AIRPOWER

Summer 1996

JOURNAL

Summer Reading
Military Ethics

The *Airpower Journal*, published quarterly, is the professional journal of the United States Air Force. It is designed to serve as an open forum for the presentation and stimulation of innovative thinking on military doctrine, strategy, tactics, force structure, readiness, and other matters of national defense. The views and opinions expressed or implied in the *Journal* are those of the authors and should not be construed as carrying the official sanction of the Department of Defense, the Air Force, Air Education and Training Command, Air University, or other agencies or departments of the US government.

AIRPOWER JOURNAL

Professional Military Ethics: What Do We Want?

WELL, AT LEAST we know what we don't want. That has been made clear to us over these many months of public affairs and media coverage concerning the accountability initiatives of the chief of staff of the Air Force (and everyone else).

What we don't want is the status quo, the ethical paradigm, the way we've always done it: standard end-of-tour medals for airmen overcome by extraordinary circumstances, commanders held less than accountable for their commands, and performance reports that fail to document . . . everything. What we don't want is a mind-set that rationalizes taking a government pen home for personal use, which in turn mutates to a government software application finding its way onto a home computer, which in turn rationalizes using government computers for home businesses or more graphic enterprises.

What we don't want is the siren song of the "me" generation, the fruit of youthful arrogance, the dross of every precommissioning program, and the subtly altered license that was once a beautiful liberty. Ours is an opulent society. Similar cultures in history lasted long beyond their expectancy because their defenders held to higher moral and ethical standards longer than the populations they defended. Alarmingly, our society today differs in that we find that many of our defenders are unwilling or unable to make that distinction—much less draw the lines for themselves. The spillover effects for officer conduct and behavior are evident. That's why so many of us vehemently defend our "right" to totally assimilate into our culture during off-duty hours.

What are we—the greatest air force in history—afraid of? There's nothing wrong with our core values. As a service, the Air Force has stepped up to the plate regarding ethical conduct for its members. That's not bad—especially considering that some others are having trouble finding the ballpark. Unfortunately for us, we're discovering that we're playing with only a few bats for the whole team. We have devised great infrastructure already (witness the Department of Defense's best program, described on page 35). Still, our ethical "push" lacks any definitive thrust, and the standards we live by—the tapestry of our character—still elude us as a service. Yet, they are the engines that get character development off the ground. As long as we remain confused over what set of moral and ethical standards to use, we won't be able to budge. Concerning matters of the heart—of both our service and ourselves—each of us will be confronted with a set of standards that will inevitably force us to find ourselves wanting—ethically and morally. Apparently, many of us are afraid to look into that mirror. Until we all make character development a matter of the heart, we place our collective futures at risk.

Our four headliners—Colson, Toner, Wakin, and White—offer some much-needed perspective and, if only by implication, invite us to define our ethical bounds. Their perspectives include new ideas concerning where we might look for ethical standards, directly addressing one of the greatest struggles to beset our service. Longtime fans of the Air Force professional dialogue, we're convinced that their articles are as good as any that have ever appeared herein. Read them, though, because they point each of us to the mirror and encourage us to stay there for a long look. □

Ricochets and Replies

NOT JUST FOR OFFICERS

As an enlisted member of the Air Force Reserve, I was surprised to see on the survey card in the back of the Spring 1996 issue that the mission of *Airpower Journal* is to provide an open forum for *officers* to express their views.

Was this a misstatement? Certainly there is no indication elsewhere that the publication is intended for the enlightenment of the officer corps alone.

I would like to believe that at some point even I might have some innovative thinking worth sharing in the pages of *Airpower Journal*—but if that is out of the question, I certainly will read future issues with different eyes.

Michael J. Davis
Indianapolis, Indiana

EDITOR'S REPLY: *Thanks for the note—yours wasn't the first on the issue. No misstatement. And certainly no offense intended. We routinely run articles by civilian contributors and would love to put you in touch (if we could) with two NCOs whose articles are currently being vetted by our indefatigable panel of referees. We're encouraged that you found our new survey card, now in the back of every issue.*

APJ remains appropriately aimed at Air Force officers. While we hope all readers gain from turning these pages, we believe that officers need what we print and ought to get it. In turn, we hope that officers actively participate in this marketplace of ideas.

Your ideas are important. Send them to us. All papers are masked before they're evaluated by our panel. Your paper will rise or fall, based on the strength of your argument and the preponderance of your evidence. The NCOs at my last command would expect nothing less of the professional journal of the Air Force. And they know where to find me.

RPMA UPDATE

My article "Generations, Waves, and Epochs: Modes of Warfare and the RPMA" (Spring 1996)—which I wrote in the summer of 1995—made reference to two lesser-known theories of future warfare not debated at that time in the military journals. However, these two theories have now begun to actively influence military thinking. In order to further facilitate the emerging revolution in political and military affairs (RPMA) debate within the Air Force, I'm including a synopsis and analysis of these two theories.

Sixth-Generation Warfare

The chief proponent of Russian sixth-generation warfare is Gen-Maj Vladimir Slipchenko, Retired—head of the Scientific Research Department of the General Staff Academy. He holds a doctorate of military sciences and is considered one of Russia's chief military theorists. His obscure article "A Russian Analysis of Warfare Leading to the Sixth Generation" (*Field Artillery*, October 1993) provides one of the few outlines of this theory written in English.

Dr Mary C. FitzGerald's article "The Russian Military's Strategy for 'Sixth Generation' Warfare" (*Orbis*, Summer 1994) is also significant. It references information pertaining to these generations to a conversation of May 1993 with General Slipchenko in Moscow. A more recent and accessible article by Lt Comdr Randall G. Bowdish, USN, "The Revolution in Military Affairs: The Sixth Generation" (*Military Review*, November–December 1995), relies heavily upon General Slipchenko's essay, as does this synopsis.

This theory views five generations of warfare taking place in history, with a sixth generation now emerging. Analysis is based on technical revolutions, which promote ever more advanced generations of warfare. First-generation wars are thought to have taken place during periods of slave-holding and feudal societies. These forces fought as infantry and cavalry without firearms. Second-generation warfare is based upon the advent of gunpowder and smoothbore firearms and the expansion of technological production.

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A QUESTION OF ETHICS*

CHARLES W. COLSON
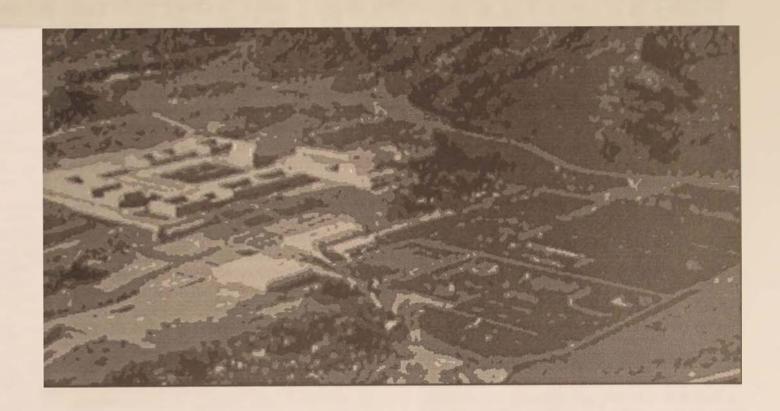
THE BREAKDOWN of character is the number-one crisis in America.

I am not in politics anymore. I have done my time, literally and figuratively, but I can't help watching with dismay what is happening in our country. Watergate was a great shock because so many of us close to the president got in trouble. Now it is routine. Witness what has hap-

pened in the last decade. For the first time in history, 10 senators at once were called before the Ethics Committee. A Speaker of the House was forced out of office. Sen Robert Packwood (R-Oreg.) resigned. The Department of Justice bragged that 1,150 state legislators had been successfully prosecuted in one year—the biggest year the department had ever had, as if it were good news. I think it is tragic.

But the crisis is not just in politics. It is in business as well. There was a time when a fiduciary handling someone else's money

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was a *trustee*—a respected, honored position of trust. But look at what happened to Ivan Boesky, who went to the UCLA School of Business in 1986 and said, "Greed is a good thing." He ended up in prison. Other examples include Michael Milken and Leona Helmsley, as well as the savings and loan scandals, which cost this country $500 billion. It's epidemic!

Look at academia. The president of Stanford University had to resign when it was discovered that he had paid $7,000 for a set of bedsheets and was responsible for millions of dollars in mismanaged contracts. The dean of Boston University's School of Journalism resigned, faced, ironically, with evidence of plagiarism.

Let's not forget the media. The president of NBC News lost his job for faking an explosion on a news show.

The crisis goes beyond professional leaders to ordinary people. A disturbing television show featured people in Chicago wrapping Christmas presents for poor kids. The problem was that by noon, the people wrapping the gifts had stolen half of them.

Let me get "close to home." The Naval Academy has wrestled with the issue of students cheating on exams.

I have not cited isolated cases. One recent study found that one-third of all high-school-age teens in America had stolen from a store. And two-thirds had cheated on exams.

Is this a pattern? Is this just human nature? Or is something happening here?

Maybe it is human nature. G. K. Chesterton

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once said that the doctrine of original sin was the only philosophy empirically validated by all the years of recorded human history.

He may be right, yet I would argue that something is happening in our society—that some line has been crossed. I'm not the only one saying this. The *Washington Post* says that "the problem has reached the point where common decency can no longer be described as common." *New Republic* has said that "there is a destructive sense that nothing is true and everything is permitted."

"In attempting to be tolerant, we have wiped out all the rules. . . . It is hard these days to find a standard to which we can hold people. Everything is relative. Our moral compass gyrates wildly. There is no true north. But history shows us this is not a sustainable trait."

Schools all over America are grappling with the question of ethics—how can we teach people right behavior? Most of them are grappling in vain. Richard Lamm, the former governor of Colorado, who while in office was known as something of a liberal maverick, recently wrote, "In attempting to be tolerant, we have wiped out all the rules. . . . It is hard these days to find a standard to which we can hold people. Everything is relative. Our moral compass gyrates wildly. There is no true north. But history shows us this is not a sustainable trait." I couldn't have said it better myself.

When publications like *New Republic* and the *Washington Post*—hardly known as bastions of biblical morality—or liberals like Lamm decry the moral malaise, I say something fundamental is happening to the character of people in America. I call it a crisis of character—a breakdown in character.

Character is formed by the largely unwritten rules that govern a society's behavior and the way in which those rules are inculcated into individual behavior. As a society, we create restraints upon people that hold in check their baser instincts, and then we encourage virtue. Virtues—such as duty and charity, responsibility, honor, commitment, love of family and country, discipline, delayed gratification, and compassion—have to be inculcated into us as individuals. Our consciences have to be trained from the day we are born and throughout our lives. Our consciences are continually informed by the values of the society in which we live—the cultivation of habits of the heart, as Alexis de Tocqueville called them.

This is not happening today. That is why there is such an outbreak of crime, which is but a reflection of the moral values of a society. Violent crime is up 560 percent since the 1960s. Such statistics are the result of moral chaos—the breakdown of moral standards. Seventy percent of American people today say moral absolutes do not exist. No wonder we have an ethical crisis! Why is this happening? How has this come about?

Where We've Come From

A study of history shows that, even before the Christian era, the Greeks—especially Aristotle and Plato—held that there had to be absolutes of virtue. It's been said that all philosophy is but a footnote to Plato, who wrote that the purpose of education was to become a good person because a good person behaves nobly. The Greeks understood that virtues existed and that they were based on absolute standards.

Even before the Greeks—going back to the Babylonian empire, 16 centuries before Christ—there was a moral code by which people lived: the Code of Hammurabi, inscribed in the wall. The ancients recognized that society couldn't survive

unless people lived by some transcendent, absolute standards. All through the centuries of Western civilization, we were governed by what Harvard historian Christopher Dawson called the "soul" of Western civilization—Judeo-Christian Revelation. In the Age of Reason, that tradition became known as "natural law." Whether you call it Judeo-Christian tradition or natural law or simply the accumulated wisdom of 23 centuries of Western civilization, the fact remains that until recent decades, virtually all people in society agreed that there were absolute, transcendent standards of truth that governed human behavior.

All of that has changed in the last 30 years. Actually, it began 200 years ago in the Enlightenment with the German philosopher Immanuel Kant, who separated the phenomenological from the pneumatological. He distinguished between one area of inquiry that can be empirically—scientifically—validated and another area that can be apprehended only by faith. Things—such as God—that couldn't be empirically validated were discounted. As a result, God was taken out of the equation of moral discourse. Historian Paul Johnson identifies another significant shift: in 1919 Einstein's scientific theory of relativity was confused with relativism in the moral disciplines.

In the 1960s, all of these forces converged. The existential writers Albert Camus and Jean-Paul Sartre took our college campuses by storm, arguing that God was dead and that values did not exist. Thus, the object of life was to overcome nothingness by our own heroic effort. Camus came to Columbia University in 1947 and gave a commencement address, whose point was, essentially, that "there is nothing"—that life has no purpose. We should eat, drink, and be merry because there is no God and there is no tomorrow. We should do whatever we feel like doing. That was the message on the campuses of the sixties, and the kids ate it up. They let their hair grow, wore their beads and their tie-dyes, and lived in communes. We all thought it

was just a protest, but it was much more than that! The kids were acting out exactly what the professors were teaching them about existentialism.

After the Vietnam War, when I was in the White House, we thought it all was behind us. Not so. The hippies of the sixties simply shaved off their long hair, got rid of their tie-dyes, put on three-piece pinstripe suits, went to New York, and became yuppies. The radical individualism that took root in America in the sixties marked the end of our moral value system. It roared through the seventies and the eighties and is mainstream in America in the nineties. As a result, we live in an era of self-obsession.

Sociologist Robert Bellah asked 200 average, middle-class Americans about their values. When asked about their jobs—what they expected to get from employment—most of them said "personal advancement." Fair enough. Then he asked what they expected to get out of marriage. "Personal development." No wonder marriages are in trouble. What did they expect to get out of church? "Personal fulfillment."[1]

Everything turns upon what gratifies us. That's the value system of the day; it destroys character because it takes away the basis of ethics in society. Self-obsession destroys character because it permits no accountability. People are not held accountable for their actions. We live in what Saul Bellow calls the "Golden Age of Exoneration." Everything is *excused*—because we failed to get proper training as children, because we grew up in dysfunctional families, because of something that happened to us. We are not responsible for our actions, and there are no more rules.

Samuel Johnson, the great wit of eighteenth-century England, was told once that a particular dinner guest believed that morality was a sham. Johnson replied, "If he really believes that there is no distinction between vice and virtue, let us count the spoons before he leaves." That's what is happening in our society. We have to count the spoons

because we have lost the distinction between vice and virtue.

Consequences of Relativism

In an era of relativism, nobody can teach ethics. The term derives from the Greek word *ethos,* which literally means a stable, hiding place, or cave—something absolute and unchanging. *Morals,* on the other hand, derives from *mores,* which are always changing as times change.

We need to concern ourselves with ethics—the absolute truths of life, the rights and wrongs of human behavior, the codes we live by—instead of simply with morals, which are constantly changing. Ethics are what ought to be. Morals are what is. Ethics are normative—standard behavior in a society—and we live in a society that says there are no norms. So if we really want to understand ethics, if we want to be ethical people, if we want to be men and women of character, we have to stand against the culture—which says there are no norms. A military officer of character needs to say, "There is a certain behavior that is right and a certain behavior that is wrong. There are rules, and there is truth. And I'm going to spend my life looking for it and living by it."

The tragedy today is that in most universities and colleges, ethics are being taught in terms of social justice. Christina Hoff Sommers teaches ethics at Clark University. She wrote an article saying that ethics are private virtue and that a virtuous society is created by virtuous people. When she wrote this article, one of her colleagues stormed into her office and said, "Oh, this is such an antiquated, Victorian, prudish view of ethics. Ethics are social justice, and in my class we teach how to save the rain forest in Brazil and how to prevent third world exploitation by multinational corporations, public justice policies, and the environment."

Several months later, that colleague came to Sommers and said, "I have just had a shocking experience in my ethics class."

Sommers asked, "What happened?"

The woman said half her students had plagiarized on a take-home test—on ethics! Sommers reminded her of the article about private virtue. The woman said she'd like to read it again.

A second consequence of relativism is that it destroys the moral code. Consider the much-debated policy of Antioch College, where a student engaging in any sexual activity has to ask and get express permission—written permission—from the partner before engaging in the next level of sexual activity. The president of Antioch, defending the policy, said, "The underlying philosophy asserts only one moral value: that each person has the right to have healthy human relationships and to define for himself or herself what that means."

That is a prescription for disaster. If all ethics are simply a reflection of what individual people believe, then all morality is simply a cultural choice—all are equal, which is one contention of extreme multiculturalists. But cultures are different. Dr Ravi Zacharias, a professor teaching apologetics, was speaking one day on campus. A student stood and said, "Dr Zacharias, I believe that morality is simply a reflection of the culture."

Zacharias answered, "In some respects you could argue that. People do say that. But if that's so . . . in some cultures, neighbors love one another, and in other cultures, neighbors eat one another. Which is your preference?"

If absolute standards do not exist, we can't say that apartheid is wrong. If there are no absolute truths, no enduring standards that every culture can appeal to, then how can we say that something is amiss in Brazil, where men are not prosecuted for mutilating their girlfriends or wives because such activity is a sign of one's machismo? One can say it's wrong only if there is an absolute standard of truth that all societies have to abide by. Having said all that, I'm told the

Air Force Academy is ahead of the game. I understand that moral relativism is not taught at the academy but that character is taught, based on some absolute standards. I thank God for the academy's excellent core values: trust, integrity, self-discipline, ethics, accountability, loyalty, mutual respect, and respect for human dignity. I've read the material of the academy's Center for Character Development. It's outstanding. I pray that every cadet will absorb the teaching.

