

Aerospace Power and Land Power in Peace Operations

Toward a New Basis
for Synergy

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IN THE WORLD of military policy and operations, peace operations are a growth industry. The United Nations (UN) activated just 13 peacekeeping operations in the 40 years between 1948 and 1988. In the last 10 years, the international body has activated or endorsed 36 others, including peace-enforcement operations in Somalia, Haiti, and Bosnia-Herzegovina.¹ The sudden expansion of peace operations is a product of collapsed economic and political systems in various parts of the world and the post-cold-war freedom of developed countries to expend economic, political, and military capital on them. And capital is what peace operations require. Besides costing billions of dollars, peace operations cost lives; over 1,580 soldiers were lost to all causes between 1948 and 1998.² Peace operations also



Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 1999		2. REPORT TYPE		3. DATES COVERED 00-00-1999 to 00-00-1999	
4. TITLE AND SUBTITLE Aerospace Power and Land Power in Peace Operations. Toward a New Basis for Synergy				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Air and Space Power Journal,155 N. Twining St,Maxwell AFB,AL,36112-6026				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 19	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

exert tremendous pressures on peacetime military establishments and on individual soldiers. Those human and financial costs, as well as their potential political liabilities, make peace operations a major concern for military force structure and operational planners. Since their governments choose to become involved in peace operations, military planners and leaders are obliged to develop ways to do them effectively and at minimum cost. For airmen and those who think about the utility of aerospace power, these goals naturally lead to consideration of the role of

their chosen arm in peace operations. To develop operational plans, they need to understand the absolute contribution aerospace power can make to peace operations. To make force-structure policy, they must consider the *relative* effectiveness and costs of aerospace operations in comparison to, or in conjunction with, other forms of military power, particularly land power.³ Only with those pieces of information in hand can military planners go to the government and suggest the kinds and scale of aerospace forces

*I originally presented this article as "An American View of Peace-Support Operations: A Perspective on Air Power" at the Royal Norwegian Air Force Aerospace Power Symposium, hosted by the RNoAF Academy, Trondheim, Norway, 3 February 1998. Accordingly, I would like to thank the faculty and staff at the academy for hosting me so graciously at the conference and for giving me such a fine venue to express my ideas on this important subject.



needed to best serve its commitments to peace operations.

This article presents an assessment of the relative value of aerospace forces in peace operations. This assessment, in turn, raises two subsidiary questions. First, is the utility of aerospace power, in relation to land power, increasing or decreasing? Second, how should governments take advantage of the dynamics of that relationship? By addressing the utility of aerospace power in a relative sense, rather than in an absolute one, this examination becomes a little more complicated and risky, but it also becomes more likely to produce an answer of some value to military force-structure policy. Everyone knows that military aerospace forces can contribute to peace operations in an absolute sense. That's interesting information but hardly instructive to decisions about the size and composition of either air forces or of their proportional role in the defense establishment. Only by knowing how aerospace power stacks up against land power can defense planners get into the serious business of picking and choosing force *mixes* and doctrines.

Before examining the specifics of the relationships of aerospace power, land power, and peace operations, this article begins with a partial encapsulation of the *nature* of peace operations. The purpose of this encapsulation is to provide a foundation for comparing the attributes and relationships of aerospace and land power in those operations. By suggesting that peace operations can be as much about Big Power hegemony as humanitarianism, this section aims to sharpen our understanding of why they so often involve fighting and how peace operators can apply military forces to them creatively and synergistically. Although this section can be taken as controversial, it is not digressive. Peace operations are controversial in general, and, given the presence of differing expressions of their nature and purposes, any effort to get at their operational and force-structure implications must be linked to a clear set of basic assumptions and assertions. Otherwise, the policy discussion can amount to no more than a "castle in the air."

The Nature of Peace Operations

The American joint-doctrine treatise Joint Publication 3-07, *Military Operations other than War*, defines *peace operations* as a category that "encompasses peacekeeping operations and peace enforcement operations conducted in support of diplomatic efforts to establish and maintain peace." The publication goes on to define *peacekeeping* as "military operations undertaken with the consent of all major parties to a dispute, designed to monitor and facilitate implementation of an agreement . . . and support diplomatic efforts to reach a long-term political settlement." As might be expected, the document presents *peace enforcement* as "application of military force, or the threat of its use . . . to compel compliance with resolutions or sanctions designed to maintain or restore peace and order."⁴ These are useful definitions that capture the main difference between the two types of peace-support operations: one assumes broad permission and cooperation from the "major parties" of a dispute, while the other assumes that one or more of those parties needs more forceful coercion to get in line. But a closer look at these definitions reveals that, in their careful brevity, they miss or gloss over some essential elements in the nature of peace operations that have relevance to the present discussion.

The naked reality of peace operations is that they are the consequence of decisions by powerful outsiders to *intervene* in the affairs of less well-endowed local governments, groups, and factions.⁵ However public-relations officers and pundits might wish to present peace operations, it is useful for military planners and operators to recognize their core reality. They are applications of state power to direct or facilitate the movement of the social, economic, and political affairs of others in directions that the intervening states believe they would not go without that application of power. The directions intervening states wish local affairs to go may be laudable. They may wish to prevent the dissolution of failed states, midwife the birth of new states, block genocide, or achieve other worthy objectives.



US marines in Somalia. In October 1993, US Army rangers fought a pitched battle in the streets of Mogadishu that altered US attitudes toward peace operations and Somalia.

Intervention objectives also may be self-interested, such as protecting economic interests and alliance structures or just removing awful images from the Cable News Network. Whatever the case, states intervene or, in current usage, conduct peace operations to accomplish their objectives, mainly by helping or making the “locals” behave.

I use that distinctly pejorative phrase *making the locals behave* with a purpose. I want to emphasize that, as interventions into the affairs of others, peace operations, in reality or at least in the views of some of their recipients, amount to little more than a type of or continuation of Western imperialism.⁶ If that

term is too harsh for some, then peace operations also could be presented as assertions of economic, political, and moral hegemony. Essentially, they involve richer or more powerful states or coalitions accepting obligations or asserting rights to shape directly the lives and destinies of peoples and organizations that fall outside of the political structures of the intervening states. Whether the outsiders are intervening to prevent locals from behaving badly or from suffering the consequences of their own political or economic failures or bad luck, the essence of the act is the same—hegemony. For the intervention to be peace-keeping, the intervened state and/or dis-

putants must accept the consequent reduction of their sovereignty and self-reliance. If one or more of those parties does not accept the intervention or its intent, then the operation likely will become one of peace enforcement. In that case, the intervening states will have to fight to impose their visions on local circumstances—visions that may or may not even conform to those of the government or factions upon whose “behalf” the big powers are intervening.

