientific study of war.

—B. H. Liddell Hart, 1944

Stimulant Use in Extended Flight Operations

Lt Col Rhonda Cornum, USA
Dr. John Caldwell
Lt Col Kory Cornum, USAF

PSYCHOSTIMULANTS, particularly amphetamine, became available in America for clinical use in 1937, and since then have been widely prescribed. More recently, their beneficial effects have been overshadowed by the recognition of a significant abuse potential. Nevertheless, the military services, particularly the Air Force, have recognized the value of psychostimulants under certain conditions. Use of amphetamine, at the direction of the unit commander and under the supervision of the flight surgeon, has been sanctioned by some components of the Air Force since 1960 and by the tactical air forces until 1991. In March 1991, following successful completion of Operation Desert Storm, the chief of staff of the Air Force sent a message terminating the policy of allowing in-flight medications, including amphetamines, by Air Force personnel.

This article briefly outlines the historical development, mechanism of action, and effects of amphetamine on normal personnel. It then discusses the value of these agents in military operations, the safety record, and the concerns that may have been the impetus for banning their use. Finally, it concludes that, in light of their value to mission accomplishment—especially in the absence of demonstrable negative effects—the ban on amphetamines should be rescinded.

In light of their value to mission accomplishment—especially in the absence of demonstrable negative effects—the ban on ampethetamines should be rescinded.

Amphetamine is one member of a family of synthetic drugs, similar in chemical structure to the neurotransmitters adrenalin and noradrenalin. Amphetamine is known to enhance the release of naturally occurring neurotransmitters that affect central nervous system neurons (i.e., the brain) and that are involved with peripheral neurotransmission (such as nervous control of muscular contractions). Amphetamine in particular was noted for its striking "central effect"—that of enhanced alertness, with relatively minor physiological effects on blood pressure, heart rate, or gastric motility.[1]

Amphetamine became commercially available for prescription in 1937. Able to decrease appetite markedly in almost all species, it rapidly found favor as a treatment for a number of conditions, including obesity and narcolepsy.[2] Other conditions that occasionally improve with amphetamine usage include hyperactivity in children, depression, and some types of parkinsonism.[3] By 1938, amphetamine was a very commonly prescribed medication.[4] It was considered very safe and was widely used for a variety of physical and mental disorders. However, within a short time, physicians determined that amphetamine's ability to suppress appetite decreases markedly with continued usage, requiring higher and higher doses to maintain the same effect on food intake. Overdose (usually greater than one hundred milligrams) can cause mood changes.[5] They also noted other undesirable side effects that occur with chronic, increasing use, including insomnia, psychosis, euphoria, and paranoia. Additionally, when high doses of amphetamine are ingested, inhaled, or injected, significant mood-altering effects occur, which explains why amphetamine became a drug of choice to abuse in the 1960s and 1970s.[6] These undesirable traits led to the strict control of amphetamine drugs, as is the case today.

Some military services recognized the potential of psychostimulants to combat fatigue and boredom. The greatest use of the drug reportedly occurred during World War II by German, Japanese, and English troops.[7] Although American troops reportedly did not have access to the drugs, studies were initiated in the late 1940s and 1950s to determine the military significance. The results among healthy subjects were remarkably consistent: in numerous studies using normal, nonfatigued human volunteers—including some military personnel—amphetamine improved performance by about 5 percent on most mental tasks. Reaction time and hand-eye coordination were most significantly improved. Similarly, amphetamine administration restored mental performance of sleep-deprived subjects to nondeprived levels.[8] Additionally, almost all studies found improvement in physical strength and endurance.[9] In conjunction with other drugs, amphetamine proved very effective for treating motion and space sickness, allowing missions to continue that would otherwise have been terminated.[10] None of the experiments showed a decrease in mental or physical performance of normal subjects taking amphetamine.

Although amphetamine possibly was available during the Korean conflict, the Air Force did not sanction its use until 1960. At that time, Strategic Air Command (SAC) approved limited use of amphetamine, and Tactical Air Command (TAC) followed in 1962. The first widespread use by US military aircrews probably took place during the Vietnam War. Although written documentation is almost entirely absent, interviews with Air Force and Army pilots who used amphetamine during this time give us a picture of a drug that permitted an extended duty day as well as increased vigilance during flight operations.

Side effects described by these pilots include feelings of nervousness, loss of appetite, and inability to sleep. Master Warrant Officer Lance McElhiney, a 20-year-old Cobra gunship pilot in Vietnam, states that some kind of "upper" was available like candy; he reports essentially no control over the dose or frequency of use.[11] Col Paco Geisler, USAF, Retired, used amphetamine as an F-4 pilot during the Vietnam War and later as an F-15 squadron commander during Operation Just Cause. He notes that "the difference in the two situations was amazing. I don't know if the difference is dose or drug formulation or what. But there were no noticeable side effects during Just Cause; we just felt wide awake. But there was none of the nervousness—no feeling 'wired' like I remember in Vietnam."[12] Medically controlled use of prescription-quality, small doses almost assuredly accounts for the difference that Colonel Geisler reports.

The policies concerning stimulants ultimately evolved into Air Force Regulation (AFR) 161-33/TAC Supplement 1. TAC sanctioned the use of amphetamine because single-seat pilots are particularly susceptible to the effects of boredom and fatigue during deployments overseas and during extended combat air patrols. Maj David Caskey, an Air Force F-15 pilot, reported using "go" pills routinely when flying from the United States to Germany, Japan, or Thailand. He recounted that some pilots refused to take them, saying they didn't need them; however, he pointed out that one time, an entire flight diverted to a base in England because some pilots simply couldn't stay awake en route to their destination in Germany.[13]

There is no evidence that aviators attempt to abuse amphetamine if the medication is occasionally made available.

There is no evidence that aviators attempt to abuse amphetamine if the medication is occasionally made available. And there is virtually no similarity between the effects of high dosages or chronic amphetamine abuse among addicts and occasional, low-dose administration of the same drug to military pilots involved in extended operations.[14] First, military aircrews are a well-screened, intelligent, motivated, and mentally healthy population. A remarkably low incidence of any sort of addictive behavior or other mental pathology occurs in this population. Second, the medication is administered on a case-by-case basis by a flight surgeon working closely with the pilots and under the direction of the squadron commander. The commander or flight surgeon would likely note unusual personality traits, increased drug-seeking behavior, weight loss, or any other indication of maladaptation on the part of the pilots. Third, because the source of the medication is a physician and military pharmacy, the pilot is not exposed to the drug counterculture that he or she would encounter by obtaining the drugs illegally. Thus, there is no increased availability of amphetamine (or any other drug) for excess or recreational use.

Determining the effect of amphetamine use on safety is not possible because of a lack of applicable reports. Aeromedical after-action reports of Operations Desert Shield/Desert Storm, however, attempted to quantify amphetamine use.[15] Data from anonymous questionnaires found that, of the pilots who responded, 65 percent of them used amphetamine during the deployment to theater, and 57 percent used it at least once during the air war. No one reported adverse side effects, and over 60 percent of the pilots who used the drug said it was "essential" to mission accomplishment.

Of the Class A mishaps occurring during Desert Shield/Desert Storm, several were partially attributed to pilot fatigue, and no pilots were using amphetamine at the time of any mishap. Additionally, there have been no accidents, during training or actual deployment to a theater, in which amphetamine use by the aircrew was either reported or found to be a factor during the accident investigation. Last, there have to date been no medical disqualifications for drug use among aircrews who had previously received amphetamine operationally. Thus, although one cannot prove an improvement in safety, one can say with some degree of certainty that there has been no negative effect.

Using drugs to enhance performance in sports may be "immoral," but war is not a sporting event.

Recent laboratory studies comparing dextroamphetamine with placebos in terms of their effect on maintaining performance and alertness in fatigued military pilots have demonstrated clear benefits, confirming earlier results in nonpilot volunteers.[16] Helicopter pilots who received placebos and then flew a simulator from 0100 to 1700 hours after a single night of sleep deprivation displayed significant, progressive deterioration of flight-control skills that would have threatened both safety and mission accomplishment. The problems encountered were especially severe in the morning hours (0300–1000). Even after a slight improvement in the afternoon (due to circadian rhythm), control accuracy did not recover to normal prefatigue levels. When these pilots received amphetamine on a different sleep-deprived night, decrements in performance did not occur. In fact, low-dose amphetamine eliminated the early morning deteriorations in flight skills and maintained performance at prefatigue level for the remainder of the day.

If psychostimulants improve performance effectively and safely, why is there still resistance to their use—and why did the policy change in 1991? The answer seems to be informational, emotional, and political. Most policy makers are ignorant of the facts concerning the effects of limited, low-dose administration of amphetamine on normal personnel. Some people are concerned that crew members might abuse the drug and thus become psychologically or physically addicted or tolerant. Others are concerned about commander abuse—that instead of allowing reasonable crew rest and endurance policies, commanders might rely on stimulants to get superhuman effort out of their subordinates.

These concerns, though deserving of thought, go against the preponderance of evidence collected to date. As noted above, we have not been able to identify a single disqualification for amphetamine use by Air Force aircrews. Although "command abuse" evidently was a problem in World War II and possibly Vietnam, we believe that strict regulations and vastly improved training of our commanders will continue to prevent abuse—just as we have faith that other problems from the Vietnam era will not recur. There is no evidence of command abuse during recent deployments or during operations in Libya, Grenada, Panama, or the Persian Gulf.

The two other potential concerns are less logical but probably more compelling. First, some people harbor an ill-defined feeling that performance enhancement by chemical means is "immoral," a sentiment evident in myriad regulations prohibiting drug use by athletes, although such use would indeed enhance performance. The second reason is clearly political: military leaders are understandably concerned about misinformation that could be engendered by press accounts of pilot use of amphetamines. In light of the current efforts in drug control, some parties might accuse the Air Force of imposing a double standard.

These are realistic concerns, but they do not justify prohibiting the use of centrally acting stimulants in the military. Using drugs to enhance performance in sports may be "immoral," but war is not a sporting event. Success in combat is not a question of fairness but of power; our weapons and training are designed to maximize combat power. We do *not* seek to equalize each side's chance of success prior to initiating contact (as we do in sports), but we *do* seek to obtain every advantage for our forces. However, this does not mean that we should rely upon amphetamine indiscriminately to create a performance edge on every day of combat operations. As with most things in life, we should consider costs and benefits prior to taking specific actions in various situations.

Although properly administered doses of amphetamine can alleviate significant problems in very demanding circumstances (e.g., they can sustain the performance of heavily fatigued, sleep-deprived personnel in combat), an indiscriminate, daily reliance on amphetamine may quickly create more negative than positive effects. Routine administration of stimulants under "normal" circumstances may create problems of drug tolerance, addiction, and various forms of abuse—not to mention physiological changes (in terms of sleep disruption and other side effects) that would ultimately render personnel less effective. However, if amphetamine administration is well controlled and restricted to those short- to moderate-term circumstances requiring severely fatigued personnel to perform continuously, the medication may make the difference between a mission completed safely and effectively, and one that ends in disaster.

In combat, pilots unquestionably are responsible for accomplishing the mission. The issue in this case becomes whether they fall asleep at the controls or whether they avoid disaster by using a drug that enables them to stay awake, maintain vigilance, and safely complete the mission.

Unfortunately, the elimination of amphetamine use has put aircrews at increased **actual** ***risk for the sake of eliminating*** **theoretical** ***risk.***

Military leaders are justified in their concern about public reaction to disclosure of the military's use of performance-enhancing drugs. The answer may lie in classifying our involvement to avoid media exploitation, educating our leaders and public concerning the unique military value of these medications, or employing some combination of these or other approaches. Unfortunately, the elimination of amphetamine use has put aircrews at increased *actual* risk for the sake of eliminating *theoretical* risk—a decision that does not pass the test of common sense and therefore should be changed.

Notes

1. E. H. Ellinwood and S. Cohen, eds., *Current Concepts on Amphetamine Abuse* (Rockville, Md.: National Institute of Mental Health, 1970), 238.

2. P. Rosenberg, "Clinical Uses of Benzedrine Sulfate (Amphetamine) in Obesity," *The Medical World* 57 (1939): 646–59; S. C. Harris, A. C. Ivey, and L. M. Searle, "The Mechanism of Amphetamine-Induced Loss of Weight: A Consideration of the Theory of Hunger and Appetite," *Journal of the American Medical Association* 134 (1947): 1468–75; and M. Prinzmental and W. Bloomberg, "The Use of Benzedrine for the Treatment of Narcolepsy," *Journal of the American Medical Association* 105 (1935): 2951–3054.

3. R. S. Goodhart, ed., *Modern Drug Encyclopedia and Therapeutic Index*, 9th ed. (New York: Raven Press, 1975).

4. Rosenberg.

5. W. O. Evans and R. P. Smith, "Some Effects of Morphine and Amphetamine on Intellectual Functioning and Mood," *Psychopharmacologia* 6 (1964): 49–56.

6. J. C. Kramer, V. S. Fischman, and D. C. Littlefield, "Amphetamine Abuse: Patterns and Effects of High Doses Taken Intravenously," *Journal of the American Medical Association* 201 (1967): 305–9; and D. S. Bell, "Comparison of Amphetamine Psychosis and Schizophrenia," *British Journal of Psychiatry* 3 (1965): 701–7.

7. L. Grinspoon, "Drug Dependence: Non-Narcotic Agents," in A. H. Freedman, H. I. Kaplan, and B. Saddock, eds., *Comprehensive Textbook in Psychiatry* (Baltimore: Williams and Wilkinson Co., 1975), 1317–31.

8. B. Weiss and V. G. Laties, "Enhancement of Human Performance by Caffeine and the Amphetamines," *Pharmacological Review* 14 (1962): 1–36; H. F. Adler et al., "Effects of Various Drugs on Psychomotor Performance at Ground Level and Simulated Altitudes of 18,000 Feet in a Low Pressure Chamber," *Journal of Aviation Medicine* 21 (1950): 221–36; G. T. Hauty and R. B. Payne, "Mitigation of Work Decrement," *Journal of Experimental Psychology* 49 (1955): 60–67; R. H. Seashore and A. C. Ivey, "Effects of Analeptic Drugs in Relieving Fatigue," *Psychological Monographs* 67 (1953): 1–16; and D. P. Cuthbertson and J. A. Knox, "The Effects of Analeptics on the Fatigued Subject," *Journal of Physiology* 106 (1947): 42–58.

9. G. M. Smith and H. K. Beecher, "Amphetamine Sulfate and Athletic Performance, I. Objective Effects," *Journal of the American Medical Association* 170 (1959): 542–57; and B. Weiss, "Enhancement of Performance by Amphetamine-Like Drugs," in F. Sjoqvist and M. Tottie, eds., *Abuse of Central Stimulants* (New York: Raven Press, 1969), 31–60.

10. A. Leger, P. Sandor, and M. Kerguelen, "Motion Sickness and Psychomotor Performance—Effects of Scopolamine and Dextroamphetamine," *Aviation Medicine Quarterly* 2 (1989): 121–28; and R. S. Kennedy et al., "Differential Effects of Scopolamine and Amphetamine on Microcomputer-Based Performance Tests," *Aviation, Space and Environmental Medicine* 61 (1990): 615–21.

11. Personal communication.

12. Personal communication.

13. Personal communication.

14. J. Cole, "Clinical Uses of the Amphetamines," in Ellinwood and Cohen, 163–68.

15. "Desert Shield, Desert Storm: Aerospace Medicine Consolidated After-Action Report," in *Proceedings of After-Action Conference,* 20–22 May 1991; K. Cornum, "Extended Air Combat Operations: F-15s over Iraq," *Aviation, Space and Environmental Medicine,* May 1994; K. Cornum, R. Cornum, and W. Storm, "Use of Psychostimulants in Extended Flight Operations: A Desert Shield Experience," in *Advisory Group for Aerospace Research and Development Conference Proceedings 579, Neurological Limitations of Aircraft Operations: Human Performance Implications* (Papers presented at the Aerospace Medical Panel Symposium, Köln, Germany, 1995), 371–74; and K. Cornum, "Eagles over Iraq: A Desert Storm Experience" (Paper presented at Seventh Annual Workshop on Space Operation Applications and Research [SOAR], Houston, Tex., August 1993).

16. J. A. Caldwell et al., "Sustaining Helicopter Pilot Performance with Dexedrine during Periods of Sleep Deprivation," *Aviation, Space and Environmental Medicine* 66, no. 10 (1995): 930–37; and J. Caldwell et al., *Sustaining Female UH-60 Helicopter Performance with Dexedrine during Sustained Operations: A Simulator Study,* US Army Aeromedical Research Laboratory Report no. 95-27 (Fort Rucker, Ala.: USAARL, July 1995).

Learning is by no means something we are supposed to do only from the ages of 5 to 21, in buildings called schools, but rather that it is a lifelong process, the proper conduct of which is not only absolutely necessary for the physical survival of individuals but for the survival of entire species.

—Steve Allen

A Matter of Strategic Focus

Gen Charles C. Krulak
Commandant, USMC

WE STAND TODAY at the trailhead that leads to the twenty-first century. The world ahead appears to be full of promise and opportunity—and it is. The United States is engaged around the world with market economies that are open, growing, and flourishing. An exponential growth in technology is enhancing our lives and enabling us to master the art of international engagement. Things have never looked better. Or have they?

At the close of World War II, we were the lone superpower in the world. We possessed an edge in technology that made us militarily without peer. The power in the world, both military and economic, had been recently and greatly redistributed—the equation overwhelmingly shifted in our favor. Gone were the colonial empires and the hegemons that briefly succeeded them. We were the only nation capable of winning a war anywhere on the planet.

But we also saw the revival of old struggles, as embedded hatreds and inherited competitions, once muzzled but now released, renewed their course of violence and instability. Power vacuums were filled by expansionist states. With the export of communism, much of the developing world fell into revolution. In many cases, oppression was overthrown, only to be replaced by new forms of oppression.

For a time, however, America was free to challenge or ignore these circumstances as it chose. Without a clear and imminent threat, we felt safe in concentrating on domestic issues. We felt safe in lessening our financial commitment to defense. The world was our oyster, and our focus was on consumption.

In many ways, our situation today mirrors the one in which we found ourselves after World War II. As we were then, we are now—the sole superpower, dominant in the world marketplace, militarily without peer—the only nation capable of winning a war anywhere on the planet. Just as we did then, we now face important decisions concerning the defense structure with which we will maintain our place in the world and ensure our continued security. In 1945, with no clear threat, we felt safe in setting aside a significant amount of our military capability in order to use the money elsewhere. Today, we again have difficulty discerning our threats and once again ponder the nation's needs with respect to military forces.

But in the decade after World War II, we came to learn that much in the world required our use of force. We learned it the hard way. When we committed a hollow force to the Korean peninsula, not only did we pay an inordinately high price in blood but also we almost lost before we could get started. We learned then, as perhaps we are learning now, that one clear victory—in war or in cold war—cannot protect our worldwide interests or relieve us of our responsibility of vigilance against the dark forces of this world.

This comparative analysis necessarily leads us to the question of our day: how should we build and maintain our national security posture for the twenty-first century? The answer lies in the expectations we have of our forces and of the use of those forces. To define these expectations, we must answer three questions: Why will we fight? Where will we fight? Whom will we fight?

Why Will We Fight?

Our national security strategy spells out the answer to the first question for us. Generally, American military forces will "support U.S. diplomacy in responding to key dangers—those posed by weapons of mass destruction, regional aggression and threats to the stability of states." More specifically, "there are three basic categories of national interests which can merit the use of our armed forces. The first involves America's vital interests . . . [those of] overriding importance to the survival, security and vitality of our national entity—the defense of U.S. territory, citizens, allies and our economic well-being. . . . The second category includes cases in which important, but not vital, U.S. interests are threatened. That is, the interests at stake do not affect our national survival, but they do affect importantly our national well-being and the character of the world in which we live." Finally, "the third category involves primarily humanitarian interests. Here, our decisions focus on the resources we can bring to bear by using unique capabilities of our military rather than on the combat power of military force."[1]

Where Will We Fight?

Where we will fight, of course, is not spelled out for us. For obvious reasons, no one can predict where America's interests will be threatened. Through careful analysis, however, we can attempt to anticipate the circumstances most likely to require our use of force—or forces. In our efforts to be prepared, we can increase our understanding of what the world will be like in the approaching century so that we can build a force to deal with the dangers of that world. Certain dynamics taking place today are restructuring the world. Such changes are largely economic and demographic in nature. Together, these two factors are altering the geopolitical landscape of the world to which we have committed ourselves through our strategy of "engagement and enlargement." We must take note of this restructuring if we are to be prepared for our role in the world that will result. We must adjust the way we look at the globe.

During the course of our history as a nation, we have tended to have a very Eurocentric view. Our principal markets have been in Europe, and our vital interests included ensuring that western Europe remained free and engaged with us in the global marketplace. Although that remains true today, other vital interests are growing in proportion. The peoples and markets of the Asia-Pacific/Indian Ocean littorals are rapidly becoming the economic determinants of the world's future. China and India are emerging as powers with wealth that will change the face of the global economy. Both have burgeoning high-technology industries and a seemingly limitless pool of inexpensive labor. A number of countries on the Pacific Rim—China, the Republic of Korea, Taiwan, Thailand, Malaysia, and Singapore—all have projected economic growth rates far in excess of the European industrialized nations we traditionally have associated with global economic strength. The World Bank forecasts that by the year 2020, 80 percent of the world's leading economies are expected to be in the Asia-Pacific region. From America's perspective, the focus of the world economy is shifting from the community of nations across the Atlantic to the community of nations bordering the Pacific and Indian Oceans.

Demographics is the other great factor in determining the nature of the twenty-first-century geopolitical landscape. By the year 2010, 58 percent of the world's population will hail from the Asia-Pacific/Indian Ocean region. Not even the widespread starvation and poverty experienced prior to the "green revolution" or the great Chinese famine of the 1960s could stop what has become an exponential population explosion throughout the region. Perhaps more alarming than the numbers, however, is the composition. Over 71 percent of this population in the 2010 time frame will be between the ages of 15 and 64. This age group contains the traditional war fighters—the war starters.

As if intense concentration of people of military age did not present enough challenges (or opportunities, depending on one's perspective) for the governments of the region, a quickening trend toward urbanization is under way. By 2010 over 40 cities in this region will have populations in excess of seven million people. Many of these cities, despite a growing per-capita income, are not keeping up with infrastructure development. Water, power, sanitation, medical services, road grids, and transportation systems are all becoming overburdened—all this at the same time that communications, particularly international television, are becoming almost universally available to all. People living in urban squalor can clearly see the greener grass. This is not a recipe for contentment.

If the regional players (state actors and nonstate actors alike) become embroiled in crises, we will likely find urbanized terrain our future battlescape. As future antagonists increasingly imbed themselves in cities, we will need forces with capabilities commensurate to the tasks of urban warfare.

So how does this examination of the economic and demographic trends of the region apply to the potential use of US forces? The answer lies in the actions of the regional players and in an examination of the impact of those actions on the interests of the United States of America.

Given their newfound wealth, the need to secure their access to resources, and fears based on numerous regional and ethnic hatreds and mistrusts, many of these nations are increasingly opting for escalating investments in military power. And weaponry is readily available. High-technology weaponry and the very latest in sophisticated hardware—even weapons of mass destruction—are all available to countries who desire them. We face the potential for a possibly explosive regional arms race. Many of the actions of the regional players are based on a common denominator—a competition for scarce resources. No example is more telling than the regional dependence on Southwest Asian oil, the vital enabler that fuels and sustains continued growth.

Our own national interests may very well be attached to those of the resource-dependent Asia-Pacific markets that fuel our own economy. Ensuring the free and equitable flow of those resources is arguably already in our interest; most assuredly, the importance of this issue will only increase with time.

The "where" we most likely will have to fight (or commit our forces) tomorrow is being determined today by the economic and demographic forces of the world—particularly by those in the Asia-Pacific/Indian Ocean region.

Whom Will We Fight?

Clearly, the traditional major regional contingencies we face today have the potential of lingering for a while. Over time, others may replace them. Increasingly, however, we see the threats to our interests springing not from direct challenges from another nation-state but from a disintegration of traditional state actors or from challenges to those actors by nonstate actors. Since the breakup of the bipolar world, we have been reminded over and over again that the earth is literally seething with ethnic, religious, and tribal hatreds and suspicions. The growing Asia-Pacific/Indian Ocean marketplace is no exception. We can anticipate that crises will occur. We can anticipate that we will have interests affected by these crises.

But threats to our interests are developing a new dimension. Whereas crises generally develop between easily recognizable and structured power bases such as state actors, we are beginning to see the development of chaos throughout the world. There is a distinction between crisis and chaos. Chaos, a by-product of uncertainty, involves unstructured power and ultimately casts aside the traditional ways in which antagonists deal with each other and deal with the population at large. Somalia and Rwanda, as well as the disintegration of the former Yugoslavia and the genocide of Kampuchea, all provide examples of chaotic scenarios. In these chaotic scenarios, we must be prepared to counter an enemy who is unlikely to take on our strengths but who would seize upon the opportunity to attack us asymmetrically. We must expect that many of our potential enemies were paying attention during the Gulf War and have learned appropriate lessons. These adversaries, so enlightened, are unlikely to take us on—toe-to-toe and strength-to-strength. Our dependence on ports and airfields, our dependence on information systems, and our doctrine of massed forces and massed logistics all present targets of opportunity to the asymmetrically thinking opponent, armed with even a limited supply of technologically sophisticated weaponry.

What Will We Need?

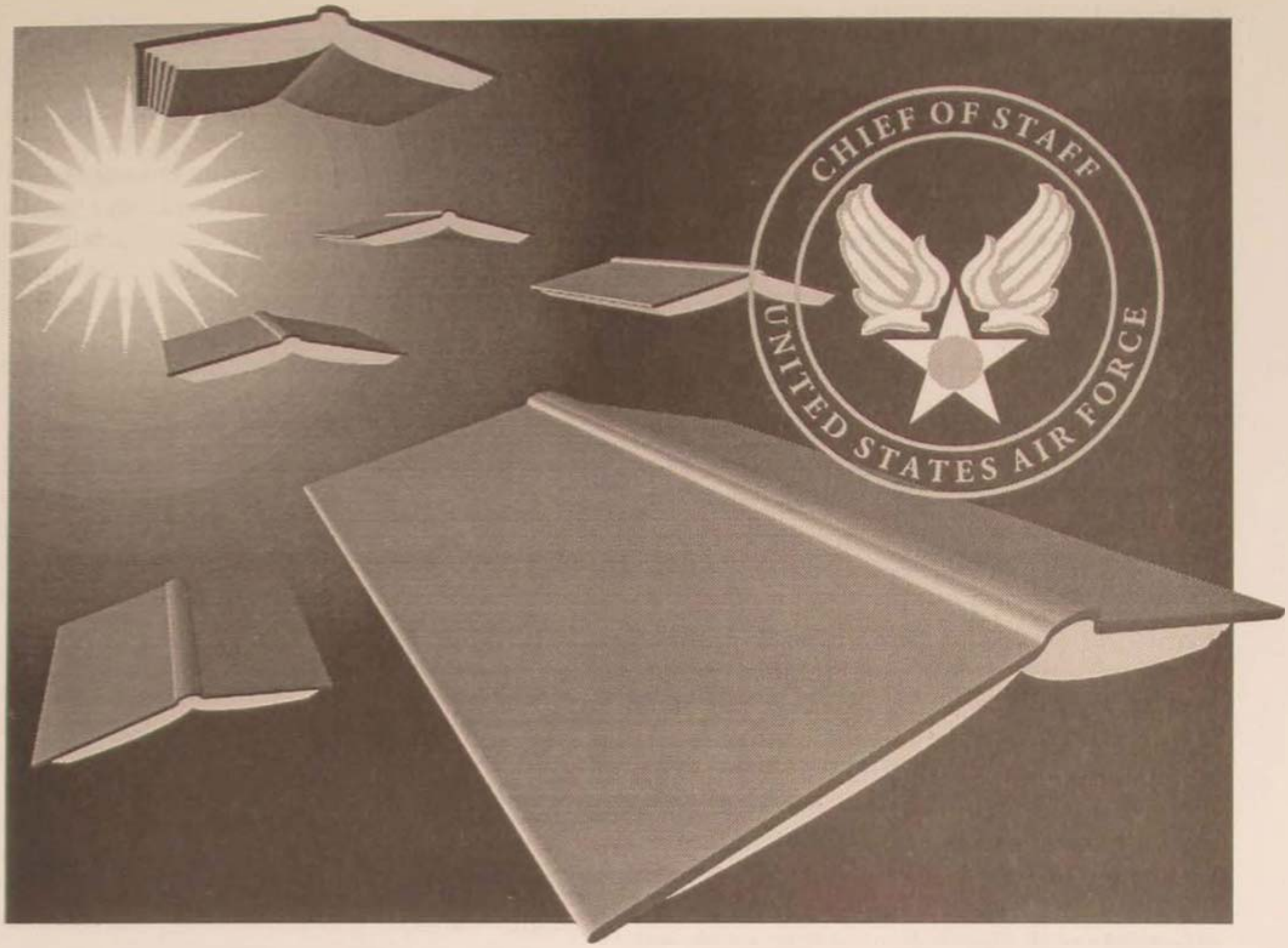
The answers to the three questions of why, where, and whom we will fight brings us to a fourth question: what do we really need in order to be prepared? The answer lies in a force of capabilities appropriate to the anticipated threat. We need to procure, structure, and train a force of utility—not only against armor formations and other forms of conventional military power but also against the fomenters of crisis and chaos. We will always have a need for precision strike. We will always need a heavy land army to be the mailed fist of American will. As a maritime nation, dependent on the seas for commerce and to serve as the interconnecting highways for our engagement, we certainly will need a robust sea-control force as well. Although the need for all these capabilities will remain as we progress into the next century, there is an escalating need for a greater ratio of forces that can engage with the ill-defined and asymmetric threats of tomorrow's crises and chaos. Smart munitions have limited utility, and information dominance becomes an unrealistic expectation in situations of urbanized littoral chaos.