Beyond Head Knowledge

As good as such teaching is, it alone is not enough. Let me present the toughest challenge of all. Knowing the importance of absolutes—knowing right from wrong—is one thing. Even if you study an Air Force handbook and can recite those core values in your sleep, can you live them? That's the question.

Tolstoy's *War and Peace* is one of the great classics of literature. There's a wonderful movie version in which Henry Fonda plays the lead. During a very poignant moment in that movie, Pierre—the central character, a hapless fellow who goes through all kinds of problems—walks through the wreckage of a war-torn city. He looks up at the sky and says, "Why is it that I know what is right, and yet I do what is wrong?" That's the question. Why is it that we know what is right, yet we still do what is wrong?

Let's return to Kant. He identified what is known as the "categorical imperative," which holds that individuals have a moral sense and, if properly educated, will do that which—if it were a universal maxim—would be best for all people. That is, if everyone did it, it would be best for everyone. The categorical imperative is a fine, rational approach to ethics. But let's put it to a test.

Let me tell you about my own life. I grew up with a dad who told me one thing: "Always tell the truth. Never lie." That lesson took. I grew up in a very Puritanical

environment, where there were absolute rights and absolute wrongs. As a young man, I was a Marine officer. *Semper fidelis* (always faithful), loyalty to the corps, loyalty to the country—all of that really meant something to me; I'd lay down my life for my country. Then I studied in college, concentrating on political philosophy—particularly John Locke and the social contract. I knew ethical issues. I studied Kant. I understood ethics completely. I did my doctoral work in constitutional law. Then I went into politics—idealistically. I knew that if I could get into politics, I could put my ideas to work for the good of the people. I could clean up corruption.

Everything turns upon what gratifies us. That's the value system of the day; it destroys character because it takes away the basis of ethics in society. . . . People are not held accountable for their actions.

When I went to work at the Nixon White House, as counsel to the president, I had to leave my law practice, where I was making good money. To be sure I was "clean," I took everything I had earned and put it in a blind trust in a bank in Boston. (I can give you a tip on how to make a small fortune in life. Take a larger fortune and put it in a blind trust in a bank in Boston.) I wouldn't accept Christmas presents. If people gave me Christmas presents, I gave them to my limousine driver. *Nobody* was going to corrupt me. I wouldn't even see people I had formerly represented as a lawyer, because I didn't want to give the appearance of a conflict of interest. I was absolutely self-righteous. No one could corrupt me.

And I was utterly zealous. I wanted more

than anything else to get the job done. I knew that I couldn't be compromised.

Yet, I went to prison. So much for Kant's categorical imperative.

Why did I go to prison? Because in the White House—and you'll find this in the military—there are enormous peer pressures. You begin to rationalize that what you are doing is okay—in my case, I believed I was protecting the president. To me, advising him and getting him reelected were the most important things I could do for my country. I reasoned that I could stay clean and be righteous no matter what I saw going on around me. One had to stay in the inner circle to have influence.

Peer pressure does that to you. You'll find that not only in military units but in every aspect of life. Perusing some of the Air Force Academy training materials, I'm impressed to read portions of the memoirs of Gen Harold K. Johnson, Army chief of staff from 1964 to 1968, who says he wished he had gone to President Lyndon Johnson, handed in his four stars, and said in effect, "Either give us the tools to fight in Vietnam or call the war off. This isn't right." He didn't do it because he wanted to stay in the Army. He said he would go to his grave regretting that he did not take a courageous stand and act on what he knew to be right.

But the choices we make are not solely the result of peer pressure. Psychologist Stanton Samenow says that we are not morally neutral. If we are put in a room—alone, behind locked doors, no trick mirrors—and given two choices, we will more often choose the wrong way than the right way. We are not morally neutral. Every single one of us is a sinner. We're dangerous when we think we aren't. People are most dangerous when they are convinced of their own self-righteousness. I was blinded. I thought I knew the law. I was blinded by my own infinite capacity for self-rationalization and self-justification.

You'll run into exactly the same problem. The little compromise becomes an even larger compromise. You get to the point that you don't even realize you're shading the truth. You've heard it said that it doesn't matter what people do in their private lives and that private actions don't necessarily have public consequences. Don't believe it. Somebody who will cheat a little bit will cheat a lot. Somebody who will cheat on his wife will cheat on his taxes. Make no mistake; character is character—public or private. Once a person begins to rationalize, it's only a matter of degree. It can happen to anybody—most likely to the self-righteous.

So what's the answer?

Transformed Hearts

Derek Bok, an ethicist and former president of Harvard University, has said he could find no correlation between ethical beliefs and ethical behavior. Something has to happen, he says, inside a person. That brings me to the most critical question of all: how do we subdue our natural disposition to do the wrong thing? C. S. Lewis, the late Oxford scholar whose writings have so profoundly influenced my life, wrote a short article called "Men without Chests."[2] I encourage you to read it. The topic is relativism, and Lewis wrote this some 40 years ago, before it was really the rampant philosophy that it is today.

He said, "No justification of virtue will enable a man to be virtuous. Without the aid of trained emotions, the intellect is powerless against the animal organism. In battle it is not syllogism that will keep the reluctant nerves and muscles to their post in the third hour of bombardment. The crudest sentimentalism about a flag or a country or a regiment will be of more use." He goes on, quoting Plato: "As the king governs by his executive, so Reason in man (that is the head) must rule the mere appetites (that is the stomach or passions) by the spirited element. The head rules the belly through the chest, [which is the seat

of] emotions organized by trained habit into stable sentiments."[3]

He's saying that the head can't control the passions of the stomach—except by the "spirited element." Then he writes one of the most prophetic commentaries on our culture. In ghastly simplicity he says, "We remove the organ and demand the function. We make men without chests and expect of them virtue and enterprise. We laugh at honor and are shocked to find traitors in our midst. We castrate and bid the geldings be fruitful."[4]

What is the "spirited element"? Here I speak of my own personal experience—not with any intent to proselytize or to offend anyone's sensibilities about the separation of church and state. More than 20 years ago, when in a flood of tears I surrendered my life to Christ, I discovered what Plato called the "spirited element"—the conversion of the soul, the change of the disposition, the change of the human heart. You no longer want to do what is wrong. You want to do what is right—and you also have the will to subdue the passions of the stomach. Something has to happen to transform your nature.

Here's what happened to me. I had left the White House in the spring of 1973. I thought I wasn't in any trouble because I hadn't been in any of the critical meetings that ended up constituting the Watergate conspiracy. As a matter of fact, the Watergate prosecutor had told me I was not going to be prosecuted.

After I left the White House, something happened. I went to talk to an old friend, the president of one of the largest corporations in the country. I knew him well. I hadn't seen him in four years. Immediately I could sense that he was changed, different—he was calm and at peace. "What's happened to you?" I asked. He said he had accepted Jesus Christ and committed his life to Him.

And God transformed my life that summer. I was converted, just as my friend had been. For me that meant that I acted out what I knew to be right. I voluntarily went to the Watergate prosecutors and said, "Here's something I've done." I had disseminated derogatory information about Daniel Ellsberg, who stole the Pentagon papers and published them. I thought it was a traitorous act, so I tried to stop him by giving derogatory information to the newspapers. I told the prosecutors I had done it, because my Christian faith was now on trial. I do not want this to sound self-righteous, but I will also point out that if I have any dubious distinction in the course of my Watergate conviction, it was that in 44 times of giving testimony under oath, I was never charged with perjury, as were the other defendants.

I hold myself accountable to three or four men. . . . This isn't about peer pressure. It's about personal accountability—because the one person you really can't trust is yourself.

We become ethical people not by knowing what is right and wrong but by doing what is right. Samenow, who is Jewish, says that to solve the problem of crime, the wrongdoer has to convert to a more responsible lifestyle. Writing from a non-Christian perspective, he similarly says there has to be a personal conversion—to want to do what is right—because we are beholden to a higher authority than ourselves.

Is there any way for society to find its way out of the moral quagmire in which we live? Is there any hope for the restoration of character? What happens to a society when transcendent values no longer exist, when we no longer have rules to live by? We're all going to be counting our spoons and boarding up our homes at night. Is there any way out?

Yes, there is. We have to recover the half-

forgotten teachings of the saints and sages. We have to abandon the mad pursuit of pleasure. We have to reject what the president of Antioch College said—that we define for ourselves the meaning of "healthy" relationships, the meaning of right and wrong. That's not true. We have to give up the idea of radical individualism and personal autonomy and recover the rich tradition of our heritage—the understanding of an enduring law of transcendent absolutes by which people and nations are governed and live civilly with one another in this world.

Yes, there is a way. I call it the Way because I personally know of no other enduring way to subdue the stubborn, rebellious, self-justifying human will. Remember, I had all the right training, but I couldn't subdue my will because I had the infinite capacity for self-rationalization, and all of us do. Since I have surrendered my life to God, I am a Christian; I surrendered my life to Christ—I live by what Christ teaches. That does not mean I'm perfect. As I make decisions, I pray and ask for wisdom and guidance. But I don't rely totally on my feelings. I check my decisions with somebody else. I hold myself accountable to three or four men—members of my board of directors. They ask tough questions about how I spend my time, how I treat my family, where my priorities are. This isn't about peer pressure. It's about personal accountability—because the one person you really can't trust is yourself.

Yes, there's hope—if we understand that ethics are not just about social justice. Ethics include social justice but are more directly about individual virtue—about knowing what is right and having the will to live it.

If you apply these enduring truths, if you will convert from your own desires to live by higher standards, if you will understand that the question of character pervades all of life, then you will serve your fellow countrymen with honor. And you will be the better person for it.   □

Notes

1. See Robert N. Bellah, *Habits of the Heart: Individualism and Commitment in American Life* (Berkeley: University of California Press, 1985).

2. In C. S. Lewis, *The Abolition of Man; or Reflections on Education with Special Reference to the Teaching of English in the Upper Forms of Schools* (New York: Macmillan, 1965).

3. Ibid.

4. Ibid.
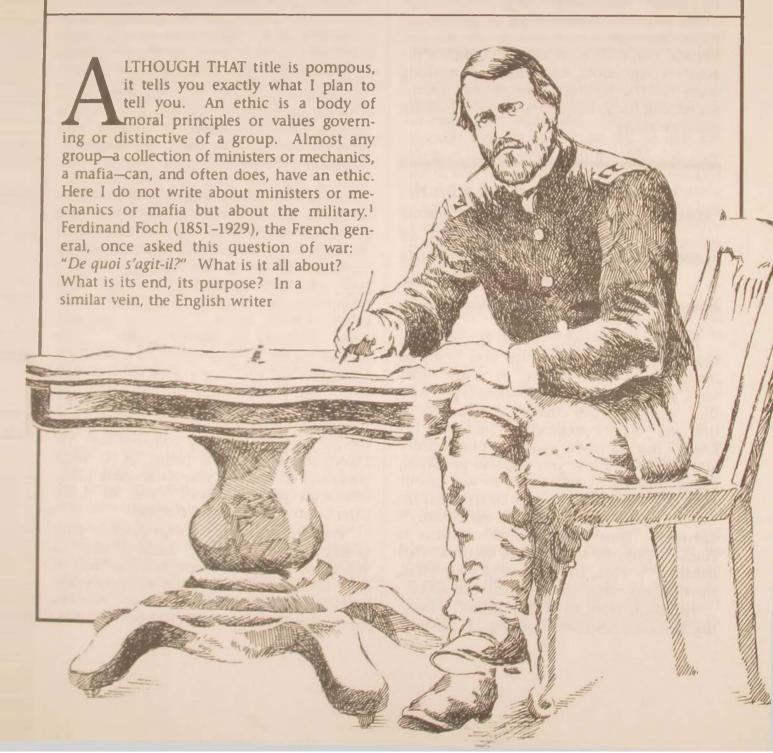
A little neglect may breed mischief: for want of a nail the shoe was lost; for want of a shoe the horse was lost, and for want of a horse the rider was lost.

—Poor Richard (aka Ben Franklin)

GALLANT ATAVISM

The Military Ethic in an Age of Nihilism

Dr James H. Toner

LTHOUGH THAT title is pompous, it tells you exactly what I plan to tell you. An ethic is a body of moral principles or values governing or distinctive of a group. Almost any group—a collection of ministers or mechanics, a mafia—can, and often does, have an ethic. Here I do not write about ministers or mechanics or mafia but about the military.[1] Ferdinand Foch (1851–1929), the French general, once asked this question of war: *"De quoi s'agit-il?"* What is it all about? What is its end, its purpose? In a similar vein, the English writer

C. S. Lewis (1898–1963) once contended that "the first qualification for judging any [thing] . . . from a corkscrew to a cathedral is to know what it is—what it was intended to do and how it was meant to be used." What values or morals govern or are distinctive of a professional military group?

I think we could trace through rather a large number of such values—a sense of honor and duty, a spirit of patriotism and self-sacrifice, an awareness of tradition, and a feeling of loyalty to seniors and subordinates who similarly share one's treasury of values. But surely that is not enough. Those very same values might be found—one hopes they would be found—in, say, the diplomatic corps or even in our country's executives, legislators, and judges. Something must set the military professional apart—something truly unique and therefore clearly distinguishing.

> *Tired though we are with the statistics of nihilism swirling about us, the terrible truth is that so many of our countrymen essentially believe—in nothing.*

I venture to say, with Gen Sir John Hackett, that what finally segregates you from so many others with whom, in many other ways, you might share high values is precisely this: you guard our country and our way of life, and you are prepared to die in our defense. But more—in guarding our country and our way of life, you are also prepared, either directly or indirectly, to kill in our defense. Yours is a contract conceivably involving death—either yours or our country's enemies'. Your contract thus contains, as Hackett puts it, the "clause of unlimited liability."[2] That, simply put, is your ethic, the military ethic, the profession of arms.

Nihilism, from the Latin "nihil" ("nothing"), means belief—in nothing. It refers to the entire rejection of established beliefs—as in religion, morals, government, and laws. I will spare you a lengthy list of sorrowful contemplations about the moral state of our society today. But the point must, nonetheless, be made, as it has been recently by William Bennett:

> [From 1960 to 1990] there has been more than a 500 percent increase in violent crime; more than a 400 percent increase in illegitimate births; a tripling in the teenage suicide rate; a doubling in the divorce rate; and a drop of almost 75 points in SAT scores. Modern-day social pathologies have gotten worse. . . . [O]ur society now places less value than before on what we owe others as a matter of moral obligation; less value on sacrifice as a moral good; less value on social conformity, respectability, and observing the rules; and less value on correctness and restraint in matters of physical pleasure and sexuality. Higher value is now placed on things like self-expression, individualism, self-realization, and personal choice.[3]

We have all been endlessly subjected to doom-and-gloom preachers, prophets, and pundits who cite mournful statistics about drugs, drink, and divorce; about homicide or rape; about illiteracy or abortion. We tire of such tirades and jeremiads, for we know that such complaints about our country are so often intended solely to serve narrow personal, political, or sectarian ends. Tired though we are with the statistics of nihilism swirling about us, the terrible truth is that so many of our countrymen essentially believe—in nothing. In evidence of that claim, I submit the lyrics of so many popular songs, the messages of so many contemporary TV shows and movies, the failure of so many American educational enterprises from grade school to graduate school. The list, I am afraid, could easily be lengthened.

You who wear the uniform practice your profession among many millions who do not know and do not care, and the "way of life" in defense of which you are now ready to kill and die is under assault as never before in the history of our country. The peo-

ple doing the assaulting are not Germans or North Koreans or North Vietnamese or even Iraqis—but Americans themselves. The military ethic in an age of nihilism: the knights in shining armor still exist, but few can hear them over the sounds of the orgy.

Gallant suggests something noble, valiant, brave, and heroic. Your profession insists upon gallantry, not sometimes, not just in combat, but always—in or out of uniform—over the skies of Iraq and in the corridors of hotels. You are distinctive too, in that your *oath*—a curiously medieval term with a powerful modern impact—obliges you to support and defend the Constitution of the United States against all enemies, foreign and domestic. Such gallantry and such promises suggest the biological term *atavism*—the reappearance in a plant or animal of characteristics of some remote ancestor that have been absent in intervening generations.

The remote ancestors that I talk about are our forebears from the time, generally, of the Civil War (1861–65) through, perhaps, World War II (ending in 1945). I would argue that a post–World War II emphasis on materialism, from which none of us has wholly escaped, gave rise to, or at least has surely coexisted with, a decline in those same moral, ethical, or spiritual values that so often marked the daily conversations of ordinary Americans whom we know as our great-grandfathers. We could certainly argue about the extent to which America lapsed into a spiritual decline in the late 1940s and through the 1950s, but I suspect that few of us—whether from the left or right of the political spectrum—would debate long whether America went into a moral decline in the 1960s and 1970s. I would assert that the latter trend has continued through the 1980s and into this decade.

In 1955 Walter Lippmann wrote a superb book entitled *Essays in the Public Philosophy*. In it, he deplores a declining sense of civic virtue. Lippmann eloquently discusses the sense of tradition and the sense of common purpose that link—or ought to link—all of us to our country. Lippmann quotes Edmund Burke (1729–97), who once described the bindings that secure a man to his country as "ties which though light as air are as strong as links of iron." "That," Lippmann says, "is why young men die in battle for their country's sake and why old men plant trees they will never sit under."[4]

In the military, Article 133 of the Uniform Code of Military Justice still exists, but one must wonder how long it will endure . . . .