People and some disputing factions benefit from such interventions, while others do not, and sometimes the dissatisfied ones fight.

That peace operations can be taken as a species of imperialism, particularly by their “beneficiaries,” is manifest from several perspectives. How else but as imperialism will many people perceive a national policy statement that multilateral peace operations “can serve U.S. interests by promoting democracy, regional security, and economic growth”?⁷ In the eyes of many people, even the “promotion of democracy” will appear as an assertion of cultural imperialism by developed countries seeking security by having the world conform to their ideas of political propriety. Similarly, when states bomb one faction in a civil war, both to defend the borders of a forming state and to prove to the world that their collective military and political alliances are sound, that will read to many like an act of moral and political self-interest, hegemony, or imperialism—call it what you will. We should not be surprised or dismissive, therefore, when the Serbs link UN-sponsored peace operations to Nazi conquest.⁸ Although such statements certainly reflect the Serbian government’s odious character and bombastic diplomacy, they also reveal its perception of the motives of intervening states. Inaccurate and unfair though it may be, such

a perception can have great effect on the course and outcome of a peace operation.

Thus, the value of describing peace operations as a form of *realpolitik* is neither to discredit them or even to address the argument of whether imperialism is right, wrong, or just an inevitable feature of the intercourse of nations. Rather, the value of such a description, assuming it is correct, lies in its support for accurate analysis of the military characteristics and strategic essentials of peace operations—and of aerospace power’s role in them. To put it bluntly, mushy descriptions of peace operations as humanitarian and neutral efforts to promote peace, stability, and motherhood don’t go far enough to explain why so many soldiers die in them or why they so strain the resources of intervening states. Understanding that *peace operation* is the current term for self-interested (even if benignly self-interested) interventions by states into the internal affairs of others does go a little further down the path toward explaining those realities. People and some disputing factions benefit from such interventions, while others do not, and sometimes the dissatisfied ones fight.

As interventions, peace operations make intervening states and their soldiers active members of local society, politics, and culture. In open war, societies focus on destroying, capturing, or threatening one another’s resources until their opponents capitulate. In peace operations, outsiders come into the life of a country by permission or force and, along with its regular citizens, take on a role in shaping its features and future. Of course, the effects of this interaction go both ways. By asserting some ownership of events in intervened states and societies, intervention states are shaped by them politically and socially, in turn. As a case in point, consider the effects on our domestic politics of the televised images of the “Market Squares of Death” in Sarajevo and of dead Americans in the streets of Mogadishu.

Interaction with intervened states and societies, of course, makes intervening states liable for subsequent events. Depending on what they have asked, helped, or forced the

factions in a conflict to do, the intervening states also may find themselves emotionally or politically vested in them in ways that make withdrawal difficult, even when the initial crisis is over.⁹ The United States could and did withdraw from Grenada quickly and easily, for example, partly because it asked the people of the country to commit to or change nothing, other than to bid farewell to the Cubans. In contrast, the Bosnian Federation and many of its citizens live and may even begin to thrive as a consequence of the UN–North Atlantic Treaty Organization (NATO) intervention, which may explain why both alliances assume a moral obligation to preserve the new state until that distant day it hopefully will stand on its own.

Also, as self-interested intrusions into local affairs, peace operations are highly unlikely to be viewed as politically neutral events, except in the eyes of the most hopeful or doctrinaire among the interventionists themselves. Despite official pronouncements that “peacekeeping . . . demands that the peacekeeping force maintain strict neutrality” and derivative statements that “peace operations interject politically neutral military forces into contested areas,” real neutrality is unattainable in peace operations.¹⁰ To the point, one cannot enter a state like Somalia and interfere with the factional competition for control of the flow of foreign aid, which was the primary currency of political power, without becoming a biased actor in local politics, at least in the eyes of the factions. Experience bears this out in the rapid evolution of the UN mandates in Somalia, from humanitarian relief, to disarming the factions to secure the flow of relief, to a specific manhunt for Gen Mohammed Farah Aidid.¹¹ Likewise, no matter their self-perception, UN peacekeepers became participants in the Bosnian civil war the moment the UN passed resolutions forbidding the factions from using combat airpower and from attacking Bosnian cities. Moreover, since only the Bosnian Serbs had combat aircraft or were conquering cities at the time, the partisan and inequitable effects of the UN mandates were obvious to most people.¹² The reality is that, even in what ap-

pear to be the most humanitarian and altruistic of peace operations, soldiers keeping and, certainly, enforcing the peace will find allies among those benefiting from their intervention, and they will find enemies among those who are not.

These processes of interaction and of finding friends and enemies suggest that mission creep is inherent to and almost instantaneous in peace operations. In an analog to the Heisenberg uncertainty principle of physics, peacekeepers and peace enforcers change the circumstances in which they intervene, simply by the act of intervention itself. Missions simply will not stay put in these kinds of operations in which, in the words of one analyst, “the success of the original mission depends on picking up additional missions.”¹³ The US government sent marines into Haiti in 1915 to reestablish order but found itself unable to withdraw them until 1934—and only after undertaking a large program of public works, education, and attempted cultural reengineering. To stabilize a government, the marines tried to build a nation.¹⁴ NATO entered the Bosnian conflict to underpin UN sanctions and humanitarian relief efforts. But now the alliance is engaged in a long-term presence upon which hinges the survival of the Bosnian state. In reasonable likelihood, if NATO leaves anytime soon, tens of thousands will die. To secure the safe areas, then, the intervening states have had to help rebuild Bosnia politically, militarily, and to some degree psychologically. No wonder that one student of international relations recently wrote, “To imagine that the United States can send a company or a corps into [an intervention] with a clear, finite mission statement that will not evolve takes a remarkable mind.”¹⁵

Naturally, therefore, peace operations often demand the full range of the tactical capabilities incumbent in conventional military forces. In the past, peace soldiers have faced threats ranging from terrorists and guerillas to conventional land forces and even air arms. The weapons of their opponents have ranged from land mines and small arms to armored fighting vehicles, artillery, and air-



A Predator unmanned aerial vehicle supporting Operation Joint Endeavor sits in a hangar at Taszar Airfield, Hungary.