Our challenge lies in ensuring that the military we build is capable of providing options. We must be able to project a credible forward presence—one that is able to increase or decrease visibility as required. We will need a force that can deploy to a region without reliance on extensive, land-based infrastructure. Our capabilities must include the ability to operate in the cities of tomorrow and deal with several missions from opposite ends of the spectrum simultaneously in the same operation—and they must provide options other than just overwhelming or precision firepower. The force we build must operate in environments where the dangers from asymmetric threat are high. Ultimately, the force that yields the most utility is one that provides an adjustable rheostat of capabilities to the National Command Authorities—one that can shift from forward presence to humanitarian assistance, noncombatant evacuation operations, peacekeeping, forcible entry, and sustained combat operations.

The world is changing. So too are the threats that bode for possible US commitment of forces. The truth is, business as usual may not provide the capabilities we need to deal with the realities of the coming world. If we are to provide for the defense needs of this nation in the twenty-first century, we must be honest about what we see ahead. Having looked ahead, we must step off on the trail that truly leads to a prosperous and secure future for our great nation. □

Note

1. William J. Clinton, *A National Security Strategy of Engagement and Enlargement* (Washington, D.C.: Government Printing Office, February 1996), 18.



CSAF Professional Reading Program

Gen Ronald R. Fogleman
Chief of Staff, USAF

LAST SUMMER at my request, the Air Force History Support Office (AFHSO) began developing a professional reading program for Air Force officers, enlisted members, and civilians. The objective was to broaden understanding of air and space power and to examine how they should be employed in independent, joint, and coalition operations. Why? Because it's vitally important that our people understand the totality of what we are about as the nation's full-service air and space force, if we are to provide the capabilities America will require to meet the security challenges of the twenty-first century.

In the post-cold-war era of fast-rising regional crises that demand a prompt and exacting response, the unique characteristics of air and space power—speed, range, flexibility, precision, and global perspective—provide our air and space forces unparalleled access to 100 percent of the earth's population, every center of government, and any trouble spot on the face of the earth. Our demonstrated ability to capitalize on this "global engagement" capability to achieve US objectives has resulted in national leaders and theater commanders turning to the Air Force as the first weapon of choice when a crisis or contingency unfolds.

The CSAF Professional Reading Program complements initiatives that came out of our long-range planning effort to foster the growth of a unifying air and space culture throughout our service. Together, they will help produce knowledgeable service members who more effectively can employ air and space forces in independent, joint, or coalition operations. When these Air Force operators serve in joint billets, they will be able to advise their superiors on the Joint Staff, in unified command headquarters, in the Department of Defense, and in other agencies on how best to employ air and space power to achieve US security objectives. Ultimately, our initiatives will help prepare current and future Air Force leaders to deal effectively with the challenges they surely will face in a post-cold-war world of austere defense budgets, diverse regional threats, and continued high-operations tempo for our units.

With all this in mind, I asked AFHSO to help me develop an appropriate professional reading program for our people. We decided to break the program into three portions—officer, enlisted, and civilian—to make it more manageable. And we agreed to focus initially on the officer portion since it would likely be the most difficult to bring on-line.

After several months of preparation and staff work, we have implemented the officer portion of the professional reading program. AFHSO is currently working with the chief master sergeant of the Air Force to develop a comparable program for the enlisted force. Once the enlisted portion is under way, we will work the civilian piece.

The officer portion of the CSAF Professional Reading Program is founded on a wide-ranging professional reading list based on inputs from Air University, the Air Force Academy, AFHSO, individual historians, and other interested agencies. The list includes works on the history of strategy and warfare, air and space doctrine, air operations, and personal experiences of early aviation leaders. In the end, this is my personal list.

I have asked that it be broken into three levels that correlate to the progressive stages of an officer's professional development. Thus, it includes a basic list for captains, an intermediate list for majors and lieutenant colonels, and an advanced list for colonels and general officers. Each list also includes *Airpower Journal* as the Air Force's premier professional publication.

Combined, these sublists constitute a core list that all Air Force officers should read as part of an ongoing personal-development program. The books were chosen to be interesting, informative, and thought provoking. However, selection of individual books does not reflect the Air Force's endorsement of any particular authors, their views, or their actions. In fact, some of the selections may provide the basis for case studies designed to teach the challenges of command and the different ways that people perform.

Many other good books are out there—some still being written—on subject areas covered by the officer reading list: leadership, the history of air and space power, military strategy, Air Force doctrine, joint and coalition operations, and combat in the twentieth century. So, from time to time, we will issue supplemental reading lists on specific topics to assist people who want to read further in a particular area of interest.

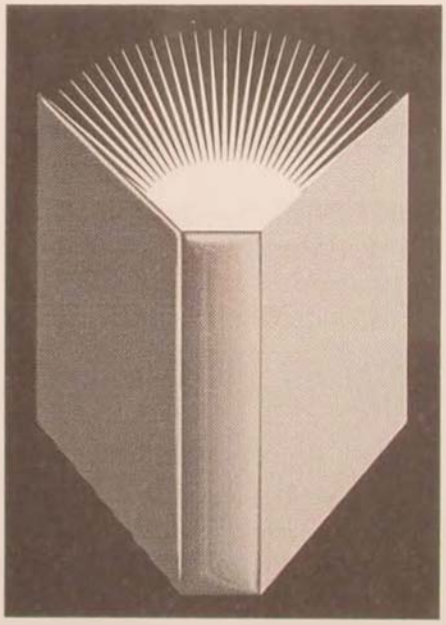
A unique aspect of the CSAF Professional Reading Program for officers is that the Air Force is procuring all the books on the basic list for new captains. This initiative provides institutional recognition of the importance of officers being selected for promotion to captain. As of 1 March, newly promoted captains are receiving all the books on the basic list, free of charge, in a mailing that includes letters from the chief of staff and the Air University (AU) commander. These letters emphasize the personal and professional benefits of pursuing the professional reading program. The AU commander's letter also encourages our new captains to read selections from the list to help them prepare for Squadron Officer School (SOS). Then, while attending SOS, they will have the opportunity to discuss and report on selections from the list.

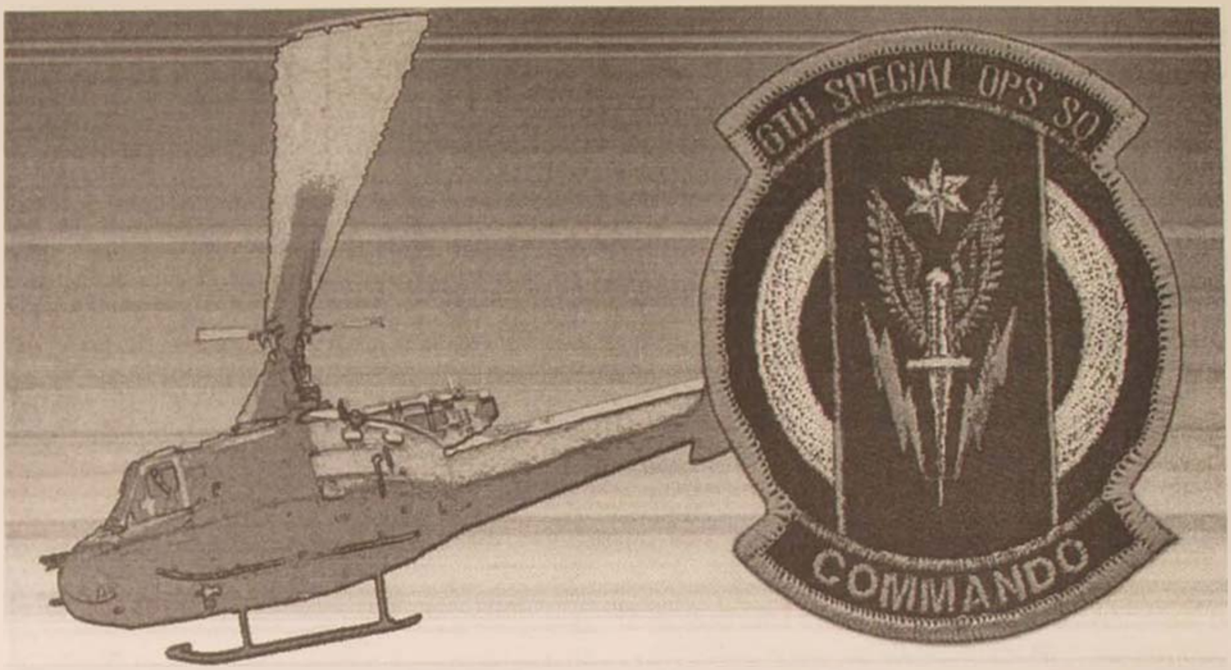
This aspect of the CSAF Professional Reading Program supports the current career-development pattern that encourages our young officers to focus on their functional specialties during their first years of active duty. Once they make captain, though, they should begin to broaden their understanding of their profession. We will encourage our young officers to begin a career-long reading program by providing them the basic list of books that not only will help educate them, but also will capture their imagination and interest them in professional readings. On the other hand, we anticipate that field grade and senior officers will purchase their respective reading lists as part of an ongoing personal professional reading program.

All of the books on the professional reading list for officers are in print and are being made available this spring for purchase at AAFES facilities and for checkout at base libraries. These outlets also will help promote the CSAF Professional Reading Program on our installations. An intensive and recurring promotional effort will highlight the reading program to our officers through Air Force News Service releases; articles in *Air Force Times, Airman* magazine, and *Air Force Magazine;* and reports on Air Force TV News. Also *Airpower Journal* will publish bibliographical essays on the basic, intermediate, and advanced lists in future issues.

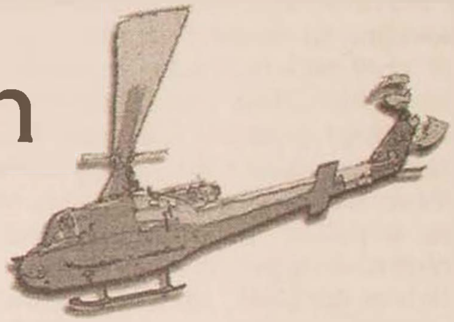
In order to ensure that we reap the full benefits of this professional reading program, I've asked all commanders and supervisors to make the officer reading list an integral part of their mentoring and professional development programs. This will help drive home the importance of professional reading, get our people into the books, and provide useful material for group discussions as well as encourage individual preparation for in-residence professional military education.

Commanders and supervisors have the inherent responsibility of promoting the professional development of subordinates. I am convinced that the CSAF Professional Reading Program will serve as a useful instrument in carrying out this vitally important responsibility. In the end, it is crucial to the future of the Air Force that we prepare our officers to be members of the profession of arms, with particular expertise as advocates and leaders of air and space power. By doing so, we will help ensure that our service remains the world's most respected air and space force in the twenty-first century—a period that will surely go down in history as the age of air and space power. □





Whither Aviation Foreign Internal Defense?



Lt Col Wray R. Johnson, USAF

IN 1994 AIR FORCE Special Operations Command stood up the 6th Special Operations Squadron (6 SOS), the first-ever USAF squadron dedicated to the foreign internal defense (FID) mission area. With roots in special air warfare dating back to the Vietnam War and even as far back as the Second World War, the 6 SOS was created to advise, train, and assist foreign aviation forces in the application of airpower in internal defense and development. Since that time the squadron has expanded its mission to include coalition support roles and combat advisory operations in keeping with the emerging missions that comprise operations other than war (OOTW). Nevertheless, the core mission has remained intact: inculcating in foreign air forces the idea of the utility of airpower across the conflict spectrum.

Since its inception, however, the 6 SOS has been plagued by a host of difficulties in fulfilling the vision of its creators, the most salient of which stem from the question of whether the squadron should have aircraft appropriate to its third world mission. Aircraft remain critical to the original vision of what has become the 6 SOS, but as of this writing, only two aged UH-1N helicopters—originally en route to the boneyard—have been assigned to the squadron. This is regrettable since aviation-centered FID rests on the fundamental premise that airpower plays a crucial role in meeting the threat of foreign internal conflict. And airpower means airplanes. Thus the fundamental question: If aviation FID is predicated on the employment of airplanes and the 6 SOS is not properly equipped in that regard, whither aviation FID?

Framing the Discussion

By the end of the 1970s, US special operations forces (SOF) were *caput mortuum.*[1] Army special forces had been gutted, Navy special warfare had fared little better, and Air Force special operations forces (AFSOF) had barely survived a concerted attempt to relegate them completely to the Reserves.[2]

The Desert One debacle in April 1980–the disastrous Iranian hostage rescue mission–simply underscored the extent to which SOF had atrophied since the Vietnam War. In the aftermath of that effort, the Defense Department "halfheartedly" moved to invigorate SOF–to include the creation of a Joint Special Operations Agency in 1984. The services were reluctant to relinquish control over SOF, however; they regarded this advisory body merely as an irritant and largely resisted its recommendations. Consequently, frustrated by Defense Department foot-dragging, and intent upon putting purpose and power behind SOF revitalization, Congress passed the Cohen-Nunn Amendment to the National Defense Authorization Act of 1986. The unquestionable design of this amendment was to force "revitalization" of "SOF and SOF resources."[3]

RH-53s on board the USS Nimitz. *The tragedy of Desert One in April 1980 simply underscored the extent to which special operations forces had atrophied since the Vietnam War.*

Among the findings of Section 1453 of the Defense Authorization Act of 1986 was the conclusion that SOF "are the military mainstay of the United States for the purposes of nation-building and training friendly foreign forces." The straightforward stated purpose of SOF involvement was to preclude "deployment or combat involving the conventional or strategic forces of the United States."[4] Such foreign advisory and training assistance ultimately fell within the purview of foreign internal defense, which was subsequently delineated as one of the five principal missions of American special operations forces.[5]

Responding to the legislation, the Reagan administration promulgated National Security Decision Directive (NSDD) 277, which outlined US strategy for low intensity conflict (LIC). The subsequent 1988 report, entitled *National Security Strategy of the United States*, included an unclassified distillation of NSDD 277. Among several salient features, it declared that LIC strategy would seek to "strengthen friendly nations facing internal or external threats to their independence."[6]

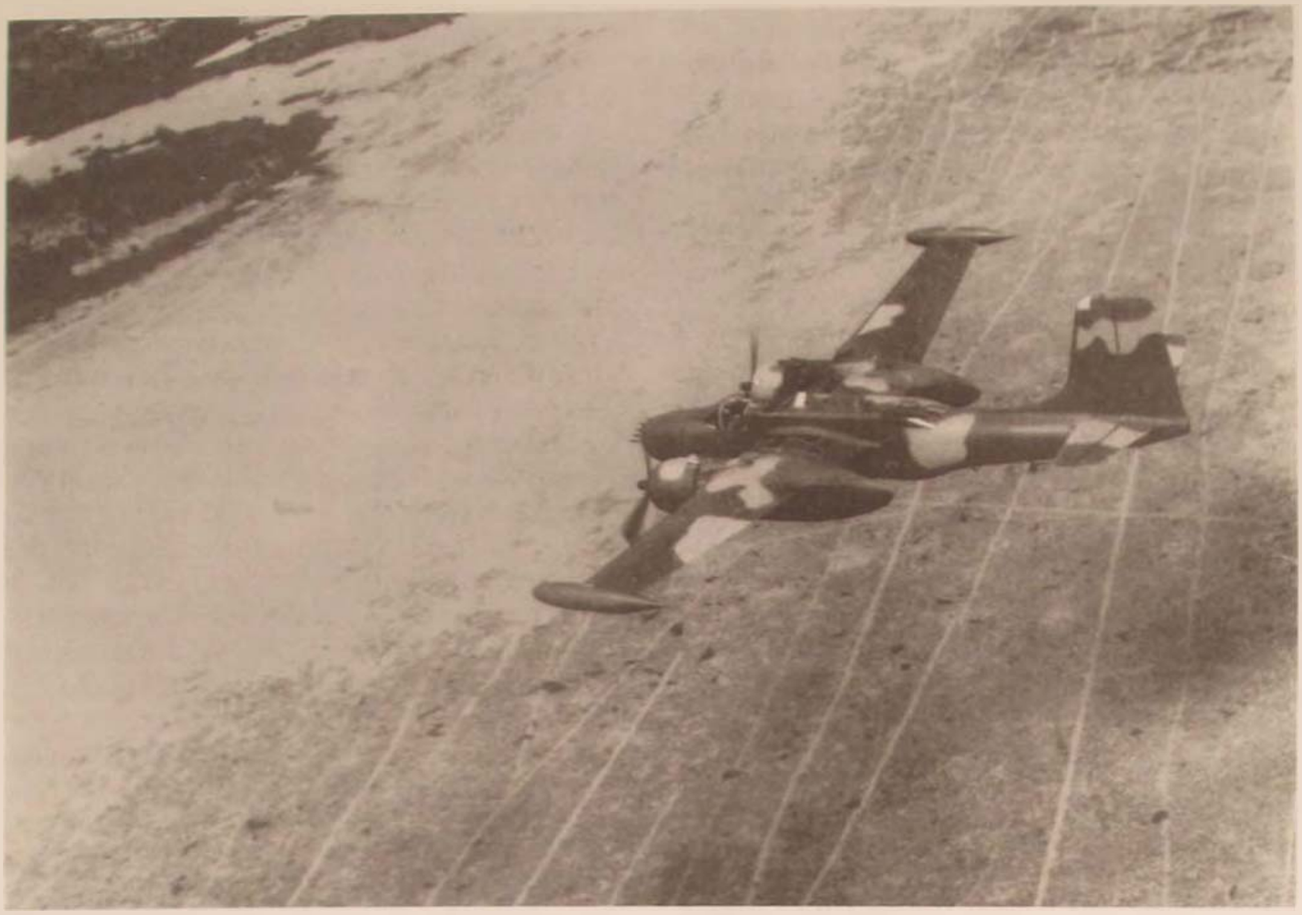
Defense reform was the anodyne of 1986, and the Goldwater-Nichols Act was a sweeping piece of legislation mandating specific actions. For example, Section 211 broadened and strengthened the authority of combatant commands. But more importantly for SOF, Section 212 directed the "creation of a unified combatant command for special operations."[7] As a result, the National Defense Authorization Act of 1987, signed by President Reagan in October 1986, created United States Special Operations Command (USSOCOM) under US public law.[8] Shortly afterward, the services created their own special operations commands as components of USSOCOM. The initial Air Force component was a numbered air force (Twenty-Third Air Force) rather than a major command, but Air Force reticence was ultimately overcome with the stand-up of Air Force Special Operations Command (AFSOC) in May 1990.

Albeit foreign internal defense was one of the five principal missions of SOF, criticism emerged as early as 1990 that USSOCOM was more concerned with "raids, rescue, and Rambo."[9] In January 1991 *Armed Forces Journal International* scolded the new command for "highlighting the Rambo or direct action side of special operations" while at the same time it praised the Marine Corps for "a better understanding" of LIC.[10] Indeed, the only SOF component placing any emphasis on FID was Army special forces, although Navy special warfare units were perceived to have an inherent FID capability. The missing piece of the pie was aviation.

Thus, in March 1990, Gen James Lindsay, then commander in chief of USSOCOM (CINCSOC), validated the AFSOC-proposed concept of an aviation-centered FID capability. Although acknowledging that FID is "larger than just SOF," General Lindsay went on to state that "the focal point for organization, doctrine development, training, and operational proponency . . . should be organizations for which FID is a principal mission—USSOCOM and AFSOC."[11] Armed with the CINC's go-ahead, AFSOC proceeded to build a dedicated aviation-FID capability from the ground up, and in May 1993 USSOCOM Directive 10-1 designated AFSOC as the "proponent" for aviation FID.[12] The following year, in October 1994, the 6th Special Operations Squadron became the first Air Force SOF organization dedicated to the FID mission area.

Digressions: Special Air Warfare and Aviation FID

John Keegan writes that "continuities, particularly hidden continuities, form the principal subject of historical enquiry." It is the "identification of links" between the past and present which enables us to comprehend our actions in context.[13] In that light, the concept of aviation-centered FID is not original: it is a response to the void created in SOF FID capabilities following the Vietnam War. Consequently, it is entirely appropriate to reflect briefly upon the his-



When the 4400th CCTS was activated in April 1961, its table of organization included eight A-26 strike aircraft.

tory of "special air warfare" as it contributes to the current concept of aviation FID.

Special air warfare traces its roots to World War II, when the US Army Air Force supported the Office of Strategic Services in Europe and created the 1st Air Commando Group in Southeast Asia to support Gen Orde C. Wingate's Chindit forces in Burma. During the Korean War, aerial resupply and communications wings conducted "long-range infiltration/exfiltration missions, supply and resupply missions, [and] psychological operations (PSYOP) missions."[14] However, it was the Vietnam War which witnessed the emergence of special air warfare as it is understood today.[15]

For decades the United States had been engaged in low-level or "small" wars, from the Philippines at the turn of the century to Nicaragua in the 1930s, but the end of the Second World War ushered in what has since become known as the "counterinsurgency era." Its genesis was the Truman Doctrine of containment in 1947, upon which policy makers and military planners constructed rudimentary counterinsurgency (COIN) doctrine for combating the communist guerrillas in Greece. But COIN as a theory, a strategy, and a doctrine came into its own in the early 1960s in response to expressed Soviet intentions to attack the United States "indirectly" through insurgency and subversion—that is, "wars of national liberation" or so-called proxy wars. Recognizing the significance of this threat, President John F. Kennedy promulgated numerous policies and outlined an overarching strategy for countering insurgency.[16]

Early in his administration, President Kennedy directed Secretary of Defense Robert S. McNamara to examine ways to place greater emphasis on counterinsurgency within the military departments, "to include an adequate capability in all types of units required in counterguerrilla operations or in rendering training assistance to other countries."[17] Although they resisted at first, the services ultimately responded with revised or new doctrine as well as force structure changes intended to meet the president's mandate. Arguably, the most significant force structure change for the Army was the reorientation of US Army special forces from guerrilla operations behind enemy lines to that of counterguerrilla operations.[18]

Although the Air Force nominally continued to perform the FID mission after Vietnam, it was as an adjunct to its conventional mission and was accomplished on an ad hoc basis.

For the Air Force, the three wings activated in the Korean War for unconventional warfare (UW) operations were reduced to two squadrons by 1956 and deactivated altogether in 1957, so that by 1961, there were no specialized units devoted to COIN.[19] However, motivated by continued pressure from the president to develop a specialized capability for COIN, Headquarters Air Force directed Tactical Air Command (TAC) in April 1961 to "organize and equip a unit to (1) train USAF personnel in World War II–type aircraft and equipment; (2) ready a limited number of aircraft for transfer, as required, to friendly governments; (3) provide advanced training of friendly foreign air force personnel on the operation and maintenance of World War II–type aircraft; and (4) develop or improve conventional weapons, tactics, and techniques of employment suitable to the environment of such areas as defined by [the Joint Chiefs of Staff]." The creation of such an organization was made a priority, to be completed by September 1961.[20] Moving very quickly, TAC activated the 4400th Combat Crew Training Squadron (CCTS) at Hurlburt Field, Florida, on 14 April 1961.

The squadron's table of organization included 16 SC-47s, eight A-26s, and eight T-28Bs. By July 1961 the unit was fully manned with 125 officers and 235 airmen. The 4400 CCTS had three specific flying roles: airlift, reconnaissance, and air strike. However, owing to the national strategy of advising and training foreign military forces to carry the burden of counterinsurgency, the principal mission of the 4400 CCTS was to train foreign air force personnel in the application of airpower in COIN. The unclassified nickname for the project was "Jungle Jim."[21]

Communist success in Vietnam during the summer of 1961 compelled the services to accelerate their respective COIN developmental efforts. On 5 September 1961 McNamara announced his intention to establish an experimental command in South Vietnam under the military assistance advisory group "as a laboratory for the development of improved organizational and operational procedures for conducting sublimited war."[22] Secretary of the Air Force Eugene Zuckert gave his hearty endorsement and called McNamara's attention to the 4400 CCTS. On 12 October 1961 the joint chiefs agreed to commit an element of the 4400 CCTS to South Vietnam. The detachment—code-named Farm Gate—deployed in November 1961 and was placed under the command of the 2d Air Division, a subordinate command of Pacific Air Forces.[23] By December 1961, Farm Gate aircraft were authorized to engage the Vietcong provided at least one South Vietnamese Air Force (VNAF) crew member was aboard each aircraft.

But interservice rivalry raised its all-too-predictable head. According to Air Force records, the Army's response to presidential insistence on elevating counterinsurgency to a level equal to conventional warfare was an

In the spring of 1962 the 4400th CCTS expanded and became the 1st Air Commando Group and, as the war in Vietnam unfolded, replaced its aging A-26s and T-28s with A-1Es, like the one shown here.

attempt to take full responsibility for COIN. In January 1962 the Army forwarded a plan to McNamara in which primary responsibility for COIN in the host country was outlined as an Army role—ergo, the primary responsibility in the United States should similarly be vested with the Army. Air Force Chief of Staff Gen Curtis LeMay objected to this unilateral assessment and insisted that airpower was a vital component of COIN.[24] However, concerned that the Army would provide its own air support if the Air Force failed to do so, Air Force planners concluded that its "extremely limited" COIN capability would necessarily have to be expanded.

In the spring of 1962 the Air Force expanded its forces, and the 4400 CCTS attained group status on 20 March as the 1st Air Commando Group—which was authorized 792 personnel and 64 aircraft. In April the Special Air Warfare Center (SAWC) was created at Hurlburt Field, and the 1st Air Commando Group was subordinated to the SAWC. In October 1962 the Air Force submitted a program change proposal (PCP) to McNamara calling for "a six-squadron force of 184 aircraft and 2,167 primary element personnel for fiscal year 1964. With this end-strength, the Air Force could provide one combat applications wing, one air commando wing, and one composite squadron." The air commando wing would comprise three T-28 squadrons with 75 aircraft, an RB-26 squadron with 25 aircraft, and a "combat cargo squadron" equipped with 12 C-46, 12 C-47, and 14 U-10B aircraft, all of which would reside in the United States and rotate to detachments overseas. The composite squadron, with eight T-28s, eight A-26s, 12 C-46s, 12 C-47s, and six U-10Ds, would be permanently deployed to Panama. On 24 November 1962 McNamara approved the PCP for fiscal year 1964.[25]

At the heart of the [aviation-FID] concept was the stated intent to develop an organization of foreign-language-trained, area oriented, and culturally and politically astute aviation experts to provide advisory and training support to foreign aviation forces.