Forty years after Lippmann comes Zbigniew Brzezinski, long-time professor at Columbia and President Jimmy Carter's national security adviser, to tell us that the spirit of public service, ill by 1955, has now practically flat-lined. In his 1993 book *Out of Control*, Brzezinski terms American society a "permissive cornucopia, [which] involves essentially a society in which the progressive decline in the centrality of moral criteria is matched by heightened preoccupation with material and sensual self-gratification. . . . The combination of the erosion of moral criteria in defining personal conduct with the emphasis on material goods results both in permissiveness on the level of action and in material greed on the level of motivation."[5]

Brzezinski points out that the notion of freedom used to be understood in the context of citizenship—our rights were seen in a context of citizenship in which duties preserved rights and rights fostered a sense of duty. Today, Brzezinski tells us, "*civic freedom is divorced from . . . civic responsibility*" (emphasis in original).[6]

I agree with Brzezinski, but I do not choose to quote statistics here to support his thesis. Rather, I ask you to listen to the words, to the sentiment, of a Rhode Islander—a man I suspect that many of you have come, in a manner of speaking, to

know. His gallantry, profession, and sacrifice are exactly what you are about. His qualities tell you why your subordinates salute you and respect you as "sir" or "ma'am." On 14 July 1861—a week before the battle of Bull Run—Sullivan Ballou, a major in the Second Rhode Island volunteers, then in Washington, D.C., wrote home to his wife in Smithfield:

My very dear Sarah:

The indications are very strong that we shall move in a few days—perhaps tomorrow. Lest I should not be able to write again, I feel impelled to write a few lines that may fall under your eye when I shall be no more. . . .

I have no misgivings about, or lack of confidence in the cause in which I am engaged, and my courage does not halt or falter. I know how strongly American Civilization now leans on the triumph of the Government, and how great a debt we owe to those who went before us through the blood and sufferings of the Revolution. And I am willing—perfectly willing—to lay down all my joys in this life to help maintain this Government, and to pay that debt. . . .

Sarah, my love for you is deathless, [and] it seems to bind me with mighty cables that nothing but Omnipotence could break; and yet my love of Country comes over me like a strong wind and bears me irresistibly on with all these chains to the battle field.

The memories of the blissful moments I have spent with you come creeping over me, and I feel most gratified to God and you that I have enjoyed them for so long. And hard it is for me to give them up and burn to ashes the hopes of future years, when, God willing, we might still have lived and loved together, and seen our sons grown up to honorable manhood around us. . . . If I do not [return], my dear Sarah, never forget how much I love you, and when my last breath escapes me on the battle field, it will whisper your name. Forgive my many faults, and the many pains I have caused you. How thoughtless and foolish I have often times been! How gladly would I wash out with my tears every little spot upon your happiness. . . .

But, O Sarah! If the dead can come back to this earth and flit unseen around those they loved, I shall always be near you; in the gladdest days and in the darkest nights . . . always, always, and if there be a soft breeze upon your cheek, it shall be my breath, as the cool air fans your throbbing temple, it shall be my spirit passing by. Sarah, do not mourn me dead; think I am gone and wait for [me], for we shall meet again.[7]

Major Ballou was killed at the first battle of Bull Run.

Here, then, is my thesis: The military ethic can and must serve as a source of moral refreshment[8] in an age which so often finds that military ethic and even Major Ballou to be objects of ridicule, for the gallantry of your profession and of Sullivan Ballou are not understandable in crack houses, among the impoverished, or among the lifestyles of the rich and famous. Today, I often despair of some clergymen and of some cults, and I regard universities with increasing disdain. If I am at all correct and moral squalor began in the late 1940s to keep pace with economic affluence, then I think the profession of arms is one of the very few institutions that can remind us of those values which impart noble purpose to life. Thus, the military ethic is a gallant atavism in a nihilistic and materialistic age.[9]

The belief in our time that there is no common good, no universal reason, is what Alasdair MacIntyre of Notre Dame calls "the privatization of the good."[10] If politics is merely the will of the strongest or the victory of the most popular, then increasingly we have not good law but the triumphant legislation of some pressure group's special advantage. Public recognition today seems to depend much less on reason and much more upon shock value, foul language, and repeated assaults on the standards of decency most of our grandparents accepted as "civilized behavior." Why, after all, can't I say what I please? Why can't I make love in public if I choose? I do not lie or cheat; I

"get over." I do not steal; I rip off. There is no common good—only my good. I do and say whatever I please—unless I am caught. Some people, even those learning your ethic, are caught doing what many of our forebears would have called shameful.

As Josiah Bunting, former Army officer and author of the Vietnam novel *The Lionheads*, recently wrote,

> Those who cheat at Annapolis cheat because our culture and society reward academic achievement and competition—reward and exalt it—and are not able to educate young people not to cheat. . . . The ultimate measurements of intellectual fitness for the naval profession, of a vocation to serve, and of the necessary character to lead sailors and marines in harm's way are never the kinds that can be counterfeited.

Bunting contends that the education which produces ensigns and second lieutenants should ingrain the "rich and deep culture of patriotism, love of service, self-denial, military discipline and pride in excellence of performance that go to the making of a sustaining and lifelong devotion to the Navy."[11]

Compare that sentiment with this story. One college teacher of ethics, Prof Christina Hoff Sommers of Clark University in Worcester, Massachusetts, points out in a recent article that, as important as public morality is (issues such as abortion, capital punishment, DNA research, and the like), private morality (lying, cheating, and stealing) is also critically important. One of Sommers's colleagues criticized her for the piece, arguing that moral people will not be common until there are moral institutions. Thus, the critic planned to continue teaching about oppression of women, big business, multinational corporate transgressions in the developing world, and so on. At the end of the semester, the critic, who was upset, came in to see Professor Sommers. "They cheated on their social justice take-home finals. They plagiarized," she lamented. In order to help improve private morality, Sommers suggests implementing a three-part program in the schools. It involves establishing behavior codes that emphasize "civility, kindness, and honesty"; expecting teachers to emphasize "civility, decency, honesty and fairness"; and exposing children to "reading, studying and discussing the moral classics."[12]

An old Chinese proverb says, "You do not use good iron to make a nail or a good man to make a soldier." In fact, that notion is wholly mistaken. The great anguish of military ethics lies in this: Human beings control the power to kill and maim. If those humans are evil or if they are morally unfit, we thereby unleash a torrent of sinister power. Soldiers and airmen—no less than doctors, teachers, ministers, and lawyers—must be decent and discreet people. But, in anguish, we know that our professions fail us as regularly as our schools in inculcating private morality. Thus do students plagiarize on an ethics test! As Sir William Francis Butler once observed, "The nation that will insist on drawing a broad line of demarcation between the fighting man and the thinking man is liable to find its fighting done by fools and its thinking done by cowards." We might add the corollary that the nation that will insist on drawing a broad line of demarcation between moral instruction and public schooling—or between character formation and military training—is liable to find its educational orders given by the corrupt and its ethical standards set by the illiterate.

It is sometimes said of mercenary men that they know the price of everything and the value of nothing. All ethics is a debate about comparative value. Unless students and soldiers learn to value wisely and well, they imperil their peers, their mission, their service, and their country. Saint Augustine, in book 4, section 4, of *The City of God*, asks, "Justice being taken away, then, what are kingdoms but great robberies?" Students of military ethics must ask, "Morality being taken away, then, what are armies but great mobs?" After four years at Harvard, a recent undergraduate said in his graduation speech,

that there is one idea, one sentiment, which we have all acquired at some point in our Harvard careers; and that, ladies and gentlemen, is, in a word, confusion." He went on to say, "They tell us that it is heresy to suggest the superiority of some value, fantasy to believe in moral argument, slavery to submit to a judgment sounder than your own. The freedom of our day is the freedom to devote ourselves to any values we please, on the mere condition that we do not believe them to be true."[13]

It used to be true on many college campuses that professors could be dismissed for "moral turpitude." Not only is that notion apparently obsolete, it would be regarded as comical on most campuses. In the military, Article 133 of the Uniform Code of Military Justice still exists, but one must wonder how long it will endure: "Any commissioned officer, cadet, or midshipman who is convicted of conduct unbecoming an officer and a gentleman shall be punished as a court martial may direct." That might well include such offenses as drunken or reckless driving (Article 111), wrongful use of controlled substances (Article 112a), rape and carnal knowledge (Article 120), larceny and wrongful appropriation (Article 121), writing a bad check (Article 123a), sodomy (Article 125), and perjury (Article 131). But some of these appear to be old-fashioned. Is it time for "conduct unbecoming" to go the way of "moral turpitude"?

> *"Good people aren't always good soldiers, but good soldiers are always good people."*

Prof Steven Cahn was once asked to give a lecture on the subject of "Ethics in the Academic World." When he mentioned the topic to a faculty colleague, Cahn was told, "It'll be a short talk." Cahn tells of reading a book about modern higher education in which the author, a history professor at a state university in the West, put it bluntly: "I have met few professors whom I would hire to run a peanut stand, let alone be the guardian of wisdom and Western civilization."[14] According to a spate of recent books, the American university not only is not educating its students, it is inflicting intellectual and moral harm upon them.

Professor Sommers suggests that some "uncontroversial ethical truths" exist. She says, "It is wrong to mistreat a child, to humiliate someone, to torment animals. To think only of yourself, to steal, to lie, to break promises. And on the positive side: It is right to be considerate and respectful of others, to be charitable and generous."[15] These are universal ethical obligations.[16] In these days of value relativism, we must understand that these obligations, these values, must be cherished. Absolutes, I think, exist (such as our need to follow right reason), but they are necessarily vague.

Education will not return to its proper place as champion of high value until it can again discover virtue.[17] If all that matters, after all, is what one's group believes at any one time, then all that matters in ethics instruction is cultural relativism. Every group thus determines its own standards of right and wrong. But we are then ethically powerless to assess Adolf Hitler's Germany or a street gang's thuggery. If no universal standards exist for right or wrong, might does make right; there is no profane, for there is no sacred; there are no villains, for there are no heroes; and as there is nothing worth dying for, neither is there anything worth living for.

But how are universal ethical obligations to be inculcated? Such values are taught and caught. They are taught by reading good literature (a good place for kids to begin is with William Bennett's *Book of Virtues*)[18] and by having good education. (Consider the wonderful contribution of Adm James B. Stockdale and Prof Joseph Brennan in their superb course on the Foundations of Moral

Obligation, so long taught at the Naval War College.)[19]   And such values are caught by our being exposed to men and women who are, in the best sense of the word, *gallant*. Good education, as Aristotle taught, results in the habitual inclination to do as we ought.   Without good education, there will be character—all bad.

These are some of the lyrics of a moving song made famous by Roy Clark: "Yesterday when I was young, the taste of life was sweet as rain upon my tongue. . . .   [S]o many happy songs were waiting to be sung, so many wild pleasures lay in store for me, and so much pain my dazzled eyes refused to see. I ran so fast that time and youth at last ran out.   I never stopped to think what life was all about. And every conversation I can now recall concerned itself with me and with nothing else at all."   A generation ago, a remarkable popular movie asked the question, "What's it all about, Alfie?" and a deeply moving book by Viktor Frankl, *Man's Search for Meaning*,[20] suggested that power, sexual urge, and greed do not sustain us in our darkest moments, but that purpose, faith, and conviction are what "it's all about."

How striking it is to me that two men of whom I heard so much a generation ago, when I was in college, died almost simultaneously a few years ago. Abbie Hoffman, a perpetual protestor of yesteryear, and Col James N. Rowe, USA, for five years a prisoner of war in Vietnam and the author of the deeply moving *Five Years to Freedom*,[21] both died seven years ago. (Hoffman killed himself with alcohol and a drug overdose on 12 April 1989; Rowe was ambushed and murdered in the Philippines on 21 April.) For much of their lives, one suspects—I guess one can say, "one hopes"—they were animated by the search for truth, which took them onto remarkably different paths. No doubt, Hoffman and Rowe suffered from the belief that too few of their countrymen cared enough about those causes in which they, although almost complete opposites, found meaning and purpose.

In a nihilistic world in which so few contemporary students and so few contemporary faculty would attempt a response to the assertion that "Nothing is worth dying for!" I would suggest that therein lies the very definition of cowardice. People who can find no purpose in noble death can find no purpose in noble life. They are left rudderless on the seas of daily living. As Roy Clark put it in the lyrics I quoted, these people never stop to think what life is all about.

It used to be that education was concerned with wisdom and virtue. I submit that the military ethic, properly understood, is concerned exactly with wisdom and virtue. One requires wisdom and virtue to know that when orders are legal, as the vast majority certainly are, they must be carried out crisply and confidently; and one requires wisdom and virtue to know that when orders are illegal and unethical, their subsequent obedience is wrong.

When I was an infantry officer candidate, I learned the Army leadership principle that I must be "technically and tactically competent." One of my fellow Officer Candidate School graduates, Lt William L. Calley, Jr., I am sure, learned the same principle— and applied it at My Lai. But Calley was an ethical cretin who never should have been commissioned.   I don't doubt that Calley was trying to serve his country and that he was doing his duty in a twisted, macabre way. It may very well be that Calley somehow thought himself an honorable man and a good soldier. The lesson is that one must be technically, tactically, and *ethically* competent.

But I come now to the very heart of the military's organizational ethics. To say, as West Point has for so many years—Duty, Honor, Country—is, I think, not clear enough. Change it to Honor, which means Principle; then Duty, which means Purpose; then Country, which means People. Always keep the order prominently in mind. If you get it out of order, chaos reigns. Genuine leaders always take good care of their people.

Because you may have to kill and die, you must be willing to put your people in harm's way—but never lightly.   Your reason for being is mission accomplishment and duty—call it your purpose. If purpose or duty or mission accomplishment is all there is, suspend the rules, abolish the laws, and do what you must to win at any cost. But we know better than that. We know that Principle—that is, honor itself—obliges us to devise rules of engagement based upon the laws of war, which in turn are based upon the moral deposit of the ages. Principle, then Purpose, then People. Or—if you prefer—Honor, then Duty, then Countrymen.

Acting with virtue thus guarantees the greatest integrity, for it unites the best of the past with the test of the present and with the quest for the future.

The people who fought the Civil War were born largely in the 1840s. About 100 years later, much of that community of values began to erode—for a cluster of reasons. The military profession, at its best, is concerned with service to the national interest. (Many soldiers, sailors, airmen, and marines of World War II simply said, after the war, that they had been "in the service.") Without that ethic of service, armed services become armed mobs.   Perhaps one Latin phrase catches the point well: *corruptio optimi pessima*—the corruption of the best is the worst. As William Shakespeare once put it, "Lilies that fester smell far worse than weeds." Thus, Adm Hyman Rickover wrote that "morals are the quarrel we have with behavior.   Yet, any system of education which does not inculcate moral values simply furnishes the intellectual equipment whereby men and women can better satisfy their pride, greed, and lust."[22]

Thus, I contend that military training and education (from basic training and boot camp for E-1s through "charm school" for newly minted O-7s) must deal with issues of wisdom and virtue, for only that way lies the cultivation of character. Understand that the military services are among the only institutions in our tortured country today where character education is seriously discussed; where racial justice is invariably the rule; where gender equality, whenever practicable, is increasingly realized; where "conduct unbecoming" really is "conduct unbecoming"; where protocol and etiquette—simple civility and what used to be called common courtesy and good manners—are expected and practiced; where progress purges some tradition and where tradition purifies some progress; and where officers are expected to be ladies and gentlemen.

But does that not return us, once more, to a term of yesteryear: *ladies and gentlemen?* As John Henry Cardinal Newman once wrote, "Liberal education makes not the Christian, not the Catholic, but the gentleman. It is well to be a gentleman. It is well to have a cultivated intellect, a delicate taste, a candid, equitable, dispassionate mind, a noble and courteous bearing in the conduct of life."[23] In my recent book *True Faith and Allegiance,* I argue that "good people aren't always good soldiers, but good soldiers are always good people."[24] As Col Anthony Hartle of West Point writes, "Persons of strong character are the ultimate resource for any military organization."[25]

There, then, you have it. The gallant atavism is—you. Because of the military ethic you preserve, Maj Sullivan Ballou is not dead. Because of the military ethic you promulgate, Col James Rowe is not dead. Because of the military ethic you perpetuate, you will be spared the pain of saying at the time of your death, "Every conversation that I can now recall concerned itself with me and with nothing else at all." The military ethic will teach you principle and purpose and people. It will tell you that you are in

the service and that by guarding our country and our way of life—by setting the right example—you can help restore a sense of meaning and purpose to the country you protect. In a remarkable talk given at the United States Air Force Academy nearly a quarter-century ago, Gen Sir John Hackett offered the following explanation of how the military can serve the state:

> A man can be selfish, cowardly, disloyal, false, fleeting, perjured, and morally corrupt in a wide variety of other ways and still be outstandingly good in pursuits in which other imperatives bear than those upon the fighting man. He can be a superb creative artist, for example, or a scientist in the very top flight, and still be a very bad man. What the bad man cannot be is a good sailor, or soldier, or airman. Military institutions thus form a repository of moral resource that should always be a source of strength within the state.[26]

In an age of nihilism, in which too many of our countrymen believe in nothing, you can remind them of values that are eternal. In serving that way, you are truly professional. What you profess in deed and in word is the military ethic, which, at its heart, is chivalry. But isn't that old-fashioned, out-of-date, even somewhat medieval? No. In your case, honor and duty and self-sacrific-ing concern for the national interest are most certainly not obsolete; they are professional requirements and functional imperatives—the coin of your realm. When you think in the future of the military ethic, think of the word *integrity,* which, at its root, refers not simply to uprightness and honesty but to wholeness. (An integer, for example, is a whole number—not a fraction.) Acting with integrity squares your conduct with the bearing of those who nobly preceded you; acting with honor puts you at one with the heroes of the past; acting with justice ensures the solidarity of your profession—and thus serves as inspired example for all of us in the Republic to which we pledge our allegiance.