craft. Peace-force tactical operations have included the traditional ones of taking posts between warring factions, observation, patrolling, reconnaissance by land and aerospace systems, de-mining, corps of engineers construction projects, coercive confrontations, conventional offensive operations, and others. In short, peace operations are distinguished from open conflict not by the types of tactical operations undertaken but by their intent. Consistent with this view, United States Army doctrine does not discount the applicability of traditional principles of war to peace operations, although it adds several other principles to peacekeeping to reflect its focus on utilizing minimum force to restore the conditions of peace as quickly as possible.¹⁶

Because peace operations demand so much from the military, they certainly can “feel” like war, at least in terms of the resource pressures and emotional trauma they impose. As Gen Frank Kitson discovered for land forces over a generation ago, preparing officers and troops for peacekeeping requires substantial investments in education and

training, although he believed that many of the basic skills thus imparted would be transferable to conventional roles.¹⁷ But overall, units engaged in peace operations have little time or opportunity to engage in the training, battle drills, and exercises needed to keep them ready for their conventional roles. Similarly, air forces maintaining air occupations over places like Bosnia and Iraq have also discovered that the air-to-air combat and other skills of their fighter pilots quickly degrade in a regimen marked by long patrolling and minimal continuation training. Peace operations also demand much in the way of psychological stress, particularly from ground troops engaged in the inevitable processes of interacting with intervened societies, while all the time watching their backs. Recent studies, as cases in point, indicate that veterans of peacekeeping in Somalia experienced a rate of post-traumatic stress disorders similar to that of soldiers from the Gulf War—about 8 percent. Their traumas emerged not from combat but from its absence under the “nerve wracking conditions of peacekeeping [and] the need to exercise restraint in a

country full of armed bands.”¹⁸ The resource pressures of peace operations can also be formidable for militaries simultaneously trying to maintain their readiness for conventional war and to sustain troop morale at a level necessary to keep soldiers from resigning en masse. Largely as an effort to balance these pressures, the chief of staff of the United States Air Force, Gen Michael Ryan, launched the Expeditionary Aerospace Force concept in August 1998. His guidance to his major commands was to develop a package of personnel policies, force-scheduling procedures, and logistics concepts to make more bearable the burdens of maintaining standing deployments.¹⁹

All these factors considered, it is reasonable to point out that peace operations have more in common with war than many people would like to admit. Their genesis lies not in the existence of tumult and tragedy in the world but in the desire of strong states to intervene. Tumults and tragedies are always with us. They become peace operations only when states find it in their interests to protect others from the consequences of their own actions, to protect weak factions from strong ones, to help or force others to adhere to moral and political norms attractive to the interventionists, or simply to get peoples and their ugly actions off television. As in the realm of war, such intrusions into the affairs of others can be causes of conflict or at least acts that make the intruders participants in conflict.

Understanding that peace operations have much to do with hegemony and conflict greatly simplifies an analytical approach to the two most important strategic questions about them. The first is, Which of the many opportunities for intervention should be taken? Just as it is in any rationalist approach to conflict in general, the basic answer to this question is, Whichever ones truly involve significant national interests and can be accomplished with a net improvement in the national conditions of the intervening and perhaps even the intervened states. This answer clearly is implied in American presidential policy, which holds that intervention de-

cisions will be based on national security requirements, the scale of the threat or breach to international security, and the presence of international support for an intervention.²⁰ The devils of such a policy are in the details, of course. To intervene to achieve a net improvement in the national condition requires a clear knowledge of end-state goals and the probable outcomes of the action. End-state goals are difficult to calculate because they must accommodate, among many things, national desires to gain economic and political strength; preserve military capabilities to handle vital threats; and enhance the moral self-confidence, prestige, and alliance structures of the intervening state. At least one realist analysis of this decision process has suggested that the final answer to this question is, in essence, “hardly ever.” Another has said only when “there is a genuine threat to the interests of the United States” and only when end-state goals *will not* “require a revolution in indigenous values and beliefs.”²¹ In any case, before intervening, a nation should at least try to determine that the intervention truly is necessary *and* that it likely will come out of the intervention stronger than when it went in. Any less disciplined approach is the first step to strategic overreach.

The second fundamental strategic question emerging from an understanding of peace operations as actions of hegemony and conflict is, Once governments decide to intervene, how do militaries achieve national goals at least cost in blood, treasure, and heartache? Simplistically, the answer is, Through astute combinations of doctrine, preparation, and operational exploitation of existing and/or readily obtainable forces singly and in combination with one another. Concisely put, peace operations are as amenable to the logic and principles of war as they are not and, thus, are most likely to be won by intelligently employed *joint* and, hopefully, *combined* forces applied synergistically and in concert with equally astute diplomatic actions. This insight, in turn, resplights the following focal questions:

- Is the utility of aerospace power, in relation to land power, increasing or decreasing?
- How should governments take advantage of the dynamics of that relationship?

Once again, getting at this one narrow aspect of the broader problem of “fighting” peace operations requires a shift of focus from their nature to operational-level discussion of the relative roles of aerospace and land forces in such activities and then to tactical-level discussion of aerospace power’s changing role in an absolute sense.

Aerospace Power and Land Power in Peace Operations

Quick definitions of land and aerospace power will be useful here. *Power* means the same thing for both terms. Power is the ability to do work or, in the military context, to make someone or a group do things that they were not intending to do otherwise. Land power and aerospace power share the same objective, then—compelling enemies to do things—and differ only in their means and methodologies. Land forces compel enemies through maneuver, fire, and presence operations by forces that move on the surface of the Earth, or by auxiliary air arms that move above the surface but whose operations largely are oriented to the movements and positions of their parent land forces. Aerospace forces compel enemies through maneuver, fire, and presence operations by forces that move above the surface of the Earth, or by auxiliary surface forces that likewise orient their operations to exploiting the military opportunities of movement through the aerospace. In simple terms, then, air and land forces do similar things in different mediums. This simple relationship is useful because it makes comparisons of land power and airpower easier than often is understood. It is from their different mediums, and only secondarily from their derivative technologies, that each mode of fighting draws its dis-

tinct operational-level advantages and disadvantages in peace operations.