As the war unfolded, aging T-28s and A-26s were soon replaced by A-1Es, and in late 1964 a second squadron of A-1Es—the 602d Air Commando Squadron (Fighter)—deployed to South Vietnam. By 1967 the 14th Air Commando Wing had been formed in South Vietnam, including five combat squadrons: two strike squadrons, two PSYOP squadrons, and a helicopter squadron.[26] In retrospect, the original mission of the 4400 CCTS had consisted "primarily of preparing small cadres for conducting—at the scene of insurgency activity—the training of friendly foreign air forces in counterinsurgency operations" with the objective of developing a "self-sufficient VNAF that would allow the withdrawal of US units."[27] But by 1965 the nature of the war had changed dramatically, and the special air warfare effort largely shifted its focus to support of US conventional ground operations.[28]

The rivalry between the Army and the Air Force was a constant source of conflict, with the Army maintaining that its organic aviation was better suited for COIN. To buttress its argument, the Army (not unlike the Marine Corps) argued that aviators should identify with ground combat personnel and that this identity was best achieved by being a part of the same unit. The Air Force, not surprisingly, maintained its doctrinal position that aircraft should be centrally managed under the operational control of a qualified air officer. Centralized control with decentralized execution remained a hallmark of Air Force doctrine, but it was agreed that special operations, including special air warfare, should be a joint undertaking. The basic principles were ultimately set forth in Unified Action Armed Forces and in the Joint Counterinsurgency Concept and Doctrinal Guidance (JCS Memo 1289-62). Appropriate annexes to the Joint Strategic Capabilities Plan and the Joint Strategic Objectives Plan, as well as various statements by senior military officers, served to institutionalize the central theme of joint special operations.[29]

After 1965 special air warfare became an adjunct to the conventional ground war in Vietnam, but elsewhere in the world—especially in Latin America before 1965—special air warfare units remained largely dedicated to foreign advisory/training assistance. "Early in its special air warfare planning, the Air Force had recognized that prevention or defeat of subversion and insurgency called for more than military operations but rather included civic actions as well." General LeMay himself had concluded that doing civic actions would improve "our prospects . . . for preventing or relieving the conditions of unrest which could be exploited by insurgent elements in conducting guerrilla operations."[30] To that end, special air warfare forces conducted combined operations to inculcate in Latin American air forces the value of airpower in terms of transportation, communications, preventive medicine, weather operations, agricultural support, insect and rodent control, and other economic, political, and social services. As envisioned, these functions would "reduce the demand for expensive (and prestige) weapon systems, promote internal security . . . and identify military forces with, not against, the needs and aspirations of the people."[31] By mid-1963, the Air Force had sent briefing, survey, or mobile training teams to a dozen Latin American countries.[32]

But as pointed out earlier, at the conclusion of the war in Vietnam the Defense Department, stung by defeat, largely purged itself of what had been laboriously created for COIN in the 1960s.[33] The subject was virtually eliminated from junior officer and noncommissioned officer curricula by 1976, and by 1981 the topic had all but disappeared from professional military education. But among the lessons learned as a result of the American experience in Vietnam, one with which military officers, politicians, and the general public alike agreed to, was "no more Vietnams."[34] Thus, following the war, COIN disappeared as a descriptive label, to be replaced by "internal defense and development" (IDAD) as a general term for the whole range of activities related to assisting less-developed countries; "stability operations" became the appellation ascribed to specific operational activities.[35]

In the end, the Vietnam War had instilled in the American public an almost visceral resistance to protracted US military intervention in foreign affairs—the much discussed "Vietnam syndrome." Nevertheless, a small cadre of academics and military thinkers persisted in addressing the threat of third world conflict. With the inauguration of Ronald Reagan as president and the advent of revolutionary insurgencies in Central America, these people found purchase for their doctrinal proposals as the national security bureaucracy began to pay attention to what was increasingly referred to as "low intensity conflict."

In a seminal report prepared for the Army's Training and Doctrine Command (TRADOC), Robert H. Kupperman declared that "the conflict least likely to occur—extended conventional superpower hostilities in Europe—nevertheless dominates [Department of Defense] thinking, training, and resource allocation." Kupperman insisted that the US military establishment was therefore least prepared for the most likely threat—"those small but critical low-intensity conflicts proliferating at the periphery of the great powers." Consequently, to meet this more appropriate threat, the Defense Department would "require new doctrine, organization, tactics, and equipment."[36]

The contention that the United States lacked the appropriate strategic policy, doctrine, and forces to conduct operations in the third world became a prevailing theme in professional literature throughout the late 1980s and early 1990s, leading even the casual observer to draw obvious parallels to the outlook of the Kennedy administration regarding the threat of revolutionary guerrilla warfare. The difference, however, was the unitary treatment of COIN, pro-insurgency, combating terrorism, peacekeeping, counternarcotics operations, contingency operations, and the like as subsets of low intensity conflict. COIN had de facto, if not de jure, become subsumed to another construct. Thus, in the "LIC era," COIN found expression as FID and IDAD. Foreign internal defense encompassed US efforts to assist a friend or ally facing an internal threat; internal defense and development included the array of activities pursued by the host government to ameliorate if not eliminate the conditions which fostered discontent and precipitated the internal challenge to the government.

The problem of aircraft proved most vexing.

The threat posed by LIC, combined with the Desert One disaster, ultimately led to the creation of USSOCOM, with foreign internal defense as one of its five principal missions. By 1991 the Joint Staff had begun work on Joint Publication 3-07.1, *Joint Tactics, Techniques and Procedures* [JTTP] *for Foreign Internal Defense*, and in 1992 the Air Force produced its first-ever official FID doctrine in Air Force Manual 2-11, *Air Force Opera-*

tional Doctrine: Foreign Internal Defense Operations.[37] For USSOCOM and AFSOC then, the challenge was to avoid simply making appropriate genuflections to salient features of successful FID concepts and uttering the appropriate buzzwords while failing to step forward with dollars and resources.[38]

Back to the Future

Although the Air Force nominally continued to perform the FID mission after Vietnam, it was as an adjunct to its conventional mission and was accomplished on an ad hoc basis. In other words, extant resources were tapped to perform FID activities. However, several studies had conclusively documented that "the lack of a sustained, coordinated effort by individuals dedicated to the FID mission is the principal reason we have failed to achieve the long-term changes in the way developing countries support, sustain, and employ airpower."[39] Recognizing this fact, the first theater analysis performed by the Joint Mission Analysis (JMA) organization of USSOCOM identified an aviation-FID requirement in US Southern Command (USSOUTHCOM) for uniquely skilled personnel and for short takeoff and landing capable aircraft (Findings 025 and 026).[40] The underlying logic corroborated the contention that a dedicated unit was better suited to facilitating long-term solutions to seemingly intractable airpower employment and sustainment problems in the third world. As a result, per CINCSOC instruction, AFSOC forwarded a statement of need (SON) to USSOCOM for a dedicated aviation-FID organization.

Sensing the potentially greatest obstacle to be US Army aviation objections, representatives from AFSOC and USSOCOM met with representatives of the US Army Aviation Center (USAAVNC) regarding the aviation-FID initiative. The meeting concluded with mixed results; USAAVNC and TRADOC supported the fixed-wing portion of the concept but expressed reservations about any AFSOC rotary-wing FID efforts—especially given the perceived prospects of overlap between USAAVNC and AFSOC missions.

Much of the reluctance had its roots in Army and Air Force squabbles regarding helicopters in general. In May 1984 the chiefs of staff of the Army and Air Force announced an agreement designed to improve cooperation between the services. Within the agreement were 31 initiatives designed to reduce waste and facilitate improved joint operations. Initiative 17 addressed the decision to transfer sole responsibility for rotary-wing support of SOF to the Army. The Air Force decision, however, had been made without AFSOF input. In 1986, after two years of heated debate, the House Appropriations Committee decided the expense of transfer outweighed any advantages and directed that Initiative 17 not be implemented. With the stand-up of USSOCOM in 1987, all SOF aviation assets fell within its purview and for all intents and purposes under a single "joint commander." Consequently, in 1991 the CINCSOC Joint Special Operations Aviation Board Report averred that "Initiative 17 is no longer an issue."[41] Nevertheless, the residue of the Initiative 17 battle could be detected at the meeting between AFSOC and USAAVNC and would continue to color the debate for months to come.[42]

In March 1991 the JMA quantified FID fixed-wing aircraft requirements, alluding to a "FID wing," and AFSOC submitted an updated mission need statement (MNS, the successor to SON) for a "family of Air Force, FID-specific, aircraft." Subsequently, in July 1991, HQ AFSOC published a concept study which became the keystone for future development of aviation FID. At the heart of the concept was the stated intent to develop an organization of foreign-language-trained, area-oriented, and culturally and politically astute aviation experts to provide advisory and training support to foreign aviation forces supporting the host government's IDAD strategy. In November 1991 AFSOC and USSOCOM planners met to align priorities in the near, medium, and long term. The JMA study notwithstanding, the USSO-

COM/SO J-5 (Plans) instructed AFSOC not to submit a program objective memorandum (POM) for aircraft.[43]

In the near term (fiscal years [FY] 1991–1994), AFSOC would continue development of the concept and would submit a POM request for a small "people only" organization. In the medium term (FY 94–96), AFSOC would stand up a dedicated organization, independent of the planning cell in the headquarters but reporting directly to the commanding general. Finally, in the long term (FY 96–98), the dedicated organization would grow to include more personnel and FID-specific aircraft.

Intrusions

From the beginning, two issues dogged the initiative to establish an aviation-equipped organization dedicated to foreign internal defense: the extent to which the unit would be "joint" and whether "owned and operated" aircraft would be part of the equation. By this time, General Lindsay had been replaced by Gen Carl Stiner as CINC-SOC. In 1991 General Stiner had directed that the evolving aviation-FID unit be "joint," meaning that Army SOF personnel and assets would be assigned in addition to AFSOC resources. Soon afterward, US Army Special Operations Command (USASOC) raised several pointed misgivings about dedicating scarce resources to aviation FID, and a host of questions (e.g., whether to include special forces or limit support to Army SOF aviation assets only) bedeviled deliberations regarding the initiative for months.

The problem of aircraft proved most vexing. The decision with respect to ownership of FID-specific aircraft would impact the scope of the initiative in terms of capability, manning, basing, acquisition, funding, and so forth. The impact was detailed in a white paper produced by HQ AFSOC/XPF—the locus of aviation-FID concept development—in which several options were outlined, ranging from no aircraft to a full-fledged flying squadron. The least-preferred option was no aircraft, considered a "workaround option," in which the unit would rely on "creative ventures" to accomplish its mission. Citing demand for aviation-FID capability from the various theater commands, the white paper implied that anything less than a full-fledged capability would effectively negate its usefulness.[44] In short, aviation FID involves the application of airpower; without aircraft, the unit would be very limited in expertise outside of certain nonrated specialties (e.g., maintenance). A unit with some aircraft (owned or leased) would possess greater aviator expertise but would still fall far short of its full potential. Thus, the position of the FID planners was clear: for a SOF aviation organization with a FID mission, aircraft were appropriate and necessary.[45] The original study had concluded that a "family of aircraft," representative of those found in the developing world, would provide the means to develop FID-specific tactics, techniques, and procedures as well as provide for qualification, currency, and proficiency of aviation-FID aircrews. Moreover, assigned maintenance personnel—FID trainers in their own right—would maintain the aircraft as part of their own mission.

In December 1991 AFSOC prepared to submit POM inputs to USSOCOM without aircraft, per the earlier direction of the CINC's J-5. However, during a HQ AFSOC program evaluation group meeting, the USSOCOM representative instructed AFSOC to reinstate aircraft in the POM submission. Ironically, during subsequent POM deliberations at USSOCOM, the entire aviation-FID initiative fell below the funding line. General Stiner is alleged to have instructed his staff to fund the initiative, but under General Lindsay it remained below the funding line, and in the end AFSOC "bought back" the initiative.[46]

In March 1992 the USSOCOM staff reviewed the MNS for FID aircraft. Not surprisingly, there was a mixed reaction. Within the J-3 (Operations), supporters claimed the "capability would significantly enhance FID operations in all theaters." USASOC nonconcurred, claiming that the MNS was inappropriate because "it appears to describe a combat organization in support of a US FID mission that would deploy these assets and perform the HN [host-nation] mission." Perhaps more to the point, USASOC maintained that "USSOCOM affordability for another major mobility program is doubtful." Moreover, the concept might prove "to be a very expensive program which will compete with other unfinanced mobility programs in USSOCOM." In short, aviation FID would compete with USASOC programs such as the MH-47 helicopter.[47]

Since 1991 aviation-FID personnel have deployed more than 75 times, mostly to Latin America but more recently to North Africa and the Middle East.

Responding to the USSOCOM review, AFSOC revised the mission need statement and appended a six-page letter responding to each and every criticism. Most importantly, the letter spelled out the underlying doctrinal validity of the initiative:

> The objective of our aviation-FID organization is to advise friendly governments on how best to employ and sustain their *own* air assets in support of their respective internal defense and development (IDAD) strategies—not to conduct operations for them. Nonetheless, appropriate aircraft are needed for our aviation-FID trainers to develop and perfect the flying skills, tactics, and techniques required in third world environments. Finally, in some limited instances, it may be advantageous to actually deploy AFSOC FID aircraft to demonstrate the utility of airpower, for example, in support of ground operations. The family of aircraft we envision is certainly capable of demonstrating this capability, and ideally a deployment of this nature would be joint, with Army special forces or Navy SEALs, etc., participating. As our ground counterparts impart the skills needed for ground operations, our aviation-FID advisors would be working with the host air force, focussing on aviation employment and support. An adjunct goal, then, would be to assist the host in developing a joint air-ground capability. As the host forces hone their own skills, we could withdraw our hardware and assist them to obtain their own assets through available security assistance programs. Regardless, the ultimate objective is to assist in developing the appropriate aviation capability within the existing resources of the host government.[48]

Nevertheless, the Requirements Review Board at USSOCOM did not approve the new mission need statement when it was briefed on 4 February 1993. The aircraft acquisition line was therefore dropped out of the POM, but monies were moved to the operations and maintenance (O&M) line to facilitate a "non-material alternative"such as leasing.[49]

A New SOF Aviation Unit (Sans Aircraft)

The debate regarding aircraft would continue to rage, however. In late August 1992 General Stiner was sufficiently convinced of the potential for aviation FID that he sent a letter to the JCS chairman stating that the USSOCOM FY 94–99 POM funded the initial cadre (the "people only" unit) with a small O&M budget: "This grows to nearly 100 personnel by the end of the FYDP [Five-Year Defense Plan]. Unfortunately, the current schedule does not permit creation of an aviation-FID unit soon enough to meet emerging theater CINC requirements." General Stiner went on to point out that a joint and combined "proof of concept" deployment had been conducted earlier in the year in Ecuador which he characterized as a "resounding success." Finally, General Stiner requested "help to obtain the required funds and manpower billets needed to form the initial cadre and stand up the complete aviation-FID organization sooner than currently resourced in the USSOCOM POM."[50]

General Stiner's letter was a watershed in the evolution of the initiative. The Joint Staff subsequently determined that the "initiative meets a valid theater requirement in USSOUTHCOM and is within the USSOCOM charter." Moreover, the Air Force considered the aviation-FID organization "to be complementary to its own programs, and supports the initiative." However, the Army "expressed concern that the rotary wing portion of the organization may duplicate its own rotary wing" mission. Not surprisingly, the initial resistance of the USAAVNC remained intact.

The most important aspect of the Joint Staff review—one which would profoundly affect the character of the aviation-FID organization—addressed the operational concept. In an August 1992 letter, the Joint Staff reviewers declared that

> the mission of the aviation FID organization in USCINCSOC's first paragraph is too restrictive. If the organization's primary mission is to upgrade the capabilities of foreign air forces, then it can operate only under the security assistance umbrella. If its primary mission is special air operations in support of other US SOF, then it can also perform its FID mission using MFP-11 [Major Force Program] funds by conducting joint/combined training with other US SOF and foreign air and ground forces during major exercises and unit deployments for training.

Shortly after pointing out this patently obvious but previously overlooked fact, the Joint Staff requested a briefing to flesh out these and other issues.

USSOCOM briefers provided additional details on 12 January 1993 to the vice director of the Joint Staff (VDJS). Also in attendance was the former commander of USAAVNC, who had sternly resisted the initiative in 1991. His opposition set the pace for the conduct of the briefing which, in the end, was not a spectacular success. The VDJS, a Navy vice admiral, opined that by definition all special operations forces perform the FID mission; therefore a dedicated unit was unnecessary. The briefers bravely attempted to describe the de facto compartmentalization of SOF units by mission (i.e., some are devoted almost exclusively to direct action, others to counterterrorism, and so forth). In describing this aspect of SOF, the briefers asserted that direct action units could only perform FID in the discredited ad hoc fashion of the past, and in performing the FID mission, direct action units would degrade their core mission. The VDJS was not persuaded, and in closing he directed that the USSOCOM briefing be revised and provided to the service deputy operations deputies (DepOpsDeps), to TRADOC, and to the USAAVNC.[51]

An amended briefing was prepared and presented to the DepOpsDeps in March 1993. The key concept of the revised briefing—provided by AFSOC planners in response to the initial Joint Staff musings regarding a special air operations unit with a core FID mission—was the notional structuring of the proposed unit along the lines of Army special forces. Although this meeting was also chaired by the VDJS, the feedback was more promising. Contributing to this more positive response was the fact that TRADOC interposed no objections and the current commander of the USAAVNC considered FID to be additive to his basic skills training mission for foreign aviators. Finally, the VDJS noted the popularity of the concept among the theater CINCs and the fact that the initiative was in line with defense planning guidance regarding the emerging post-cold-war security environment.[52]

The SOF Exception

The idea of Air Force FID operators being akin to special forces transformed the entire concept. The impetus for this sea change in outlook—from nominally a security assistance organization to special air operations focusing on FID—had its roots in what is known today as the "SOF exception." In 1984 the Government Accounting Office (GAO) audited military activities in Honduras during Operation Ahuas Tara II. The comptroller general issued a formal opinion to the effect that the Defense Department had violated fiscal law by using O&M monies (Title 10) to conduct security assistance (Title 22) activities. Army special forces were the principal perpetrators, and 1st SOCOM (the predecessor to USASOC) defended the activities as "own-force FID and UW mission-essential tasks training" comprising the mission-essential task list (METL). The logic advanced was that it was proper to use Title 10 funds for unit training overseas in order to maintain special forces core skills related to its wartime UW mission. In 1986 a second comptroller general opinion recognized a "special forces exception," acknowledging that the training of foreign forces was "minor and incidental" but nonetheless critical to special forces wartime skills.

The 6 SOS "is a combat advisory unit activated for the purpose of advising and training foreign aviation units to employ and sustain their own assets . . . into joint, multi-national operations."

Later in 1986 the exception was extended to US Navy special warfare, AFSOF, and other US Army SOF (i.e., PSYOP and civil affairs). The exception, ultimately codified in Title 10, noted that SOF may "train and train with" foreign forces using O&M funds. The legislation also permitted "reasonable incremental expenses" to facilitate host country forces' participation. In 1991 CINCSOC offered an amendment which further clarified the SOF exception. The amendment deleted the "minor and incidental" restriction, and allowed combatant commanders to pay for rations, ammunition, transportation, and fuel costs incurred by foreign forces as a direct result of training with US special operations forces. The House and Senate conference committee accepted the amendment and directed the secretary of defense (SECDEF) to submit an annual report on the use of O&M monies by SOF to train the forces of friendly foreign countries.

Recognizing the SOF exception as the key to aviation FID, AFSOC planners turned to the best possible model available—Army special forces. For example, the mission statement for the 3d Battalion, 7th Special Forces Group (3/7 SFG) states that the battalion "will plan, prepare for, and when directed, conduct special operations, primarily foreign internal defense (FID), in support of US objectives in the SOUTHCOM theater of operations."[53] In simple terms, 3/7 SFG is a SOF unit, capable of conducting all SOF missions but with a core mission of FID. The aviation-FID mission statement therefore became an unapologetic plagiarism of the 3/7 SFG mission statement: The aviation-FID unit would "plan, prepare for, and when directed, conduct special air operations, primarily foreign internal defense, in support of US and theater CINC objectives [and develop] and implement programs to advise, train, and assist foreign governments and combatant commanders in the planning, employment, and support of air operations supporting [host country] internal defense and development."[54]

Special Forces with Wings

Based upon the Joint Staff review and the issues raised at the initial VDJS briefing, AFSOC FID planners modeled aviation FID on special forces, creating a combat advisory unit activated for the purpose of serving the theater CINCs' training and advisory requirements in crisis, contingency, and war. Consequently, within the parameters of the SOF exception, the unit would train in peacetime as it expected to operate in war. That is, the unit would advise, train, and assist foreign air forces in the employment and sustainment of air operations. To accomplish this goal, the unit would apply a "total package approach," combining security assistance programs with unilateral, joint, and combined deployments for training. Moreover, the unit would provide "adaptive training" in-country, meaning training beyond the basic instruction received by host-country forces at US institutions such as USAF undergraduate pilot training or at the Inter-American Air Forces Academy and the US Army School of the Americas.

In that the mission of the unit would be similar to special forces, its organization largely came to mirror its mentor. The key became the operational aviation detachment (OAD), modeled on special forces operational detachments (OD). OAD-A teams would, in many respects, mimic OD-A teams; however, OADs would be task organized. Whereas OD-A's comprise specific military specialties common to all teams, OADs would be formed from "flights" and tailored to the requirement. A notional OAD might include pilots, other aircrew, maintenance, special tactics (combat control and pararescue), logistics, intelligence, and other specialists. But if the requirement were maintenance specific, the OAD might contain only maintenance personnel. Nevertheless, the OAD would provide an integrated, self-contained, "total package" approach to advising and training foreign air forces. And when three or more OAD-A teams deployed, an OAD-B team would deploy as a C^3I headquarters. Finally, an OAD-C team would remain at home station to provide connectivity. Tying all of this together, the OADs would train to their mission-essential task lists.[55]

Since the mission was to assist foreign air forces with respect to the totality of airpower, the unit would comprise a diverse mix of specialties, including fighter, airlift, and helicopter pilots; other aircrew personnel (aerial gunners, flight engineers, etc.); maintenance personnel; logistics and intelligence specialists; special tactics people; and so forth. The unit would be organized in flights with each oriented to specific theaters—much like special forces groups–from which the OADs would be organized, trained, and equipped.[56]

Education and training became a key component of the concept. Aviation FID personnel would receive academic instruction and specialized training in a phased approach, concurrent with their duties. The basic phase would impart a fundamental theoretical understanding of FID, including instruction in revolutionary warfare, intercultural communications, PSYOP, and related areas. All personnel would be qualified in a foreign language appropriate to the regional focus of their flight. Training would cover weapons, antiterrorism, combat survival, and high risk of capture, as well as technical training relevant to the respective specialties. In the advanced phase, FID personnel would attend courses on joint SOF planning, air-ground operations, and the like. Finally, in the professional development phase, select personnel would attend programs designed to broaden the theory learned in the basic phase in order to make them politico-military professionals—regardless of Air Force specialty—enabling these individuals to advise foreign air forces in the application of "airpower." The net result would be a SOF unit comprised of culturally and politically astute aviation experts–what General Stiner referred to as "special forces with wings."[57]

The 6th Special Operations Squadron

In the spring of 1991, following General Lindsay's validation of the concept, a two-man cell was created in HQ AFSOC, Plans and Programs (XP). In October 1991 a politico-military officer was assigned and an office created (HQ AFSOC/XPF). Following the "buy-back" of the initiative in the winter of 1992, HQ AFSOC/XPF expanded to eight personnel "out-of-hide"—that is, the XP moved authorizations from other divisions to XPF. In buying back the initiative, AFSOC funded expansion of the core cadre to 20 personnel. Following a briefing to CINCSOC in July 1993, USSOCOM approved growth to squadron strength—approximately 112 personnel—and funded the squadron in the USSOCOM POM. Subsequently, in August 1993, HQ AFSOC/XPF "broke out" of the headquarters and became an operational unit: Detachment 7, Special Operations Combat Operations Staff (Det 7, SOCOS), reporting to the AFSOC director of operations (DO). Interestingly, this transitional unit retained headquarters management functions concerning continued development of the aviation-FID initiative; therefore, the METLs were a unique hybrid of operational tasks and headquarters management tasks (e.g., doctrine development). In April 1994, owing to Headquarters USAF realignment directives, Det 7, SOCOS was redesignated the 6th Special Operations Flight (6 SOF) and realigned under the 16th Special Operations Wing (SOW). At the same time, to provide continuity and "top cover," a FID office was retained in HQ AFSOC within the DO.

It would be unthinkable to deny Army special forces or Navy SEALs the tools required to accomplish their mission, or to deny AFSOF direct-action crews the platforms they need, or to prohibit training on these systems; yet this is the very position taken by many in the SOF community with respect to aviation FID and the 6 SOS.

In June 1994 the aviation-FID concept was briefed to the secretary of defense, and following a meeting between the AFSOC commander, CINCSOC, and the SECDEF, the AFSOC commander decided to accelerate growth of 6 SOF to full-fledged squadron status. Beyond the original core cadre of 20 people, two flights would be added per year beginning in FY 95 until seven flights were fielded. In light of this programmed growth, HQ AFSOC requested approval to stand up 6 SOF as a squadron, which was granted by HQ USAF. In October 1994 the flight was redesignated the 6th Special Operations Squadron (6 SOS) and became the first Air Force unit with FID as a core mission.

Since 1991 aviation-FID personnel have deployed more than 75 times, mostly to Latin America but more recently to North Africa and the Middle East.[58] These deployments have ranged from two-man OADs to complex joint and combined SOF operations. The initial focus was in Latin America, owing to SOUTHCOM's expressed requirements. In fact, Ecuador was viewed as an early "laboratory" for aviation FID. Over a three-year relationship, AFSOC FID personnel worked painstakingly to encourage the Ecuadoran air force (Fuerza Aerea Ecuatoriana, or FAE) to commit to internal development as well as internal defense. Aviation-FID advisors therefore "brokered"—and accompanied as advisors—engineering and medical deployments which built schools, hospitals, and water treatment facilities and also provided medical, dental, and veterinary services to remote populations. In each instance, the FAE was placed in the forefront, projecting a positive government image to villagers in areas threatened by narcotraffickers and guerrillas. Beyond "civic actions," aviation-FID advisors worked with the FAE to improve their tactical skills, particularly in air-to-ground operations.

The proof, as it is often remarked, is in the pudding. In the earlier "proof of concept" deployment to Ecuador, it was learned that—owing to cultural factors as much as anything else—Ecuadoran army personnel had never communicated by radio with FAE pilots in the air. The predictable consequence was disaster. In a counterdrug operation in an area on the Colombian border known as the "iron triangle," Ecuadoran army riverine forces encountered Colombian guerrillas. The Ecuadorans suffered significant casualties. Ironically, FAE helicopter gunships were only minutes away, but the troopers on the ground did not know how to call for support or how to direct incoming aircraft even if they had been dispatched.

Over a two-year period, AFSOC aviation-FID personnel worked with FAE rotary-wing and fixed-wing units in air-to-ground operations in conjunction with 3/7 SFG OD-A's working with Ecuadoran infantry units. In March 1994 a major exercise was conducted in Ecuador, including three 6 SOF OADs, 3/7 SFG OD-A's, C-130s from the 133d Airlift Wing (Air National Guard), and an AC-130 gunship from the 919th Special Operations Wing (Air Force Reserve). FAE participants included fighters, helicopters, airlifters of different sorts, counterterrorism soldiers, air base security forces, and others. The Ecuadoran army provided elements from a regular infantry brigade and a jungle brigade. In addition to operational activities, FID trainers assisted FAE maintenance personnel in servicing their aircraft. The net result was a generation rate of over 80 sorties in two weeks, a number the FAE normally would produce over a 12-month period.

The joint and combined exercise was an unqualified success and was briefed to CINCSOC in April 1994. Shortly afterward, the Ecuadorans conducted another counterdrug operation in the same area as before, and again encountered Colombian narcoguerrillas. But on this occasion, employing air and ground assets in a sophisticated joint operation, the Ecuadoran military forces routed the guerrillas and suffered no casualties. The US military group commander in Quito later characterized the success of the operation as an outgrowth of the long-term training and advisory assistance provided by AFSOC FID deployments as well as of the exercise conducted the previous March.