Acting with virtue thus guarantees the greatest integrity, for it unites the best of the past with the test of the present and with the quest for the future. In his first inaugural address, Abraham Lincoln referred to the mystic chords of memory that bind us solemnly together. That is what your professional actions do when they are in keeping with the spirit of the military ethic: they bind you to your brothers-in-arms long since dead, and they bind you to your brothers-and sisters-in-arms for ages to come. ☐

Notes

1. Portions of this article are derived from my recent book *True Faith and Allegiance: The Burden of Military Ethics* (Lexington: University Press of Kentucky, 1995).

2. See Sir John Winthrop Hackett, *The Profession of Arms* (New York: Macmillan, 1983), 23.

3. William J. Bennett, *The Index of Leading Cultural Indicators: Facts and Figures on the State of American Society* (New York: Simon & Schuster, 1994), 8–9.

4. Walter Lippmann, *Essays in the Public Philosophy* (Boston: Little, Brown, 1955), 36.

5. Zbigniew Brzezinski, *Out of Control: Global Turmoil on the Eve of the Twenty-first Century* (New York: Scribner's, 1993), 65.

6. Ibid., 69.

7. Geoffrey C. Ward, Ric Burns, and Ken Burns, *The Civil War: An Illustrated History* (New York: Knopf, 1990), 82–83.

8. This is not to argue, however, that soldiers have the duty or right of moral preachment to the society from which they come (and to which they will return) or to the civilian authorities whose will they do. We hope, for example, that people of the cloth will provide for us sources and models of moral excellence, but few among us favor the establishment of a theocracy. Similarly, the mere fact that one views truly good soldiers as modeling moral excellence hardly means that one supports a "military-industrial complex," let alone a coup d'etat.

9. In Bennett's *The Index of Leading Cultural Indicators,* one reads that in prime TV time, the three largest networks broadcast a total of more than 65,000 sexual references each year. The average child watches up to 8,000 made-for-TV murders by the end of grade school. Although 60 percent of Americans "never doubt the existence of God" and 42 percent attend church once a week, only 5 percent of TV characters practice religion in any form (pages 104–5).

10. See Alasdair C. MacIntyre, *After Virtue: A Study in Moral Theory,* 2d ed. (Notre Dame, Ind.: University of Notre Dame Press, 1984). This book is extremely important, but beginning ethics students are unlikely to understand it unless they first read a general ethics textbook such as Louis P. Pojman, *Ethics:*

Discovering Right and Wrong (Belmont, Calif.: Wadsworth, 1995). See chap. 8 of the latter for a discussion of virtue-based ethics.

11. Josiah Bunting, "Code of Dishonor," *New York Times,* 19 February 1994, 19.

12 Christina Hoff Sommers, "Teaching the Virtues," *Imprimis* 20 (November 1991).

13. Robert N. Bellah et al., *The Good Society* (New York: Knopf, 1991), 43–44.

14. Steven M. Cahn, *Saints and Scamps: Ethics in Academia* (Totowa, N.J.: Rowman & Littlefield, 1986), preface, 1.

15. C. H. Sommers, "Teaching the Virtues," *The Public Interest,* no. 111 (Spring 1993): 6–7.

16. To pursue this notion of ethical truths, see W. D. Ross, *The Right and the Good* (Oxford: Clarendon Press, 1930). In chap. 2, Ross discusses his theory of "prima facie" or "conditional" duties, which represent claims on our moral responsibility but are not absolute.

17. As important as virtue is, I assign priority of place to verities. Proper principle must precede virtue, or we wind up with the possibility of, say, a courageous killer. I argue, therefore, for verities, then virtues, then values.

18. William J. Bennett, ed., *The Book of Virtues: A Treasury of Great Moral Stories* (New York: Simon & Schuster, 1993). See also William Kilpatrick, *Why Johnny Can't Tell Right from Wrong: Moral Illiteracy and the Case for Character Education* (New York: Simon & Schuster, 1992); and James Q. Wilson, *The Moral Sense* (New York: Free Press, 1993).

19. See Joseph G. Brennan, *Foundations of Moral Obligation: The Stockdale Course* (Newport, R.I.: Naval War College, 1992).

20. Viktor E. Frankl, *Man's Search for Meaning: An Introduction to Logotherapy* (Boston: Beacon Press, 1992).

21. James N. Rowe, *Five Years to Freedom* (Boston: Little, Brown, 1971).

22. H. G. Rickover, "Thoughts on Man's Purpose in Life and Other Matters," US Naval Institute *Proceedings* 100 (December 1974): 72.

23. John Henry Newman, *The Idea of a University* (New York: Longmans, Green, 1947), 107.

24. Toner, 129.

25. Anthony E. Hartle, *Moral Issues in Military Decision Making* (Lawrence, Kans.: University Press of Kansas, 1989), 84.

26. Sir John Winthrop Hackett, "The Military in the Service of the State," in *War, Morality, and the Military Profession,* ed. Malham M. Wakin, 2d ed. (Boulder, Colo.: Westview Press, 1986), 119.

The real way to get value out of the study of military history is to take particular situations, and as far as possible get inside the skin of the man who made a decision, realize the conditions in which the decision was made, and then see in what way you could have improved on it.

—Sir A. P. Wavell, 1930
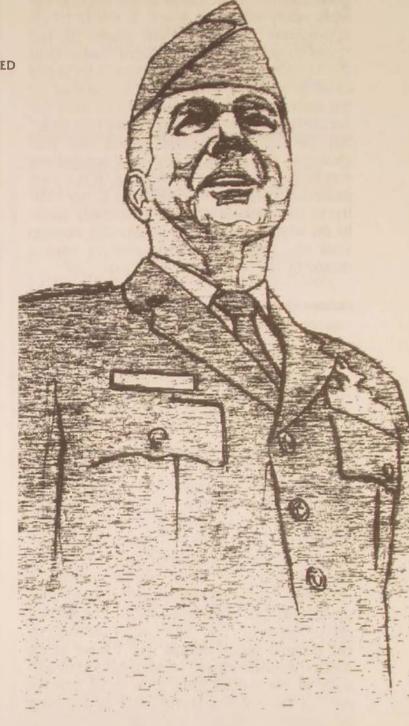
PROFESSIONAL INTEGRITY*

Brig Gen Malham M. Wakin, USAF, Retired

SOME YEARS AGO, one of the students in my medical ethics class approached me after the major research paper had been graded (it was worth 40 percent of the grade in the course). This student had worked hard during the course and had also worked hard on this 20-page paper, but it was clearly a solid B paper and there was tragic disappointment on the face of this student. "I need an A on this paper to keep my A in the course," he said. "Please, you must raise my paper grade or you'll jeopardize my chance to be admitted to medical school."

Now I was very much interested in helping this student achieve admission to medical school because I believed he had the potential to be an excellent physician and I had said as much in the strong letter of reference I had written for him and sent to several medical schools. But raise his grade on the basis of this request? My immediate response, provided almost automatically, was "I *can't* do that." In a very real sense, what I want to discuss with you is bound up with that answer—"I can't do that." When I gave that answer, I didn't mean that I wasn't *able* to do that or that I didn't have the *authority* to do that. Physically and from the perspective of being the only instructor in the course, I *could* have raised that grade. And I didn't mean that fear of external conse-

quences prevented me from changing that grade—in other words, fear that I might get caught and possibly lose my job. No, what I meant was I can't change that grade because it would be wrong to do so for a number of good reasons. It would be *unfair* because the work really was not A work; it would be inappropriate to base student grades on the "need to get into medical school" rather than the "quality of work"; and it would be unfair to other students whose work was graded on the basis of qualitative merit. All of these are certainly good reasons why "I can't do that." But perhaps what I also meant was that changing that grade to one I did not believe was earned would be a violation of my own personal integrity, my self-respect, my ability to live with myself if I knowingly chose to do what I believed to be morally wrong. That was probably a good part of what I meant by the statement "I can't do that."

There is also such a thing as professional integrity that is related to—perhaps dependent upon, certainly compatible with, but different from—personal integrity.

But personal integrity is not the end of the story here. It seems to me that there is also such a thing as *professional* integrity that is related to—perhaps dependent upon, certainly compatible with, but different from—personal integrity. There are communal or corporate values associated with the teaching profession that place role-specific constraints on my behavior, and these are in addition to the normal moral values that I have as an ordinary moral agent. One thinks immediately of the special obligation to be competent in the subject matter and in teaching techniques. Proper preparation, special concern for each student's intellectual and, yes, character development, and fair and timely evaluation of student work—all of these

and more constitute special obligations of teaching professionals. And the teacher, who is literally "in front" of these students constantly, must be totally conscious of the example that he or she sets for students. We teach by what we are and do, perhaps even more than by what we say. Maybe all of this was what was constraining me. Maybe this is what I meant when I said, "I can't do that." I have special responsibilities to the institution, to my professional colleagues, and to the community I serve in this profession who really do matter to the well-being of our community, and they *trust* me.

Consider a more complicated case, this time from the medical profession. As a general practitioner, I've just received the results of the blood tests on my 23-year-old male patient and he is HIV positive. He is also engaged to be married. I point out to him his responsibility to inform his fiancée because she has a right to know about the danger to her and to any future children they might have. He reacts very emotionally to my suggestion because he believes she will refuse to marry him if she learns he has the acquired immune deficiency syndrome (AIDS) virus. He says to me, "You must keep my condition a secret from her and from everyone. You're bound by the principle of patient confidentiality." Upon reflection, I reply, "*I can't do that.*"

Now, what I mean when I say, "I can't do that," is that the moral principles that guide me as a medical professional require me to act, but in this case their guidance is not unambiguous. The principle of respect for my patient's autonomy by observing confidentiality is a very important one, and it does indeed constrain my conduct. But the competing obligation I have to prevent harm is also very relevant in this case, and if I cannot persuade my patient to tell his fiancée himself, then I may judge that my duty to prevent harm overrides my duty to observe confidentiality in this case. My professional integrity is bound up in these competing moral principles, and although it

is extremely controversial here, I tell my patient, "I can't do that."

It's the spring of 1968 and I'm a young sergeant in a combat infantry company in South Vietnam. My platoon has captured an entire village of suspected Vietcong sympathizers: 400 people, including women, old people, children, and babies. We find no weapons in the village. My lieutenant orders us to herd them all over to the roadside ditch and shoot them. I say to him, "I can't do that." What I mean is, *we* can't do that—no one can do that. I know that I have a duty to obey the orders of my superiors, but I know that this order is in direct conflict with both my country's laws and with the fundamental moral law against harming the innocent. Several years earlier, in confirming the death sentence of Japanese general Tomoyuki Yamashita, Gen Douglas MacArthur said, "The soldier, be he friend or foe, is charged with the protection of the weak and unarmed. It is the very essence and reason of his being. When he violates this sacred trust, he not only profanes his entire cult but threatens the fabric of international society."[1] In this case of conflicting duties, my professional integrity tells me that my higher duty is to avoid harming the innocent, and when I'm ordered to kill babies—I can't do that.

These examples from education, medicine, and the military may help us to focus on this fuzzy notion of professional integrity. *Integrity* itself is a much-used term but very much in need of analysis. When we use the word *integrity* in a moral context, we refer to the *whole* moral character of a person, and we most frequently allude to one's personal integrity. When we say to someone, "don't compromise your integrity," we usually mean, "Act in accordance with your moral principles within your value system. Be consistent." There is a real sense in which integrity encompasses our personal identity. As Polonius has it, "To thine ownself be true." But we must be very careful here. Consistency is not all there is to personal integrity.

There is little merit in being consistent with your principles if "thine ownself" is egoistic, treacherous, criminal, and abusive. This is why integrity has to do with "wholeness," with one's entire character and what that moral character is like is what counts. And subscribing to decent moral principles is not enough. We must *act* on decent principles—consistently. Others have noted accurately that integrity is the bridge between character and conduct.

No member of the professions can escape these ties to the community since they constitute the very reason for the existence of the professions. Thus, professional integrity begins with this necessary responsibility to serve the fundamental need of the community.

Several centuries ago, Aristotle pointed out that moral credit is not automatic when right actions are done, nor is it enough to know what is right or to say what is right. He suggested that we are morally praiseworthy when we perform a right action if we first of all, *know* that the action is right; second, that we *choose* the act for it's own sake because we know it is right; and third, that we perform the action from a firm and unchangeable character—from the *habit* of performing that kind of action consistently. For Aristotle, it was very important that we develop the moral virtues through habit and practice, performing right actions so that they become part of our identity—our character. Integrity is the modern name we use to describe the actions of those persons who consistently act from a firmly established character pattern of doing the right thing. We especially stress the concepts of integrity when there is temptation to diverge from what good character demands. Persons of

integrity do not stray from acting in accordance with strong moral principle even when it is expedient or personally advantageous to do so. Persons of integrity act like the ideal persons they are trying to be. This is perhaps what the ancient Taoist had in mind when he said, "The way to do, is to be." Thus, the wholeness of the good person, the total identity, is what we mean when we refer to his or her integrity. When we say, "Don't sacrifice your integrity," we really mean, "Don't stop being who you are."

If I'm a member of one of the professions, then "who I am" must also involve my social role as a practicing professional. My *professional integrity* will include the role-specific obligations and responsibilities of my particular profession. I stress here the social character of professional integrity because the community is involved at every stage of professional development.

"The soldier, be he friend or foe, is charged with the protection of the weak and unarmed. It is the very essence and reason of his being. When he violates this sacred trust, he not only profanes his entire cult but threatens the fabric of international society."
—Gen Douglas MacArthur

First of all, the very existence of the professions results from some fundamental need that society has, and it is likely to be an eternal need. The need that we have for health care, for example, is unlikely to go away, and it is that need that over time has generated what we know today as the medical profession. It may come as a surprise to some to learn that the health-care professions do not exist for the sole purpose of providing employment to health-care professionals or profits for health-care organizations.

It is because of societal need that our communities develop and maintain medical schools and nursing schools. Similarly, every organized society will express its interest in *justice* by providing some variation of a court system and a legal profession. We need an ordered society, we want to be treated fairly, and we seek justice. We train our judges and our lawyers in law schools supported by the community because of the important value that we place on justice. Similarly, we know how crucial education is to our society, so we provide for the training of teachers. We know how important security is to our nation-state, so we provide military academies and military training for the members of the military profession.

No member of the professions can escape these ties to the community since they constitute the very reason for the existence of the professions. Thus, professional integrity begins with this necessary responsibility to serve the fundamental need of the community. Notice that the community makes possible the opportunity for one to become qualified in a given profession and usually allows the professionals the authority themselves to set the standards of competence and conduct of its members. Doctors control the licensing and certifying of doctors; lawyers do the same for members of the legal professions; and military officers certify and control the commissioning process for leaders of the military profession.

Members of the public professions are thus educated and supported by the society because of the critical services the professions provide. In the case of teachers in public institutions and in the case of the military profession, practitioners are supported from the public coffers during their entire careers. Clearly, some of the role-specific obligations are based on this relationship and on the authority to act on behalf of the entire society, which is literally bestowed on these professionals. With the authority to act goes the public trust, and violations of that trust are serious breaches of professional integrity.

For example, there were instances recently in the local public school system where two male high school teachers engaged in sexual intimacies with teenage female students. These teachers violated the trust they had been given; they violated their professional integrity. But let us direct our attention to the elements of professional integrity in the military profession to see if that will illuminate both our responsibilities as military practitioners and the relationships between professional and personal integrity.

Professional integrity derives its substance from the fundamental goals or mission of the profession. For the military profession, we might broadly describe that mission as the preservation and protection of a way of life deemed worth preserving. Just as one violates professional integrity in the field of medicine by performing surgical procedures that are not medically indicated in order to increase the surgeon's income, engaging in operations that are not militarily necessary in order to reflect glory on the commander would also be a breach of professional integrity. Killing unarmed prisoners, the elderly, and babies who are not engaged in the attempt to destroy you is surely inconsistent with the goals of the military and hence a breach of professional integrity.

In the military, as in all of the professions, the issue of *competence* is directly relevant to professional integrity. Because human life, national security, and expenditures form the national treasury and are so frequently at issue when the military acts, the obligation to be competent is not merely prudential. That obligation is a moral one, and culpable incompetence here is clearly a violation of professional integrity. When a B-52 pilot is known to engage in unsafe practices, when he frequently endangers the lives of other aircrew members and people on the ground by performing forbidden flying maneuvers, then not only does he violate professional integrity but so do those colleagues and superiors who tolerate this conduct

and take no action to prevent it. This aspect of professional integrity is worth noting.

Part of the social aspect of professional integrity involves the joint responsibility for conduct and competence shared by all members of the profession. When fellow surgeons bury the mistakes of their incompetent colleagues rather than expose these colleagues and remove their license to practice, they fall short of their responsibilities to the goals of the profession—they sin against professional integrity. Only fellow professionals are capable of evaluating competence in some instances, and hence fellow professionals must accept the responsibility of upholding the standards of the profession. Fellow officers can spot derelictions of duty, failures of leadership, failures of competence, and the venalities of conduct that interfere with the goals of the military mission. The wing commanders of that B-52 pilot who knew of his repeated safety violations and failed to ground him before he killed himself and others failed in their responsibilities—they violated their professional integrity. Often the obligations of professional integrity may be pitted against personal loyalties or friendships, and where the stakes for society are so high, professional integrity should win out.