The salient advantage of land forces in peace operations is that, by operating on the surface of an intervened state, they are *there* and, compared to aerospace forces, it is difficult to extract them from *there*. As any soldier will tell you, land forces do their job most decisively in close quarters with the enemy, even if that “enemy” is an uncooperative Haitian policeman unwilling to enforce the law. So, to keep or enforce the peace, armies seek to deploy as widely as the security situation permits to engage in eyeball-to-eyeball cultural interaction with the locals. Close contact is the sine qua non of armies, and it gives them unequalled ability to come to grips with local conditions, distinguish between allies and enemies, and execute schemes to shape social and political developments. Soldiers walk the streets and enter buildings, sometimes without destroying them first. They talk to people, read posters, and otherwise plumb and characterize the “atmosphere” of a place. So, in peace operations, land forces seek to deploy as widely as the security situation permits. Given the capabilities of modern weapons, command and control systems, and tactical mobility platforms, intervening armies also have the ability to spread out and “cover” larger areas. Last, since armies are not easily moved out of conflict environments, their presence can be seen as, in the words of two senior American doctrinalists, “an irreducible *bonafide* of alliance commitment, especially for the nation claiming leadership of that alliance” (emphasis in original).²²

The salient *disadvantage* of land forces in peace operations is that, by operating on the surface of an intervened state, they are *there*, and, compared to aerospace forces, it is difficult to extract them from *there*. In close quarters with the citizens of foreign cultures, peacekeepers often find their duties characterized by confusion, frustration, and boredom laced with frequent moments of anxiety and fear. Soldiers in peace operations are vulnerable, as casualty figures from Somalia and Bosnia attest. Death or injury can come to them from bombs, bullets, the clubs and

knives of a mob, or a thousand other ways. And peace soldiers do become the targets of attack, particularly when their duties call on them to coerce and/or kill locals. When peace soldiers kill or are killed, the relationship between interventionist and intervened will change. Consequently, interventionist “investment” and liability may increase, and the mission likely will creep or plunge toward greater or lesser involvement. The direction of movement often is unpredictable. After 18 US soldiers died in Somalia on 3–4 October 1993, the United States began a policy shift that had it out of the country by the following March. In contrast, when the Bosnian Serbs took several hundred peacekeepers hostage to halt NATO bombing raids in May 1995, the United States cooperated with several other countries to prepare the way for a sustained air campaign against the Serbs, which came off at the end of the following August. The air campaign, in turn, opened the way for the insertion of over 20,000 peacekeepers into Bosnia that winter. In other words, armies find both *power* and *vulnerability* in close-quarters interaction with intervened societies. Close-quarters interaction gives intervention governments an indispensable ability to shape events, and it also exposes them to liability and mission creep. As many people have pointed out, these vulnerabilities can be minimized by proper education and training of troops to conduct themselves effectively in unexpected circumstances. But such vulnerabilities cannot be eliminated.²³

The salient advantage of aerospace forces is that, by operating above the surface of the intervened state, they normally are *not there*, and, compared to armies, it is easy—indeed routine—to extract them when they do overfly *there*. As any airman will be glad to tell you, the speed, range, agility, and elevation of their aircraft and space systems, combined with the unprecedented lethality of their weapons and the capabilities of their information, surveillance, and reconnaissance systems allow them to exert great effect from afar. Given time, airmen are getting ever nearer to the claim of Gen Ronald Fogleman, former United States Air Force chief of staff,

that “in the first quarter of the 21st century you will be able to find, fix or track, and target—in near real time—anything of consequence that moves upon or is located on the face of the Earth.” Consequently, aerospace forces do not need emotional or physical nearness with intervened states or cultures to do their primary jobs of observing, holding at risk, or destroying their resources and people. Indeed, close contact for airmen can be counterproductive. Part of their psychological effect in peace operations has been their ability to observe and attack in something like cold blood. Because they can be nearly invulnerable to the defenses of disputing factions, airmen in modern aerospace forces have *opportunities* to time and structure their operations in ways that are systematic, unstoppable, dispassionate, and enormously useful to their governments. As Ambassador Richard Holbrooke and others have recorded, such operations had a profound psychological effect on Serbian leaders in the fall of 1995.²⁴ Such operations also can shape conditions to let ground forces spread out and do their jobs more effectively and at more bearable cost. Further, as in the case of Operation Deliberate Force, air operations often produce minimum friendly and enemy casualties, which in turn reduces the generation of overwhelming pressure to change the political cohesion and mission focus of an intervention.

As by now must be obvious, the salient disadvantage of aerospace forces is that, by operating above the surface of the intervened state, they normally are *not there*, and, compared to armies, it is easy—indeed routine—to extract them when they do overfly *there*. The distance between airmen and intervened cultures prevents them from doing some things as well as their Army brethren. Professional airmen do not look their opponents in the eye. They don’t negotiate with local commanders, warlords, civil servants, or refugees. They do not watch, interrogate, or arrest people. In the first quarter of the twenty-first century, they likely will *not* be able to find, fix or track, and target all the significant things that will be *hidden* beneath the surface of the Earth or other forms of camouflage, or that

will be hidden behind the eyes of an enemy—at least not in near real time. In short, airmen have limited ability to build detailed pictures of what is going on at the human level or to shape local events or developments in positive ways, except in conjunction with activities by forces, diplomats, and nongovernmental workers on the ground.

At the core of such a strategy probably should be an appreciation that aerospace power should be the tool of first recourse in peace enforcement, while land power retains preeminence in peacekeeping and as the tool of second recourse in peace enforcement.

The ease with which political leaders can halt offensive air operations is a two-edged sword. Numerous military thinkers have pointed to on-again-off-again air operations as ineffective, even counterproductive, actions in peace operations and war. The observation is true, of course. It has also been true for land forces in cases, like the Gulf War, in which their offensives were turned off short of what hindsight now tells us would have been a better victory than the one attained. On the other hand, the knowledge that air operations could be turned off quickly, with little residual liability or vulnerability, was an important factor in NATO's decision to take offensive actions against the Bosnian Serbs in the fall of 1995. In other words, aerospace forces find both *power* and *security* in episodic interaction with intervened societies. Episodic interaction, compared to the close-quarters interaction of armies, gives intervention governments indispensable freedom to shape events at greatly reduced liability and exposure to mission creep.

In broad terms, then, the comparative utilities of land and aerospace forces in peace operations are obvious and mirror-imaged. Land forces are as good an instrument as we

have to undertake the *positive* military aspects of peace operations, such as reconstruction and confidence building. But if used to accomplish the *negative* aspects of peace operations, such as coercion and combat against factions, land forces are likely to be very expensive instruments in terms of costs, casualties, mission creep, and liability to the intervening governments and forces.²⁵ Aerospace forces, in contrast, can be used to accomplish the negative functions in ways that minimize those costs. On the other hand, their utility in the positive aspects of peacekeeping generally is limited to providing mobility, information support, and providing latent coercion to help keep disputants in line. In general, then, strategists should consider land and aerospace power as complementary tools, useful in ways that offset each other's weaknesses and maximize their strengths and combined synergy. At the core of such a strategy probably should be an appreciation that aerospace power should be the tool of first recourse in peace enforcement, while land power retains preeminence in peacekeeping and as the tool of *second* recourse in peace enforcement.