The Ecuadoran deployment—and similar deployments to El Salvador, Venezuela, and Tunisia—confirmed the early studies, which maintained that "long-term benefits and continued joint/combined integration [are] wholly dependent upon [a] sustained and long-term relationship with host-country forces."[59] More importantly, the deployments proved that aircraft are a critical component. Inasmuch as the 6 SOS did not own its own aircraft, it became necessary to broker the participation of other units, mostly from the Guard and Reserve. The amount and quality of the training provided to the FAE and other air forces was directly tied to having deployed US aircraft to demonstrate tactics, techniques, and procedures. For example, the FAE had never tactically employed their C-130s, so it became necessary to use the Air Guard C-130s to demonstrate tactical airlift concepts before turning loose the FAE pilots in their own aircraft. As had been maintained from the beginning, the bottom line was fairly straightforward: "A dedicated organization of technically proficient aviation experts—with their own aircraft—who are properly prepared . . . to operate in a FID role, are (sic) imminently better able to perform the FID mission than the ad hoc practices of the past."[60]

On 1 August 1995 the 6 SOS published a strategic statement of the future entitled *6th Special Operations Squadron: Concepts and Capabilities*. The document reflects that aviation FID continues to evolve to meet the new challenge of multilateral operations. The mission statement, revised and updated, asserts that the 6 SOS "is a combat advisory unit activated for the purpose of advising and training foreign aviation units to employ and sustain their own assets in both peace and war and, when necessary, to integrate those assets into joint, multi-national operations." The document asserts that the "squadron's wartime advisory mission supports theater combatant commanders in three interrelated areas: foreign internal defense (FID), unconventional warfare (UW), and coalition support . . . through advisory assistance delivered to foreign friends and allies for both internal conflicts and regional crisis or war."[61]

Therefore the 6 SOS has in form and concept moved away from an exclusively FID focus to one encompassing an array of activities subsumed within the construct of "coalition support." Among several actions cited, this support includes facilitating airspace deconfliction, integration of host aviation efforts into multinational air campaign operations, improving the tactical performance of host aviation forces, and maintaining vital links between host aviation units and the joint force air component commander. This latter capability was proved in the deployment of a 6 SOS OAD to Jordan during a major exercise in 1995. OAD advisors colocated with elements of the 5th Special Forces Group (5 SFG) and the Jordanian Air Force. Forging links between the host Jordanian army and air force, and then with 5 SFG, the OAD advisors were able to orchestrate unprecedented Jordanian air support to the combined ground forces. The deployed 5 SFG battalion commander extolled the value of the contribution of the 6 SOS advisors to the extent that he requested 6 SOS advisors accompany all of his future deployments.[62]

The Future of Aviation FID and the 6 SOS

The 6th Special Operations Squadron is the realization of a vision articulated by a handful of people at AFSOC and USSOCOM. Several have retired from active duty, and only a tiny few remain who have been with the initiative from its genesis. Nevertheless, 6 SOS is a concrete response to the challenges posed by the post-cold-war era. National military strategy is moving away from the cold war imperative of containment to a regional security orientation and to military operations other than war. Military doctrine and war-fighting doctrine are evolving to address regional threats worldwide, with an emphasis on assistance to friends and allies to prevent conflict, maintain internal stability, and pursue US security interests. US support to the action programs taken by another government to provide for internal defense and development is what we mean by FID. Given the evolution of the security environment to one of operations other than war, it was a natural step for the 6 SOS to evolve to a role in coalition support. Nevertheless, FID arguably remains the core mission.

Policy guidance on foreign internal defense is clear. Moreover, Congress has answered the question of proponency by assigning FID to USSOCOM as one of its five SOF missions. And it is important to note that during his introductory remarks at a USSOCOM counterdrug conference, Gen Wayne Downing, then CINCSOC, asserted that "SOCOM doesn't need more commandos. We have enough commandos. What we need are guys who can do FID."[63]

Denouements

To their credit, successive AFSOC commanders have supported the FID initiative as well as the contention that aircraft are a necessary component. But the command has run up against institutional, political, bureaucratic, and even parochial obstacles that have diluted, if not doomed, an otherwise admirable effort to conduct aviation-centered foreign advisory operations as a complement to the ground-based FID mission performed by elements of Army special forces.

The issue of aircraft remains problematic. At this writing, AFSOC FID planners have submitted a new mission need statement for aircraft representative of those found in the developing world.[64] Although funding for leasing was provided in the POM, legal and bureaucratic obstacles tripped up the effort. But in truth, short-term leasing will serve only as a Band-Aid and thus delay to future AFSOC leaders the hard decision regarding owned and operated aircraft. It would be unthinkable to deny Army special forces or Navy SEALs the tools required to accomplish their mission, or to deny AFSOF direct-action crews the platforms they need, or to prohibit training on these systems; yet this is the very position taken by many in the SOF community with respect to aviation FID and the 6 SOS. This is remarkable given the fact that a succession of CINCs and AFSOC commanders have validated the concept as articulated. Therefore, as one Air University research report contended:

> The time has passed for debating organization and development of a FID capability. We must get to the business of creating forces that can conduct these missions within the third world setting—where they must be sustained. There is only one way to introduce mission capability and training credibility into AFSOC's evolving FID program such that the recipients will value our advice and assistance. *USSOCOM must aggressively fund the purchase . . . of a family of aircraft* . . . for the FID setting. . . . (Emphasis added) Until USSOCOM acts, AFSOC lacks the means to maintain proficiency and credibility in aircraft representative of those found in developing nations. AFSOC awaits the aircraft that are ultimately necessary to fulfill its FID mission responsibilities.[65]

As former US ambassador to the United Nations Jean Kirkpatrick once remarked, "I've my own version of that old Pogo canard, and [it] is, 'I have seen the problem and it is us.'"[66]

Postscript

The 6 SOS suffered its first casualty in March 1996. Capt Mark T. Todd, a former instructor pilot and F-16 pilot, was killed when the El Salvadoran 0-2 he was flying aboard as an observer crashed on a combat search and rescue training mission. Captain Todd personified the aviation-FID operator. He had left the fighter community, fully aware of the pitfalls of such a decision, because he believed in the FID mission. If USSOCOM and AFSOC step up to fully realizing the potential of the 6 SOS, it will be a fitting memorial to his vision, the vision of those who went before him, and of those who will come after him. □

Notes

1. "Worthless residue." The Latin *caput mortuum* literally means "death's head," or a skull. The term originated with medieval alchemists, referring to the residue left after distillation was complete. Since then it has been used to refer to any worthless residue. Although this description is unfair to the dedicated special operations personnel at the time, the fact remains that the capability was clearly a shadow of its former self.

2. For a full treatment, see Andrew J. Harris, "Executive and Congressional Efforts to Reorganize Special Operations Force," (paper presented to the Annual Conference, International Studies Association, 1 April 1988); and Jim Wotten, "Special Operations Forces: Issues for Congress," Congressional Research Service, Foreign Affairs and National Defense Division, Report no. 84-227, 14 December 1984

3. *Department of Defense Authorization Act, 1986, Conference Report 99-118*, 29 July 1985, 135. On the eve of passage, Senator Cohen asserted that SOF "are one aspect of the defense establishment that is most assuredly broken and must be fixed. These are the forces which we must rely on to respond to the conflict scenarios that we are most likely to face—international terrorism and low intensity warfare." William S. Cohen, "A Defense Special Operations Agency: A Fix for an SOF Capability That is Most Assuredly Broken," *Armed Forces Journal International (AFJI)*, January 1986, 38. For an insider's perspective, see Noel Koch, "Objecting to Reality: The Struggle to Restore U.S. Special Operations Forces," in Loren B. Thompson, ed., *Low-Intensity Conflict: The Pattern of Warfare in the Modern World* (Lexington, Mass.: Lexington Books, 1989), 51–75.

4. *DOD Authorization Act.*

5. As defined, FID is the "participation by civilian and military agencies of a government in any of the action programs taken by another government to free and protect its society from subversion, lawlessness, and insurgency." Joint Pub 1-02, *Department of Defense Dictionary of Military and Associated Terms*, 1 December 1989, 150. The other specified missions for SOF are "direct action," "special (formerly strategic) reconnaissance," "counterterrorism," and "unconventional warfare."

6. *National Security Strategy of the United States* (Washington, D.C.: Government Printing Office, January 1988), 34–35.

7. *The Goldwater-Nichols Department of Defense Reorganization Act of 1986, Conference Report.* Cited in "Low Intensity Conflict Umbrella Concept," for-comment draft by USSOCOM, 3 October 1988, iii-15.

8. *National Defense Authorization Act for Fiscal Year 1987, Conference Report 99-1001*, 14 October 1986, 177.

9. Col Richard F. Brauer, USAF, Retired, a former commandant of the US Air Force Special Operations School at Hurlburt Field, Florida, coined this phrase to highlight the bifurcation of SOF priorities (e.g., emphasis on "direct action" skills *versus* the "softer" skills of cultural and political astuteness required of SOF trainers and advisors to foreign forces).

10. In its "Darts and Laurels" section, *AFJI* reported that at a Washington, D.C., symposium, the Marines "focussed on the basic mission of training third world nationals," whereas USSOCOM focussed on "parachuting and other high adventure aspects of its work." The dart concluded by asserting that "there used to be a time when Army special forces and psychological operators were our paramount trainers in the third world." *Armed Forces Journal International*, January 1991, 52.

11. CINCSOC memorandum to commander, AFSOC, 29 March 1990, subject: Validation of the Proposed AFSOC Foreign Internal Defense (FID) Organization. In addition to addressing the need for development of such a capability, General Lindsay went on to outline his vision of the AFSOC role, to include "establishing an academic center to develop language trained and culturally oriented instructional programs to train U.S. personnel" and establishing a "centralized 'procurement' organization to purchase/lease aircraft deemed necessary to support a target country."

12. USSOCOM Directive 10-1, *Organization and Functions: Terms of Reference for Component Commanders*, 7 May 1993. In spelling out the role of AFSOC as "proponent" for aviation FID, Directive 10-1 tasked the commander of AFSOC to "develop an aviation FID implementation strategy in conjunction with USSOCOM staff agencies, USASOC, and NAVSPECWARCOM." In addition, AFSOC would define the qualifications and "prerequisite skills" for aviation-FID personnel; "plan, coordinate, and prepare joint aviation forces . . . for FID"; ensure integration with the other services and other government agencies to "address regional CINC theater strategies and host nation IDAD requirements"; develop and test equipment peculiar to aviation FID; and "designate a single manager for aviation FID security assistance issues for HQ AFSOC." Ibid., C-4–C-5.

13. Alan Wykes, *SS Leibstandarte* (New York: Random House, 1974), 6.

14. Maj John A. Hill, *Air Force Special Operations Forces: A Unique Application of Aerospace Power* (Maxwell AFB, Ala.: Air University Press, April 1993), 1. During the latter stages of the war there were three air commando groups; however, at its end, all three had been absorbed into conventional units. For a full treatment of the 1st Air Commando Group, see Maj R. D. VanWagner, *1st Air Commando Group* (Maxwell AFB, Ala.: Military History Series 86-1, USAF Air Command and Staff College, 1986).

15. Special air warfare was defined at the time as "an overall descriptive term of reference including the air aspects of counterinsurgency . . . unconventional warfare . . . and psychological operations" as quoted from Brig Gen Monro MacCloskey, *Alert the Fifth Force: Counterinsurgency, Unconventional Warfare, and Psychological Operations of the United States Air Force in Special Air Warfare* (New York: Richards Rosen Press, 1969), 125.

16. Excellent treatments of this period can be found in Douglas Blaufarb, *The Counterinsurgency Era: U.S. Doctrine and Performance, 1950 to the Present* (New York: Free Press, 1977); and Larry Cable, *Conflict of Myths: The Development of American Counterinsurgency Doctrine and the Vietnam War* (New York and London: New York University Press, 1986). Both authors argue that US policy makers misunderstood the nature of insurgency in Vietnam and constructed a COIN strategy doomed to failure. Antipodally, Harry G. Summers Jr., in *On Strategy: A Critical Analysis of the Vietnam War* (Novato, Calif.: Presidio Press, 1982); and Norman B. Hannah, in *The Key to Failure: Laos and the Vietnam War* (New York and London: Madison Books, 1987), argue that policy makers failed to ascertain that the insurgency was in fact a "smokescreen," obscuring the "essential political and strategic truth" that South Vietnam succumbed to a conventional invasion by North Vietnam "using irregular guerrilla tactics." Hannah, 189–90.

17. JCS 1800/401, 10 February 1961; JCS 1969, 3 March 1961; Col W. V. McBride, chief, Special Warfare Division, Directorate of Plans, memo to C. H. Hildreth, Air Force Historical Office, 9 November 1963, as quoted in Charles H. Hildreth, *USAF Counter-insurgency Doctrines and Capabilities, 1961–1962* (Washington, D. C.: USAF Historical Division Liaison Office, February 1964), 4. (Secret) Declassified 7 November 1983.

18. For a full treatment of the effect on special forces, see Alfred H. Paddock Jr., *U.S. Army Special Warfare, Its Origins: Psychological and Unconventional Warfare, 1941–1952* (Washington, D.C.: Government Printing Office, 1982), and Francis Kelley, *U.S. Army Special Forces, 1961–1971* (Washington, D.C.: Department of the Army, 1973).

19. Presentation for Lt Gen D. A. Burchinal, deputy chief of staff for plans and programs, by the Counterinsurgency Operations Division, Directorate of Operations, 1 June 1962, subject: Air Force Role in Counterinsurgency, cited in Hildreth, 5.

20. Ibid., 8.

21. Ibid., 8–9; and MacCloskey, 156.

22. Memorandum, McNamara to military department secretaries, 5 September 1961, subject: Experimental Command for Sub-Limited War, cited in Hildreth, 12.

23. Ibid., 13–14; and MacCloskey, 161.

24. Hildreth, 26–27.

25. Ibid., 25–30 and 43–45.

26. MacCloskey, 161–63.

27. Charles H. Hildreth, *USAF Special Air Warfare Doctrines and Capabilities, 1963* (Washington, D. C.: USAF Historical Division Liaison Office, August 1964), 2, 33. (Secret), Declassified 7 November 1983.

28. Robert F. Futrell, *The United States Air Force in Southeast Asia: The Advisory Years to 1965* (Washington, D. C.: Office of Air Force History, 1981), 63–268, passim.

29. Hildreth, *USAF Special Air Warfare Doctrines*, 3–5. For example, on 11 June 1963 CINCEUR requested the Joint Staff approve a dedicated special air warfare unit for Europe, capable of COIN and UW missions, and he emphasized a need for such a unit to work closely with the 10th Special Forces Group. Ibid., 8.

30. Ibid., 39. Address by LeMay, quoted from remarks before the Central States Shrine Association, St. Louis, Mo., 19 October 1963.

31. USAF Chief of Staff Policy Book, 1964, Item 13-3, June 1964, as quoted in Hildreth, *USAF Special Air Warfare Doctrines and capabilities*. 40.

32. Ibid., 44.

33. For example, "by 1974, USAF SOF had declined from 19 flying squadrons with 550 aircraft and over 5000 personnel . . . to less than 40 aircraft." Quoted from the AFSOC FID research report, *AFSOC Foreign Internal Defense*, Headquarters AFSOC, July 1990, 5.

34. President Richard Nixon himself would write a book by that name: *No More Vietnams* (New York: Arbor House, 1985).

35. Blaufarb, 286–87.

36. Robert H. Kupperman Associates, Inc., *Low Intensity Conflict*, vol. 1, *Main Report* (prepared for US Army Training and Doctrine Command, 30 July 1983), 1. Kupperman's report limited itself to the Army, but the conclusions were deemed relevant to the entire military establishment—including the Air Force.

37. Joint Pub 3-07.1, *Joint Tactics, Techniques and Procedures for Foreign Internal Defense*, November 1993; and Air Force Manual 2-11, *Foreign Internal Defense Operations*, 3 November 1992.

38. This is a loose restatement of Dr. Larry Cable's criticism of Defense Department inability to transcend superficial acknowledgement of the requirements of low intensity warfare. Larry Cable, "Re-Inventing the Wrong Wheel: U.S. Counterinsurgency Doctrine Since the Vietnam War" (paper presented at

the University of New Brunswick Centre for Conflict Studies Conference on Low-Intensity War, 28 September 1991), 1.

39. "AFSOC Foreign Internal Defense (FID) Capability," position paper, 25 November 1991.

40. *AFSOC Foreign Internal Defense*, 10–11; and HQ AFSOC/XPF point paper, subject: Evolution of Joint Aviation Foreign Internal Defense (FID) Organization, 16 February 1993.

41. HQ AFSOC/XPF background paper, subject: Initiative 17 (I-17) and SOF Aviation Command and Control, 25 August 1992

42. For a brutally honest treatment of Air Force complicity in handing over AFSOF helicopters to the Army, see Koch, "Objecting to Reality."

43. Meeting notes, HQ AFSOC/CV and USSOCOM/SO J5, 8 November 1991.

44. HQ AFSOC/XPF, *6th Special Operations Squadron Required Strength and Capabilties*, white paper, undated.

45. HQ AFSOC/XPF point paper, subject: Aviation Foreign Internal Defense (FID) Issues, 16 February 1993.

46. HQ AFSOC/XPF, "Evolution." In "buying back" the initiative, AFSOC decided to fund the growth rather than fight for specific line-item funding in the USSOCOM POM.

47. HQ AFSOC/XP letter to USSOCOM/SO J3, subject: Mission Need Statement (MNS) for a Family of Air Force FID-Specific Aircraft, 4 August 1992.

48. Ibid.

49. HQ AFSOC/XPF, "Aviation FID Issues."

50. CINCSOC, memorandum to chairman, Joint Chiefs of Staff, subject: Aviation Foreign Internal Defense (FID), 7 August 1992.

51. Author's notes from USSOCOM/SOJ-5P briefing to VDJS, subject: Joint Aviation Foreign Internal Defense, Information Briefing, 12 January 1993.

52. From the beginning, the concept of the aviation-FID organization was designed to comply with Section I of Defense Planning Guidance (DPG), FY 1990–FY 1994, which considered a core mission of the Defense Department to be assisting friends and allies to defend themselves against armed insurgencies, terrorism, and internal coercion. In short, the DPG stipulated that the United States should give "increased attention to developing or strengthening capabilities relevant to the range of third world challenges." Moreover, basic national defense doctrine, contained in Joint Pub 01, *Joint Warfare of the U.S. Armed Forces*, 1990, page IV-13, contended that special operations forces be established to participate in the FID mission area (cited in HQ AFSOC/XPF, "AFSOC FID Capability," position paper, 25 November 1991).

53. Author's briefing to CINCSOC, subject: Aviation Foreign Internal Defense, 27 July 1993.

54. Ibid.

55. HQ AFSOC/XPF point paper, subject: AFSOC Operational Aviation Detachments, 11 May 1993.

56. Ibid.

57. HQ AFSOC/XPF, "Education and Training Support for AFSOC Aviation Foreign Internal Defense (FID)," background paper, 13 March 1992.

58. Lt Col Steve Whitson, commander, 6 SOS, telephone interview, 12 April 1996.

59. Lt Col Wray Johnson, "Aviation Foreign Internal Defense: The 6th Special Operations Squadron and the Realization of an Aviation-Centered FID Capability in USSOCOM," (unpublished article written in 1994), 8.

60. HQ AFSOC/XPF point paper, subject: Ecuador Aviation-FID Proof-of-Concept Lessons Learned: Implications for AFSOC Aviation-FID Concept, 12 August 1992.

61. Strategic plan, *6th Special Operations Squadron: Concepts and Capabilities*, 1 August 1995, 1.

62. Whitson.

63. Lt Chris Dugan, "FID: Get Onboard, or Get Left Behind," *Full Mission Profile*, the professional bulletin of Naval Special Warfare, Winter 1995/96, 30.

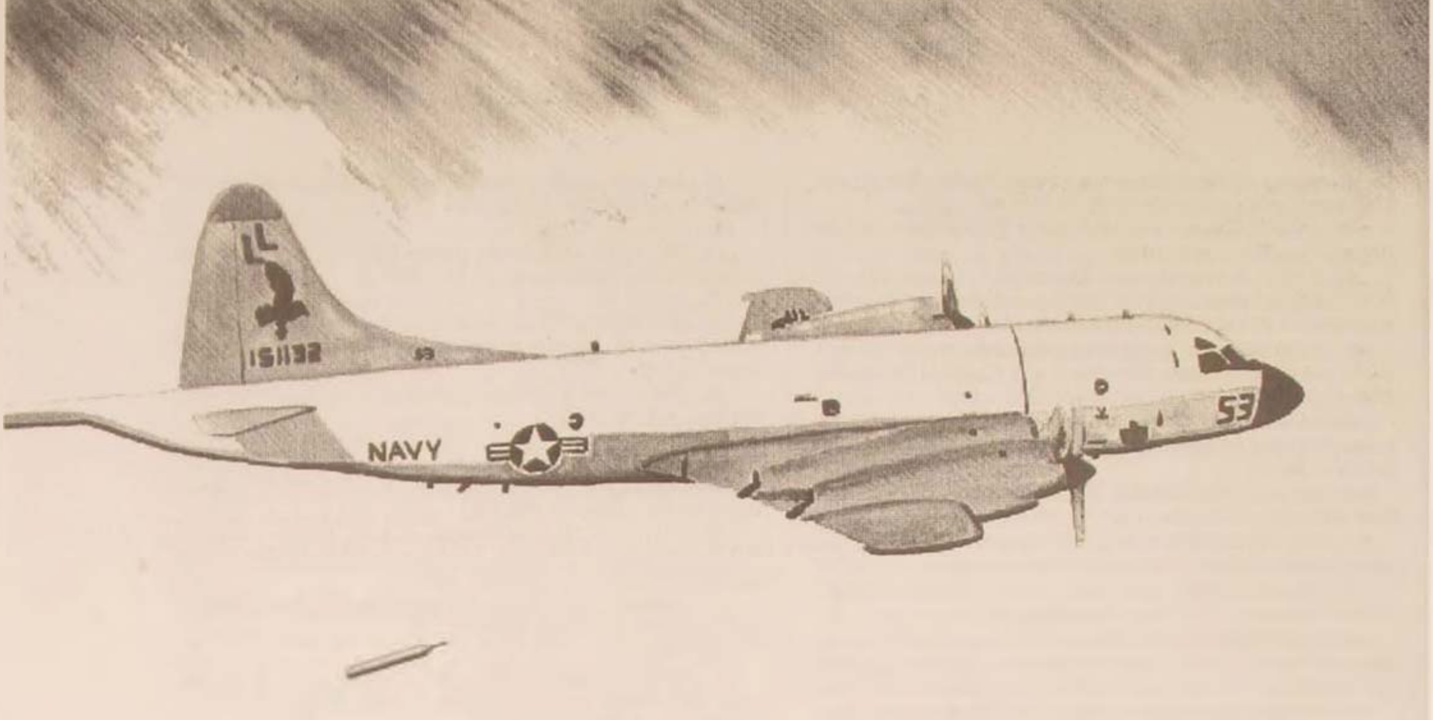
64. The new mission need statement reflects upon the AFSOC mission area plan (MAP), in that the MAP "identifies a critical deficiency in the ability of [FID] aircrew and ground maintenance personnel to maintain currency and proficiency on aircraft similar to those encountered in various countries around the world." In addition, the MNS asserts that "demand for 6 SOS training and advisory services presently exceeds the unit's capability to respond due to shortages of trained personnel. . . . If reliable training platforms are not available the 6 SOS will not be able to maintain currency or operate within satisfactory margins of safety." *Mission Need Statement for a Capability to Sustain Aviation-Foreign Internal Defense (Aviation-FID)/Coalition Aircrew and Maintenance Personnel Aircraft Proficiency*, HQ AFSOC/DOOD, 5 February 1996, 1–2. For a full treatment of the "family of aircraft"—the types, capabilities, etc.—see Maj Michael C. Koster, *Foreign Internal Defense: Does Air Force Special Operations Have What it Takes?* Research Report no. AU-ARI-93-2 (Maxwell AFB, Ala.: Air University Press, December 1993).

65. Koster, 73.

66. Jean Kirkpatrick, "The Role of the Soviet Union in Low-Intensity Warfare," speech given at the Low-Intensity Warfare Conference, sponsored by the secretary of defense, 14–15 January 1986, Fort McNair, Washington, D.C., printed in *Proceedings of the Low-Intensity Warfare Conference*, 130.

One of the marvelous things about life is that any gaps in your education can be filled, whatever your age or situation, by reading and thinking about what you read.

—Warren Bennis, *On Becoming a Leader*



A Joint Idea

An Antisubmarine Warfare Approach to Theater Missile Defense

James J. Wirtz

THIS ARTICLE BRIEFLY describes how the philosophy that guides the US Navy's antisubmarine warfare (ASW) operations can be used to organize a theater missile defense campaign (TMD). It treats TMD as a fundamentally joint operation and describes how this ASW philosophy can integrate service capabilities into an extremely effective defense against the ballistic missile threat. To support this argument, the article briefly sketches the fundamentals of ASW operations and applies them to the problem of locating and destroying mobile missiles before they can be launched. It then explains why each of the services should play a role in a TMD strategy inspired by ASW. It also suggests which commander in chief (CINC) should take at least peacetime responsibility for promoting the TMD effort. The article concludes with some observations about the role of ideas in joint warfare.

During the Gulf War, it became increasingly apparent that US forces had failed to destroy Iraqi Scuds on the ground before they could be launched against targets in Israel and Saudi Arabia. Despite the large number of air sorties devoted to eliminating the Scud threat, the "flaming datum" used to target mobile missile launchers proved ineffective. Even though aircraft arrived in the general vicinity of a missile site only a few minutes after a missile launch, Scud crews had plenty of time to "scoot" to predetermined hiding areas before US warplanes arrived overhead.

Since the Gulf conflict, improving the ability of American units to defend themselves against ballistic missiles has remained a priority. The Clinton administration's counterproliferation policy emphasizes theater missile defense, especially defense against missiles armed with weapons of mass destruction (WMD).[1] The administration has concentrated on developing active defenses such as upgrading the Army's Patriot missile system and improving command, control, communications, and intelligence (C^3I) to counter the regional missile threat.[2] Still, improved active defenses and C^3I are only two facets of effective TMD. To succeed, TMD requires both passive defenses and a counterforce capability.[3] Somehow, the services must improve the performance turned in against Iraqi Scuds during the Gulf War by integrating the four major elements of TMD—C^3I, active defenses, passive defense, and counterforce—into an overall campaign strategy.

Many political issues complicate counterproliferation and TMD.[4] Devising a joint approach to C^3I and multiservice air, ground, and naval operations, however, poses its own unique set of military problems. In terms of organization and doctrine, TMD is difficult because it is "inherently a joint mission." As the authors of JP3-01.5, *Doctrine for Joint Theater Missile Defense,* note, "Joint force components supporting CINCs and multinational force TMD capabilities must be integrated toward the common objective of neutralizing or destroying the enemy's theater missile capability."[5] Accomplishing this integration, however, is no small task. New hardware, software, or a single new weapon will not miraculously solve the TMD problem. What is needed is a "better idea" for organizing multiservice C^3I, active defenses, passive defense, and counterforce into an effective TMD strategy.

A tried and true method of destroying targets that rely on mobility and stealth to improve their survivability already exists: antisubmarine warfare.

If one is willing to look for this organizing principle in unexpected places, then a tried and true method of destroying targets that rely on mobility and stealth to improve their survivability already exists: antisubmarine warfare. As strange as it may sound, a TMD architecture based on an ASW philosophy offers a way to integrate the services' various capabilities into a coherent plan to stop an opponent's ballistic missiles from reaching their targets. Applying ASW principles to TMD also represents a novel development in joint warfare. Joint strategy can be achieved by using one service's approach to solving a specific problem as an integrating principle in a multiservice operation. In this case, an ASW approach allows each of the services to integrate what they do best into an overall joint campaign.

As the service operating the only demonstrated active defense—the Patriot missile system—against ballistic missiles, the Army has an obvious role to play in TMD.

To support this argument, this article briefly sketches the fundamentals of ASW operations and applies them to the problem of locating and destroying mobile missiles before they can be launched. It then explains why each of the services should play a role in a TMD strategy inspired by ASW. It also suggests which CINC should take at least peacetime responsibility for promoting the TMD effort. The article concludes with some observations about the role of ideas in joint warfare.

Antisubmarine Warfare

At first glance, it would seem easier to find a needle in a haystack than to locate a submarine in the ocean's vast expanse. But the US Navy can detect, track, target, and destroy submarines as they operate in the open ocean. In theory, the same ASW philosophy used to organize and prosecute attacks against submarines should prove to be effective against missile launchers that also rely on mobility and stealth to improve their prelaunch and postlaunch survivability.