These lessons seem obvious in theory but are most difficult to put into practice, especially in the preprofessional training which takes place in military academies, medical schools, and law schools. Nontoleration of failures of professional integrity does not seem so crucial in training situations where the stakes are not too high. Perhaps this is why the penalties for tolerating lapses of integrity are ameliorated in training situations but they often seem sensationally tragic when enforced in the professional context. But preprofessionals must learn the importance of the social elements of professional integrity and the responsibility they inherit to maintain standards of competence and conduct in the entire profession and not just for themselves. Society provides the training oppor-

tunities, the resources necessary for carrying out the professional function, and the authority to act on its behalf. With this authority to act and the autonomy which usually accompanies it, breaches of professional integrity must be viewed as serious failures of social trust. When a cadet at the Air Force Academy knows that a fellow cadet has plagiarized a paper to meet a deadline and takes no action to correct this behavior, he or she has violated societal trust in a fashion analogous to the colleagues who took no action to correct the unsafe B-52 pilot. If our preprofessional preparation does not inculcate the habits of professional integrity, can we have confidence that those habits will be practiced by these same individuals when they become licensed professionals?

When a B-52 pilot is known to engage in unsafe practices, when he frequently endangers the lives of other aircrew members and people on the ground by performing forbidden flying maneuvers, then not only does he violate professional integrity but so do those colleagues and superiors who tolerate this conduct and take no action to prevent it.

We derive other aspects of professional integrity as we examine the basic functions of each profession. If in preserving our way of life we must use the military instrument, then members of the military profession must sometimes go to war. If combat occurs, then professional soldiers must fight. To refuse a combat assignment is to break faith with all other members of the profession and is a first-order violation of professional integrity. It would be the equivalent of a teacher refusing to teach, a doctor abandoning patients, a judge refusing to hear crucial

cases. Because the stakes are so high in the military case, this breach of professional integrity could be devastating to society.

How are personal integrity and professional integrity related? There are varying opinions about this. Some people believe that one can live up to high standards of competence and conduct in one's professional role—at the hospital, in the school, at the military base—but live an entirely different kind of moral life outside the professional context in one's private life. Some think they may be required to do things in their roles as professionals that they would never do as private laypersons. Some instances of this dichotomy are obvious. As a private person I would normally not even contemplate harming other persons, yet as a military professional I am licensed to kill (under specified conditions) for reasons of state. A variation of this concern surfaced during an annual meeting of the Colorado Bar Association in the fall of 1995. One of the topics offered for small-group discussion was the following one: "I would never do many of the things in my personal life that I have to do as a lawyer." At the heart of this matter is the issue of client advocacy. Lawyers are enjoined to act in their clients' interests and to do so zealously. In defending my rapist client whom I know to be guilty, I may cross-examine the innocent rape victim in such a fashion as to totally discredit her even though I know she is telling the truth. If it is legal and will help my client, it would seem that the standards of the profession require me to do it, even though in ordinary morality I would judge it to be wrong to harm an innocent person.[2] This sort of example really is problematic, for it appears to reveal a direct conflict between personal integrity and professional integrity.

There are similar examples in medicine. Abortion for convenience is legally permitted in most US hospitals, but some obstetricians believe that convenience abortions are immoral. Thus, in these hospitals they find a conflict between professional in-

tegrity and personal integrity. Now in most such situations, doctors and nurses are permitted to refuse to participate on moral grounds even though the action itself is legally permitted. Perhaps this is one key to resolving integrity dilemmas—what is legally permitted is not always or even usually morally obligatory. But I mention these possible clashes between professional integrity and personal integrity because I wish to minimize them. I wish to support the view that the two types of integrity are generally compatible and to foster the position that they are interdependent. What I wish to argue is that since professions exist to serve society's need for important values (education, health, justice, security, etc.), the means used to provide those values and services should be morally decent means, and the persons in the professions who provide them should be morally decent persons.

Put in more direct terms, good teachers ought to be good persons, good doctors ought to be good persons, good lawyers ought to be good persons, and good military professionals ought to be good persons. We want to live in a world where the duties of a competent professional can be carried out by a good person with a clear and confident conscience. That means that professional practices must always be constrained by basic moral principles. That this is not always the case now is obvious. Several of the attorneys at the previously mentioned convention pointed out that they had left certain large law firms because they perceived that they were being asked to do things that violated their personal integrity. Now in the best of all possible worlds, the moral restraints on professional functions would have made those same actions inimical to professional integrity as well. And this is the proper order of things. When professions go beyond their essential service function to society and distort their purpose toward profits, power, or greed, then they lose the trust and respect of their communities and they stop being professions. *Militarism* is the pejorative

term we use to describe a society or a military gone bad in the sense that it distorts the essential goals and functions of the military profession. The twin sources of guidance we use to hold militarism in check are the just-war theories and the law of war. These twin guides are related in an essential way to professional integrity, representing in the broadest terms when and how the military instrument ought to be used.

Well-established professions often spell out the role-specific principles which support that profession's conception of professional integrity. The codes of conduct promulgated by the American Medical Association and the American Bar Association and state and local chapters of these groups are well known. The military profession has many codes, regulations, mottoes, and traditions that combine to form a military ethic on which professional integrity is based. At the Air Force Academy, we have our honor code and our honor oath, and our specific list of core values is now identical with the official list of core values of the Air Force. When we say that we value integrity first, service before self, and excellence in all that we do, we acknowledge that the essential nature of the military profession is to serve our parent society. We make specific our commitment to the concept that good soldiers are good persons. What we should mean when we commit ourselves to "integrity first" is that we understand the importance of both personal integrity and professional integrity, and through our efforts to keep them compatible, we will best provide the crucial military function to our society.   ☐

Notes

1. Quoted in William Manchester, *American Caesar: Douglas MacArthur, 1880-1964* (Boston: Little, Brown and Company, 1978), 488.

2. For this example I am indebted to Michael Davis and Frederick A. Ellison, eds., *Ethics and the Legal Profession* (Buffalo, N.Y.: Prometheus Books, 1983), as quoted in T. L. Shaffer's *American Legal Ethics: Readings and Discussion Topics* (New York: Matthew Bender, 1985), 335.

Personal Ethics versus Professional Ethics

Maj Gen Jerry E. White, USAFR

We have grasped the mystery of the atom and rejected the Sermon on the Mount. The world has achieved brilliance without wisdom, power without conscience. Ours is a world of nuclear giants and ethical infants.

—General of the Army Omar Bradley

INTEGRITY, HONESTY, and moral conduct are essential elements in a good leader. Most people would agree with that statement. Disagreement comes when these standards are applied equally to personal and professional lives. The general thinking of society today maintains that "if it doesn't hurt anyone else, I can do whatever I wish. What I do in my private life is my business. My employer has no right to evaluate or punish me for my private conduct as long as my job performance is not degraded." This philosophy is applied—especially in the civilian sector—to using drugs, drinking alcohol, having sex, lying, and cheating. Increasingly, the courts are agreeing with this position.

In the military, we take a different view. Drugs are not tolerated. Alcohol abuse can ruin a career. Sexual involvement with other people in the workplace is disciplined—and in many cases prohibited. Dishonesty is severely punished.

Since becoming a general officer, I have heard senior leaders say at various times to closed-door gatherings of general officers, "If you are sleeping around with someone other than your spouse, stop it! You will be discovered. If you insist on such conduct, have the integrity to resign and take off your uniform." These are strong words, and the implication is clear: for senior leaders, private and public lines are almost erased. We do not have the freedom to conduct ourselves any way we desire in private.

In the acquisition world, the ethical conduct of government officials has always been scrutinized carefully. Recently, a large volume of ethical guidelines was published. We were held accountable even before we read it. Conflict of interest, gifts, influence, meals, and privileges are covered. One officer remarked to me, "I wonder what was wrong with that one-page list called the Ten Com-mandments?" The Tailhook incident, multiple highly publicized sexual harassment cases, and dismissal of senior leaders for sexual misconduct have led to the recent publication of guidelines on fraternization, sexual harassment, and sexual conduct. We have instituted mandatory training to implement these guidelines. Apparently, we need them.

The message is that *we do have a problem*. Something has changed in our society. We can no longer assume that ethics and integrity are givens for people who solemnly take their oath of office as military personnel. Thus, we must institute controls and accountability. In so doing, we are saying that private and professional ethics must be the same.

Although I have written extensively on this subject,[1] a conference held three years ago caused me to reflect on this issue in the military context. Minister of Defense Pavel Grachev of the Commonwealth of Independent States invited members of our Department of Defense to Moscow to participate in a congress entitled "The Moral and Spiritual Foundations of the Russian and United States Armies."

In this seven-day conference, attended by 550 of the top Russian field commanders of all military branches, participants explored rebuilding and ethical foundations. The Russians had lived 70 years with an atheistic philosophy mandating that internal ethics be governed by fear and reprisal. With the removal of restraints, they felt a need to build a new foundation of moral and ethical values, seeing in the US and in NATO countries a spiritual and ethical foundation that Russia did not have.

We can ensure ethical behavior only by means of law, fear, or personal convictions. Laws or regulations set guidelines of expected or prohibited behavior. Because we cannot prescribe every conceivable circumstance, such regulations are limited in their effect.

Law is a last resort when private morality does not prevail.

Prof Edwin Epstein advocates corporate social responsibility because "being ethical heads off the law."[2] Similarly, Andrew Stark comments on external motivation for ethical behavior as being "nothing less than management tools such as authority, power, incentives and leadership. Relying on such motivational tools . . . is just a sophisticated form of coercion and therefore morally wrong."[3] Laws and regulations are limited and relatively weak. They are far from the solution to ethical behavior.

Fear is a powerful motivator. Repressive governments make it their primary tool of coercion and compliance. In reality, it also affects much of our culture. Fear of career derailment, of public exposure, of court-martial, of job insecurity—all provide significant motivation to restrain our baser selves to conform to some set of moral rules. Both fear and law lead people to live at the edge of these set boundaries, sometimes stepping over them or being overly scrupulous—not out of personal conviction of right and wrong but out of self-preservation. Fear and law are effective only in limited ways.

Personal convictions form the most effective basis for moral and ethical behavior. The dream of every commander is to have people who instinctively do what is right whether or not regulations give guidance. Unfortunately, personal convictions change with our society. Relativism—which holds to no clear right or wrong, especially in the areas of sexual and behavioral conduct—has captured most of the intellectual and educational communities.

The United States Air Force Academy honor code—We will not lie, steal, or cheat, nor tolerate among us anyone who does—is simply not accepted by society as an appropriate standard. The response to people who would espouse any ethical norm is, How dare you tell me how I ought to live in my private life? Note again the implied dissection of private and professional behavior.

I like to think of each of us having an inertial guidance system able to sense when we are off course and then initiate immediate correction. We need a moral compass.

Personal convictions develop from family, community, education, religious/spiritual upbringing, and peer influence. We recognize these influences, for better or worse, as givens in the life of each 18- or 22-year-old who enters the Air Force. We live with the results and attempt to bring these young people from their current state of moral convictions to one that we define in our profession.

Prof Kenneth Andrews wisely notes that "moral character is shaped by family, church, and education long before an individual joins a company to make a living."[4] All of these influences are in trouble. The family structure and its influence are breaking down. Yet, the family is the bedrock of moral teaching. Although we cannot change a person's family background, we can do much to aid and abet military families to instruct and influence the next generation. I applaud all the efforts we are making today to make the Air Force more family friendly and family focused.

My childhood years were spent in a small Iowa farm community, where adults kept an eye on youngsters and enforced some semblance of moral restraint. That kind of community is disappearing, giving way to the declining morality of the inner city and metropolitan suburbia. Real community is a thing of the past. Once again, in our Air Force community, we have much more opportunity to build a place for our families. Our base commanders need to be empowered and encouraged to do so.

Education has lost its moral punch. Permeating our educational system is the belief that we must not teach moral values which delineate right and wrong. Chuck Miller writes that "a 1940 survey of public school authorities found their top discipline problems were talking, gum chewing, making noise, running, dressing improperly and littering. A 1986 poll of educators listed rape, robbery, assault, burglary, arson, bombings, murder,

suicide, absenteeism, vandalism, drug abuse, alcohol abuse, gang warfare, pregnancy, abortion and venereal disease."[5]   We are living in a different world!

Religion and spiritual upbringing are still very effective, but decreasing numbers of young people fall under the influence of the church.   In previous decades, parents sent their children to religious education even if the parents themselves did not attend.   Such a sense of obligation to expose children to religious training and its consequent moral commandments no longer exists.   This situation is exacerbated by the church-state debate, which presents even more of a barrier to the influence of the church.

The effect of peer influence is obvious: "Do not be deceived.   Bad company corrupts good morals" (1 Cor. 15:33).   Most drugs, alcohol, sexual immorality, lying, and cheating result from the influence of peers.

> *There is a growing degree of cynicism and sophistication in our society, a sense that all things are relative and that nothing is absolutely right or wrong.*
>
> —Jody Powell
> Press Secretary to President Jimmy Carter

To illustrate our national problem, Daniel R. Levine notes that "honesty and integrity have been replaced in many classrooms by a win-at-any-cost attitude that puts grades, expediency and personal gain above all else."[6] Moreover, "Moral standards have become so eroded that many children can no longer tell right from wrong,"[7] says Kevin Ryan, founding director of the Center for the Advancement of Ethics and Character at Boston University.   According to Stephen F. Davis, a professor of psychology,   "There's no remorse.   For students, cheating is a way of life."[8]   Ryan further comments that "kids have no moral compass other than enlightened self-interest"; Ryan blames the nation's schools for abandoning their traditional role of providing students with moral guidance.[9] Similarly, Jay Mulkey—of the Character Education Institute of San Antonio—observes that "students who cheat in class may well

cheat in their jobs or on their spouses. When you have a country that doesn't value honesty and thinks character is unimportant, what kind of society do you have?"[10]

Another illustration comes from a Rutgers University professor who conducted a survey of 31 highly selective colleges (14 with honor codes, 17 without).   Thirty percent of the colleges with an honor code reported cheating on tests in 1995—up from 24 percent in 1990.   Forty-seven percent of the colleges without an honor code reported cheating on tests in 1995—up from 45 percent in 1990.[11] These sad statistics give some credence to having an honor code.

I am firmly convinced that integrity and ethics must be built from within, reserving the law and fear as last choices only.   The real question is, How do we do this?   I submit the following suggestions for consideration:

1. We must recognize that the young people we are bringing into our Air Force today, in the main, have not been taught ethics and morality.   They reflect the national norm on cheating and lying.   Simply giving them a new set of rules with warnings of punishment will not change them.

2. As these young people go through basic training and Officer Training School, we must not assume that they have a consistent foundation of integrity, morality, and ethics. We need to define and teach moral behavior—both public and private.   We must do this repeatedly and consistently, giving it major emphasis.

3. We need to help our people build an internal moral compass, utilizing the Chaplain Corps for that purpose.   We need to encourage and enable our chaplains to teach spiritual principles of ethical behavior—not just philosophy—from the viewpoint of their religious beliefs.   The Ten Commandments and the book of Proverbs are a good place to begin, since they contain tenets accepted by almost all faiths.   We certainly should not coerce people into religious instruction, but we can and should encourage them.   I emphasize this aspect because religious belief calls

for an internal transformation rather than just a change in behavior. Interestingly, hardly any secular literature even mentions religious instruction as part of the solution—a puzzling exclusion in view of the impressive historical place such instruction holds in forming the moral concepts of our nation.

4. Commanders and leaders at all levels must set an example. If our lives reflect morality and integrity, our influence will be great. Commanders need to speak out on these issues often, rewarding integrity and punishing lack of integrity.

5. We must have and practice a no-tolerance policy on sexual harassment—not because it fits the mood of the moment in our corporate world but because sexual harassment is *morally wrong*.

6. We need to help our Air Force families in their training of the next generation. Through our chaplains, counseling, and seminar resources, we need to work at building and preserving marriages.

In order to be a leader, a man must have followers. And to have followers, a man must have their confidence. Hence the supreme quality for a leader is unquestionably integrity. Without it, no real success is possible, no matter whether it is on a section gang, a football field, in an army, or in an office. The first great need, therefore, is integrity and high purpose.

—Gen Dwight Eisenhower

I began this article by contrasting personal and professional ethics. In our profession, they cannot be separated. We are on duty 24 hours a day. Personal ethics, morality, and integrity will strongly influence a person's professional ethical conduct. Integrity means wholeness or completeness—continuity of life in all its actions. As leaders, we want to exhibit that kind of integrity. As trainers of the next generation, we want to encourage that kind of integrity. We must not delude ourselves or the people we lead by thinking that we can practice ethics and morality only in our professional lives, apart from the same level of practice and convictions in our private conduct.   □

Notes

1. Jerry White, *Honesty, Morality and Conscience* (Colorado Springs, Colo.: Navpress, 1978).

2. Quoted in Andrew Stark, "What's the Matter with Business Ethics?" *Harvard Business Review*, May–June 1993, 39.

3. Ibid., 40.

4. Kenneth R. Andrews, "Ethics in Practice," *Harvard Business Review*, September–October 1989, 99.

5. Quoted in *Perspective: A Bi-Weekly Devotional Letter* 43, no. 12 (5 June 1991).

6. Daniel R. Levine, "Cheating in Our Schools: A National Scandal," *Reader's Digest*, October 1995, 66.

7. Quoted in ibid.

8. Quoted in ibid.

9. Quoted in ibid., 67.

10. Quoted in ibid., 70.

11. "Cheating Up on Campuses with Honor Codes," *USA Today*, 11 March 1996.

The quality of a person's life is in direct proportion to their commitment to excellence, regardless of their chosen field of endeavor.