This idea that aerospace power leads in peace enforcement and that land power leads in peacekeeping commends itself on at least two accounts. First, it conforms to recent experience in Bosnia, where intervening states used aerospace power to enforce the peace and to set the conditions for a peaceful insertion of land forces. The anticipated costs and liabilities of land-power-based peace enforcement simply were not acceptable under the circumstances.²⁶ Second, a division of peace enforcement and peacekeeping duties between the land and air arms could offer an interesting opportunity to play "good-cop-bad-cop" in a peace operation. As many observers have pointed out, it is very difficult to conduct peacekeeping and peace enforcement in the same situation simultaneously. The passions and distrust engendered by peace-enforcement operations can, at least in the short term, undermine the work of peacekeepers, humanitarian relief workers, and others trying to patch things together.²⁷ It

seems reasonable to think, however, that employing airmen to beat up on the bad guys can *minimize* the souring effect of enforcement operations on relations between local disputants and peacekeepers on the ground. There is enough indication of this possibility in the Bosnian experience to suggest that the idea is worth considering. Imagine the consequences on peacemaking in Bosnia today had NATO opted for a multidivision land campaign instead of airpower to force the Serbs back from the safe areas and to the conference table. Likewise, would Somalia have turned out differently had the interventionists maintained a primary reliance on airpower as the “*killing*” force in the hunt for General Aidid, rather than on a ground-power mix of rangers, light helicopters, special operations forces, and mechanized units? These are unanswerable questions, of course, but they do prick the imagination.

This discussion leads naturally to a shift in focus to consideration of the evolving tactical capabilities of aerospace power in peace operations. If ground power is going to pick up the slack for aerospace power in peace enforcement, we need to know where that slack begins. In his valuable work on aircraft and unconventional war, historian Philip Towle argues that aerospace power has had uneven but generally restricted success at suppressing guerilla forces or performing other internal security operations, particularly in broken, covered, and urban terrain. Success was even more elusive, Towle discovered, when air action occurred independently of cooperation with effective land forces or when its intended targets enjoyed protected sanctuaries.²⁸ Recent experience and unfolding technological developments, however, suggest that aerospace power’s ability to do many of the tactical tasks relevant to peace operations may in fact be increasing in absolute terms and in relation to the abilities of land power. Examining that proposition requires categorizing those tasks and then examining the ability of aerospace systems to do them.

Aerospace Power and Peace Operations: Evolving Tactical Capabilities

To argue that aerospace power’s tactical effectiveness in peace operations is increasing in absolute terms requires a description of the tactical tasks involved in that assessment, at least at the categorical level. Prof. Jim Corum sometime ago noted the relatively skeletal nature of American service and joint doctrines for peace operations, particularly in the cases of airpower and peace enforcement.²⁹ Recently, however, several doctrinal publications have emerged to lay out the broad missions and tasks of peace operations, although airpower and peace enforcement remain relatively undertreated.³⁰ In the case of peacemaking, American doctrine can be described as categorizing the tasks of peace operations as

- *observation* to record and report the implementation and violations of the truce process, to include cease-fire or border violations and troop dispositions;
- *interposition* of peacemaking forces between belligerents to establish and maintain buffer zones and to discourage border violations, infiltration, confrontations, and other truce violations;
- *patrolling* to enhance the visibility, credibility, and effectiveness of the peacemaking operation and to supplement the observation and interposition missions; and
- *civic actions* to enhance the stability and confidence of the disputants, to include actions such as information reporting, assistance to law enforcement, provision of specialist advisors, escorting convoys, protecting economic assets, and an almost limitless list of others.³¹

These doctrine publications also assert roles in all of these tactical categories for every medium of military operations—land, sea, air, and space. Air and land forces complement one another in all areas. Naval

forces overlap with land and air in many tactical tasks, while bringing unique capabilities to the table in areas such as environmental protection, fisheries patrol and escort, and maritime patrol and inspection. Space forces contribute by providing communications, navigation, and imagery support for activities such as mapping, truce monitoring, and diplomatic negotiations.

US joint and service doctrines are less explicit and detailed for the relatively new mission of peace enforcement than they are for the more established one of peacekeeping. The keystone joint publication devotes only a half page to defining peace enforcement, and, in contrast to peacekeeping, there is no stand-alone publication for the mission.³² The absence of a stand-alone joint publication probably reflects the implicit assumption in American service publications that peace enforcement is so much like war that it can be covered as a subset of it. As suggested earlier, the United States Army assumes that peace operations largely are subject to the basic principles of war. Accordingly, its basic doctrine publication merely restates the joint definition. In its general discussion of military operations other than war (MOOTW), the Army's publication does advise that when peacekeepers are called upon to defend themselves, "the use of overwhelming force may complicate the process toward the Army's stated objectives."³³ United States Air Force doctrine manuals are even vaguer on MOOTW and peace operations. Air Force Doctrine Document (AFDD) 1, *Air Force Basic Doctrine*, lists peace operations in its brief discussion of MOOTW but doesn't define them. Even the new and exhaustive AFDD 2, *Organization and Employment of Aerospace Power*, scarcely mentions peace operations, even to the point of leaving them out of its discussion of "Peacetime Engagement and Crisis Response," which does include mention of topics like "Arms Control" and "Counterterrorism."³⁴

The presumption implicit in this shallow treatment of peace enforcement—that it basically is subject to the same principles and doctrines already developed for war in gen-

eral—simplifies the task of categorizing the missions of peace operations. The only mission category added by peace enforcement is

- *combat* to compel or coerce resisting factions to conform to the provisions of the truce and/or the diplomatic demands of the intervention, to include the full range of combined, joint, and service combatant actions as appropriate to the situation and the objectives of the intervention.

As this general discussion now turns to the more specific ones of aerospace power's absolute and relative roles in the tactical mission categories of peace operations, it is *not* going to discuss several issues. First, for reasons of time and security classification, the discussion cannot become a detailed effort to describe the applications of specific systems and weapons against specific tasks. Second, it is not going to devolve into a polemic about whether or not the world is moving into a chaotic era of cultural or mass conflicts that will subsume the state-based warfare of the present and the past, and incidentally render airpower an ineffective instrument of war. This latter thought, raised so strongly by Martin van Creveld, merits its own line of discourse, but one separate from this study.³⁵ Last, the remaining discussion here will not address the question of whether the current tactical advantages of aerospace power in relation to land power are likely to last for very long or will be swept away by continued technological development. One military thinker recently has suggested that the maturation of the current revolution in military affairs eventually will favor land forces over air forces, overweighing their current advantages in stealth, maneuver, and precision.³⁶ This is a particularly important and seductive issue for aerospace thinkers, but it is not immediately germane to the questions under study and will be passed over.