ASW procedures are often divided into five categories: (1) continuous collection and analysis of intelligence; (2) continuous monitoring of probable launch areas; (3) generation of cueing (warning) when specific platforms move to a launch status; (4) the localization of specific systems; and (5) attack. Organized sequentially, each of these categories represents a stage in the ASW search and attack effort. As one moves from stage one to stage five, not only does the area searched become increasingly restricted, but the time available to complete the task at hand becomes more limited. These five stages could form the core elements of a multiservice, multimission ASW approach to counterforce strikes against theater ballistic missiles.

Information, critical to the entire counterforce effort, can be gained through sustained collection and analysis of data about all known mobile missiles, the first stage of the ASW process. In tracking submarines, the opponent's inventory is followed by hull number. Similar efforts would have to be made to track individual missile transporter-erector-launchers (TEL). Missile production, storage, and repair centers would have to be monitored to generate this order-of-battle intelligence. This fundamental intelligence work probably would provide the added benefit of uncovering clandestine installations in the opponent's fixed-missile infrastructure. This should produce information about the overall size, day-to-day readiness, and surge (alert-generation) capability of the opponent's systems. Training cycles, exercises, support vehicle activity, base egress and ingress, and movement through "choke points" (well-maintained roads, heavy-duty bridges, rail heads) would also be monitored. These efforts should yield a useful estimate of the general location of the opponent's mobile missiles, creating a baseline to assess deviation in the opponent's standard operating procedures. In effect, stage one creates an indications and warning baseline.

Because it does not rely on "flaming datum"—an actual missile firing—to locate an opponent's weapon, an ASW-inspired strategy probably is the most effective approach to counterforce.

Surveillance of all probable launch areas, the second step in the ASW process, depends upon intelligence gathered about the opponent's overall missile capability: indications of when and where to look for mobile missiles are produced in stage one analyses. In stage two operations, visual signatures of areas of interest would be compared on a regular basis to look for changes (damage to plants, tire tracks or the presence of the weapons systems themselves). Similarly, acoustic, seismic, radar, and communication signatures could be compared over time. Of special importance would be "life-support events," the logistical tail that could lead directly to a TEL in the field. Special attention would be paid to likely operating areas and negative search information (indications that terrain features make certain areas unsuitable for Scud operations) would be used to develop an operating history of the opponent's TELs. This information could allow real-time "tracks" of fielded TELs to be monitored as long as possible; thus, a working knowledge of the location of all TELs in or near launch areas could be maintained.

Unlike their Air Force counterparts, naval aviators tend not to think in terms of strategic bombardment, but in terms of destroying specific military targets.

Cueing, the third step in the ASW process, is characterized by intensive efforts to develop a more accurate and detailed track of a specific weapons system. It typically results when a TEL is detected in a launch area or when changes in activities or activity levels indicate that preparations are under way for an actual missile launch. This intelligence could come from a variety of sources. Stage one analyses might yield indications of changes in activity or the general location of a specific system. Stage two surveillance also might detect communication, acoustic, or radiation signatures as TELs are made ready to fire. Cueing, however, is best viewed as a transitional step in counterforce efforts against mobile missiles; it is related to a decision by either US authorities or the opponent to move to a war footing. Cueing is intended to establish a detailed track of a potential target, information that would allow for the quick prosecution of an attack.

The decision to engage in the localization (identification of the target's precise location) of cued TELs, the fourth stage of the counterforce operation, will likely be made by the National Command Authorities. Although search activities related to cueing might require overflights of an opponent's territory, localization will require armed aircraft or unmanned airborne vehicles to enter an opponent's airspace, an act of war. Piloted aircraft working to localize an opponent's TELs should possess a defense-suppression capability. Localization begins from a starting point identified by intelligence collected and analyzed from the preceding three stages of the ASW process; because of the short ranges involved, a wide variety of sensors can then be used to generate timely and detailed tracks of the target. Coordination of the platforms involved and fusion (receiving, analyzing, and displaying) of the data produced by a variety of sensors play a crucial role in localizing the target.

Over the years, the Navy also has discovered that practice facilitates localization efforts. The Navy was fortunate because the Soviets had for years provided opportunities to localize real targets on the open ocean. In other words, officers and policy makers cannot expect that the skills, experience, hardware, and communication architectures (fusion) necessary to localize a target can be improvised at a moment's notice.[6]

The final step in the ASW process is to attack the target. Ideally, the attacking weapons system would have its own localization sensor. The Navy never carried out this final step during the cold war, but exercises revealed that coordination and practice increased the likelihood of successful attacks. It would also be important following an attack to verify that the opponent's weapons system had been destroyed. Crippled systems could be repaired and subsequently fired. This would be especially important if the mobile missiles under attack were armed with WMD. Ground forces would have to be inserted deep behind enemy lines to survey damaged sites or launch vehicles. These forces should be instructed to secure and remove intact warheads or to assess the extent of biological, chemical, or nuclear hazards created by successful counterforce strikes. Even though damaged warheads and delivery systems are not militarily valuable, the hazardous materials they contain would still be valuable to terrorists or to enterprising criminals interested in making windfall profits on the black market. Indeed, given the extreme political sensitivity created by the threat of WMD attack, American political leaders will probably expect total certainty when it comes to damage assessments of WMD sites, the kind of certainty that has historically required the presence of ground forces.[7]

In sum, several aspects of an ASW approach to counterforce make it attractive as a framework for the destruction of TELs before missile launch. An ASW approach calls for continuous monitoring of the status and activities of an opponent's military forces. This would not only build order-of-battle and infrastructure intelligence, but it would also provide a basis for indications and warning estimates. An ASW approach also increases the defensive problem confronted by the opponent. Instead of counting on the ability to "shoot and scoot," opponents would have to assume that their forces are being hunted. In a situation when every stray electronic, seismic, or acoustic emission might be used to attack a TEL, missile crews might become preoccupied with the defensive task of protecting their missiles. They might not be able to fire with the "hunters" on their trail. Moreover, because it does not rely on "flaming datum"—an actual missile firing—to locate an opponent's weapon, an ASW-inspired strategy probably is the most effective approach to counterforce. It is the only strategy that suggests that it is possible to locate and to destroy missiles after they have moved to the field but before they can be fired.[8]

TMD as Joint Warfare

It is unlikely that any one service could successfully undertake all four elements—C^3I; active defenses, passive defense, and counterforce—embodied in theater missile defense. To succeed, an ASW approach to TMD would have to draw on the resources available within the entire US defense and intelligence community. Indeed, the ASW approach to counterforce highlights the fact that TMD is primarily an exercise in peacetime intelligence gathering and analysis. Existing joint doctrine also acknowledges the important role played by national assets used by US Space Command (USSPACECOM), for example, in a joint TMD campaign.[9] An ASW approach, however, could help guide this peacetime collection and analysis by developing a highly specific set of intelligence requirements. New sensors also could be developed to facilitate day-to-day monitoring of potential opponents' mobile missile operations. Most importantly, work could begin to improve C^3I between national intelligence resources and the service components that will need real-time intelligence to engage in the hunt for mobile missiles.

US Strategic Command would be a good choice to head a TMD campaign. . . . In its former incarnation as the Strategic Air Command, STRATCOM also has much experience in planning massive multiservice air campaigns.

Each of the services also has a special role to play in an ASW approach to TMD. Air Force officers, given their expertise in the conduct of strategic bombardment, should be given responsibility for identifying and targeting the infrastructure that supports an opponent's mobile missile operations. To eliminate the possibility of sustained operations, the Air Force should work to destroy the logistical and industrial tail that supports an opponent's deployed missile force. Air

Force experience in managing an overall air campaign also would suggest that it is the service of choice to tackle the C^3I and resource allocation problems inherent in a massive TMD effort.

Naval officers have more than just expertise in ASW operations to contribute to TMD. Unlike their Air Force counterparts, naval aviators tend not to think in terms of strategic bombardment, but in terms of destroying specific military targets. The Navy should be given the mission of destroying missiles that have already been deployed. Because the Navy's Aegis system will soon possess limited capabilities against ballistic missiles, a Navy carrier battle group also might serve as a sort of "emergency" TMD force. Naval aviation could conduct counterforce strikes against a few particularly threatening offensive systems while Aegis-equipped ships protect high-value coastal targets.

Occasionally, [during the cold war] a service endorsed an idea advanced by another to capitalize on political interest in a war-winning strategy or capability, but this tactic often backfired. The Navy's grudging recognition of the importance of strategic bombardment during the B-36 debate . . . did not save its supercarrier.

As the service operating the only demonstrated active defense—the Patriot missile system—against ballistic missiles, the Army has an obvious role to play in TMD. Others have been quick to identify the Army's Tactical Missile system, with a 40-kilometer range and antipersonnel/antimaterial submunitions, and the Apache attack helicopter, with a range in excess of 200 kilometers, as ideal counterforce weapons.[10] Less obvious, however, is the important role that ground forces play in an ASW approach to TMD. Ground forces, especially special forces, would prefer to exercise their ability to target and destroy installations and weapons deep behind enemy lines. But their greatest contribution to the TMD effort probably will take the less glamorous form of "policing the battlefield." In other words, ground forces will probably be required to conduct a whole host of operations after suspected missile sites have been subjected to attack. Small teams could guarantee that launchers and missiles damaged by air strikes were not just rendered temporarily inoperable by air attacks but were in fact destroyed. Primitive storage bunkers, difficult to identify from the air, might also be located by ground forces that quickly survey a damaged missile site. Most important, WMD warheads, already married to missiles or forward deployed near missile sites, will have to be secured. Even if launchers or missiles have been destroyed by air attack, operable warheads might still be used by an opponent or find their way onto the black market. US forces would also benefit from a quick assessment of the chemical or radioactive hazard created by damaged warheads following a successful counterforce attack.

Who should be in charge of a TMD campaign influenced by an ASW philosophy? Several considerations shape the answer to this question. First, TMD is largely a peacetime intelligence activity. Second, TMD requires continuous coordination of offensive and defensive capabilities possessed by all the services. Third, the demand for TMD is not confined to a particular part of the globe. Regional CINCs must plan for TMD, but it might be more efficient if a separate command prepares TMD packages of multiservice C^3I, active defense, passive defense, and counterforce capabilities for insertion into a region.

Given these considerations, US Strategic Command (STRATCOM) would be a good choice to head a TMD campaign. STRATCOM's Project Silverbook, a peacetime effort to compile a TMD counterforce target list, could serve as an initial step in an ASW-inspired TMD strategy.[11] In its former incarnation as the Strategic Air Command, STRATCOM also has much experience in planning massive multiservice air campaigns which relied in part on real-time and national-level intelligence collection and analysis.[12] Alternately headed by Air Force and Naval officers, STRATCOM also brings together a unique combination of talents needed to make a TMD strategy based on ASW principles a reality: a history of planning joint counterforce attacks; an emphasis on large air operations; great familiarity with ASW; sustained intelligence gathering and real-time intelligence collection and assessment; a familiarity with special forces operations against WMD targets; and a tradition as the primary command for US nuclear operations.

Ideas and Joint Warfare

When applied to the problem of theater missile defense, an ASW philosophy provides a unifying idea that identifies goals and specifies tasks. It also supplies all concerned with an image of an entire process, based on extensive Navy experience, that can be used to evaluate how specific single-service initiatives might contribute to an overall TMD campaign. For those interested in fulfilling the scores of interrelated tasks identified in *Doctrine for Joint Theater Missile Defense*, the idea of ASW might supply a "point of departure": it specifies how one could begin to organize effective multiservice TMD with existing capabilities. In a sense, an ASW philosophy, borrowing a term from the philosophy of science, could serve as a *paradigm* for TMD: it identifies key problems that are in need of a solution, it specifies how one should proceed to overcome these key stumbling blocks, it allocates responsibility for solving specific parts of the problem, and it explains how the achievement of specific small tasks can produce a synergy that overcomes an extraordinarily complex problem.[13]

As a paradigm for TMD, however, antisubmarine warfare does suffer from a serious drawback: the term is forever linked to the Navy as one of its traditional, and quite important, mission areas. During the cold war, a suggestion that one service possessed the key to American security was likely to provoke an outburst of interservice rivalry. Occasionally, a service endorsed an idea advanced by another to capitalize on political interest in a war-winning strategy or capability, but this tactic often backfired. The Navy's grudging recognition of the importance of strategic bombardment during the B-36 debate, for example, did not save its supercarrier.[14] Thus, an ASW approach to TMD might be misconstrued as an effort to develop a single-service strategy, a strategy that purportedly allows one service to singlehandedly win the next war.[15]

It would be a mistake to underestimate the impact of interservice and intraservice rivalry, despite renewed congressional emphasis on fostering joint responses to security threats.

Unlike single-service doctrines, however, an ASW philosophy is not an exclusionary paradigm. Much like the way the old maritime strategy organized all of the forces available to the Navy into a coherent campaign in the event of war along the Central Front, an ASW philosophy also allows each of the services to contribute what they do best to solving the problem of theater missile defense.[16] At its core, an ASW approach to TMD is a joint strategy: its central tenet is that only by working together can the services defend US allies or US forces stationed overseas from the mobile missile threat.

Still, it would be a mistake to underestimate the impact of interservice and intraservice rivalry, despite renewed congressional emphasis on fostering joint responses to security threats. STRATCOM's Project Silverbook, for instance, has been superseded by a new initiative, the Theater Planning Support Document. Project Silverbook was abandoned apparently after other CINCs objected to what they perceived as STRATCOM's effort to monopolize planning for counterforce strikes in support of TMD. At a time of shrinking or stable budgets, any effort to prompt a joint and, in this case, a potentially consolidated effort, is likely to meet with great resistance from some quarter of the defense establishment.

The fact that an idea originates in one service does not mean that it forever must be banished from the effort to foster joint strategy.

Conclusion

By adopting an ASW paradigm for TMD, the services would be embarking on a new form of joint warfare. Instead of reinventing the wheel, an idea used effectively by one service could be borrowed to address a complex multiservice problem. Indeed, breaking the taboo against borrowing ideas used by other services opens a whole range of possibilities. The danger always exists that some might choose to mimic blindly the capabilities possessed by other services, even though the size of post-cold-war defense budgets probably would greatly reduce the effectiveness of this budgetary tactic. But the fact that an idea originates in one service does not mean that it forever must be banished from the effort to foster joint strategy. ☐

Notes

1. Department of Defense, "Report on Nonproliferation and Counterproliferation Activities and Programs," (Washington, D.C.: Office of the Deputy Secretary of Defense, May 1994).

2. David Mosher and Raymond Hall, "The Clinton Plan for Theater Missile Defenses: Costs and Alternatives," *Arms Control Today* 24, no. 7 (September 1994): 15–20.

3. Kneale T. Marshall, "Quantifying Counterforce and Active Defense in Countering Theater Ballistic Missiles," *Military Operations Research* 1, no. 2 (Winter 1994): 35-48; and Warner Schilling, "U.S. Strategic Concepts in the 1970s: The Search for Sufficiently Equivalent Countervailing Parity," *International Security* 6, no. 2 (Fall 1981): 67–68.

4. The Clinton administration counterproliferation and TMD policies have raised much debate. Some analysts are concerned about the issues of preemption and preventive war raised by counterforce strategies. See David C. Hendrickson, "The Recovery of Internationalism," *Foreign Affairs* 73, no. 5 (September/October 1994): 34–38. Others are concerned that TMD and the 20-year-old Anti-Ballistic Missile Treaty are on a collision course: active defense systems under development have capabilities that are apparently in violation of treaty provisions. See Guy B. Roberts, "An Elegant Irrelevance: The Anti-Ballistic Missile Treaty in the New World Disorder," *Strategic Review* 23, no. 2 (Spring 1995): 15-25. Those who champion more traditional nonproliferation strategies—for instance, those associated with the Nonproliferation Treaty—believe that counterproliferation generally undermines their efforts to reduce states' incentives to acquire WMD and associated delivery systems. See Leonard S. Spector, "Neo-Nonproliferation," *Survival* 37, no. 1 (Spring 1995): 66–85. Others believe TMD will bolster traditional nonproliferation efforts by further reducing states' incentives to acquire and deploy WMD. See Jonathan Sears, "The Northeast Asia Nuclear Threat," US Naval Institute *Proceedings* 121, no. 7 (July 1995): 43–46.

5. Joint Publication (JP) 3-01.5, *Doctrine for Joint Theater Missile Defense*, 30 March 1994, 1-2.

6. Many successful wartime innovations—for example, carrier aviation and the development of a US Marine Corps amphibious capability—experienced a long peacetime gestation. Paradoxically, effective wartime innovation is facilitated by prior planning. See Stephen Rosen, *Winning the Next War: Innovation and the Modern Military* (Ithaca, N.Y.: Cornell University Press, 1991), 76–85.

7. As part of the secret agreement ending the Cuban missile crisis, the Kennedy administration requested that the United Nations inspect Cuba to insure that the Soviets had eliminated their WMD capability from the island. Castro, however, never granted permission for the inspections. See Raymond L. Garthoff, *Reflections on the Cuban Missile Crisis* (Washington, D.C.: The Brookings Institution, 1989), 123.

8. For a discussion of the strategic and political benefits provided by this tactical advantage, see James J. Wirtz, *Counterforce and Theater Missile Defense: Can the Army Use an ASW Approach to the Scud-hunt?* (Carlisle Barracks, Pa.: Strategic Studies Institute, US Army War College, March 1995).

9. "US forces that are part of multinational commands will normally be supported by national intelligence systems to augment their organic intelligence systems." JP 3-01.5, II-10 and III-11.

10. John Gordon, "An Army Perspective of Theater Missile Defense," US Naval Institute *Proceedings* 121, no. 7 (July 1995): 40–43.

11. Barbara Starr, "STRATCOM sees new role in WMD targeting," *Jane's Defence Weekly* (14 January 1995), 3.

12. For a description of some of these activities, see Ashton B. Carter, John D. Steinbruner, and Charles A. Zraket, *Managing Nuclear Operations* (Washington, D.C.: The Brookings Institution, 1987), 217–352.

13. For a complete explanation of the term *paradigm*, see Thomas Kuhn, *The Structure of Scientific Revolutions* (Chicago: University of Chicago Press, 1962). For a recent effort to apply the notion of paradigm to explain change in military organizations, see Rosen.

14. Michael Palmer, *Origins of the Maritime Strategy* (Washington, D.C.: Naval Historical Center, 1988), 44–52.

15. For a discussion of these "nonstrategies," See Edward Luttwak, *Strategy: The Logic of War and Peace* (Cambridge: Harvard University Press, 1987), 156–74.

16. For a description of the maritime strategy, see Linton Brooks, "Naval Power and National Security: The Case for the Maritime Strategy," *International Security* 11, no. 4 (Fall 1986): 58–88.

A COMMENTARY

DR. RONALD J. KURTH

JAMES J. WIRTZ'S article "A Joint Idea: An Antisubmarine Warfare Approach to Theater Missile Defense" offers a concept for organizing the solution to a growing problem in military operations: defense against theater missiles. That concept is Navy doctrine for antisubmarine warfare (ASW). The basic problem for the Navy in ASW involves the reduction of a suspected target location in a vast ocean area to a localized datum with sufficient criteria to warrant an attack. An ASW unit seldom sees the submarine it attacks. Most often, sound—through active or passive means—is electronically converted to a fix on the target, offering a combination of bearing and distance. Augmenting information may be present—magnetic anomaly detection, for example. In his article, Wirtz assumes that defense against theater missiles is similar to defense against submarines.

The difference in the "battlefield" environment of a submarine and a transporter-erector-launcher (TEL) is immense. ASW surveillance and prosecution operations in peacetime have the important advantage of the principle in international law of freedom of the seas. Furthermore, submarine operations are naval operations of a special kind: they are always secretive and never admitted, and are not responsive to schemes for a control regime that has been basically impossible. Consequently, US naval forces could practice localization procedures in peacetime—against Russian submarines, for example—and not hear much about it. ("Incidents at sea" experience is relevant here.) No such freedom exists for gaining similar experience in theater missile defense (TMD).

Do I sense in Wirtz's article another example of the Gulf War syndrome?

The contrast in wartime for airborne operations in ASW and TMD is even more stark. An ASW aircraft flies over open-ocean areas during submarine search operations with little fear that a lurking submarine can threaten it. Nor does the aircraft normally violate any sovereign territory during its search. The competition between hunter and hunted normally occurs in and over the vast but open and accessible ocean areas. Searching over defended land areas for TELs is a more difficult endeavor.

A locatable object must exhibit characteristics that allow the seeker to differentiate it from its surroundings. The submarine is foreign to its operational environment. As a result, acoustic ASW has many characteristics to exploit—so many that the submarine can be detected when ambient noise exceeds the submarine-generated sounds by orders of magnitude. The cycle leading to this result is straightforward. After scientists identified sound as a potentially exploitable characteristic, they designed equipment to enhance the desired differentiation. At sea, testing established the optimal use of the equipment. Lessons learned at sea became the genesis of a better definition of the exploitable and/or the building of improved equipment, allowing the cycle to perpetuate.

Could we search for TELs in any way comparable to open-ocean ASW operations? . . . I don't know.

One should consider other major differences. Technology advanced to make submarines less discoverable, but the march of technology in ASW tended to match progress in submarine development. I do not see developments in TMD comparable to the developments in theater missiles. It *did* take years to cope with the advances in propulsion and secretiveness offered by nuclear power, but ASW advances occurred. They did so principally because submarines in an open-search environment retain characteristics that make them discoverable: they make noise, their screws cavitate, and their machinery has identifiable frequency characteristics. They generate heat, ocean disturbances, and magnetic anomalies.

What are comparable characteristics of TELs? Except when firing, they are quiet. Furthermore, they are mobile and easily hidden from air and satellite search. Could we search for TELs in any way comparable to open-ocean ASW operations? Can space-based platforms do it? I don't know. As I mentioned earlier, submarines at sea do not fight *airborne* ASW units, although they may fight surface and submarine ASW units. But ASW operations can be integrated in all three regimes. TMD is still in its infancy in terms of multiregime attack.

The natural state of all objects (man-made or natural) on land is to be at rest on the ground. Many objects share characteristics with TELs, including weight, size, shape, composition, color, density, temperature, and so forth. Differentiation (presumably at some distance) is problematic because the hidden TEL shares the same natural states as its surroundings. When in motion, the TEL is easier to locate because it is in an unnatural state. After launch, a missile is foreign to its environment and easily detected. A missile in flight currently may be the most—possibly the only—exploitable characteristic leading to a high probability of locating a hidden TEL. The several implications are obvious.

Do I sense in Wirtz's article another example of the Gulf War syndrome: open areas, desert, air superiority easily established, small area, the opponent's relatively backward technology? What if we were looking for TELs in China (vast), Japan (advanced), Vietnam (jungle), Yugoslavia (rugged and covered), and Russia (vast, maybe advanced, and masters of cover)? How would we exercise to assure ourselves of capability? And when would we begin overflight, which could be an act of war? Further, the concepts of special operations presented by Wirtz, I think, are naive. How many times could we put teams into remote, hostile territory for the same mission? I'd go on the first but not the 10th. Decoys and *maskirovka* would be rather easy.

The discussion of exploiting characteristics of submarines or other things requires consideration of the nature of each characteristic. Some are continuous; some are persistent. All have ranges at which detection becomes difficult. One ideal for ASW is a continuous, nonpersistent (i.e., it doesn't remain after the submarine has passed—unlike a tire track in the mud after a land vehicle has passed) noise source of constant frequency. Exploiting this type of sound required the development of specialized equipment and techniques. Prosecuting other types of energy (acoustic and other) released into the water by a submarine necessitated different equipment and tactics. The nature of the telltale characteristic is critical to the development of the technology to locate a submarine (or a TEL). If the nature of the telltale characteristic for locating a TEL is similar to the nature of one or more acoustic characteristics of a submarine, the development of anti-TEL tactics may be analogous to the development of ASW. The bottom line is that this ASW concept may be worth pursuing for its value in integrating an all-source and all-defense concept. But if it becomes technologically feasible, destroying an incoming missile appears to be a much simpler concept. □

A COMMENTARY

Capt George Conner, USNR, Retired

As Ronald Kurth correctly notes in his response to James Wirtz's article "A Joint Idea: An Antisubmarine Warfare Approach to Theater Missile Defense," many tactical, strategic, and political differences exist between antisubmarine warfare (ASW) and locating and destroying deployed mobile transporter-erector-launchers (TEL). Wirtz's proposal does not reflect some fundamental failure to understand that undersea warfare is different than destroying TELs. Wirtz acknowledges that significant differences exist in applying an ASW approach to both kinds of operations. But Wirtz's point is that an ASW philosophy—a systematic process of analysis and organization of effort—can solve more problems than just finding submarines at sea.

Kurth acknowledges that an ASW approach to the Scud hunt might work, but he suggests that the differences in the two forms of warfare are too great to be bridged. Kurth's reservations center on four issues: (1) state sovereignty limits the possibility of conducting ASW-like operations over land in peacetime; (2) submarines do not shoot back at pursuing aircraft; (3) unlike TELs, submarines have many signatures that can be tracked; and (4) strategists should think of something other than repeating victory in the desert (i.e., the Gulf War syndrome). If these issues are resolved, however, Kurth apparently would be willing to endorse an ASW concept to guide development of an integrated, all-source theater missile defense architecture.

Kurth's first reservation is important: we cannot use overt surveillance involving penetration of a potential opponent's airspace to track TELs on a day-to-day basis. But conducting these kinds of intrusive operations is not necessary during peacetime. Instead, intelligence analysts can monitor launcher storage areas to estimate the opponent's order of battle and mobilization procedures. Clandestine, autonomous unmanned air or land vehicles or space-based assets might also watch choke points (e.g., highways or bridges). We might also use existing or specially developed space-based area search sensors to conduct continuous monitoring to detect potential targets. These systems may only be queuing platforms, or they may be capable of providing a near-real-time datum to a platform capable of target localization, classification, and destruction. The National Command Authorities can make the decision to shift to more aggressive operations, perhaps accompanied by appropriate measures against aircraft defenses, either during war or as hostilities appear imminent.

One might be tempted to respond to Kurth's second reservation—that submarines do not fire back at tracking aircraft—with the simple observation that TELs do not fire at attacking aircraft either. It is not clear that opponents will want to advertise the position of their TELs by placing them in easily identified, fortified areas. Opponents might adopt a "bastion" approach to protecting their TELs, much in the same way that the Soviets attempted to protect their fleet ballistic missile submarines during the cold war. But bastions did not stop American ASW efforts; air defenses might only complicate, but not limit, an ASW approach to hunting TELs. Creating heavily defended areas might even ease the more difficult task of determining the general location of missile launchers.

Wirtz's proposal does not reflect some fundamental failure to understand that undersea warfare is different than destroying TELs.