—Vince Lombardi

The US Air Force Academy's Cutting-Edge Character Development Program

Maj Brian F. Hall, USAF
with
Col David A. Wagie, USAF

INTEGRITY FIRST, service before self, and excellence in all we do—in sum, doing what is right and doing so for the right reason—are lofty aspirations that represent our Air Force core values. In essence, our core values represent the fundamental building blocks of personal character. While few, if any, Air Force members would argue against the worth of these values, many might suggest that internalizing such guiding principles is not something that can be taught or trained. The question remains, however, whether values can be successfully developed in college-aged men and women.

Because the leaders at the United States Air Force Academy (USAFA) believe that character can be taught and developed, they established the academy's Center for Character

Development. The academy's philosophy concerning character development holds that cadets continue to develop all their traits (academic, athletic, military, and character) during their four years at USAFA. The academy's cadet development policy emphasizes that cadets develop best (1) when they are in an environment of trust and respect; (2) when outcomes are specified; (3) when they are challenged beyond their current abilities, yet supported in their quest to extend those abilities; (4) when they realize everyone around them (fellow cadets and the academy staff) is also developing; and (5) when they learn to develop themselves and take responsibility for that development.

The academy defines character as "the sum of those qualities of moral excellence that stimulates a person to do the right thing, which is manifested through right and proper actions despite internal or external pressures to the contrary." The challenge for the academy was to determine which behaviors consistent with a person of character also embody the core values espoused by the Air Force. A team of officers—specialists in human development—researched this question and arrived at eight specific "character outcomes" based on measurable, definable behaviors. The outcomes reflect the team's efforts to articulate the academy's expectations of its officer graduates. The team concluded that the outcomes reflect the academy's ideals—what it hopes cadets and members of the academy community strive to do and to be. Additionally, the outcomes elaborate the core values of the institution. They serve as the basis for evaluation of USAFA's effectiveness in its quest for excellence. Furthermore, they provide criteria for personal assessment, as well as a means to evaluate the programs and activities indigenous to the academy. The outcomes are as follows:

1. *Officers with forthright integrity who voluntarily decide the right thing to do and do it.* Such officers do the right thing in both their professional and personal lives. They do not choose the right thing by calculating what is most advantageous to themselves but by having a consistent and spontaneous inclination to do the right thing. Not only are they prompted to do what is right, they actually do it.

2. *Officers who are selfless in service to their country, the Air Force, and their subordinates.* Selfless officers know how to prioritize their loyalties so that their loyalty—in descending order—is to the moral principles reflected in the Constitution, the profession of arms, the mission, and individuals. People who serve selflessly resist the natural tendency to focus exclusively on self-serving desires; thus, they do not take advantage of situations for personal pleasure, gain, or safety at the expense of the unit or mission. They share in the dangers, hardships, and discomforts of subordinates. They commit themselves to duty and responsibility to others rather than to claims of personal privilege or advantage.

3. *Officers who are committed to excellence in the performance of their personal and professional responsibilities.* Such officers strive to do their best in everything they are capable of accomplishing. They measure their self-esteem and sense of accomplishment not by comparing their works with those of other people, but by noting their achievements, based on a realistic assessment of what they are capable of accomplishing.

4. *Officers who respect the dignity of all human beings.* Officers who respect human dignity believe in the value of individual differences of race, gender, ethnicity, and religion. Officers who respect and value other people support and encourage them to develop to their fullest potential; they do not demean or debase other people. They also accept the value that individual differences add to an organization, and they contribute to an environment in which all people can fully utilize their skills and abilities.

5. *Officers who are decisive, even when they face high risk.* Decisive officers make timely and resolute decisions. They do not let self-serving desires prevent them from making decisions that are necessary for mission

accomplishment. They are not afraid to communicate their beliefs about the best way to achieve mission accomplishment to their superiors. However, decisive officers are not disloyal when their advice and recommendations are not adopted.

6. *Officers who take full responsibility for their decisions.* These officers voluntarily give full and honest accounts of their actions and decisions to people who are entitled to know about them. When loyalty requires them to take actions that are unpopular with their subordinates, they neither blame their superiors nor shirk responsibility for the decision.

7. *Officers with the self-discipline, stamina, and courage to do their duty well under even the most extreme and prolonged conditions of national defense.* Officers with these traits do what is right, whether the consequences involve personal peril or potential harm to their careers. Officers with a strong sense of duty also embrace the mental toughness and discipline vested in our oath of obligation "to protect and defend the Constitution of the United States against all enemies, foreign and domestic." They understand that fulfillment of that oath may require great personal sacrifices. Officers who do their duty accept that their profession may require self-discipline, stamina, and courage to attain the highest level of competence.

8. *Officers who understand the importance of spiritual values and beliefs to their own character development and that of the community.* Officers with this understanding are clear in their own convictions and respect the convictions of others. They understand that their leadership role requires sensitive awareness of the importance of religion in people's lives and know that they need to accommodate and support individuals' freedom to exercise faith.

To accomplish these outcomes, USAFA organized the Center for Character Development into three distinct divisions: Character and Ethics, Human Relations, and Honor/Honor Education. The Character and Ethics Division is primarily responsible for educating cadets, faculty, and staff on how to deal appropriately with moral issues. Additionally, the division implements training programs designed to increase cadet awareness of and growth toward the institution's eight character development outcomes. These programs include experiential training activities (high- and low-ropes course initiatives), character development seminars, community service projects, guided focus sessions, and cadet/staff training.

The Human Relations Division develops and executes programs intended to emphasize the importance of valuing individual differences. Diversity management training, equal opportunity, and facilitator training are primary areas targeted by the division. During their four years at USAFA, cadets receive a total of 39 lessons covering sexual harassment, discrimination, cultural awareness, and interpersonal communications.

The Honor Division deals with both honor education and administration of USAFA's honor code system. The division creates training programs to engage cadets in honor and ethics issues in order to help them internalize relevant concepts. The division is also responsible for handling honor violations, as well as the honor probation/counseling program. During their four years at the academy, cadets receive 43 lessons covering the honor code as it applies to USAFA, officership, the Air Force, and service to the country.

Using the eight character development outcomes as criteria for internalizing core values, the academy's Center for Character Development began crafting programs to educate and challenge cadets to grapple with issues involving character. From the moment new cadets ("basics") arrive at USAFA, they are required to contemplate situations that test their commitment to core values. During their basic training, incoming cadets receive 12 "character reflections" led by cadets in charge of training. These scenarios contain actual case studies of cadets and junior officers who had to choose between self-centered

actions and those consistent with Air Force core values. The basics then engage in dialogue concerning the decisions made, the consequences of those decisions, and the sometimes difficult task of choosing to do what is right.

Each semester, the center hosts character development seminars that address one of the eight outcomes. The seminars are designed to expose cadets to a sizable number of military and civilian professionals who have personal experience with the topic. Additionally, the center sponsors an annual character development and leadership symposium based on one outcome. These symposia are for all cadets and attract many academy staff and local community attendees. Guest speakers and panels from around the country share their unique perspectives and personal experiences. Speakers such as Secretary of the Air Force Sheila E. Widnall and Gen Ronald R. Fogleman, Air Force chief of staff, provide keynote addresses to all cadets.

The center also offers a number of mandatory character training and education events for cadets. Each year, cadets receive approximately 35 hours of honor education discussions and 25 hours of training in human relations and equal opportunity and treatment. Additionally, all sophomores receive a number of character discussions as part of Military Arts and Science 220—Foundations of the Military Profession, a required academic course. All juniors take a required course, Philosophy 310—Ethics—in which they discuss major moral theorists and their application to military issues. In addition, cadets take numerous courses in management, behavioral science, law, and so forth, requiring discussion of character issues.
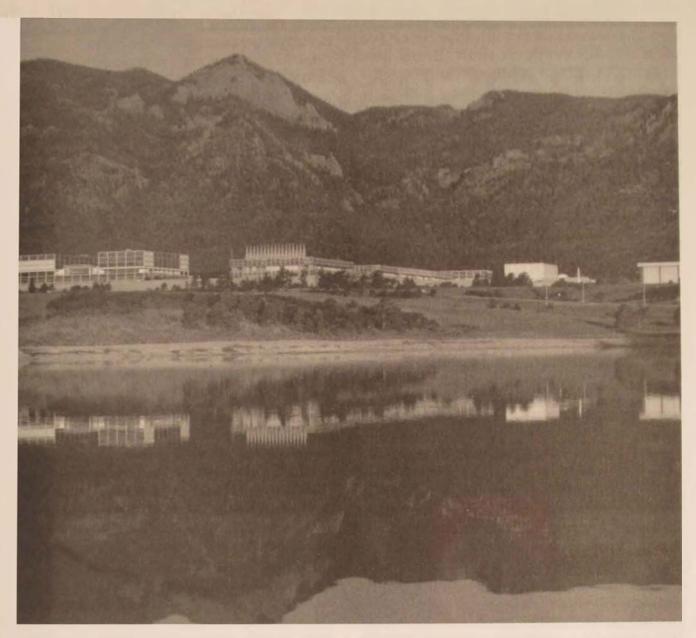
To provide a more comprehensive, academy-wide environment for character development, USAFA also instituted a Character Development Commission. Chaired by the dean, the commission includes senior officers from all mission elements of the academy: Chaplains, Athletics, Preparatory School, Admissions, Center for Character Development, and so forth. It meets monthly and provides a cross flow of information and visible support for each agency to emphasize and actively engage in activities that further the character development of cadets.

Focusing exclusively on programs to increase cadet awareness of character development, however, is an incomplete approach. The center also provides skill training in leadership and character development for all faculty and staff members. The training consists primarily of case studies, lectures, role playing, and experiential exercises to further illustrate concepts presented in the classroom. The training seeks to enable faculty and staff members to engage cadets in moral dialogue when such a need arises.

The center recently added a cutting-edge, adventure-based learning program to its list of offerings when it constructed a high-ropes challenge course, used to reinforce the more didactic character training methodologies previously described. A 50-foot climbing tower and climbing wall serve as the centerpiece of the program. On this course, cadets and staff/faculty groups alike experience the need for courage, decisiveness, support, teamwork, interpersonal communications, and respect in a risky environment. Research has shown that adventure-based methodologies tend to have greater lasting effects than classroom training alone.

With several character development initiatives in place, the final step for the center was to create an assessment program to determine the effectiveness of its efforts. The center's assessment experts determined that a multifaceted approach was necessary. This entailed constructing an environment audit survey to determine if programs (academic, military training, flight training, athletic, etc.) were creating an environment conducive to character development. Further, the center developed numerous survey instruments for implementation at regular intervals throughout a cadet's four years at the academy. These surveys include preadmission character assessments and program critiques

as well as honor and social climate surveys. Such instruments are useful in measuring the degree to which cadets have internalized Air Force core values as well as the academy's character development outcomes. Lastly, the center designed a comprehensive personal character inventory to evaluate cadets' assimilation of the eight outcomes adopted by the institution. The center's attitude about survey development is that instruments must complement one another to facilitate accurate evaluations of a cadet's progress (or lack thereof) in internalizing the outcomes.

Although the character development program at USAFA is relatively new, preliminary feedback is encouraging. Instilling a desire within cadets to live professional and personal lives that adhere to the tenets found in Air Force core values is challenging. The fact that both the Air Force and the academy have invested considerable effort and resources in building a character development program speaks to the critical nature of the expected outcome: "air and space leaders of character who can be trusted to do what is in the best interests of our nation." ☐

AEROSPACE DOCTRINE

More than Just a Theory*

GEN RONALD R. FOGLEMAN
CHIEF OF STAFF, USAF

I T'S A REAL PLEASURE to be here today among this distinguished group and have the opportunity to lead off this Air Force doctrine symposium.

As I was preparing to speak, I was trying to remember when I became cognizant of doctrine. I'm almost embarrassed to admit that I had been in the Air Force about six years and was attending graduate school when I had to write a paper. So, I elected to write the paper on doctrine. It was the first time that I did much research at all on the subject. As I remember, the paper got a passing grade, but I've gone back and reread that paper on a couple of occasions and I'm not so sure it was ready for prime time. My professors at Duke University were more than kind to me.

I wish that I could briefly welcome you all here, then sit down and take part in this symposium over the next couple of days. That's because doctrine and doctrinal discussions are becoming more and more important in the United States as we see the emergence of true joint doctrine. The current chairman of the joint chiefs has taken the approach

that joint doctrine will flow from service doctrine. Therefore, we services have got to have our act together. Otherwise, we can't expect to have our views and the full contribution of our service felt in the joint arena.

Unfortunately, I have to go back to Washington for a tank session scheduled this afternoon. So, I'll take this brief opportunity to share some of my own perspectives on doctrine and save some time at the end for questions.

Last fall, I addressed a combined audience of NATO army and air chiefs on the subject of joint and combined doctrine. My message to them was pretty simple. I said that airpower has fundamentally changed the nature of warfare. But our joint and combined doctrine has not caught up with this development.

I will once again today make that statement and, once again, clearly state that airmen are partly to blame for this situation. Our very early airpower visionaries clearly allowed their concepts to race ahead of technology. Therefore, we found ourselves in a position where there were a lot of un-

fulfilled promises and false expectations relative to what airpower could and could not do. This generated legitimate skepticism among our comrades-in-arms.

In World War II, as technology began to catch up with vision, we turned to strategic bombing as the rationale for an independent air force. Soon, however, strategic bombing became synonymous with nuclear war and the mission of deterrence. And nuclear deterrence changed all the rules. No longer did we field forces to fight wars. Our goal was to prevent them. "Peace is our profession," as one of our commands used to say.

The harsh realities of Korea and Vietnam showed us the limits of nuclear deterrence and revitalized our interest in, and support for, conventional capabilities. These conventional capabilities, however, generally came to be referred to as "tactical airpower." Interestingly enough, "strategic airpower" continued to focus on nuclear deterrence, while "tactical airpower" became the Air Force's primary driver in developing war-fighting doctrine and strategy. And the primary role of tactical airpower was seen as supporting the close battle—either directly in the form of close air support or indirectly in the form of interdiction.

In the end, the Air Force itself defaulted on its doctrine development. The fact of the matter is that we turned doctrine development over to Tactical Air Command and the Army's Training and Doctrine Command. We sent that whole task to the Tidewater Virginia area, and the result was the doctrine of AirLand Battle. For a long period of time, we effectively lost sight of the fact that AirLand Battle was a subset of airpower doctrine and not the doctrine.

Unfortunately, it was not until Desert Storm that we discovered that conventional air operations could not only support a ground scheme of maneuver but also could directly achieve operational- and strategic-level objectives—independent of ground forces, or even with ground forces in support.

So, the challenge for this symposium is very straightforward. It is for you to shape our doctrine development processes to provide airmen from all services both the intellectual and practical framework needed to employ airpower in joint and coalition operations across the spectrum.

If, as I believe, doctrine provides a common foundation for us to use in employing our forces in peace, war, and the numerous gray areas in between, then I would expect for our doctrine to illuminate the judgment of airmen and other military professionals for the joint employment of air forces to accomplish the objectives of the joint force commander—the commander in the field.

I would like to be clear on this point because one of the first challenges in communicating is to analyze your target audience. Our primary audience for doctrine development ought to be the war fighters.

Now that makes a fundamental assumption about all members of the service relative to doctrine. As many of you already know, I often refer to the United States Air Force as a "team within a team"—that is, a team of people who have various core competencies and make up an Air Force team that provides airpower as a part of a joint team. So, not only are we team members with the other services on our nation's joint team, but the Air Force itself is made up of many subteams. We talk about aircrews, maintainers, missileers, space warriors, civil engineers, doctors, lawyers, and even doctrine writers.

Air Force doctrine should provide an integrating framework to tie together the various elements of the Air Force team, to show how these elements work together, and to provide a basis for integrating airpower with other forms of combat power in joint operations.

While doctrine can be useful in intellectual debates and can provide a valid input for future force programming, its primary purpose should be to guide war fighting and military operations other than war. Doctrine

may support "why" we have certain weapon platforms, but its real value lies in providing our people a coherent framework for employing airpower as a team.

So, using the team-within-a-team analogy, Air Force doctrine would then provide a "playbook" for all forms of joint airpower. Or, put another way, Air Force doctrine forms the basis for our participation in developing joint doctrine.

As the nation's most technologically dependent service, it's often tempting for us to focus on individual technologies. Certainly, specialized expertise is an indispensable part of our overall contribution to the nation. But people like Carl Builder have reminded us that we can become too "stovepiped" and miss the bigger view of how the entire Air Force contributes to the team.

Admittedly, this may be a little bit more of a challenge for airmen than for our friends in the other services. Regardless of their branch, soldiers, sailors, and marines are schooled in combined arms. They employ together. They are linked by objectives and responsibilities that almost always focus on specific geographic objectives.

In the end, the essence of ground combat has been to synchronize the contributions of the various elements of the combined arms team to accumulate a series of tactical battlefield victories. Eventually, the sum of those tactical victories proves sufficient to defeat an adversary or occupy a geographically defined objective that makes the defeat of enemy forces unnecessary.

In either case, the objectives—whether terrain- or force-oriented—facilitate unity of effort for diverse forms of combat power. So, the natural and the legitimate inclination of professional soldiers is to apply airpower as simply another supporting combat arm to be synchronized by the respective land commander in support of his particular objective. That's how they legitimately think about this. So, we've got to think about it from a different perspective as well.

Similarly, although the Navy's current focus is projecting combat air and missile power ashore in support of the joint force commander's objectives, sailors generally understand that their greatest contribution hearkens back to Mahan's ideas of control of the sea.