Two background issues *do* require mention because they apply equally to all of the forthcoming mission-area discussions. The first issue is vulnerability. Intentional vulnerability helps peacekeepers do their jobs. Often, their



Backing peace operations with force using today's versions of Teddy Roosevelt's "big stick." Left: a view of an AC-130 Spectre gunship highlights its sensors and side-firing weapons. Below: an M1A1 Abrams main battle tank, part of US Army Task Force Hawk, is loaded onto a C-17A Globemaster III for transport to Skopje, Macedonia, as part of Operation Joint Guard.



manifestation of an inoffensive, underarmed vulnerability is central to their efforts to gain credibility and the appearance of neutrality. But if peace soldiers can be rendered vulnerable, peace airmen usually are not so easily trussed for the altar of peace, as demonstrated by casualty figures. So any discussion

of the relative merits of airpower and land power must be understood against a background understanding of the advantages and disadvantages of vulnerability.

The second background issue is air mobility. As United States basic doctrine points out, airlift often is not only the fastest way to move

assets, it may be the only way to move them.³⁷ Experience suggests that this may be so for reasons of politics, security, logistical efficiency, and even the basic health of the interventionist forces.³⁸ Thus, in many applications of the mission categories discussed here, air mobility is a key enabler of the forces involved. Peacekeepers rely on airlift for secure movement between their posts and patrols and for day-to-day logistics support. Peace enforcers, particularly if they are airmen, will require both airlift and aerial refueling to get to the fight. So any assessment of the total or relative contribution of aerospace power in peace operations must include at least acknowledgement of the ubiquitous contribution of air mobility to everyone's success. Now, back to the roles of aerospace power in the mission areas of observation, interposition, patrolling, civic actions, and combat.

Observation

This one is easy, for the truly astounding advances in the ability of air- and spaceborne systems to locate, see, measure, categorize, and report are generally known. A recitation of specific systems and capabilities thus would be unnecessary and tedious. But it is worth noting that over the past 20 years, aerospace reconnaissance and surveillance systems, when used in combination, have gone a long way down the road to solving their main weaknesses—dwell time, close-in detail, and effectiveness under conditions of poor visibility in the visible spectrum. Unmanned aerial vehicles (UAV), high-endurance airborne platforms, and satellite systems, matched with modern sensors, can give military forces the ability to observe specific targets and areas for long periods of time, even continually. UAVs, by moving in close, and satellites, through high-resolution sensors, can also search and observe in great detail. Even at the commercial level, almost anyone can buy satellite imagery down to a few meters of definition. Importantly, in current peace operations, the increased quality and duration of aerospace observation comes at greatly reduced exposure and costs for peacekeeping forces. One

can survey an exodus of desperate refugees and disgruntled soldiers by exposing several peacekeeper parties to close-in danger over a period of days, or by maintaining a UAV and satellite watch. UAVs certainly are costly and currently limited in reliability, but imagine the cost advantages of replacing several manned observation posts with each one.

Clearly, though, aerospace observation systems likely will retain critical weaknesses in the foreseeable future. They still cannot see under roofs, open boxes of contraband, look into vehicles, or peer into all the other places peacekeepers must explore. Perhaps most importantly, aerospace systems cannot look into someone's eyes during an interview, meeting, or interrogation. But by gathering key information, like the existence of mass graves and the presence of factional forces in the wrong places, aerospace observation can make the job of land-based observation much easier, certain, and productive. The point here is that land observation and aerospace observation are indispensable elements of the same task of just knowing what's going on. But because aerospace observation systems can do an ever-wider range of tasks more cheaply, more safely, and often better than land systems, their role in operations and the budget must be addressed carefully.

Interposition

This one is tougher. Aerospace forces are not good at vulnerability. But part of the usefulness of interposing peacekeeping forces between belligerents derives from the vulnerability of the peacekeepers. The prospect of shooting a flesh-and-blood national of a great power may give greater pause than the prospect of shooting down an orbiting UAV—hopefully. Still, experience shows that some belligerents have shot anyway, and some have used peacekeepers as hostages or macabre political statements. Moreover, as intervening powers more frequently confront the aftermaths of failed states, or pseudostates that never quite were, it becomes more likely that they will meet groups and individuals who don't know or care about the

niceties of civilized peacekeeping.³⁹ So, if close-in observation and/or vulnerability are required, use peace soldiers. But if distant observation will do, use peace airmen.

Patrolling

To the extent that patrolling is about gathering information, then the preceding comments about observation apply. But patrolling is also about establishing control, and it often carries the possibility of confrontation and combat. Here again, peacekeepers must weigh the countervailing values of vulnerability and the advantages of air and land maneuver as mechanisms for establishing control. Air's advantages, of course, are its probably reduced vulnerability and its ability to cover large areas and revisit specific targets frequently. Combat air and patrolling air can also leverage and protect the efforts of land-based patrols, thereby allowing them to spread out and do their jobs with greater confidence and security. Air's disadvantages may be the ubiquitous one of not being able to get really close to people or to look under cover. UAVs can get pretty close, but they also become more vulnerable at the same time. Peacekeeping operators and force planners should consider, therefore, the consequences of a faction's shooting down a UAV and of the intervenor's either responding or not responding to the provocation. Providing enjoyable target practice for dolts with AK-47s is not good peacekeeping. In the final analysis, the right force-structure solution to patrolling will lead to a mixed reliance on land and air assets, with air being the option of first choice for many purposes.

Air patrolling presents an intriguing mirror image of land patrolling. No-fly zones and air embargoes could be enforced to some degree by land-based forces, possibly at reduced risk. But in comparison to those in the air, land-based patrollers would not have the ability to get close to their subject, let alone take a look into its windows and openings. Also, land-based air-patrol systems would face the classic and expensive problem of having to be everywhere at the same time with sensors and

weapons of relatively short range, compared to those carried by aircraft.