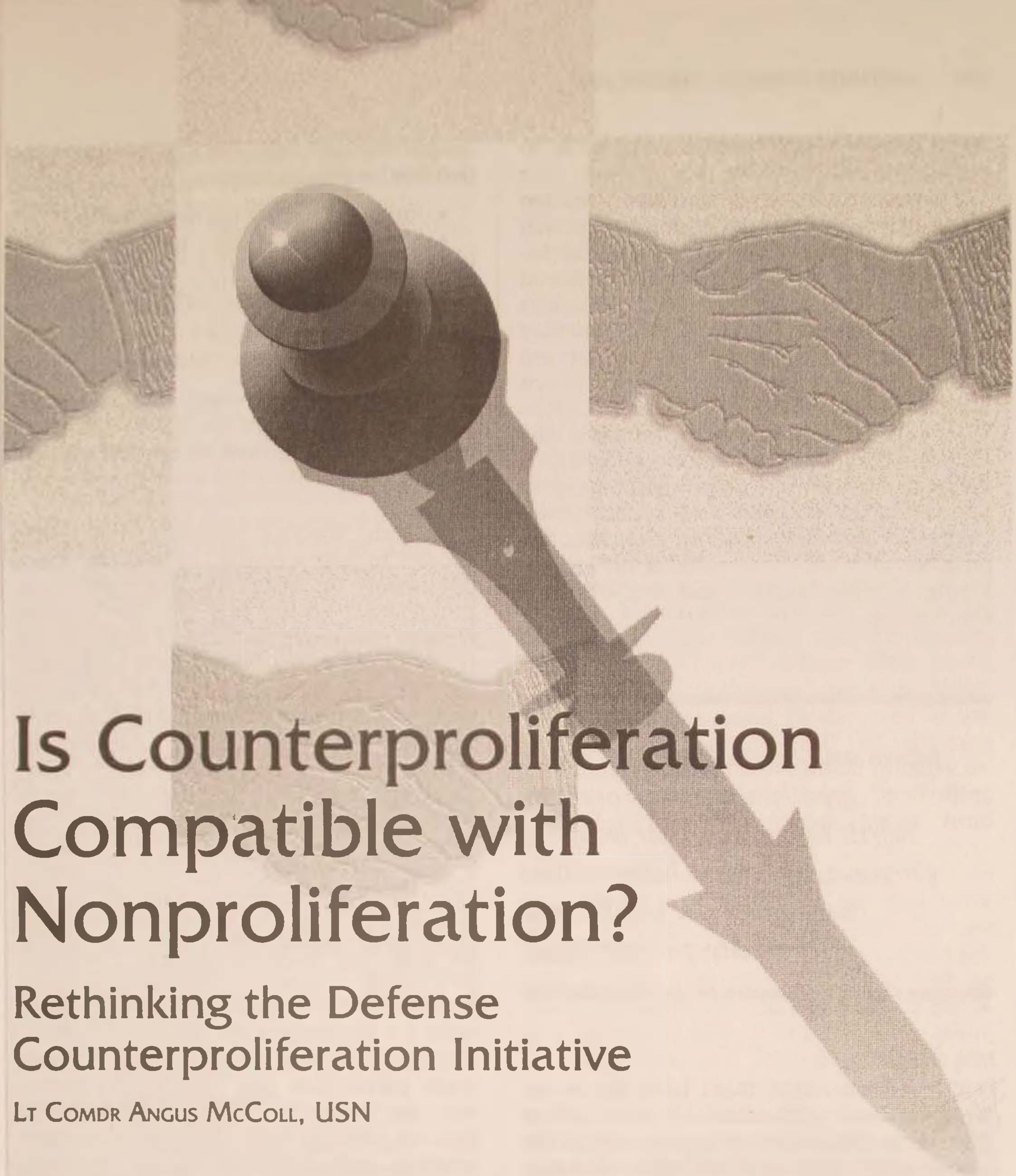
Kurth's third reservation that submarines are inherently more observable underwater than TELs are on solid ground fails to acknowledge the variety of potential signatures generated by mobile missile launchers. (Kurth points out that the submarine is foreign to its environment—Admiral Rickover must be rolling over in his grave.) We should exploit all kinds of possible signatures, ranging from the obvious (infrared, electromagnetic, and acoustic) to the not so obvious (seismic, aural, and tire tracks), to hunt for TELs. As Kurth notes, TELs are different from nuclear submarines in that a nuclear-powered submarine does have a continuous, detectable signal source. A TEL's signal is analogous to that of a diesel submarine, which is available only when it is snorkeling and for only very short periods of time. But the TEL, like the diesel submarine, cannot run far from a datum.

Finally, is all of this just a reflection of the Gulf War syndrome? Apparently, Kurth fails to realize that the Scud hunt during Operation Desert Storm was unsuccessful. "Open areas, desert, air superiority . . . small area, the opponent's relatively backward technology" presented the American military with a problem that remains unresolved. Maybe TELs can be better hidden in the jungles of Vietnam or the hillsides of Yugoslavia; maybe rugged terrain and triple-level jungle canopy will hinder the positioning and movement of TELs. But the fact remains that Iraq demonstrated to a global audience that the United States is ill prepared to deal with the mobile-missile threat. An effective response to the deployment of TELs in desert surroundings is as good a place as any to begin to solve the Scud problem.

During World War II, a group of scientists, mathematicians, and engineers defined methods and systematic processes of analysis that would lead to doctrines which would have widespread application, not only to ASW but also to many other military and civilian problems. To quote from that group of World War II analysts, "It is increasingly evident that no branch of the Service can afford anything less than maximum efficiency in the use of the men and materiel available to it. The realization of this ideal demands that the most advanced scientific knowledge available in the country be focused upon such matters not only in times of war, but especially in times of peace."[1] We have methods and systematic processes of analysis that work; let's adapt them and get on with the show. □

Note

1. Philip M. Morse, "Foreword," in Operations Evaluation Group, Report no. 56, "Search and Screening," 1946.



Is Counterproliferation Compatible with Nonproliferation?

Rethinking the Defense Counterproliferation Initiative

LT COMDR ANGUS McCOLL, USN

THE GULF WAR of 1991 might have had a much different outcome had Saddam Hussein possessed a small nuclear arsenal or if he had decided to use his chemical weapons. The Bottom-Up Review conducted by the Department of Defense (DOD) in 1993 identified the threat of weapons of mass destruction (WMD) in the hands of a small number of antagonistic regional adversaries such as Iraq as the number one security threat to the United States. President Clinton has addressed this theme in public speeches, and in his address to the United Nations (UN) General Assembly in September 1993, he vowed to give WMD proliferation a higher profile. Consequently, his subordinates are developing a two-pronged—

some people allege two-faced—approach to controlling this problem.

On the one side, the Clinton administration vigorously advocates traditional nonproliferation measures. US leadership was instrumental in securing the unconditional and indefinite extension of the Nuclear Nonproliferation Treaty (NPT) in May 1995. The United States is moving forward with negotiations for the Comprehensive Test Ban Treaty and the Fissile Material Cutoff. The administration also promotes the Chemical Weapons Convention and Biological Weapons Convention despite the resurgent opposition of congressional conservatives. Under US leadership, classical diplomatic approaches to WMD nonproliferation are enjoying broader international support than ever before.

Japan and South Korea . . . while greatly concerned over the North Korean nuclear weapons program, appear to have neither welcomed nor condemned counterproliferation.

On the other side, DOD launched its defense Counterproliferation Initiative (CPI) in December 1993 under the sponsorship of the late secretary of defense Les Aspin. Counterproliferation provides military options to counter the acquisition and use of WMD by regional adversaries. Its supporters claim that these new military options will strengthen and enhance the traditional nonproliferation options. Key DOD officials have been careful to stress that counterproliferation will in no way replace nonproliferation, but that its purpose is to provide usable options when nonproliferation fails. The CPI has five components for development:

- formally creating the new mission,
- acquiring hardware suitable to the threat,
- developing new war-fighting doctrine,
- improving intelligence capabilities, and
- building consensus with allies.

It remains to be seen whether these components will be effective and whether they will provide a long-range tool compatible with the various nonproliferation treaties and agreements.

To some analysts, pursuit of both paths appears to pose a conflict of interest. Many proponents of traditional diplomatic nonproliferation efforts fear that the coercive element of counterproliferation, especially the threat to use military force, will undermine the international cooperation and consensus upon which nonproliferation depends for its success. They also criticize counterproliferation as a short-term solution to the WMD proliferation problem because it does not directly confront the long-term security concerns that motivate regional adversaries to acquire WMD in the first place. Others point out that some people view counterproliferation as a panacea, whereas, at best, it is probably only a stopgap measure that could be stillborn if required technologies cannot be developed. They know that military operations are not without risk, pointing to past intelligence and operational failures. Finally, some people fear that counterproliferation will undermine the traditional US leadership that has been so vital to negotiating, implementing, and improving various nonproliferation treaties and agreements.

Can we develop counterproliferation so that it lives up to its proponents' expectations to enhance traditional nonproliferation without undermining what diplomacy has already accomplished? To answer this question, we must check for any hard evidence that counterproliferation erodes confidence in the treaties and agreements that make up the nuclear nonproliferation regime and in other WMD nonproliferation initiatives. Thankfully, little exists. We then look below the surface to examine various tensions that counterproliferation has created for the United States and decide if these can be managed and minimized from the perspective of national policy.

Tensions Caused by Counterproliferation

After the CPI was announced, three types of tensions affecting the formation of a national counterproliferation policy became apparent: (1) tension between the United States, its key allies, and other partners; (2) tensions between agencies and departments of the US government; and (3) tensions between the government and its society. Models of state decision making found in Graham Allison's classic work *Essence of Decision*, a critical analysis of US and Soviet decision-making processes during the 13 days of the Cuban missile crisis, help us understand these tensions. Allison uses three models to explain how each side thought through and acted out its policy. These models have since been adapted to explain a wide variety of decision-making and policy-process scenarios. Two of the models are readily adaptable to explaining the tensions produced by counterproliferation. A third model is of my own design.

Intergovernmental Tensions

Allison's model one, often called the rational actor or "classical" model, addresses intergovernmental tensions between the United States and its key allies and partners, explaining state decision making as "the more or less purposive acts of unified national governments."[1] This model focuses on key individuals acting for the government or on a sequence of known or expected logic such as cost-benefit analysis. Allison explains the model as a chess scenario in which "an individual player [moves] the pieces with reference to plans and tactics toward the goal of winning."[2] Model one probably provides the best way to explain tensions created between the United States and other governments, which, although publicly muted by diplomacy and secrecy, are nonetheless present.

Issues with NATO. Two of our strongest allies, the United Kingdom and France, have welcomed the initiative with considerable enthusiasm. Only six weeks after Aspin's announcement of the CPI, the British defense minister expressed his approval, saying that "the American administration has made countering proliferation a major policy priority. We warmly welcome this, and we are looking forward to discussions with our NATO allies on this important subject over the coming months."[3] The French defense white paper, "Livre Blanc sur la Defense," issued in March 1994, devotes six pages to the need to improve deterrence against WMD and calls for a new strategy using conventional military capabilities that emphasize action, prevention, and protection of military forces from WMD.[4] France also showed its enthusiasm and staked its claim in counterproliferation by insisting that it provide the first European cochairman of the NATO Defense Group on Proliferation (DGP), a subcabinet-level working committee that is now studying counterproliferation and other WMD issues. This move also helped NATO solidify counterproliferation as a political issue—not just a military one.[5] British and French interest in counterproliferation gives the concept far greater legitimacy, not only within NATO but also within the broader international forum.[6] Consensus building with these and other allies helps reduce government-to-government tensions.

Other NATO allies have been more reserved and have tried to focus NATO's interest in counterproliferation only on the defensive and intelligence-collection aspects. In a rare public display of potential allied tensions over counterproliferation and nonproliferation, German foreign minister Klaus Kinkel issued his Ten Point Nonproliferation Initiative on 15 December 1993, eight days after Aspin announced the CPI. Based on the timing of the document's release and its content, it seems clear that the initiative was intended to provide a European counterbalance to the CPI. The final point took a direct slap at any US intention to conduct counterproliferation unilaterally, by insisting that military enforcement measures—except in the case of defense against armed attack—always require the approval of the UN Security Council.[7]

Could a future scenario involving US resolve to execute counterproliferation strategies or tactics hinge on the willingness of a future president to make a decision without the consent of key allies or without informing the UN Security Council?

In general, NATO's slow response to the CPI is not necessarily a cause for concern and is in fact viewed positively by DOD. After all, NATO has a history of reluctantly following controversial US initiatives. For example, NATO took over six years to adopt its own doctrine of "flexible response" after President Kennedy first proposed it.[8] It is helpful here to remember that key allies have not always viewed proliferation with the same urgency as the United States. Disagreements over export controls of sensitive technologies are but one example. From the perspective of international-relations theory, NATO allies have the luxury of "free riding" on the US initiative while maintaining cautious or ambivalent stances in the public forum. Tensions that persist appear to be inevitable but are probably manageable. They are likely to decrease as counterproliferation policy and military capabilities become better defined.

Issues with Other Countries. Non-NATO allies greeted the CPI with what appeared to be a "wait and see" attitude. Japan and South Korea, for example, while greatly concerned over the North Korean nuclear weapons program, appear to have neither welcomed nor condemned counterproliferation. Officials or private citizens have had little to say publicly, most likely because they are understandably unwilling to provoke North Korea.[9] The stance of the Japanese may also be a reflection of their reluctance to be mired in controversial, foreign politico-military issues while they struggle with their government's stability and an economic recession. Australia, another key ally, also has been notably quiet, perhaps because it is less directly threatened by nuclear weapons and is part of the South Pacific Nuclear Free Zone. The CPI might upstage its own initiatives in chemical and biological nonproliferation, so it has much to gain by fence-sitting, while continuing its own initiatives.

Other foreign governments were remarkably reserved in their response to the CPI, a reaction not completely unanticipated since governments tend to be cautious in their handling of controversial foreign-policy issues. It is also likely that some government-to-government contacts on this issue will remain closely guarded exchanges between ambassadors and key officials, and are likely never to be aired in public. The Russian General Staff, for example, received a briefing on the CPI from US officials and agreed to future meetings, but Russian Federation officials have had little to say, except in off-the-record settings. Aside from the diplomatic tradition of discretion, there are several other possible explanations as well.

Many states, particularly developing nations and those belonging to the Nonaligned Movement, simply do not have the resources to focus on more than one or two WMD proliferation issues at a time. Such states will work on issues of most immediate concern to their national interests. Until recently, many dwelled on the NPT extension process, concentrating on how best to use their voting power and how to maximize concessions or financial aid in exchange for their votes. Others are interested in nuclear-weapons-free-zone negotiations, the easing of export controls, or the clarification of dual-use technology issues. Few took more than a passing notice of an initiative designed to target the few states that might break their NPT obligations. Although significant latitude existed for developing states to allege that the CPI was part of the discriminatory regime of nuclear states over nonnuclear states, no one has raised this issue officially. Further, it has not inflamed a North-South debate, except among a handful of private political analysts.[10]

Interagency Tensions

Allison's model three, also known as the government politics or "bureaucratic" model, helps explain the decision-making process from an intragovernmental perspective by examining "mechanisms from which governmental actions emerge."[11] It "focuses on the politics of a government" and explains policy "not as choices or output, [but] . . . as a resultant of various bargaining games among players in the national government."[12] An analyst using model three has "explained" an event "when he has discovered who did what to whom that yielded the action in question."[13] He also presented the model-three perspective as a chess variant involving "a number of players, with distinct objectives but shared power over the pieces . . . determining the moves as the resultant of collegial bargaining."[14] Tensions that developed between DOD, the State Department, and the Arms Control and Disarmament Agency (ACDA) may thus be explained as the outward manifestations of bargains and power plays between entrenched bureaucracies and political figures vying for power. Many of these tensions were resolved when turf and responsibilities were clarified by Daniel Poneman of the National Security Council (NSC) and subsequently by former undersecretary of defense John Deutch, but in hindsight the tension was probably avoidable.[15]

The CPI seems to have caught the government arms control community by surprise. The ensuing confusion over definitions and turf gave the appearance that prior dialogue with the State Department and ACDA was ineffective. The new military mission appeared to be in direct competition with the diplomatic approach and precipitated a behind-the-scenes bureaucratic battle over its compatibility with existing treaties and agreements. Disclaimers that the new mission would not replace diplomacy and would not lessen nonproliferation efforts were not altogether convincing. They also implied a possible conflict of interest. When a policy initiative cuts across cabinet boundaries, as it clearly did in this case, the least controversial approach calls for the president or the national security advisor—not a department secretary—to announce it. This approach would clarify that it is the president's plan, not just the plan of one of the competing bureaucracies. The CPI clearly had the labels "defense" and "initiative" and was thus destined to create bureaucratic tension. Its critics inferred the worst—that DOD might start advocating the use of force to replace diplomacy.

The lack of presidential and cabinet-level involvement in this issue to date is of no little consequence. It affects debate both within and outside the administration. Neither President Clinton nor Secretary William Perry has referred publicly to the CPI or even used the term *counterproliferation* in a major speech. This seems odd when one considers that counterproliferation is touted as the nation's leading military response to its number one military threat. Only Ashton Carter, assistant secretary of defense for international security policy, and his assistant Mitchell Wallerstein mention it in public. It seems as though officials above Dr. Carter's level are satisfied with the "let's study it" approach and are therefore comfortable with remaining publicly noncommittal on counterproliferation for the present.

When Aspin announced the CPI, he said that "President Clinton not only recognized the danger of the new threat, he gave us this new mission to cope with it."[16] But the five points that Aspin announced, as well as the spectrum of new proliferation-response options they created, were not clearly understood within the competing agencies—thus the need for Daniel Poneman's well-known memorandum explaining the difference between counterproliferation and nonproliferation. As analyst Joseph Pilat observed, the counterproliferation debate became unnecessarily "complicated by divergent bureaucratic interests and the absence of a widely accepted definition of the term."[17] Policy initiatives should help clarify what an administration wants to do—not create additional confusion within its own ranks. The CPI backfired in this regard. The fact that one finds little direct evidence of this tension in government documents or speeches by key officials speaks well of the American system of political discourse, the relative efficiency of US government bureaucracy, and the discretion of key officials and their staffs. But tension was clearly evident among secondary sources, including working-level officials and private analysts who regularly interact with them.

Aspin's strong unilateral approach created new tensions among inherently competitive bureaucracies, particularly DOD, State, and ACDA. The inability of DOD officials at both the senior and working levels to clarify their intentions exacerbated the impression that DOD was encroaching on diplomatic turf.[18] Even Carter admitted in his testimony to the Senate Armed Services Committee in April 1994 that "frankly, I don't think we have done a very good job of explaining what we mean by counterproliferation."[19] All these bureaucracies have long traditions of independence, assertiveness, and rivalry. The egos of both senior and working-level officials also play a part in any contest between organizations. One government or corporate staff is often contemptuous of a rival staff if the latter appears disorganized or advances a contrary position.

The NSC hierarchy for managing the full spectrum of proliferation responses, as now formalized in the Deutch Report, helps reduce bureaucratic tensions. Tasking originates with NSC principals and working-level committees and is then disseminated to the proper agency for action. This process legitimizes tasking, helps minimize interagency bickering, and makes NSC the conduit of the president's authority in defining the national interest and security policy. Ultimately, NSC acts as arbiter of the delicate balance between nonproliferation and counterproliferation, and as the crucial link from both sides of proliferation policy back to the president. Clarification of NSC's role as manager of all counterproliferation and nonproliferation issues represents a positive step towards defusing interagency tension.

State-Societal Tensions

To explain tensions that counterproliferation creates between the US government and society—particularly those between government and nongovernment organizations (NGO)—I propose a third, "state-societal" model. This model explains state decision making as one result of a state's interaction with its society, specifically, the impact of expert and public opinion on decision-making processes. Allison did not address this issue, which may have been far less relevant in the 1960s and early 1970s, when he did his work.

Like the chess players in model three, a committee representing US government agencies and the executive branch must achieve consensus before moving the pieces. In addition, however, these players are subjected to loud, often conflicting, information from a grandstand full of spectators who are obviously interested in the game but are not responsible for its outcome (i.e., the plethora of opinions tendered by the NGO community).

Like a rowdy crowd at a sporting event, this gallery of proliferation connoisseurs produces much noise, with occasionally coherent shouts from individuals or a group. These shouts may either influence the game or be ignored in favor of the existing game plan. Each player weighs a suggestion or criticism before acting but reserves the right to act independently. NGO analysts make important contributions to the debate and policy-making forum because they are free to discuss issues that government officials must consider but are sometimes reluctant to acknowledge.

The most constant and vociferous tensions emerge from the NGO community's steady stream of criticism, much of which is "noise," with few implications for US policy. Examples include concerns raised by analysts—many from developing countries—as well as organizations such as Greenpeace International. They assert that counterproliferation discriminates against developing countries, and some allege that the initiative is a thinly disguised attempt to retarget US nuclear weapons against the third world. Others complain that counterproliferation violates principles of international law and order and will further undermine the authority of the UN. Although these concerns are interesting and have strong moral appeal, many of these analysts look at counterproliferation in isolation from the rest of US policy. They infer from its declaratory counterproliferation policy that the United States will somehow abandon its long-standing commitment to reinvigorate the UN, uphold the rule of law, and strengthen traditional diplomatic nonproliferation efforts.

One must carefully consider NGO criticisms in the context of US national interest to determine whether any substance exists that may ultimately affect security policy. Occasionally, NGOs succeed in raising issues that the US government is reluctant to address, such as the tension created by counterproliferation over the possible use of US nuclear weapons. This tension may turn out to be a healthy one; indeed, if the government deliberately keeps it ambiguous and if the NGOs keep it in the public light, it may turn out to serve both counterproliferation and nonproliferation. Such ambiguity may cause regional adversaries to reassess the costs and risks inherent in seeking to acquire WMD. It may also cause states interested in stopping WMD proliferation to work harder for consensus, for fear that the United States may resort to unilateral military means in the absence of progress towards a solution.

One of the reasons the CPI has caused so much intellectual tension with the NGO community is that it engages two key debates of the post-cold-war era. The first is whether or not the United States will use its military forces unilaterally in the future or only as part of multilateral coalitions, as the government currently claims. For example, could a future scenario involving US resolve to execute counterproliferation strategies or tactics hinge on the willingness of a future president to make a decision without the consent of key allies or without informing the UN Security Council? It is possible to imagine a scenario in which no time exists for such consultation. The second debate concerns when military force should be used and when diplomatic efforts are no longer productive. NGO analysts have the freedom to make strong moral and emotional appeals across the full spectrum of these debates without bearing the responsibility for security or policy ramifications. They often operate in the sphere of idealism rather than realpolitik. For this reason, much of what they say is of relatively little

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use in the formulation of US or NATO defense policy, although it is important to listen to and filter the issues they raise.

Manageable Tensions Make Progress Possible

The five key components of the nuclear weapons nonproliferation regime include (1) the Nuclear Nonproliferation Treaty, (2) the statute of the International Atomic Energy Agency (IAEA), (3) the two nuclear-weapons-free zones (NWFZ) currently in effect in South America and the South Pacific, (4) positive and negative security assurances, and (5) export controls. These components are healthy and enjoying fairly robust international support. Although all five have problems and need strengthening, they are enjoying broader support than ever before, owing in large part to the strength of US leadership and the repeated (although occasionally inconsistent) willingness of US presidents to engage proliferation issues as an ongoing part of foreign relations. The indefinite and unconditional extension of the NPT in May 1995, without so much as a mention of counterproliferation over the entire course of the public debate, is ample evidence that proceeding with counterproliferation will not damage the regime. The IAEA enjoys greater support and credibility than at any other time in its history and continues as one of the UN's most effective agencies. Progress with the Middle East peace process, including latent hope of a Mideast NWFZ, continues to move forward under US leadership. Although security assurances remain static for the present, they are in no danger of being abandoned by any of the declared nuclear-weapons powers who have underwritten them. Export controls continue to be problematic, although the consequences of failing to apply them are more clearly understood in light of the experience with Iraq and the desire to inhibit other would-be proliferators from emulating the Iraqi procurement network.

The "carrot and stick" approach to WMD proliferation is appropriate. Further, we should vigorously support and broaden nonproliferation whenever possible, while developing and improving an effective counterproliferation strategy and the military capability to implement it, should the need ever arise.

The United States as Leader

Time and again over the past 50 years, the United States has affirmed its leadership in slowing and preventing WMD proliferation. The NPT extension, while not exclusively a US "victory," is nonetheless a mandate for continued US leadership in this field. Experts in international law concede that the treaty's weakness lies in the realm of enforcement. But counterproliferation may actually represent a means of enforcing, or at least forcefully underwriting, the principles and institutions of nonproliferation by providing a means of countering states that violate their nonproliferation obligations.

The Threat of US or NATO Military Action

The threat of possible US or NATO military action against a potential proliferator provides a healthy tension that may convince a nonnuclear state to forgo acquisition of WMD. It also may cause a nuclear state to think twice before it brandishes or threatens to use its WMD. Counterproliferation also provides hope that the effects of WMD can be eliminated or at least countered on future regional battlefields. The possibility that the United States might use its nuclear weapons against a regional adversary armed with WMD constitutes a significant reality check for that state.

Counterproliferation Not New

The intellectual history of counterproliferation antedates the first nuclear weapons. Avner Cohen notes that the Manhattan Project, in addition to its task of producing nuclear weapons, had "the task of monitoring and, if possible, denying German nuclear weapons activities."[20] Maj Gen Leslie Groves, Manhattan Project director, coordinated an extensive intelligence-collection program under the code word "Alsos," which focused on Italian, French, and German nuclear research.[21] He also ordered commando and bombing attacks that destroyed the German heavy-water facility at Vemork (Rjukan), Norway.[22] Fearing that a "German Oak Ridge" was fast developing near the towns of Bissengen and Hechingen in the Black Forest, he chose not to bomb these facilities "since that would only drive the project underground and we would run the risk of not finding it again in time."[23]

His concerns offer insight into the current question about the effectiveness of military strikes as a counterproliferation tool. In the closing months of the war, Groves ordered the bombing of a facility that manufactured thorium and uranium components and the seizure of a German uranium stockpile to prevent them from falling into Soviet hands.[24] In the final days of the war, US forces were diverted to the Bissengen-Hechingen area—well inside the French zone of advance—to quickly round up German scientists; seize equipment, uranium, and heavy water; and dismantle German laboratories ahead of the advancing French army.[25]

Renowned British socialist and pacifist philosopher Bertrand Russell, upset with the brutality of the Soviet occupation of Eastern Europe and deeply concerned with the prospect of a nuclear arms race, suggested in 1948 that the United States use its nuclear monopoly to threaten war in order to force the Soviets to accept nuclear disarmament. He justified his position on the basis that "some wars, a very few, are justified, even necessary. They are usually necessary because matters have been permitted to drag on their obviously evil way till no peaceful means can stop them."[26] Many prominent American "doves" ultimately agreed with Russell. One might apply a similar rationale to the use of force in counterproliferation.

On two occasions, the Soviets considered using military force to stop the Chinese nuclear weapons program, at one point consulting with the US government about the possibility of joint action to destroy China's gaseous diffusion plant.[27] During the Cuban missile crisis, President Kennedy's NSC executive committee considered conventional air strikes against Soviet medium- and intermediate-range ballistic missile sites before finally deciding to impose a naval quarantine. The quarantine option is also an example of counterproliferation, even though it targeted a state that already had nuclear weapons rather than rolled back a nascent nuclear weapons state. More recently, coalition forces bombed various Iraqi WMD facilities in the Gulf War of 1991, although in hindsight, these strikes also revealed the limitations of coalition intelligence, targeting, and strike capabilities.[28] From the outset, the war itself took on a preventive coloration, much in the spirit of counterproliferation.

Clearly, counterproliferation is not a new concept.[29] The United States has a long history of counterproliferation-like activity, including intelligence collection, analysis, planning, and even using military force to protect against WMD proliferation. Using Russell's logic, one can justify counterproliferation on moral grounds—an argument consistent with the American tradition of morality in its foreign affairs, including the use of force. In peacetime, it seems prudent to develop and engage wholeheartedly in the full range of counterproliferation activities short of actually using force—and to anticipate using force if necessary.

Anticipatory Self-Defense

The liberal but controversial interpretation of a country's inherent right of self-defense derives from Article 51 of the UN charter. Built by case law, it espouses the doctrine of anticipatory self-defense. Under this interpretation, a nation need not wait for the first blow to fall before it defends itself. This issue has long been a source of international debate and is, without doubt, the strongest single tension evoked by the CPI. Although the Israeli air strike on the Osiraq reactor arguably violated the UN charter by the narrow view of self-defense and was almost universally condemned at the time, Israel justified its actions, based on the broader view. The strike and the Begin Doctrine, articulated shortly thereafter, were based on the notion that in rare circumstances a state may justifiably act in anticipation of a threat. In the spring of 1992, Secretary of Defense Dick Cheney effectively reversed US condemnation of the Osiraq air strike by publicly thanking Israel and noting that its action had clearly prevented Saddam Hussein from possessing nuclear weapons at the time of his invasion of Kuwait.[30] In hindsight, many countries agreed with Cheney.

Conclusion

Although intelligence and military capabilities will always have limitations, technologies and policy developed under the CPI could possibly provide a threefold update to US grand strategy in terms of *prevention*, *deterrence*, and *defense*. It may be possible to *prevent* future regional adversaries from fielding WMD or using them effectively. Counterproliferation also broadens the scope of US *deterrence* strategy by allowing for the future possibility of deterring WMD by conventional means. Finally, technology may allow for a viable *defense* against WMD through current theater ballistic missile defense technology as well as other new technologies. We should vigorously pursue all three fronts without apology, on the grounds that it is just and moral to fight some preventive wars and to prevent wars with a robust grand strategy capable of responding to any external threat.

As always, the US government should continue to insist upon the right to a broad interpretation of the inherent right of self-defense for its own citizens, territory, and vital interests, as well as those of its allies. The "carrot and stick" approach to WMD proliferation is appropriate. Further, we should vigorously support and broaden nonproliferation whenever possible, while developing and improving an effective counterproliferation strategy and the military capability to implement it, should the need ever arise. □

Notes

1. Graham T. Allison, *Essence of Decision: Explaining the Cuban Missile Crisis* (Boston: Little Brown, 1971), 5.

2. Ibid., 7.

3. Statement of the UK minister of defence, "UK Defense Strategy: A Continuing Role for Nuclear Weapons?" (18 January 1994).