The combined arms notion thus comes naturally to sailors as they employ together in combat. They share the same risks while they're on board a ship. The predominant form of naval employment is with battle groups, not with single ships. And even though the Navy has not had a rich tradition of publishing tactical doctrine per se, the service culture has historically produced a unifying fleet-strategic-employment perspective within individual sailors.

Thus, the Navy brings a different—and also legitimate—view on airpower employment based on its sea control requirements that can differ significantly from those of the Army or the Air Force.

Now, at the risk of stating the obvious, professional airmen are different. As Gen [Carl A.] "Tooey" Spaatz said, "I guess we considered ourselves a different breed of cat right in the beginning. We flew through the air and the other people walked on the ground; it was as simple as that!"

Our differences form the core of the value we offer the nation. Our expertise has been gained through years of experience operating in air and space. That has given us a perspective that is different from that of the other services.

It's important to remember that we have one full-time air force in this country. We have one air force that focuses on the application of airpower from science and technology to research and development, test and evaluation, production and fielding, and even sustaining forces. We don't do this part-time. It's a full-time job for us. It is not a part of our larger service; it is all that we do. For that reason, we bring a perspective to the table that should never be ignored.

It becomes important when we begin discussions about whose plan one follows when we look at the development of a tactical aircraft master plan. These become important considerations as we go down that road. As I said, we have a distinct view. Don't misunderstand me, though. I'm not claiming we have all the answers or can go it alone. That's certainly not the case.

As this nation's only full-service air force, the essence of what we provide is a capability and a perspective for employing combat power that expands the whole range of available options for our national command authorities (NCA) and any joint force commander to use in the pursuit of America's security interests.

Each service's doctrine, then, springs from its respective fundamental beliefs about warfare formed through experience and expertise in certain technologies and mediums of warfare.

This presents us with a sort of paradox. On the one hand, we owe it to the taxpayers to push the envelope of air and space employment to seek war-fighting advantages that save lives and resources. We are the nation's primary advocates for extracting every ounce of advantage from operating in the mediums of air and space.

On the other hand, we cannot let our enthusiasm for our primary mediums of operations blind us to the advantages that can be gained by using airpower in support of land and naval component objectives. We should ensure that our doctrine provides us the tools necessary to orchestrate airpower in conjunction with other component operations because this produces tremendous synergistic effects.

If you think about it, I've just described the essence of effective joint war fighting. I have been in joint assignments for the last six years, and one of the fundamental truths that I've discovered is that joint warfare is not necessarily an equal opportunity enterprise.

We value the unique competencies and capabilities that each service brings to the joint force commander. We want each service to organize, train, and equip forces that are dominant in its medium. We strive to make our forces interoperable, so that the joint force commander can combine them in various combinations for maximum effect.

But we must recognize that when all is said and done, our combat capability comes from the pride, the expertise, and the traditions of the individual services. The unified commands simply offer us the opportunity to combine our nation's combat power for maximum effect.

If the Air Force's central contribution is in providing the nation opportunities to achieve military objectives, independently or in concert with other forces than otherwise would be possible, then Air Force doctrine needs to equip airmen to develop, articulate, and implement these options. That describes a second function of doctrine.

To perform this function requires that we translate airpower theories into war-fighting realities. In the broadest sense, airpower has altered the basic physics of warfare. From the earliest days of aviation, airmen quickly gained an appreciation of how airpower's inherent characteristics such as speed, range, perspective, and flexibility could translate into significant advantages in warfare.

The first use of the so-called third dimension was to gain information about the enemy that you could then turn into a combat advantage. This desire to gather information on the enemy, and at the same time prevent the enemy from doing the same thing to you, imparted a military value to the air. And control of the air quickly became a priority.

Thus was born this continuing cycle of aircraft and weapons improvements that was focused on dominating the air. At the same time, airmen quickly recognized a potential efficiency. Instead of reporting back information on the enemy for friendly artillery to bombard, why not use the aircraft's

inherent speed and range to attack enemy targets directly?

So, with a sensor-to-shooter time of "zero," manned aircraft could do their own spotting and attacking of targets—not just within the range of artillery, but deep in the enemy's heartland.

Although it has taken many years for these capabilities to fully mature, we can now see the results of that approach as laid out in some of the visions of early airmen. The need for mass on the battlefield has changed. We don't need to occupy an enemy's country to defeat his strategy. We can reduce his combat capabilities and in many instances defeat his armed forces from the air.

Similarly, airpower has significantly increased our ability to exploit the dimension of time in warfare. Not only do our air and space platforms provide us global awareness on a near-real-time basis, but our ability to quickly project long-range combat power allows us to overcome some of the fog and friction of war.

I would point to the combination of JSTARS [joint surveillance target attack radar system] and night-capable fighters and bombers that decimated two Iraqi armored divisions early in the Gulf War, well before they could reinforce the Iraqi attack at Al Khafji. The initial attack was a surprise. Had we not been able to rapidly mass joint airpower against follow-on enemy armor, the Iraqis would certainly have made a successful coalition defense much more costly in terms of casualties.

We can also dominate the dimension of time through the careful selection of targets and integration of effort to strike the enemy throughout the depth and breadth of his territory. By doing so, we can overwhelm his ability to respond and severely cripple his ability to recover.

In the end, dominance in the air allows us to seize and maintain the initiative for all of our forces. We see that principle embodied in some of our new weapon systems. An example is the B-2, which will begin employing the GATS-GAM* in July of this year. That munition will enable the B-2 to individually target 16 separate aim points on a single pass and put a precision guided munition on each one. This combination will allow us to talk about how many targets you can attack with a given sortie, rather than how many sorties it takes to attack a given target. And that starts to bring a whole new dimension to the idea of being able to dominate the air.

In his *Ten Propositions Regarding Airpower,* Col Phil Meilinger stated, "Whoever controls the air generally controls the surface." I don't think there's much of a debate about the need for air superiority. But there is a lack of appreciation for where air superiority comes from.

No American soldier has been attacked on the ground by an air-breathing vehicle since 1953. From that experience has grown a general feeling that air superiority is a God-given right of Americans. It just happens. It belongs to us. It's an absolute on the battlefield.

But nothing could be further from the truth. The reason we have had air superiority over that period of time is the fact that we have a full-service air force that pays attention to these things, that develops the weapon systems, and that moves them forward.

So again, when we get into these discussions about who understands the business of air superiority, we ought to pay attention. Because when it is not your central focus, many times it lacks focus at all.

It's interesting to reflect on our experience in Korea. The Air Force had 38 aces in that conflict. There was only one Navy ace during the war and only one Marine Corps ace, who was assigned as an exchange pilot with the Air Force! This does not have anything to do with individual aviation skills. The Navy and Marines had, and still have, superb aviators. But in Korea, the

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*Global positioning system (GPS) aided targeting system—GPS aided munition.

Navy and Marine Corps found themselves entering a conflict without the equipment that would allow them to prevail in the air. We found the aircraft of these two services unable to engage the MiG-15. So, the opportunities for kills were just unavailable.

On the other hand, the Air Force had paid attention to air superiority and had developed the F-86 to perform that role. The F-86 was there at the time we needed it. That was the reason the Air Force far exceeded the other services in the number of aces. It didn't have anything to do with individual skills; it had to do with paying attention to a fundamental mission area.

When you look at the aces in the Vietnam War, the Air Force had three and the Navy had two. Our exchange ratio against a fifth-rate air force was about 2.55 to 1—not a very successful outcome. I attribute a lot of this to the fascination and focus our Air Force had on nuclear war at one extreme, and on the land battle at the other. So, in the lead-up to Vietnam, we failed to pay attention to the larger issue of air superiority.

Many of us flew the F-4, and it was a wonderful multipurpose airplane. But anybody who claimed to be using it as an air superiority platform didn't fly very many hours in the F-4. We had to go to it as an expedient, not as an aircraft designed for air superiority.

Afterwards we went to work on this one more time and came up with the F-15. So, when we got into the Gulf War, we saw that out of 41 Iraqi aircraft shot down by coalition air forces, 35 were downed by Air Force aviators, three by the Navy, two by a single Saudi pilot flying an F-15, and one by a marine on exchange duty with the Air Force flying F-15s.

In the end, it's a combination of equipment and the way you are trained to employ that equipment that produces these kinds of results. So, we can't draw too big a conclusion from all this. However, we ought to pay attention to this idea that there's value in being focused on what you do—all the time.

You can put your resources where they need to go, and this gets translated into other benefits.

As I said before, we no longer debate the need for air superiority. History is replete with examples where we or others did not have it, and that resulted in unnecessary loss of life, primarily for people on the ground at such places as Guadalcanal, the Kasserine Pass, and the Basra "Highway of Death."

It is our duty as airmen to remind our military brethren in the surface forces of the critical importance of air superiority to their operations. On the other hand, I am not sure we have fully thought about this idea of control of the surface.

Traditionally, we've relied on the Army to feed us information on emerging battlefield targets. Beyond the Army's area of responsibility, we've conducted interdiction and strategic attack against predominantly fixed targets. When situations have required a faster response against moving targets, we've improvised—sometimes more successfully than others. We went to the Fast FAC [forward air controller] concept, and we've done other things to improvise in the sensor-to-shooter business.

We need to get out in front in this area. Let's face it: how would we want to halt an invading army? When we talk about war plans nowadays, we talk about various phases—the halting phase, the buildup phase, the counterattack phase, and the termination phase. How would you halt an invading army in the opening days of a crisis, particularly if your land forces were not in place or were otherwise engaged? We need to understand the wider framework for leading and integrating the response of the joint force.

Similarly, we are increasingly involved in contingencies short of war. Have we provided our sister services sufficient doctrine for employing joint airpower in conjunction with peace operations? Do we have a doctrinal framework that could help us sort out our command and control requirements when airpower is conducting an air occupation of an area, like we've been doing over

Iraq since 1991 in order to enforce United Nations sanctions?

This is what I mean when I say we have to target our doctrine at the war fighter.

Colonel Meilinger's second proposition concerning airpower is also worth some discussion because it's often misunderstood. It says that "airpower is an inherently strategic force."

Some of our critics have misconstrued this to mean that the justification for an independent air force lies in strategic bombing, or in its ability to win wars by itself. I reject that argument. I don't think there's the need for any discussion. And I think airmen are a little paranoid in this area. We've got to get beyond that. I don't see a threat out there of someone wanting to reabsorb the Air Force. Airpower is a strategic force in that it offers the opportunity to defeat an enemy's strategy—sometimes directly but most often in concert with other forces.

In Desert Storm, we hit hard, smart, and deep; and we put few people at risk. We had a theater commander in chief in Gen H. Norman Schwarzkopf, who understood the asymmetrical application of power. Airpower decisively changed the military balance and enabled the coalition to close with Iraqi land forces after gaining tremendous advantages over them.

Now, this is not a universal formula for success. Circumstances will always be unique. But it does point out some general prospects. First, there will almost always be asymmetries in war. Second, given prudent policy, the US will possess technical advantages. Third, it is preferable for the US to substitute materiel for putting humans at risk where possible.

While most of us would agree with these assertions, not enough airmen have a basic concept of what's required to integrate air and space sensors; command and control; Army aviation and ATACMS [Army tactical missile system]; Navy and Marine strike aircraft and cruise missiles; or our own fighters, bombers, and tankers.

I admit I'm treading somewhat on tactics, techniques, and procedures, but I believe our doctrine needs to provide a strong underpinning that transcends major air commands and stovepipes and that gives all airmen a broader vision for employing joint airpower.

The ultimate goal of our doctrine should be the development of an airman's perspective on joint warfare and national security issues—not just among our generals, but among all airmen in all specialties.

At the strategic level, our mid- to senior-level leaders need to understand potential political implications of various airpower employment options. All airmen should understand, and be able to explain, what it means when we say that the Air Force offers the nation economy-of-force options for achieving our national interests. And yes, airmen should be well versed in airpower theory—although this is probably more an issue of education than doctrine.

At the operational level, our doctrine should provide the framework for theater air employment to include how we integrate the effects of Army, Navy, and Marine systems with our own combat assets. In my view, perhaps the best example of operational-level doctrine that cuts across service lines is what we find in Korea. The deep battle construct developed for use in Korea enables the joint force commander, Gen Gary Luck, to (1) distinguish support to the land force mission from support to the joint force mission; (2) tailor control measures so all components generate maximum combat power; and (3) fine-tune these arrangements to fast-changing circumstances.

This is a practical theater doctrine. It has not been accepted as a universal doctrine, but it's the most mature doctrine for joint operations that the United States has produced to date.

By generalizing somewhat, Air Force operational doctrine should mirror this type

of doctrine to provide a useful framework for all airmen, not just those serving in Korea.

By the time we get to the tactical level in doctrine, we're really close to tactics, techniques, and procedures. I think the Multi-Command Manual 3-1 series provides a solid foundation for employment of aircraft at the small-unit level.

Practically speaking, however, when you look at the tactical-, operational-, and strategic-level doctrine being spread geographically and functionally throughout the Air Force, we've got a continuing challenge to ensure our doctrine remains consistent within our own service, not to mention staying consistent with joint doctrine.

Despite this challenge, the payoff of getting it right is tremendous. The ultimate promise of our doctrine is its potential to accomplish the mission, achieve the war fighter's objectives, and—not insignificantly—to save lives on the battlefield.

Every improvement in airpower's capabilities and usefulness increases the importance of doctrine. The greater the combined capabilities of modern joint forces, the more important our doctrine becomes.

Perhaps Sir Winston Churchill said it best:

> Those who are possessed of a definitive body of doctrine and deeply rooted convictions based upon it, will be in a much better position to deal with the shifts and surprises of daily affairs, than those who are merely taking short views, and indulging their natural impulses as they are evoked by what they read from day to day.

I think Churchill had it right. When our doctrine provides us the opportunity to reflect upon our expertise and our experience; when it is available for reference, not only by airmen, but by members of other services; when it matures and reaches the point that it makes a definite impact in the joint doctrine arena; when it is understood not only by our own airmen but also by soldiers, sailors, and marines; then we'll know we're getting close to our goals.

In closing, I'd like to offer you my full support as you pursue the very difficult challenge that I have laid out. I wish you success as you go forward in this symposium for the rest of the week. Thank you very much. □

Anyone who has to fight, even with the most modern weapons, against an enemy in complete command of the air, fights like a savage against modern European troops, under the same handicaps and with the same chances of success.

—Field Marshal Erwin Rommel

INTERSERVICE RIVALRY IN ACTION

THE ENDLESS ROLES AND MISSIONS REFRAIN?*

COL RICHARD SZAFRANSKI, USAF

*R*EFRAIN HAS two meanings. As a noun, it means a regularly recurring phrase or stanza or an oral repetition. As a verb, it means to defer action, to restrain oneself from doing something. Both the noun and verb forms may apply to the capstone activity of interservice rivalry: debates over roles and missions. This article illuminates and explores what may become a central issue of the upcoming and first refrain (the Quadrennial Strategy Review**), some surrounding issues, and the range of likely outcomes of such a process.

The central issue in the roles and missions debates of the recent past has been the role of air and space forces in the future, and that issue will remain pivotal in any review to come.[1] At least two possibilities exist for such a review. A strategy review, should it become enshrined as a permanently recurring process, promises to accomplish little beyond making the refrain of endless, prolonged, and low-level debate the theme song of the military services. The four major services likely see the first case, which continues a

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tradition of dodging contentious issues whenever possible, as the more benign one.

The second possibility is that the first review may step up to the responsibility of examining our strategy, national security processes, the number and structure of the unified commands, and our entire armed forces in the harsh light of the post-cold-war, post–Desert Storm world. The results could be dramatic. An authentically courageous review would examine the multitudinous issues of providing for national security with the processes and organizational forms appropriate for the next century. If a comprehensive and authentic review occurs, it must put the spotlight on the role of airpower and space power in the future. In this case, the central debate will focus on differing views of the utility of surface maneuver forces. The Army, Navy, and Marine Corps—services whose principal responsibilities are to organize, train, and equip surface maneuver forces—will face the Air Force, the steward of our country's air and space forces. In a world of uncertainty, such a debate would rely heavily on theory and doctrine. This article examines the latter case in greater detail but does not ignore the possibility that very little might happen in a recurring quadrennial review.

Genesis of Strategy Review

What sparked the need for a strategy review in the first place? A speech by Sen Sam Nunn (D-Ga.) on 2 July 1992 seemed to be the point of origin for what followed: a "bottom-up review" and, in its wake, the law that created the Commission on Roles and Missions of the Armed Forces (CORM), chaired by John P. White.[2] Pursuant to the law, the commission did its work and wrote its report. *Directions for Defense: Report of the Commission on Roles and Missions of the Armed Forces* (May 1995) recommended—among many other things—that a "quadrennial strategy review, [a] comprehensive force and strategy review be conducted at the start of each new Ad-

ministration."[3] On 25 August 1995, the new deputy secretary of defense—the same John P. White—transmitted to the services and Joint Staff a copy of Secretary of Defense William Perry's letter of response to the report that went to Sen Strom Thurmond (R-S.C.). In this letter of 24 August 1995, the secretary of defense wrote that "DOD [Department of

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"As the United States thinks about its national security responsibilities far into the future, do we realize a greater return on investment from surface maneuver forces or from air and space forces?" The answer will be garbed in the usual platitudes about the value of jointness.

Defense] strongly agrees that a comprehensive strategy and defense program review should be conducted in the opening months of each administration."[4] Although DOD merely might have agreed, it chose to "strongly" agree, thereby opening the way for the next great potential crisis of interservice rivalry: the first Quadrennial Strategy Review (fig. 1).