Civic Actions

The ability of airlift and aeromedical evacuation operations to sustain lives and confidence in peace operations has been well established for many years. In a sense, most humanitarian airlifts amount to low-key versions of peacekeeping, in that they help to hold at bay the fractious forces of famine, illness, and disaster. A more recent discovery coming out of the Balkans experience has been that combat air forces and space forces can contribute to the environment of stability and confidence in an intervened state, both in combat and noncombat applications. NATO's enforcement of the no-fly zone and its air attacks of 1994 and early 1995, leaky and halfhearted as they were, nevertheless helped to restrain the region's violence. Space-based detection of and subsequent publicizing of Srebrenica's mass graves and the delineation of the Bosnian Federation's new internal borders were important examples of the usefulness of that new medium. Still, civic actions overwhelmingly remain human-to-human activities. In all likelihood, the overwhelming military contribution of airpower to civic actions will be as an adjunct or support to activities by peacekeepers on the ground.

Combat

The case for aerospace forces as the lead arm in peace enforcement has already been offered. Here, the important issues are its potential for decisive intervention and methodology. At the moment, the database for the *specific* effectiveness for combat air in peace enforcement is too small to draw any real conclusions. We can only draw examples from use in the Congo in 1960–61 and in the Balkans in 1994–95. In the case of Deliberate Force in August–September 1995, air bombardment seems to have driven the Serbs back from the safe areas and to the conference table. But air was employed in conjunction with high-pressure diplomacy and major

land offensives by Croatia and the Bosnian Federation—and at the conclusion of over two years of horrible, exhausting fighting. There simply are too many unknowns in that equation to describe their relationships definitively. What we can say is that air certainly wielded substantial positive influence, from the intervention's perspective, on the outcome of the events of the moment. That air action did not solve the endemic political and social problems of the region is a weak criticism. First, the UN's stated objectives did not involve reengineering Bosnian society and politics. It just wanted them to stop slaughtering one another and start talking. Second, what was the alternative?

Governments anticipating peace interventions should take advantage of aerospace power's growing utility by determining as precisely as possible where it leads, complements, and follows in relation to land power.

The second issue, methodology, obviously is as huge as the subject of aerospace power in general. Any approach or combination of approaches that could be or have been valid in open war potentially could be valid in peace enforcement. Bosnia provides an example of the effectiveness of indirect and asymmetric attack. The intervening coalition pursued its strategic objectives of securing the safe areas and prompting negotiations through strategic attacks against forces elsewhere in the region, lines of communication, and materiel. The coalition's ultimate intent was not to interdict Serbian war supplies and forces before they reached the battlefield but to break the will of the thuggish leaders of the Serb Republic and Serbia proper. It seems to have worked. Likewise, one could easily project peace-enforcement scenarios in which the classic aerospace power missions of counterair and counterspace, interdiction, and

close air support would inflict great destruction and coercive pressure on an enemy. This particularly would be the case in pursuit of objectives that were recognized by both an intervenor and the intervened as of less-than-immediate life-or-death importance. In the context of well-conceived intervenor, such confrontations should be rare events.

This finally brings us back to answering the focal question of this study. It should be clear, first of all, that aerospace power has become a much more useful peacekeeping tool in absolute terms and, largely because of that, in terms relative to the effectiveness of land power. This is not to say that an intervention could not be effective without fully exploiting the strengths and opportunities presented by aerospace forces. But why would intervening states *not* want to exploit aerospace power, assuming they had the choice? Why pay a higher bill in treasure and close-in head bashing when it's not necessary? Second, it should be clear that governments anticipating peace interventions should take advantage of aerospace power's growing utility by determining as precisely as possible where it leads, complements, and follows in relation to land power. Basically, in situations requiring direct human contact and/or vulnerability to accomplish a specific task, land forces are the option of first choice, supported as appropriate by aerospace power. In situations requiring information, assuming the mode of gathering it doesn't matter, then land and air systems should be evaluated against one another on the basis of cost-effectiveness and the impact of their use on other intervention objectives. In situations in which confrontation or combat is at least possible and/or vulnerability is not required for the task, then aerospace forces should be the option of first choice, supported in appropriate ways by ground forces. Then, before would-be peace operators go out and buy anything, they should go through the whole drill again, this time factoring in the opportunities to get double duty from systems and forces in both wartime and peacetime missions. Simple in theory, this process of comparative force structuring obviously will be iterative and ex-

pensive, and it almost certainly will end in recommendations for complex combinations of land and aerospace forces. But no one re-

ally has a choice to do otherwise, so it is useful at least to have a methodological approach. □

Notes

1. United Nations, "UN Peacekeeping: Some Questions and Answers," September 1998; on-line, Internet, 12 January 1999, available from <http://www.un.org/Depts/dpko/faq.htm>. Also, at the time of this writing, NATO's action in Kosovo is just a week under way. Obviously, its course and outcome will have some bearing on the content and conclusions of this article—an obvious project for later research.

2. United Nations, "Fatalities by Mission and Incident Type," 16 November 1998; on-line, Internet, 12 January 1999, available from <http://www.un.org/Depts/dpko/fatalities/fatal2.htm>.

3. My decision not to include naval power in this discussion had everything to do with space available and nothing to do with the scope of naval power's usefulness in peace operations, which can be considerable. Although naval contributions to peace operations often come in the form of auxiliary land power (marines) and aerospace power (carriers), they also can come as distinctly maritime contributions, such as sanctions enforcement, blockades, shore bombardments, shows of force (presence), maritime inspections, interdictions, fisheries patrol, escort operations, and so on. These are important contributions, and I can only apologize to my naval counterparts for not having the space and expertise to expand on them here.

4. Definitions drawn from Joint Publication 3-07, *Military Operations other than War*, 1996, GL-4.

5. Obviously, not every country providing peace forces has been "wealthy and powerful" in relation to the state(s) receiving their attention. But it is difficult to see that Pakistan, Botswana, or other smaller, less economically endowed states could have mounted such operations without the initiative, encouragement, and often direct support of wealthier and larger states. Likewise, it is difficult to believe that peace operations could be mounted against mid-sized states or larger-possessing, substantial economies and military forces. The assertion here is that peace operations are possible only in the presence of substantial inequalities in power in favor of the intervening states, coalitions, or organizations.

6. Ralph Peters gives a very nice, if venomous, account of the imperialist nature of intervention in "Winning against Warriors," *Strategic Review*, Summer 1996, 12–15.

7. US Department of State, Bureau of International Organizational Affairs, *Clinton Administration Policy on Reforming Multilateral Peace Operations (PDD 25): Executive Summary*, 22 February 1996, 1, 4.