4. French Ministry of Defense, "Livre Blanc sur la Defense" (Paris: Ministere de la defense, Service d'information et de relations publiques des armees, 1994), 77.

5. France does not formally participate in the NATO Military Committee. French involvement in counterproliferation necessitates that it be conducted on the political side of NATO. This rendering of counterproliferation as a political issue parallels DOD's assertion that counterproliferation is a set of additional response options subordinate to diplomacy. By placing counterproliferation under its political structure rather than under its military structure, NATO avoids the perception of a conflict of interest inherent in DOD's management of the CPI as a possible competitor that could supplant diplomatic means.

6. In contrast to the normal criticism that the CPI is too vague and does not provide a clear definition, Virginia S. I. Gamba believes that the lack of definitions "seemed to have worked as a stimulant rather than a hindrance . . . [and] that months before the U.S. administration had a firm idea of what its own initiative meant and what it entailed, major NATO partners were already busily interpreting Aspin's words on counterproliferation." See Virginia S. I. Gamba, "Counterproliferation:

Harmony or Contradiction?" in Mitchell Reiss and Harald Müller, eds., *International Perspectives on Counterproliferation*, Working Paper no. 99 (Washington, D.C.: Woodrow Wilson International Center for Scholars, 1995), 58.

7. Harald Müller, "Counterproliferation and the Nonproliferation Regime: A View from Germany," in Reiss and Müller, 29–30 and note 9, attributed to FRG Foreign Office, "Deutsche 10-Punkte-Erkl rung zur Nichtverbreitungspolitik" (Bonn: 15 December 1993), 4.

8. Richard Hart Sinnreich, "NATO's Doctrinal Dilemma," *Orbis* 19, no. 3 (Summer 1975): 462.

9. See Seongwhun Cheon, "A South Korean View of the U.S. Counterproliferation Initiative," in Reiss and Müller, 110–12. Cheon states that "the South Korean government and public have expressed consistent opposition to any measure that might increase tensions on the Korean peninsula." He also notes that the vast majority of the Korean population opposed a statement made by South Korean defense minister Lee Jong-ku in April 1991 that the North's suspicious Yongbyon nuclear complex should be struck by a commando raid.

10. There have been no official allegations of North-South discriminations from developing or nonaligned states, but the issue has been raised by environmental and other "watchdog" groups such as Greenpeace International. Surprisingly, it was not raised at the NPT extension conference.

11. Allison, 6.

12. Ibid.

13. Ibid., 7.

14. Ibid.

15. Daniel Poneman, the NSC's special assistant to the president for proliferation policy, wrote a broadly circulated memorandum on 18 February 1994 to Robert Gallucci, assistant secretary of state for political-military affairs, and Ashton Carter, assistant secretary of defense for nuclear security and counterproliferation. The memorandum defined counterproliferation and nonproliferation, the former as "the activities of the Department of Defense across the full range of U.S. efforts to combat proliferation, including diplomacy, arms control, export controls, and intelligence collection and analysis, with particular responsibility for assuring that U.S. force and interests can be protected should they confront an adversary armed with weapons of mass destruction or missiles." Deutch's subsequent *Report on Nonproliferation and Counterproliferation Activities and Programs* affirmed Poneman's definitions and identified two NSC committees with oversight responsibilities for counterproliferation policy. These committees give the NSC the ability to task specific aspects of proliferation policy to the appropriate government agency, thus mitigating interagency turf battles and tensions.

16. Les Aspin, "The Defense Counterproliferation Initiative Created," *Defense Issues* 8, no. 68 (n.d.): 1. Secretary Aspin made these prepared remarks to the National Academy of Sciences Committee on International Security and Arms Control, Washington, D.C., 7 December 1993.

17. Joseph Pilat, "A Counterproliferation Primer" (Los Alamos, N. Mex.: Los Alamos National Laboratory, 1994), 3.

18. This perception is a synthesis based on office interviews with various working-level officials and private analysts. A primary cause of this tension was that the working-level officials under Ashton Carter had little prior experience with WMD proliferation. They were proven analysts from other areas of DOD, but initial confusion was inevitable. After the first year, Carter's staff had developed effective working relations with their counterparts at State and ACDA and had gained an in-depth knowledge of WMD proliferation issues.

19. Senate, *Record Statement of Ashton B. Carter before the Committee on Armed Services*, 104th Cong., 1st sess., 28 April 1994, 2.

20. Avner Cohen, "The Lessons of Osiraq and the American Counterproliferation Debate," in Reiss and Müller, 73, as described in Leslie R. Groves, *Now It Can Be Told: The Story of the Manhattan Project* (New York: Harper and Brothers, 1962), 185–223 and 230–52.

21. Groves, 185–98, 207–23, and 230–49.

22. Ibid., 188–89. Groves calls the location Rjukan, but most scholars call it Vemork.

23. Ibid., 218.

24. Ibid., 230–31 and 236–39.

25. Ibid., 241.

26. Bertrand Russell, *The Autobiography of Bertrand Russell*, vol. 3, *1944–1967* (London: George Allen and Unwin, Ltd., 1969), 18.

27. Cohen, 73. Cohen does not elaborate on a primary source, but this possibility was confirmed in an oral interview with Prof Patrick J. Parker of the Naval Postgraduate School, Monterey, California, who was an official in DOD at the time.

28. See David A. Brown, "Iraqi Nuclear Weapons Capability Still Intact," *Aviation Week & Space Technology* 134, no. 26 (1 July 1991): 23. In this account, Lt Gen Charles Horner, USAF, commander of the coalition air forces, concedes that "possibly eighty percent of all Iraqi nuclear facilities were hit" over the course of the 43-day air campaign. See also Thomas A. Keaney and Eliot A. Cohen, *Gulf War Air Power Survey, Summary Report* (Washington, D.C.: Government Printing Office, 1993), 78–79. This account is an in-depth critical study of the entire air campaign, concluding that "the Iraqi nuclear program was massive . . . and less vulnerable to destruction by precision bombing than Coalition air commanders and planners or U.S. intelligence specialists realized before Desert Storm." It also notes that at the start of the air campaign, the target list contained two nuclear targets but that postwar inspections by the IAEA under the auspices of the UN Special Commission on Iraq ultimately revealed more than 20 sites, including 16 key facilities.

29. In September 1807, the Royal Navy bombarded Copenhagen and seized the Danish fleet in anticipation of an impending alliance between Denmark and France. The British goal was to prevent the Danish navy from aiding the French before Denmark actually joined the conflict. See William L. Langer, *An Encyclopedia of World History: Ancient, Medieval, and Modern, Chronologically Arranged*, 5th ed. (Boston: Houghton Mifflin Company, 1972), 642.

30. Frank J. Gaffney Jr., "An Exchange on Proliferation," *The National Interest*, no. 27 (Spring 1992): 108. See also Cohen, 101, note 80, which refers to Shlomo Nakdimon's *First Strike: The Exclusive Story of How Israel Foiled Iraq's Attempt to Get the Bomb* (Hebrew revision) (Tel Aviv: Edanim Publishers, 1993), 381–82, which reports that Vice President Dan Quayle and Secretary of Defense Cheney both openly acknowledged their gratitude to Menachem Begin for his decision to attack Osiraq.

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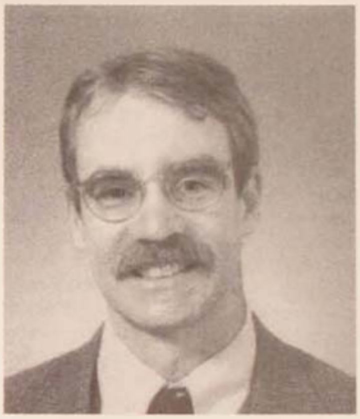

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Airpower and Peace Enforcement

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Way Points

It is not best that we should all think alike; it is difference of opinion that makes horse races.

—Mark Twain

RETURN OF THE ANTINUCLEAR WARRIORS

GENE MYERS

EVERY NOW AND THEN in the name of global security and peace of mind, a group of mostly well meaning former generals, admirals, and politicians announce their support for the fanciful goal of total abolition of the world's nuclear arsenals. Some of the more senior former military advocates really should know better. I would hope their rationale for such statements is a genuine, though in my opinion misdirected, concern for national safety rather than a desire for political recognition. From their perspective, it might be easy to believe the nation would not actually buy into such nonsense and would thus make their current pronouncements somewhat harmless. Harmless they are not. Repeated often enough by enough "credible" spokespeople, these pronouncements may take on the mantle of political gospel. Stranger things have happened.

Of course, the first and foremost nuclear stockpile on their (and everybody else's) list is that of the United States. Without going into too much detail, their arguments for complete nuclear disarmament generally rely on the following logic.

They contend that the cold war is over and we should take advantage of the reduction in tensions to rid humanity of the horrendously destructive potential of such weapons before an accident or miscalculation causes unimagined death and destruction. Part of this argument centers on the post-cold-war revelation that the old Soviet Union was not the precise, well-led fighting machine we imagined. Many contend it was all but a miracle that somebody within its creaky command structure didn't do something stupid or that a real accident did not occur and cause at best a few thousand casualties and massive contamination. The potential for mayhem within a morose, bankrupt, and desertion-ridden Russian military and defense industries is even worse today as nuclear weapon security is suspect and incentives for "rogue capitalism" abound.

Proliferation of nuclear weapons, components, and development technology and expertise to "rogue" states and terrorist groups is becoming more likely, if it has not already occurred. When coupled with the economic strain on Russian nuclear scientists and weapons guardians, the potential seems real. Advocates of total nuclear disarmament see their viewpoint as the only real way to curb the malignant spread. If the declared nuclear powers don't have nukes, neither will anyone else, the argument goes.

Maintaining the arsenal of many thousands of nuclear land- and sea-based ballistic missiles and air-delivered bombs and missiles is hugely expensive. In an era of shrinking defense budgets, these advocates say that this is something that if eliminated would benefit both the nondefense sector and the other segments of the defense establishment as well.

Taken at face value, these arguments make sense. The Russian military establishment, and the central government (some argue), are in disarray with rumors of nuclear leakage rampant. Numerous and varied ideological adversaries still exist and have shown an increasing penchant for violence and a nothing-to-lose attitude that threatens both the old Western alliance nations as well as the center of the once-powerful Soviet empire. Fear of nuclear terrorism is real.

However, the chances of a "nuclear accident" in which weapons are mistakenly launched by the former cold war antagonists are probably no more today than they have ever been. With the reduction of old cold war political and ideological animosity and resulting military tensions, such chances could actually be less as fingers on the various nuclear triggers are loosened and less likely to twitch with the variations in "managed crisis" levels.

And yes, nuclear technology is expensive to develop and maintain. One former four-star supporter of nuclear abolition maintains that we spent four trillion dollars on 70,000 nuclear weapons during the 40-year standoff. (I'm not sure this figure would pass an Internal Revenue Service audit; it's substantially inflated.) It is assumed that the USSR and other nations spent a substantial amount also. Strangely enough, however, the major reason put forth by the Eisenhower administration in the 1950s for such heavy reliance on nuclear deterrence was its relative low cost when compared to the staggering price tag of attempting to match the Warsaw Pact's massive conventional forces.

Be that as it may, the question now is, Was that money well spent? I count myself among those that, on balance and considering the inherent danger we faced for all those years, tend to think it was. While acknowledging that actually proving deterrence of the USSR's further expansion is somewhat akin to proving the virgin birth, the fact is that the titanic clash of two huge armies did not occur. Many think this was precisely because of the will of the West to resist Soviet advances and the presence of nuclear weapons and their horrible potential to prove military solutions futile. Had this conflict occurred, even without the use of nuclear weapons, there is no doubt that many thousands, if not millions, of lives would have been lost and Europe ruined.

Okay, but does this mean we still need all these things, and aren't we missing a momentous opportunity to rid ourselves of them once and for all? The historic knee-jerk, and politically irresistible, reaction to such arguments is affirmative. Given all the hostile interests that are now in pursuit of nuclear weapons to even the international military odds, it would seem to the politically correct a reasonable and indeed compelling proposition to proceed with abolition treaties now.

I disagree. I believe we can accomplish substantial reductions if they are done correctly. However, we cannot and must not seek total abolition—at least not for the foreseeable future. As with most questions of great import, the answer is a matter of degree, not an absolute. Why?

To use an already overused but nonetheless true analogy, in 1997 the genie is truly out of the bottle. We cannot simply wish nuclear weapons away. If we had approached nuclear abolition with Soviet leaders 25 years ago, ridicule would have come from those same senior officials that now support such actions. We were in the midst of a deadly serious ideological confrontation that we saw at the time as much in need of excuses for not erupting from cold to white hot. Besides, how could we prove that the other side actually did what it said it would do? Despite all our marvelous advanced intelligence technology, we still have absolutely no means of tracking down a few nuclear warheads. And it must be remembered that the political and military value of just a few weapons increases dramatically as your opponent draws his down toward zero. With the current world far more complex than the old bipolar confrontation and with the number of nuclear, biological, and chemical (NBC) armed or would-be armed entities growing at an alarming pace, why would it seem more logical to disarm ourselves now? How could we prove that 10 or 20 states were doing what they signed up to do, especially with the proven track records of some of them—Iraq, Iran, and North Korea as well as a few dubious "friends"? And what about increasingly powerful nonstate terrorist groups?

The United States has already signed up to eliminate its chemical and biological arsenals with no real way of proving compliance from other nations. Abolition of nuclear devices eliminates these weapons of mass destruction (WMD) that draw political and psychological lines in the sand. With what do we threaten those that would use any one or all of them in the future? And if we must respond to use of one of them, we must start and end the escalation ladder with a few rungs of conventional weaponry—a dilemma not ignored by potential adversaries with little to lose. It is widely believed that had it not been for the US nuclear and chemical arsenal, Iraq would have used its chemical weapons during the 1991 Gulf War.

We cannot sign up to total US nuclear disarmament as a way of fixing the leaky Russian arsenal. While eliminating one of the main sources of weapons components, the unattainable goal of Russian stockpile elimination would rid us of neither nuclear weapon development know-how nor the urge of others to attain weapons. We must also understand, as recent news stories have so disturbingly reminded us, that much of the weapons development technology and some components have come from sources other than Russia, including West Germany and China as well as a couple of greedy US companies. I don't think Russian leaders would agree to a total ban anyway; they also face a legion of potentially nuclear armed foes (some the same as ours) that they will wish to deter.

In eliminating US and Russian weapons, we actually encourage adversaries to get the nuclear "leg up" on us. The potential for nuclear, biological, and/or chemical blackmail and even terrorism becomes more appealing in light of the West's tendency to actually abide by its NBC treaties.

But we can significantly reduce our arsenals if we do it right, and in doing so at least reduce the potential for leakage from the old Russian, and possibly other, stockpiles. This is not an argument for abolition of nuclear weapons. However, in outlining three goals for our arms control and arms development programs, this discussion does hopefully point the way to substantial reductions—from the forty-five hundred to five thousand or so warheads for both sides envisioned under the unratified Strategic Arms Reduction Talks (START) II Treaty to perhaps a few hundred for each side in the future. These mutually reinforcing goals are as follows:

• Security. This goal requires that remaining weapons be secure from direct military or terrorist attack or theft. An enemy that cannot find a weapon cannot target it. Rather than making them easy to count and thereby target, both sides' arms control programs should foster a regime that assures the absolute security of weapons through such enhancements as mobility, dispersal, improved hardening, and enhanced physical security. With this achieved, the number of remaining weapons can be reduced. The main reason both sides deployed the many thousands of weapons they did during the cold war was to ensure sufficient survivors of a first strike on them to still present a credible retaliatory threat to the first striker. If they cannot be reliably attacked, there is no practical need for as many, especially in the present era of arms reductions.

• Stability. In seeking reductions of weapons for their own sake, our arms control program ignores the primary reason to reduce weapons: to enhance the stability of the international environment by reducing incentives to use those weapons. With improvements in security come improvements in stability since there is no incentive to either target the other side's vulnerable weapons during a crisis or to launch one's own to prevent their loss in a first strike. This admittedly applies primarily to confrontations between similarly armed nuclear powers, but that part of the equation must also be solved.

- Usability. To provide deterrence, some weapons must appear to an opponent as actually usable against centers of power and control. This is particularly important in the face of an adversary such as Saddam Hussein, who prizes the levers of power and his own skin more than national safety. In an environment where our weapons are secure and nuclear crisis stability among major nuclear powers enhanced, the possession of the means of retaliation against rogue states—small and highly accurate weapons, with minimal fallout potential—has significant deterrent potential. Security and stability actually enhance the perception of usability. At least retaliatory options against WMD use are more than a rung or two on the conventional ladder.

The abolitionist approach to nuclear arms control ignores the genie-out-of-the-bottle problem, and in concentrating on complete elimination, mistakes the need to make the arsenal safer, more stable, and indeed much smaller with the misguided drive to eliminate proliferation by disarming ourselves. Unfortunately, proliferation is inevitable. We can slow it. We can reduce the size of its source of supply. We can take political and military actions against attempts by dangerous proliferators. And we can show the folly of using the weapons a rogue state attains. But we will not be able to eliminate the incentive for buying, stealing, or building weapons of mass destruction, least of all by making ourselves incapable of responding in kind to their use.

Langley AFB, Virginia

True education means mind deployment; not merely the gathering and classifying of knowledge.

—Napoleon Hill, *Law of Success*

Ricochets and Replies
Continued from page 3

convey meanings Clausewitz did not intend and to make points not substantiated by Clausewitz's actual words as he used and intended them. For example, Col Larry D. New claims (in "Clausewitz's Theory: *On War* and Its Application Today," Fall 1996) that Clausewitz postulated a "linkage" (a word not used by Clausewitz in the translation quoted by New) between a military commander's ability to communicate and a political leader's ability to grasp the purpose, nature, and conduct of war (page 78).

In fact, New's interpretation would in practice give to military commanders a wedge they could use to develop a role in formulating policy—a role to which Clausewitz, I'm sure, would vehemently object; a role incompatible not only with true Clausewitzian thought but also with American traditions of civilian supremacy, according to which civilians and military commanders are not in effect partners in policy creation. (I am reminded of French premier Georges Clemenceau's assertion that "war is much too important to be left to generals.")

Colonel New claims that "Clausewitz called this linkage a paradoxical trinity with three aspects: the people, the commander and his army, and the government." He footnotes the source of this quote as page 89 of Michael Howard and Peter Paret's translation of *On War* (Princeton University Press, 1989). However, if we thoughtfully examine what Clausewitz actually asserted on that page, we find that he said, "As a total phenomenon its dominant tendencies always make war a paradoxical trinity—composed of primordial violence, hatred and enmity, and its element as a subordination of policy." If Clausewitz meant that war is a trinity of (1) the people, (2) the commander and his army, and (3) the government, he would have said so and not described war as a trinity of violence, hatred and enmity, and policy subordination. Although Clausewitz did go on to state that the "first aspect mainly concerns the people; the second the commander and his army; and the third the government," that is not synonymous, as New believes, with Clausewitz's claiming that war is a trinity of the people, the army and its commander, and the government. It's just not what Clausewitz said and meant. One cannot make up unsubstantiated meanings as one goes along.

In that same paragraph on page 89, Clausewitz explicitly states, "But the political aims are the business of the government alone." Let me repeat for emphasis—*the business of the government alone.* This statement by Clausewitz contradicts New's claims on page 78 of his article about the need for a strong relationship between senior military commanders and the government to achieve political objectives based on the commanders' ability to effectively communicate the purpose, nature, and conduct of war.

It is true that the footnotes New uses at the beginning of his article, taken from page 608 of *On War,* seem to suggest that the military chief should be a member of the cabinet in order to take an active role in policy formation and, therefore, that Clausewitz believed military leaders should participate in policy formation. But the footnote at the bottom of page 608 explains that thereby "Clausewitz emphasizes the cabinet's participation in military decisions, not the soldiers' participation in political decisions." Thus it's clear that Clausewitz, fairly interpreted, was not advocating a strong policy partnership between military and civilian leaders but actually was emphasizing absolute military subordination in policy formulation.

Joseph Forbes
Pittsburgh, Pennsylvania

MELANCHOLY REUNION

Col Charles J. Dunlap's article ("Melancholy Reunion: A Report from the Future on the Collapse of Civil-Military Relations in the United States") in the Winter 1996 issue provides the catalyst to continue needed discussions regarding civil-military relations. Certainly, there is some merit to all of his main points. Unfortunately, their impact was diluted by carrying some of the ideas to absolutely ridiculous extremes.

One can reasonably see how total quality management (TQM) can be perverted to the point of having some individuals believe that if an Air Force instruction (AFI) doesn't make sense, it can be ignored. This is a real problem that needs to be discussed in order to change that perception. It is the responsibility of leadership at all levels to enforce Air Force standards as stated in the AFIs. This problem, however, is a far cry from the scenario painted in the article. It is simply unrealistic to think that trying to see the business of our profession in terms of products, customers, and suppliers and trying to track our efficiency and effectiveness with metrics can somehow lead us to see combat as too costly, regardless of the political objectives. Similarly, it is laughable to think that spending on unmanned weapon systems will break the "man-in-the-loop" premise and result in the disestablishment of the Air Force. As with all weapon system acquisitions, it is important for doctrine to clearly define roles and missions and to ensure positive command and control. Concern over unchecked spending on technology that has not been shown to have doctrinal significance is legitimate, but this was taken too far. Overclassification, especially in the realm of information warfare, is also a subject that deserves considerable debate. However, I find it offensive to accuse unnamed men and women of honor of protecting "rice bowls," and even more offensive to characterize nonrated airmen as "lower-status" and imply that they would stoop to something as ridiculous as restricting information in order to make themselves "feel" like a warrior. Delusions aside, they are warriors by virtue of being uniformed service members. Furthermore, information warfare is a largely undefined battle space and to suggest that the "who" and the "what" should categorically be made public is naive. For example, the "who" and the "what" can equate to the target. Targets and targeting guidance are always classified, and for good reason—operations security. We don't want enemies to be forewarned and therefore better able to defend a given target. Finally, I think the characterization of "Weinberger's rules" as mushy standards is unfair. In my view, these "rules" were offered by a civilian to act as a sanity check for civilian leadership considering the use of military force. If these rules are echoed by military leaders, it falls into the category of what Colonel Dunlap calls apolitical candor. Certainly every effort should be made to keep these discussions private between civilian and military leadership, but when asked direct questions, men and women of integrity are required to answer honestly in accordance with their deeply held beliefs. There may be times when the only appropriate answer is "no comment." This, again, is a far cry from military leaders becoming political animals who are reluctant to risk even minor casualties.

As I stated at the outset, Colonel Dunlap has provided us the catalyst to continue an honest dialogue on this important topic. I applaud his efforts and look forward to reading more on this subject in your publication. I just hope that his points were not lost in the absurdity of his scenario for 2017.

Capt Stephen A. Smith, USAF
Yakima Training Center, Washington

THE AUTHOR RESPONDS

I'm extremely pleased that Captain Smith found my essay so stimulating! I must, nevertheless, disagree with some of his assertions. His spirited defense of total quality management, for example, underestimates the insidious effect of TQM's business-styled nomenclature on the weltanshauung of those in uniform. His view of "our profession" as a "business" illustrates the kind of misguided thinking that results. In truth, the altruistic essence of the *vocation* of military service has far fewer synergies with "business" activities than the overzealous minority of TQM proponents suppose. Few businesses ask their employees to die for them, for example.

Prof. John Keegan, perhaps the greatest living military historian, warns that "soldiers are not as other men—that is the lesson that I have learned from a life cast among warriors. The lesson has taught me to view with extreme suspicion all theories and representations of war that equate it with any other activity in human affairs." Before we embrace the next business school fad, we ought to consider those words carefully.

Captain Smith also believes it is "ridiculous" to think that future unmanned systems could ever lead to the disestablishment of the Air Force. Could cavalry officers have said much the same thing about internal combustion engines in the 1930s? With all due respect to the thousands of nonrated people performing magnificently in hundreds of other jobs, it is the aviator—the supposedly irreplaceable "man-in-the-loop"—who is the raison dêtre of a separate air force. But the increasing reluctance to place aviators at *any* risk may condemn manned combat aircraft to the realm of the politically unusable. Moreover, the rapidly growing capabilities of high-tech unmanned aerial vehicles (UAV), satellites, and cruise missile systems may make it simply unnecessary to put pilots in harm's way. Without manned *combat* aircraft, the remaining Air Force transportation and space responsibilities might justify a joint command but not a separate service.

My interpretation of the "who" and the "what" of information operations is evidently broader and more philosophic than Captain Smith's understanding. With information operations being openly touted as powerful tools "to influence the perceptions and decision making of others," the nation needs a comprehensive, informed discussion to develop suitable policy for them.

Is it wise, for example, to allow a self-selected group of secretive military officers so much power over operations with such a profound capability to affect democratic government? Furthermore, shouldn't a *civilian* agency have a controlling role akin to that enjoyed by the Department of Energy with respect to nuclear weapons? Likewise, if information operations have as much potential as their supporters claim, then perhaps deterrence is best served when potential adversaries have a keen understanding of "what" they are facing—even if they are deprived of the "how" as I recommend. Of course, I too am offended by the notion that people overclassify information activities to preserve their "rice bowls," but I am not so naive as to assume it would not occur.

Until someone can define for me with specificity the meaning of such terms as *national interest*, *public support*, and *overwhelming force*, I'll still insist that intellectual shorthand like the "Weinberger rules" is "mushy." There is certainly nothing wrong with anyone—military or civilian—using such "rules" as a template for discussion. However, once they become viewed as more than a framework, then anyone—including a politicized or "TQMized" military officer—can conjure up a reason to contend that almost *any* use of force fails to meet one "rule" or another.

Like many readers, I'm delighted that the "new" *APJ* provides a welcome forum for this kind of debate. Let's just hope that there are more thoughtful thinkers like Captain Smith out there. If so, then "Melancholy Reunion" will remain the allegorical literary device that it is.

Col Charlie Dunlap
Offutt AFB, Nebraska

REKINDLING THE FLAME

A Call for Papers

LT GEN LAWRENCE P. FARRELL JR.

Strategic thought. Out-of-the-box thinking. Phrase it any way you like, but the fact is that our Air Force was born of it. We emerged from a period between the world wars characterized by both great change and need. The world had changed geopolitically and technologically, and a few visionaries sketched out the critical need for the effective use of airpower.

Now we need new visionaries. Our Air Force is at another historic point of great change and need. We have as many opportunities to use new technologies and concepts as we have national challenges and vulnerabilities before us. The *Airpower Journal* has already proved invaluable in its role of providing a forum for such discourse on strategies for the application of air and space power. I need you to join that discussion. Equally important, *you* need to join the discussion.

The Air Force's Strategy and Policy Division (AF/XPXS) officially opened on 15 April. This new office intends to stimulate strategic thinking within the Air Force. Thinking strategically has always challenged militaries. Since the days of antiquity, military leaders have been accused of "fighting the last war." We airmen, in particular, have been known more for our love of flying machines than for our strategic thinking. We can change this, and we should.

We look forward to facilitating a continuous air and space strategy discussion in such a way as to rekindle the flame of strategic thought in the Air Force. It's important that your bold new idea not die in the bureaucracy. I challenge you to think about future strategies. There will be new ways to apply air and space power in the twenty-first century, and we as an Air Force must explore them. Bring your bold thought forward. We need it; our nation needs it.

Through a working relationship between the Strategy and Policy Division and *Airpower Journal*, readers are urged to stir the embers of this flame by submitting articles on air and space strategy or by providing feedback on ideas already published. Great ideas need an audience, and we're committed to working with *Airpower Journal* to bring those ideas forward. An editorial board will choose topics, review articles, and focus the debate. Send your air and space strategy ideas to

Chief, Air Force Strategy and Policy Division
AF/XPXS
1070 Air Force Pentagon
Washington, D.C. 20330-1070

You can contact AF/XPXS at DSN 227-3717, through E-mail at deremerl@af.pentagon.mil, or visit us in the Pentagon in room 4D1083. Or, contact *Airpower Journal* directly. Unsolicited manuscripts are welcome. Articles that don't appear in print will still be placed on *Air Chronicles*, the on-line version of *Airpower Journal* (www.cdsar.af.mil/air-chronicles.html).

Headquarters USAF

Net Assessment

The one who writes gives proof that at any rate he possesses some knowledge, whereas it is quite a possibility that the mind of the inarticulate one may be a military vacuum.

—Capt Sir Basil Liddell Hart

Spitfires, Thunderbolts, and Warm Beer: An American Fighter Pilot over Europe by Philip D. Caine. Brassey's, Inc., 1313 Dolly Madison Boulevard, McLean, Virginia 22101, 1995, 248 pages, $23.95.

Spitfires, Thunderbolts, and Warm Beer is a fascinating account of one of the few Americans who flew for both the Royal Air Force (RAF) and the Army Air Corps during World War II. The author, Brig Gen Philip D. Caine, USAF, Retired, uses the letters and diary entries of LeRoy Gover from San Carlos, California, to create a well-written and enjoyable read that explains an interesting and vital piece of military history in human terms.

The book begins with Gover's life as a construction worker and crop duster and progresses through RAF flight training and his two and one-half years of fighting in Europe. Caine puts his PhD in history to good use by placing each episode of Gover's journey in historical context. Although most of this book consists of segments from the diary Gover kept religiously throughout the war and from letters he wrote home, General Caine skillfully interposes historical background and analyses, primarily at the beginning and end of each chapter but also as needed elsewhere. Although the reader may find this technique a bit awkward initially, one realizes its value as the story quickly accelerates in both tension and excitement, especially as Gover fights daily for his life over Europe. In fact, as more of Gover's friends and squadron mates are shot down, the reader begins to wonder if the diary entries will suddenly end.

Gover's odyssey begins when the Clayton Knight Committee, an organization formed to recruit American pilots to fly for the RAF, signs him up in May 1941. Britain had lost half its fighter force during the Battle of Britain and badly needed experienced pilots. Between April 1940 and October 1942, the committee recruited over sixty-seven hundred pilots this way. After passing an intense RAF refresher program at Bakersfield, California, which featured a rigorous ground school and flights in the Stearman PT-17 and the North American AT-6 Harvard, Gover graduates in September, remains as an instructor for the next class, and finally sails to Europe in November 1941. Ironically, his boat arrives near Liverpool on 7 December 1941.

The British people welcome Gover with open arms, and the locals frequently invite him and his fellow Americans to dinner. Throughout the book, Gover remarks about the pleasant times he has in London, both with his fellow airmen and with English ladies. In fact, his diary entries frequently refer to his "R&R"—humorous, entertaining vignettes that provide the reader with needed breaks from the frequent accountings of combat.

Caine skillfully selects the diary entries and thoughtfully fills any gaps concerning Gover's activities. One quickly realizes that Gover is a work-hard, play-hard type of person—a talented and responsible pilot who takes his job very seriously. Diary entries range from the heat of combat and the drudgery of daily camp life to lively evenings at the American Eagle Club, Cracker's Club, the Regent Hotel, and other nightspots that Gover and other American pilots frequented in London.

The progression of the diary entries also reveals a common theme in war—the initial excitement of serving in uniform giving way to the reality of demanding training and finally to the harsh experience of combat itself. Only six days after flying operational combat missions, Gover is a pallbearer for a squadron mate. Death becomes commonplace but doesn't affect him as it does others, some of whom are shipped home for "nerves." In one battle, Gover describes the action at Dieppe, France, an Allied debacle in which five thousand Canadian commandos conduct a raid to test German defenses. While one thousand Canadians are killed and two thousand are taken prisoner, Gover loses his entire squadron; his graphic descriptions of fellow pilots being shot down and of the inability of the airmen to help the commandos illustrate the horrendous human cost of this war.

Gover spends his time undergoing various alert conditions, flying aircraft, performing duties on base, and taking time off. Most missions are fighter sweeps; fighter escorts, which become more common as additional American bombers arrive in England; convoy patrol; and occasional defense of their air base from attack by Junkers 88s or Dorniers. He usually fights with Focke-Wulf 190s and Messerschmitt 109s; by the end of his combat tour, he is credited with destroying three of these aircraft and damaging two.

In August 1942, Gover receives orders to American Eagle Squadron 133 at Martlesham Heath. The RAF had established three fighter squadrons as exclusively American units, and most of the Americans flying for the RAF hoped they would eventually transfer to these. Life as an American Eagle had its advantages, such as higher pay, $10,000 in free life insurance, and the privilege of being some of the first Americans to fly World War II combat in American units. However, life in other ways did not change much. Gover flew out of an RAF base in a Spitfire, normally served under an RAF officer, and often remained under RAF radar control. Americanization of these three squadrons progressed slowly. He flew his first operations mission as an Eagle on 9 October 1942 during a mission involving five hundred fighters escorting 118 B-17s over Lille, France.

Gover continues flying the Spitfire until January 1943 because of the paucity of new P-47 Thunderbolts. He makes a quick transition to the P-47, flying solo on his first flight, with little ground school or other preparation. Gover obviously enjoys flying the much larger and more sophisticated Thunderbolt. He finishes his combat flying in the P-47 in January 1944, when he returns home for a 30-day leave and is reassigned as a flight instructor in the United States.

LeRoy Gover earned one Silver Star, three Distinguished Flying Crosses, and eight Air Medals; achieved the rank of major; and earned the respect of his fellow airmen, commanders, and subordinates. The modest yet brutally frank accountings from his diary and letters home of his forays in the cauldron of aerial combat attest to his courage, modesty, and leadership, and make for fast-paced reading. General Caine masterfully recounts these events without maudlin or superficial hype. Gover achieved his dream of being a fighter pilot while valiantly serving Britain and then his own country—he even survives it all. Of the 43 pilots in his operational training unit (OTU) class, 33 were killed, and six others were wounded so badly that they could no longer fly. By the end of this book, one realizes the tremendous sacrifices made by the airmen of World War II.

Spitfires, Thunderbolts, and Warm Beer is an excellent book. As a historical accounting of war through the diary entries and letters of a stereotypical all-American young man gone off to war, the book accomplishes that rarity in modern literature—the accurate portrayal of an important piece of history in human terms without unnecessary hype. I highly recommend *Spitfires, Thunderbolts, and Warm Beer* but suggest that as readers make their way through it, they drink their beer cold.

Maj Phil Bossert, USAF
Scott AFB, Illinois

The Outbreak of the First World War: Strategic Planning, Crisis Decision Making and Deterrence Failure by John H. Maurer. Praeger Publishers, 88 Post Road West, Westport, Connecticut 06881, 1995 168 pages, $49.95.

Author John H. Maurer does an excellent job of examining the circumstances and decisions that led to the start of World War I. While there are many works that detail these events, few actually examine these events with an eye to understanding why they occurred. This is where Maurer makes his true contribution, for the focus of his book is on understanding the reasoning behind the decisions made that led Austria-Hungary and Germany to adopt a high-risk offensive strategy. These decisions did not occur in a political vacuum, but rather were the results of conscious choices—choices directed at achieving specific political ends for each nation. It was the political ends sought that made war inevitable, not the simple fact that Europe's militaries had mobilized.

It is in this light that Maurer examines the events and circumstance that led Austria-Hungary and Germany to take the course of action they did at the beginning of the war. Maurer accomplishes his task in three stages. Part one (chapters 1–3) of his book examines the strategic planning of the Austro-Hungarian and German general staffs prior to 1914. The second part (chapters 4–8) examines the July Crisis of 1914. While the crisis was precipitated by the assassination of Archduke Franz Ferdinand, this section carefully examines why the leaders of Austria-Hungary and Germany chose a mix of offensive and defensive strategic options. In the third and final part of this work (the concluding chapter), Maurer finishes his examination of the decisions that led Austria-Hungary and Germany to war by examining why deterrence failed.

In the years leading up to World War I, Europe's leaders had certain perceptions regarding the nature of war, perceptions that would color how they decided for or against war. Prevailing politico-economic beliefs held that any modern war would be of very short duration because of the interdependence of the European great power economies, the prohibitive cost of modern warfare, the supposed imperviousness of a nation's economy to government intervention, and a fear of social revolution. This combination of factors seemed to indicate that future wars would be short. Military doctrine of the day also supported the idea of short wars and came to place more value on offensive rather than defensive operations. Thus, military leaders also supported the idea of short, decisive wars fought to gain national objectives. This led military leaders to concentrate their planning efforts on such a war, largely ignoring defensive operations and long-range plans of employment.

But reality did not match the expectations of Europe's leaders. The war that followed lasted four years, was highly destructive in terms of property and capital, and resulted in the loss of almost an entire generation of European men. While military deployment plans were very detailed and developed for almost every contingency, they could not resolve the basic political differences of the parties involved. Too, political and military leaders failed to recognize, or even consider, the ramifications of their actions, actions that were often of a very provocative nature. When the opening battles of World War I did not resolve the war quickly, the lack of long-range plans helped insure the stalemate and attrition warfare that followed. These factors resulted in a war that was a far cry from being short and decisive in nature.

While at times a bit repetitious, John H. Maurer's book is an excellent study about why nations go to war. It offers many lessons. To those who believe that in the new post-cold-war world old truths are no longer seemingly true, it shows the error of such thinking. For those enamored with a world image of highly interdependent economies and a worldwide outpouring of democracy that will temper the severity of future conflict, this work stands as a warning. For the military professional, it serves as an admonition to the dangers of failing to adapt established doctrines to existing conditions. Finally, this book once again points out the importance of understanding how political and military matters interrelate at the strategic level.

Maj John E. Brence, USAF
Maxwell AFB, Alabama

Code-Name Downfall: The Secret Plan to Invade Japan and Why Truman Dropped the Bomb by Thomas B. Allen and Norman Polmar. Simon and Schuster, 1230 Avenue of the Americas, New York 10020, 1995, 351 pages, $25.00.

Norman Polmar and Thomas Allen present a clear repudiation of the idea that the dropping of the atomic bombs on Hiroshima and Nagasaki was unnecessary. Instead, the United States was planning a massive invasion of the Japanese home islands, code-named Downfall, in which the detonation of the bombs was nothing more than the United States trying to do everything in its power to end the war as quickly as possible. Whether the bombs ended the war or simply made the invasion easier was not an issue in deciding whether or not to use the bomb. The fact was that the bomb was a weapon in the arsenal.

The authors lead the reader through a concise but thorough background of both prewar plans involving a war against Japan and through the war itself, from the surprise attack at Pearl Harbor to the surrender of Japan aboard the USS *Missouri*. The background is excellently laid, and the authors do a great job of bringing the war to life. From memoirs and interviews the reader gains insights into what the commanders on both sides of the lines were actually thinking.

Overall, *Code-Name Downfall* is an excellently researched book that proves its thesis well beyond a reasonable doubt. Almost all sources used are primary sources, including official memorandums from national archives; interviews; memoirs; official military plans, studies, and communications; and, most importantly, recently declassified Magic intercepts (of Japanese secret communications) that are on repository at the National Security Agency.

Polmar and Allen masterfully prove the thesis that the United States was going to invade whether or not it used the bomb (unless Japan surrendered, of course). As the United States and its Allies made their way across the Pacific, the authors chronicle not only how the battles were fought but how the lessons learned would be applied in the plan for the final invasion of Japan. As the Allies drew nearer to Japan itself, the reader is exposed to the vastly intricate deception plans as well as the contingency plans for the use of terror weapons (chemical and biological). The final invasion plan is also intricately laid out, from the arguments over when and where to land the invasion force to which forces were going to land on which beaches.

The key to the thesis, however, lies with the Magic intercepts. These intercepts clearly showed that the Japanese were in no way considering surrendering just because their homeland was about to be invaded. Rather, that only strengthened their will as the military prepared the entire population, including women and children, to defend the homeland against the Allies. Not only were the Japanese not open to negotiations in the least, there was no guarantee that the dropping of the two atomic bombs would end the war. In fact, American planners were calculating how many more bombs would be available for the invasion that was scheduled for 1 November 1945.

Thus, the invasion was destined to take place unless the atomic bombs ended the war. *Code-Name Downfall*, despite its shortage of detailed maps, shows that the atomic bombs were necessary considering the fact that the Japanese showed no intention of surrendering without a fight to the finish. Only the dropping of the bombs precluded that end.

Lt Vern Conaway, USAF
Maxwell AFB, Alabama

The Divided Skies: Establishing Segregated Flight Training at Tuskegee, Alabama, 1934–1942 by Robert J. Jakeman. University of Alabama Press, 315 University Boulevard East, Tuscaloosa, Alabama 35401, 416 pages, 1992, $37.95.

Divided Skies is not just another book in a recent series of publications attempting to chronicle the exploits and achievements of the black Army Air Corps pilots of the Second World War. Much has been written and conveyed about these men in books, articles, television documentaries, and a recent HBO movie. But until the publication of this book, very little has been written to cover black aviation from the end of the First World War up until the beginning of the Second World War. In addition to covering the genesis of black military aviation training, *Divided Skies* covers the exploits of America's first black pilots, the only black combat pilot of World War I, black civil aviation between the wars, and the increasing pressure by black Americans to be allowed to enter military flying.

The purpose of this book is to show the reader the difficulties faced by black Americans in an attempt to earn the right to pilot aircraft for the Army Air Corps. The author, who is head of the Public Services Division at the Alabama Department of Archives and History in Montgomery, has done an incredibly detailed job of researching pertinent information. This prewar history of the black American struggle is replete with both first- and secondhand sources, making this book both accurate and interesting. Although the book tends to slow down at times, lively and timely anecdotes interspersed throughout the book help to bring the story to life. They also give the reader a feel for what the black leadership in America was probably going through while trying to get legislation passed to correct the blatant discrimination practiced by the US military establishment.

In dealing with a subject of this nature, the author has done well to avoid pointing fingers or casting blame on any particular party, regardless of how culpable they were for the events that took place leading up to the reluctant admittance of black pilots into the Army Air Corps. This lends quite a bit of credibility to his work and does not tend to put the reader on any kind of defensive.

In all, this well-written book is presented in a very pleasant and understandable manner. It is a great stand-alone reference book on the subject of early black aviators and aviation pioneers. Although it does discuss the formation of the black combat units of World War II, its real value lies in serving as a complementary edition to the other volumes that have been written about the Tuskegee airmen. People seem to either forget or not know the struggles faced by black Americans simply to earn the right to fly airplanes in this country. This book takes a giant step in that direction and will be a valuable tool for any historian interested in this area of historical study.

Maj Robert Tate, USAF
Maxwell AFB, Alabama

Reflections of a Cold Warrior: From Yalta to the Bay of Pigs by Richard M. Bissell Jr. with Jonathan E. Lewis and Frances T. Pudlo. Yale University Press, P. O. Box 209040, New Haven, Connecticut 06520-9040, 1996, 296 pages, $30.00.

Richard M. Bissell's career at the Central Intelligence Agency (CIA) placed him in the inner circle of the most powerful and influential leaders in American government during the height of the cold war. Indeed, he had access to the most sensitive national security intelligence of the day. This book provides his insights and observations of many key events of this era. The book was written with the assistance of Jonathan E. Lewis and Frances T. Pudlo. The basis of this memoir is a series of one-on-one interviews conducted with Bissell between 1991 and 1993. Lewis's research of personal papers, files, and interviews with colleagues provided the framework for these interviews. Ms Pudlo, who was Bissell's administrative assistant for 20 years, served as an editor of the manuscript.

Bissell was born into a wealthy Connecticut family and led a rather privileged childhood. He attended prep school at Groton and completed his undergraduate degree at Yale. After college graduation in 1932, he studied at the London School of Economics and eventually returned to Yale to earn a PhD in economics. The war years of 1942–1945 saw Bissell employed at the War and Shipping Administration, whose primary charter was to coordinate sealift of cargo to the theaters of operation. In this capacity he attended the Yalta Conference of 1945 and was witness to the increasing friction between the US and Soviet Union that would eventually develop into the cold war. After World War II, Bissell held various positions in the Economic Cooperation Administration, the Mutual Security Agency, and the Ford Foundation. He played a role in formulating the Marshall Plan. In 1954, he joined the CIA initially as a special assistant to the director and later as deputy director of plans from 1959 until 1962. He was heavily involved in the development and employment of the U-2 reconnaissance aircraft. He was also instrumental in the development of the SR-71 aircraft and the Corona spy satellite. His memoirs provide an insight into President Dwight Eisenhower's decision-making process for authorizing overflight of the Soviet Union. Bissell also discusses the events surrounding the Soviet shootdown of Francis Gary Powers's U-2 in 1960.

I believe the highlight of this book is the discussion of the planning and execution of the Bay of Pigs invasion. He explains the origin of the plan, the manner in which events changed the plan, President John F. Kennedy's involvement; and he outlines the reasons for its total failure. For the student of military history, this offers a case study in the wrong way to plan a military operation. Through Bissell's recollection and analysis, we can understand how we became involved in such a precarious operation and perhaps how it made sense at the time. After leaving the CIA, Bissell held various executive positions in private industry and worked as a consultant on numerous projects.

Overall, this book contains valuable information and offers a unique perspective on a difficult and dangerous yet interesting period in American history. I do have some criticisms of the book. We never really get to know Richard Bissell from these memoirs. The narrative has a rather cold and detached quality. He rarely provides any insight into his personal life. He freely discusses the decisions he made and, to his credit, readily accepts responsibility for the failures. As stated in the final chapter, Bissell chose to include only events he believed would benefit from his personal perspective while other topics receive only cursory treatment or are not discussed at all. For example, early United States involvement in Southeast Asia and several other crises of the period are only superficially discussed. I believe Bissell was too conservative, as he was in a position to make some valuable observations on a wider range of events.

I would recommend the reader approach this book as a reference work as opposed to a book for purely personal enjoyment. By this I mean I fully recommend selected sections of the book because of the excellent insight they offer. Specifically I recommend the chapter on reconnaissance system development, Cuba, and the discussion of covert operations. I do not, however, recommend the book as a whole.

Lt Col Chris Anderson, USAF
Maxwell AFB, Alabama

War at Sea: A Naval History of World War II by Nathan Miller. Charles Scribner's Sons, 866 Third Avenue, New York 10022, 1995, 592 pages, $32.50.

Various 50th-anniversary celebrations of World War II have launched dozens of books about the war at sea. One of the broadest and most readable, Nathan Miller's synthetic volume draws on much of the English-language scholarship of recent decades (plus some materials in the Public Record Office, invariably referred to as the Public Records [*sic*] office) to assess the leaders and operations of the German, British, Japanese, Canadian, and American navies. Miller, an experienced writer on sweeping topics as varied as a history of the US Navy and corruption in American politics, aimed to produce a history of "World War II at sea that treat[s] the struggle as a conceptual whole." He nearly succeeds, but his planned comprehensiveness is marred only by virtually ignoring the Russian navy and dealing with the Italian only as an opponent of Britain's Royal Navy.

Personalities loom large in Miller's narrative; he regularly summarizes the main issues debated by historians and then cogently states his own view. Typical of Miller's assessments is his endorsement of criticism leveled at Vice Adm Frank Jack Fletcher's "ill-founded decision" (page 268) to withdraw his carriers from the waters off Guadalcanal three days after marines went ashore in August 1942, followed by a summary of John Lundstrom's defense of Fletcher in an extended footnote. Most of his judgments are conventional (e.g., his criticism of Churchill's decision to transfer troops from Egypt to Greece in 1941 and of Gen Douglas MacArthur's failure to defend the Philippines more adequately). Miller has kind words for the Canadian navy and for Adm Ernest J. King in the Battle of the Atlantic but argues that it was US industrial capacity more than anything else that determined the outcome of that long, bitter campaign. Especially good is his lucid treatment of British admiral Andrew B. Cunningham and the Mediterranean campaign of 1940 to 1942.

In the Pacific, Miller indirectly exonerates Gen Walter C. Short and Adm Husband Kimmel by placing primary responsibility for the Pearl Harbor debacle on officials in Washington. He credits the Japanese with forming a brilliant plan and executing it flawlessly, though he is highly critical of Adm Isoroku Yamamoto's conduct of the Midway campaign six months later, saying his plan "smacked more of the war-gaming table than reality" (page 245). He endorses Vice Adm Raymond Spruance's decisions not to seek the main Japanese fleet at Midway and the Philippine Sea; indeed, he describes Spruance as taking "an immense risk" (page 252) at Midway when he launched all his planes in pursuit of the Japanese while retaining none to defend his ships. In a few cases, Miller renders no judgment, as in his assessment of Vice Adm William Halsey's run north during the Battle of Leyte Gulf, though he does imply that Halsey committed an error—but one for which Thomas Kinkaid must share responsibility because of his failure to order air searches north of the battle area.

Although he focuses on major battles, Miller does not ignore submarine operations or the role of intelligence. His discussion of Allied cooperation is not balanced by a critique of the failure of Japan and Germany to coordinate campaigns; nor does he assess lost opportunities, such as Japan's decision to limit operations in the Indian Ocean in 1942.

Individuals new to naval warfare can learn much from *War at Sea,* and specialists will find his assessments interesting. Miller's work can be profitably supplemented with Walter J. Boyne's *Clash of Titans* (1995). Boyne, a retired Air Force colonel, provides a valuable perspective by describing the importance of land-based aircraft to both the Americans and the Japanese—especially during the Battle of Midway—and to victory in the Battle of the Atlantic. Still, *War at Sea* replaces Richard Hough's *The Longest Battle* (1986) as the best single-volume overview of the naval war.

James C. Bradford
Maxwell AFB, Alabama

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The Editor

Our Contributors

en Ronald R. Fogleman (USAFA; MA, Duke
niversity) is chief of staff of the United States
ir Force. A command pilot with more than
300 hours, General Fogleman has commanded
n Air Force wing and air division, directed Air
orce programs on the Air Staff, and served as
ommander of the Seventh Air Force of Pacific
ir Forces with the added responsibility as
eputy commander of US Forces Korea and
ommander of Korean and US air components
signed under the Combined Forces Command.
rior to becoming chief of staff, he was com-
ander in chief of the US Transportation
ommand and commander of the Air Force's
ir Mobility Command. General Fogleman is
graduate of the Army War College.

illiam M. Arkin (BS, University of Maryland)
an independent writer and consultant. He
as military adviser to the International Study
eam (the so-called Harvard Study Team) and
ent seven weeks in postwar Iraq during 1991
d 1993 inspecting over 350 bombed sites
d interviewing Iraqi officials, soldiers, tech-
cians, and civilians. He has lectured widely
his observations of postwar Iraq. He re-
ived support from the John D. and Cather-
e T. MacArthur Foundation in 1995 to study
e bombing of electrical systems in warfare
d visited Lebanon in 1996 as a consultant
Human Rights Watch to inspect Israeli at-
cks. He continues to work on a book—*Tar-
t Iraq*—about the true effect of the air war.
rkin, an Army intelligence analyst from
74 to 1978, is the author or coauthor of nine books on military matters, including the prestigious *Nuclear Weapons Databook* series. His latest is *The US Military Online: A Directory for Internet Access to the Department of Defense*. He is a columnist for *The Bulletin of the Atomic Scientists*.

Dr. Joel S. A. Hayward (MA, PhD, University of Canterbury, Christchurch) is a lecturer in the Department of History, Massey University, Palmerston North, New Zealand. In 1994, the USAF Historical Research Agency awarded him a research scholarship to conduct archival research for his doctoral dissertation on German air operations during Hitler's eastern campaign of 1942–1943. After conducting extensive research at the agency, he received a research fellowship from the German government to enable him to conduct research in the German Military Archives in Freiburg, Germany.

Col Charles R. Myers (BA, Tulane University; MA, PhD, University of Texas at Austin; JD, University of California, Berkeley) is professor and head of the Department of Philosophy and Fine Arts, US Air Force Academy. He began his Air Force service as an intelligence officer, including an assignment at Da Nang AB, Vietnam. After teaching philosophy at the Air Force Academy, he attended law school under the Funded Legal Education Program. His duties as a judge advocate have included assignments at wing, numbered air force, and major command levels in several commands and at the Air Force Legal Services Center. His most recent assignments were as the staff judge advocate for Seventh Air Force and for United States Strategic Command. He assumed his present position in January 1995. He is a graduate of the National War College.

Lt Col Rhonda Cornum (BS and PhD, Cornell University; MD, Uniformed Services University) is a urologic surgery resident at Brook Army Medical Center, San Antonio, Texas. She was an operational flight surgeon with the 2/229 Attack Helicopter Battalion during Operations Desert Shield and Desert Storm, and a staff scientist in the Crew Life Support Branch at the US Army Aeromedical Research Laboratory, Fort Rucker, Alabama. Her research interests include factors affecting success in aviation training, integration of advanced visual displays, and transfusion therapy in shock and trauma. Colonel Cornum is a graduate of Air Command and Staff College.

Dr. John Caldwell (BS, Troy State University; MS, University of South Alabama; PhD, University of Southern Mississippi) is an experimental psychologist in the Aircrew Health and Performance Division of the US Army Aeromedical Research Laboratory, Fort Rucker, Alabama. For the past 10 years, he has been conducting laboratory, simulator, and in-flight research into the effects of pharmacological compounds, stress, and fatigue on the performance of military aviators.

Lt Col Kory Cornum (USAFA; MD, Uniformed Services University) is currently an orthopaedic surgery resident at Wilford Hall Medical Center, San Antonio, Texas. He was the flight surgeon for the 33d Fighter Wing during Operations Just Cause, Desert Shield, and Desert Storm, and during multiple overseas deployments. Subsequently, he served as a staff scientist at the Armstrong Laboratory at Brooks AFB, Texas. His research interests include effects of fatigue, circadian dysrhythmias, and pharmacological compounds on pilot performance. Colonel Cornum is a graduate of Squadron Officer School.

Gen Charles C. Krulak (BS, US Naval Academy; MS, George Washington University) is commandant of the United States Marine Corps. He has held a variety of command and staff positions during his career, serving as commander of Marine Forces Pacific/commanding general of Fleet Marine Forces Pacific, Camp H. M. Smith, Hawaii, immediately prior to assuming duties as commandant on 30 June 1995. General Krulak is a graduate of the Amphibious Warfare School, Army Command and General Staff College, and National War College.

Lt Col Wray R. Johnson (BA, Southwest Texas State University; MS, Troy State University in Montgomery; PhD, Florida State University) is the senior defense advisor to the director of the United States Information Agency in Washington, D. C. Prior to that assignment he was chief, Foreign Internal Defense, Headquarters Air Force Special Operations Command, Hurlburt Field, Florida. In that capacity he was instrumental in the conception, design, and fielding of the 6th Special Operations Squadron, the first-ever USAF squadron dedicated to the foreign internal defense and combat advisory mission areas. Previous assignments include service in the Air Force Office of Antiterrorism at the Pentagon and on the faculty of the USAF Special Operations School at Hurlburt. He continues to lecture widely on revolutionary warfare, counterinsurgency, psychological operations, and intercultural communications in limited and unconventional warfare.

Dr. James J. Wirtz (BA, MA, University of Delaware; MPhil, PhD, Columbia University) is associate professor of national security affairs, Naval Postgraduate School, Monterey, California. He was a John M. Olin Fellow at the Center for International Affairs, Harvard University, and his work on the subject of national security has been published in a number of journals. Professor Wirtz is the author of *The Tet Offensive: Intelligence Failure in War* and coauthor of a forthcoming book entitled *The Absolute Weapon Revisited: Nuclear Arms and the Emerging International Order.*

Dr. Ronald J. Kurth (BS, US Naval Academy MPA and PhD, Harvard University) is dean o academic affairs at the Air War College, Max well AFB, Alabama. He served in the US Nav for 36 years—as a flag officer during the las 10 years of his career. He received the De fense Distinguished Service Medal, the Nav Distinguished Service Medal, and thre awards of the Legion of Merit. Dr. Kurth wa president of the Naval War College, Newpor Rhode Island, from 1987 to 1990, and of Mu ray State University, Murray, Kentucky, fron 1990 to 1994.

Capt George Conner (BS, Montana State Un versity; MS, Naval Postgraduate School) is a sistant provost and a senior lecturer at th Naval Postgraduate School, Monterey, Cal fornia. Prior to his retirement in 1994, h held the Chair for Tactical Analysis an served as dean of military faculty at the Nav Postgraduate School. He also served as speci assistant for program objective memorandu and budget to the assistant secretary of th Navy (manpower and reserve affairs) and a acting deputy assistant secretary of the Nav (manpower) during the mobilization of arme forces for Operation Desert Storm. Captai Conner's decorations include the Legion c Merit, Meritorious Service Medal, and Nav Achievement Medal.

Lt Comdr Angus McColl (USNA; MS, Nava Postgraduate School) is the executive office of the Blue Crew on the USS *Ohio* (SSBN-726 homeported at Bangor, Washington. His pric experience is in attack submarines, nuclea propulsion maintenance, and carrier batt group operations.

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