8. Richard Holbrooke, *To End a War* (New York: Random House, 1998), 151.

9. Two experienced South African commanders recently wrote that "the suffering of the people . . . and the horror of watching people die for lack of help" can tempt military personnel to step beyond their limited peace-support mandate to try to render help that they are neither funded nor authorized to give. Soldiers in peace operations must resist this temptation, they argue, and "refer requests that are outside their mandate to the UN Command Headquarters." Brig Gen H. A. P. Potgieter and Brig Gen William P. Sass, "Logistical Air Power in UNTAG, UN-AVEM II and ONUOMZ," in Carsten F. Rnnfeldt and Per Erik

Solli, *The Use of Air Power in Peace Operations* (Oslo, Norway: Norwegian Institute of International Affairs, 1997), 74.

10. Field Manual (FM) 100-5, *Operations*, June 1993, 13-0; and Col Charles H. Swannack Jr. and Lt Col David R. Gray, "Peace Enforcement Operations," *Military Review* 77, no. 6 (November–December 1997): 3.

11. Kenneth Allard, *Somalia Operations: Lessons Learned* (Washington, D.C.: National Defense University Press, 1995), 22–32.

12. For a summary of NATO's and the UN's strategic and operational relationships to the Bosnian war, see Col Robert C. Owen, "The Balkans Air Campaign Study: Part 1," *Airpower Journal* 11, no. 2 (Summer 1997): 4–24; and idem, "The Balkans Air Campaign Study: Part 2," *Airpower Journal* 11, no. 3 (Fall 1997): 6–26.

13. Lawrence A. Yates, "Military Stability and Support Operations: Analogies, Patterns, and Recurring Themes," *Military Review* 77, no. 4 (July–August 1997): 58.

14. Lt Col Thomas K. Adams, "Intervention in Haiti: Lessons Relearned," *Military Review* 76, no. 5 (September–October 1996): 45–56.

15. Peters, 15.

16. FM 100-5, 13-3 through 13-4.

17. Gen Frank Kitson, *Low Intensity Operations: Subversion, Insurgency, Peace-Keeping* (London: Faber and Faber, 1971), 165–81.

18. David Brown, "Images of War Live in Memory to Ambush Soldiers Later," *Washington Post*, 24 November 1998, 9.

19. At the time of this writing, the author is the chairman of Air Mobility Command's (AMC) EAF Integrated Product Team, working to shape AMC's contribution to the Expeditionary Aerospace Force concept.

20. *Clinton Administration Policy*.

21. Edward A. Olsen, "In Defense of International Abstention," *Strategic Review* 24, no. 2 (Spring 1996): 58–63; and Peters, 15–16.

22. Lt Gen Paul van Riper and Maj Gen Robert Scales, "Preparing for War in the 21st Century," *Strategic Review* 25, no. 3 (Summer 1997): 20.

23. For valuable explorations of the soldier-level issues of the preparation for and execution of peace operations, see the September–October 1996, July–August 1997, and November–December 1997 issues of *Military Review: The Professional Journal of the United States Army*. On the questions of preparing soldiers to deal with new cultural environments, see Yates; and for the idea of minimizing confrontation or the appearance of confrontation, see Maj Robert C. Shaw, "Integrating Conventional and Special Operations Forces," *Military Review* 77, no. 4 (July–August 1997): 37–41.

24. Holbrooke, 147–52.

25. This is not to say that aerospace power is always going to be the surest path to minimizing the costs of an intervention to its intended beneficiaries. As the recent NATO intervention into Yugoslavian affairs on behalf of the Kosovar Albanians illustrates, aerospace power took a while to have its intended effects, giving Yugoslavian forces time to commit their bestial ethnic cleansing.

Presumably, had NATO led the attack with a powerful, combined air-land force, it could have swept through Kosovo in a matter of days, probably nipping Serbian war crimes in the bud. But building up such a force might have triggered the ethnic cleansing just as quickly as did the air attacks and before the force itself was ready to plunge into the difficult logistic and military situation on the ground. Quite possibly, then, the suffering of the Kosovars as they waited for a land-air campaign to begin could have been just as great as it was as the air campaign had its effect. Also, in the process of crushing the Yugoslavian army, such a NATO force probably would have inflicted and suffered substantial casualties. These, in turn, certainly would have changed the character and costs of the war for NATO and the alliance's liability to the Kosovar people and perhaps to occupied Yugoslavia. All this is supposition, of course, but it should illustrate the potential value of aerospace power's ability to engage fielded forces only episodically and, currently, with virtual impunity.

26. In the course of extensive interviews with principal American military leaders and diplomats involved in the Bosnian situation, the author and his team members on the Air University Balkans Air Campaign Study were told repeatedly that offensive land operations by the intervention never were a serious possibility. The Implementation Force (IFOR) did indeed enter Bosnia heavily armed and ready for combat. But it did not receive permission to enter from the intervention until it was almost certain that it would not run into any serious armed resistance.

27. See, for example, Per Erik Solli, "In Bosnia, Deterrence Failed and Coercion Worked," in Rnnfeldt and Solli, 99–101.

28. Philip Anthony Towle, *Pilots and Rebels: The Use of Aircraft in Unconventional Warfare, 1918–1988* (London: Brassey's, 1989), 2–3.

29. James S. Corum, "Airpower and Peace Enforcement," *Airpower Journal* 10, no. 4 (Winter 1996): 10–25.

30. Dr. John Hillen, "Peacekeeping at the Speed of Sound: The Relevancy of Airpower Doctrine in Operations other than War," *Airpower Journal* 12, no. 4 (Winter 1998): 6–16.

31. For details, see Joint Publication 3-07.3, *Joint Tactics, Techniques, and Procedures for Peacekeeping Operations*, 29 April 1994, I-2 to I-4 and V-1 to V-10.

32. Joint Publication 3-07, III-13.

33. FM 100-5, 13-2.

34. Air Force Doctrine Document (AFDD) 1, *Air Force Basic Doctrine*, September 1997, 7–9; and AFDD 2, *Organization and Employment of Aerospace Power*, September 1998, 12. See also AFDD 2-3, *Military Operations other than War*, 5 October 1996, which includes only two very general pages on peace operations along with a reference to Joint Publication 3-07.3.

35. See Martin van Creveld, "The Rise and Fall of Air Power," *MHQ: The Quarterly Journal of Military History* 8, no. 3 (Spring 1996): 76–81.

36. Volney J. Warner, "Technology Favors Future Land Forces," *Strategic Review* 26, no. 3 (Summer 1998): 45–50.

37. Joint Publication 3-17, *Theater Airlift Operations*, 1994, I-6.

38. Potgieter and Sass, 67–68.

39. Peters, throughout.

The enemy say that Americans are good at a long shot but cannot stand the cold iron. I call upon you to give a lie to that slander. Charge!

—Winfield Scott