Thus, sometime between the election of November 1996 and the budget submission for fiscal year 1999, the services likely will face one another once again on the formal and visible battlefield of internecine squabbling and interservice rivalry. Believing as they do in the intelligence preparation of the battlefield, we would be wise to accept that fighting among the services already has begun as low-level skirmishing. The skirmishers aim to assess the strengths and weaknesses of the competitors, to assay any opportunities for making or breaking con-

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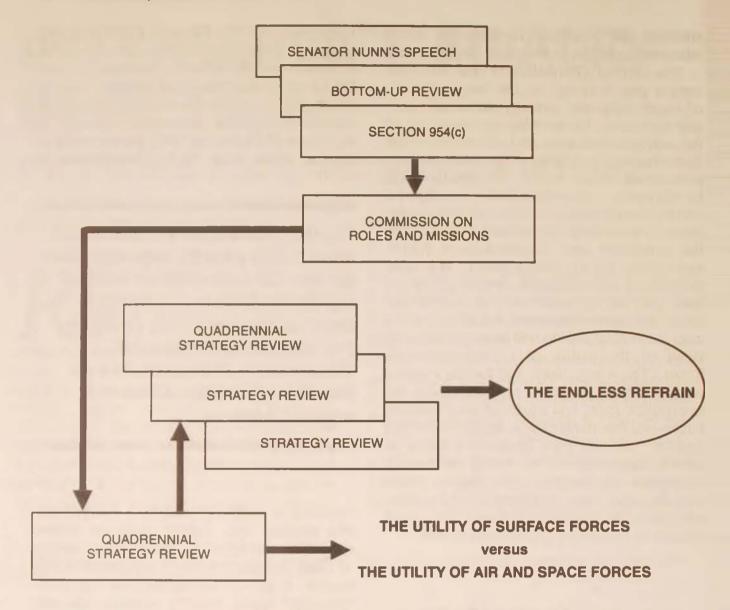
Figure 1. At Least Two Options

tingent alliances, and to prevent surprises when the battle commences in the spring or summer of 1997. Whether the services anticipate a big battle or a little battle, they aim to be ready. It could be a very little battle.

Legitimizing Inaction

One of the dangers of espousing "strong" support for a quadrennial review is that re-

curring reviews may invite—and might even institutionalize—inaction. One might view closure on contentious issues as unnecessary since one can study each and every issue in four-year blocks, only to reexamine them every four years. Yet, this approach is characteristic of the Washington, D.C., mores whereby "nothing ever ends," as former secretary of state George Shultz observed. Quadrennial reviews, especially those tied to election years and conducted by the organization

most likely to be affected by the findings, may not deserve strong intellectual support. A likely outcome in such a case could be little outcome at all.

Thus, the services might see an impotent and recurring review as the better case. Preparation for such a review would include all the attributes already associated with the institutional "slow roll": proposing an agenda so large and comprehensive that it could not be completed in one or two years; hiring a huge permanent staff and detailing scores of military officers to assist; scheduling hundreds of interviews and dozens of briefings; writing volumes of white papers; and, in the end, publishing a slick, glossy report detailing the work done and the issues remaining for the next quadrennial review. Since the review would be internal, the report would go to the secretary of defense, who could make any changes deemed appropriate.

A problem with a recurring review done by DOD is that our national security decision-making structures are bigger than DOD. If the cold war is indeed over, at some point someone is likely to ask why our country still remains wed to so many cold war structures and processes. My colleague Grant Hammond asks the questions in this way:

> If the cold war is over and the military, businesses, and Congress are all involved in downsizing, reengineering, reorganizing, and reinventing themselves—to varying degrees—why are we so confident (versus "comfortable") with a national security apparatus inherited from the cold war? The National Security Act of 1947, the Key West Agreement, the Department of Defense and National Security Council structures (even as amended), and so forth, may not be the appropriate ones within which to meet new challenges. At the heart of this is a program analysis and evaluation (PA&E), Joint Requirements Oversight Council (JROC), and a budget cycle and calendar which inhibit innovative thinking and reinforce interservice rivalry.[5]

Whether or not one accepts this assessment in its entirety, it illuminates how large— perhaps overwhelmingly large—a comprehen-
sive review would have to be. The likelihood that DOD would urge a larger review than the modest one envisioned by CORM is, in my opinion, quite small. A larger review very likely would require that the legislative branch collaborate with the executive branch to conduct a comprehensive, muzzle-to-stock review. This would necessitate a review of the congressional committee structure, the budget, federal acquisition regulations, the interagency process, the basing structure, and almost everything else that contributes to national security in a democracy. Stretch as one might, one cannot easily envision anyone in the system with the courage or time to summon forth such a radical reexamination, no matter how necessary and overdue. (One can envision it—it is possible in theory—but one cannot envision it easily.)

The majority of the CINCs (in this regard, the Army and the Navy outnumber the Air Force by a wide margin) very likely will support the Army and the Navy.

Two cases, however, admit of such a possibility. In the first, one of the political parties has control of Congress, and one of its members is in the White House. In the second, Congress is united in its willingness to conduct a comprehensive review, and the executive branch agrees. The key to both is close cooperation between the legislative and executive branches of our government. The more likely case is that most of our cold war structures, having served at least adequately during the cold war, will remain in place under "the devil you know" rule.

As an alternative to a comprehensive review of the system, one could focus on a single element in the system: the armed forces. An examination of this lesser-included

case reveals just how complex a larger review could be. At least two alternatives present themselves: (1) a modest review wherein major changes are deferred until the next quadrennial review (the alternative the services probably would prefer) and (2) a comprehensive review of the armed forces. Since the services might view the latter as the less desirable case, it bears closer examination— one which addresses a central question that a comprehensive review needs to answer.

Such a question might be posed as follows: "As the United States thinks about its national security responsibilities far into the future, do we realize a greater return on investment from surface maneuver forces or from air and space forces?"[6] The answer will be garbed in the usual platitudes about the value of jointness, the need to better integrate capabilities, and so forth. Underneath the garb, however, the answer will stand naked. If airpower and space power win assent in the review as highly economical and higher-utility forces, the size and investment in surface maneuver forces will diminish.[7] If airpower and space power continue to be viewed as useful adjuncts to surface maneuver forces, the Air Force likely will continue to shrink. *Continue* is the correct word; the Air Force has taken the larger share of cuts in service appropriations over the past several years.[8] The right answers and perhaps even a predictable outcome reside somewhere between the necessity ceiling and the pork floor.

Environmental Considerations

The year 1997 will present a different environment than the one that existed when the Key West Agreement was forged in 1948. Today, the power of the Joint Staff has increased because of oversight groups like JROC and a joint war-fighting capability assessment architecture. The power and authority vested in regional and functional commanders in chief (CINC) are well estab-

lished. The services are more sophisticated. Admonished by civilian leaders to better integrate the capabilities of the armed forces, the services and Joint Staff are in continual dialogue regarding the apportionment of tasks and responsibilities. The potential for turbulence, upheaval, and serious rivalry is normally controlled by a grinding bureaucratic process that aims to moderate, soften, and blur the sharp lines of disagreement. In the existing conflict-resolution architecture, a dispute deferred or delayed is deemed a dispute resolved. The Joint Staff and the services seem to resist serious change, if for no other reason than the armed forces are among the more conservative institutions in our country. Our armed forces seem to dread extraordinary commissions and reviews such as the Base Realignment and Closure Commission (BRAC) and the Bottom-Up Review (BUR). To contemplate the first Quadrennial Strategy Review is to contemplate the possibility that serious and dramatic changes might be mandated. Understandably, the services are anxious.

There may be good reason for anxiety. Conditions that will bound the coming disputation—or perhaps channel it to a very sharp point—could make it more vigorous than past ones on force structure or strategy. Four such conditions—features of the strategic environment, if you will—are as follows: (1) the relaxation of accepted norms for public debates over force structure and strategy; (2) the condition of the country's purse; (3) the fact that the debate will occur during a rare interval when the United States has no obvious enemies able to threaten its vital interests; and, most importantly, (4) the great uncertainty about the nature of a post-cold-war world. If we consider all of these conditions and make modest assumptions about how service cultures will affect the ways the services intend to fight in the upcoming review, the summer of 1997 could find us—as the Chinese curse says—living in a very interesting time.

The Gloves Are Off

The next debate will occur in an environment in which the services have relaxed norms to moderate their behavior in a public quadrennial force structure and strategy review. An existing and seated quadrennial review—the Eighth Quadrennial Commission on Military Compensation—does its work shrouded in an aura of almost blissful irrelevance to the services. Although military compensation is important, such issues simply do not provoke serious debate because they are crosscutting matters that fail to strike at or undercut the central strategic purpose of each service.

Pay is one thing, but force structure and strategy reviews are another matter entirely. We already know that monumental force structure and strategy deliberations—consider the "revolt of the admirals" over the B-36 aircraft—can incite serious fighting. The service chiefs usually prefer to do their fighting in camera in the "tank"[9] or through their operations deputies and staffs. Yet, direct and public confrontations—sorties launched by one service or its chief directly against another—are also a possibility. Before he retired, Gen Merrill A. McPeak, chief of staff of the Air Force, may have created a new model when he took the fight over apportionment of the battle space directly to the Army and the Navy in testimony to CORM. His successor, Gen Ronald R. Fogleman, probably is not similarly disposed, but the other service chiefs may believe that the head of the institutional Air Force "broke the rules" during the testimony of the service chiefs to the commission. The Army and the Navy have long institutional memories.

Very likely, the Army and the Navy chiefs—or at least their staffs—viewed the Air Force's behavior as egregious and unnecessary. Some analysts would have counseled the Air Force that CORM was, after all, just another commission in the life of our post-cold-war democracy. Others would have cautioned that CORM was an armed reconnaissance probing for roles and missions targets for later attack.

(It was, as the Chinese strategists would say, "beating the bush to find the snakes.") Some would assert that the Air Force took CORM much more seriously than its charter should have suggested. Others would argue that the Air Force made itself and the other services more vulnerable by closing on such key issues as the apportionment of the battle space and investments planned by the other services. Most commentators might opine that the Air Force violated some of the norms of interservice rivalry.[10]

Air Force doctrine has remained somewhat fluid since the Air Force became a separate service, changing a dozen times in less than 50 years.

Thus, in the upcoming review we might expect the Army and the Navy to feel free to address, however reluctantly, such things as the added value and cost of the F-22 aircraft in relation to threat and capability, alternative technical solutions for the delivery of precision weapons, the proper apportionment of responsibility for theater ballistic missile defense, and the shortage of strategic lift. If the Army and the Navy find direct attacks on the Air Force necessary or even highly useful, we might also expect them to attribute their behavior to the Air Force's previous behavior. Service chiefs within one year of retiring may be less constrained in this combat than more recently appointed chiefs. Very senior chiefs also might be affected by what others have called "the arrogance of long command."[11] The press—the unorthodox and often unwitting troops of the services—also might enter the fray, increasing the possibility that the upcoming fight could be especially caustic. The fifth column of retirees and lobbyists—the Retired Officers Association, the Marine Corps Reserve Officers Association,

the Navy League, the Air Force Association, and other such groups—will work behind the scenes and behind the lines to enliven the debate. What would precipitate such a pointed debate? Money.

There Is No More Money

Money—or the lack of it—suggests that the upcoming debates might be especially keen. The major political parties have more or less agreed that economic vitality underpins national strength and that a balanced budget and deficit reduction must become national priorities. Assessing the effects of a balanced budget suggests that each of the services could be subject to large cuts. *Large* in this case might be tens of billions of dollars each year until the deficit is reduced.[12] Thus, the upcoming review could face the challenge of apportioning hefty cuts to the services. In this case, each service very likely will scoot down Maslow's pyramid to the survival level and prepare arguments proving that another service is more eligible for cuts.

> *The Air Force has no metrics or war games . . . to demonstrate the power of airpower.*

A Pentagon admiral, speaking under the promise of nonattribution, observed that such fighting has already begun, acknowledging, "It used to be a race to the finish line. Now it's more like a demolition derby: to get your program across the finish line, you have to convince others [the JROC] to kill another service's program."[13] An approach opposite the demolition derby tactic is also effective: getting partners to support one service's program in return for support of another's program. These partners may be services or some of the CINCs. In this approach, a program not on the bandwagon is a program walking to doom. Depending on how big or full a bandwagon needs to be, production contractors, Congress, retirees, the press, and state and local governments can swell support.

Cutting force structure or killing programs is key, of course. According to some analyses, cutting an active Army division or a Navy battle group and its associated air wings saves as much as $4 billion annually. These big-ticket, high-visibility items are lucrative targets, and the services know it. Add to this the demise of some modernization programs—a new destroyer, more B-2s, the F-22, or the V-22—and one need address no smaller cost-containment issues. Some people believe that killing the F-22, for example, could save $3 billion annually.[14] Force structure cuts disconnected from a reframing of the national security strategy or the national military strategy are less rational than cuts that follow naturally from a new vision of national security—which, of course, is not to suggest that strict objectivity is possible or even that rationality is ever the dominant objective.

This new vision of national security must emerge during an era when our country is hard put to pinpoint a credible, clear, and present danger to its security. In the presence of the great unknown—the identity of our next enemy—we will fall back on the knowns of history and our tested utilitarian models. Thus, the upcoming debate naturally will carry the great weight of different political science theories and military theories. It will focus on the ways in which the US might synthesize a new vision of national security and military strategy from what we know to be true, believe to be true, and expect to be true.

Theoretical Enemies and Hypothetical Responses

Some political scientists will advance evidence that states are less powerful actors and threats than they once were, that national security in the next century will be inseparable from international security, or even that a clash of civilizations is on the horizon.[15] These argu-

ments are interesting for the services, but none are compelling. The armed forces place greater faith in the strength of their doctrine and the repetitiveness of history—in how they might have fought the last war better.[16]

During the upcoming debate, the services will appeal to doctrine, history, tradition, and reason to make their arguments. The major difference this time, I suggest, will be that the Army and the Navy will ally to show the utility of investments in surface maneuver forces—including their already "organic" air and space capabilities—over investments in Air Force air superiority and precision strike far into the future. The majority of the CINCs (in this regard, the Army and the Navy outnumber the Air Force by a wide margin) very likely will support the Army and the Navy, who will not do this by attacking Air Force programs or even by directly refuting whatever airpower theories the Air Force advances. They will not even synchronize their attacks and launch them in collusion. Rather, the Army and the Navy will strive to assert superior theories, replete with historical examples that underpin their future vision.

We Just Don't Know

Overarching all these attributes of the environment is the unease springing from uncertainty. Never having lived in a post-cold-war world, we are very uncomfortable living in it. We even are uncomfortable postulating enemies against whose capabilities we ought to hedge or plan. To plan against the capabilities of a resurgent Russia is as impolitic as planning against the capabilities of a nation to which we have granted most-favored-nation status for trade and tariff.

The Arguments

In the absence of a clearly identifiable enemy, we are driven even harder to rely on theory and doctrine. Theory is about the how and why of military action, and doctrine is about the precise ways in which enemies are defeated militarily. Thus, everything seems to converge in debates about theory and doctrine. If this is so, it is possible to anticipate the arguments.

America's Army

The Army will remind us that it is America's army and that one ought not try to remain a superpower without an army equal to superpower responsibilities. There is no form of equipment more sophisticated than simple, all-weather, all-terrain soldiers, who—the Army's war games show—are the answer to the search for the elusive "reconnaissance-strike complex." The Army, the Army will remind us, is vital across the spectrum of conflict. Our Army can engage in peacekeeping, nation building, humanitarian operations, or large-scale conventional conflict. It must be heavy because enemies might be heavy and our own Marines are "light." Our Army possesses (to steal a phrase from the Marines) certain capabilities for an uncertain future. Territory matters even in the "Third Wave," the Army will assert.[17] And no one can repulse an enemy army and retake or hold territory but an army.

The Army will testify both to its versatility and to its strategic power. The versatility of disciplined, well-trained humans is being proven in Bosnia—and more Bosnias rather than fewer promise to populate the future. The Army can demonstrate its power by analyzing its war games and exercises. The Army will document this data with the historical experience of the "certain victory" in the Gulf War.[18] Air forces can help influence events on the ground and can help shape the battles, but in and of themselves—and short of the omnicide of nuclear holocaust—they are incapable of winning a decisive victory or even of controlling events on the ground, the Army will argue. The air battle, the Army will suggest, really is only an adjunct to the AirLand Battle—thus was it always so; thus will it always be.

Naval Necessity

The Navy will assert that the United States is an island nation and that the Naval Expeditionary Task Force or the Marine Air Ground Task Force is the key to national military success and survival. It will trot out John Keegan and assert that fighting in the future will occur along the littoral. It will argue that "physical presence" is superior to untested notions of "virtual" global presence. The carrier battle group is a self-contained air base and can operate either in international waters or fight its way in and out of closed seas, it will declare. Because the carrier battle group is mobile and instantly deployable, the Navy will argue that this unit is insensitive to foreign basing or even overflight rights. Past US presidents, it will suggest, acknowledged the power of the naval instrument by using the Navy or the Marine Corps as the force of choice for intervention. Always an extraterritorial force, the Navy can come and go as the president pleases. When it moves toward a crisis area, others attend to the significance of that movement. Why, the Navy will ask, would anyone want to reduce the most powerful navy on the planet to a position of impotence when we know that the remaining hermit kingdoms of the world reside astride the littoral? Most of the planet's population, it will argue, is concentrated within a few hundred miles of the littoral. It will reveal its analyses of naval war games to show the added value of an immensely potent navy and of its organic and combined-arms light and expeditionary naval infantry as conflict-resolution mechanisms for the future.

The Air and Space Conundrum

The Air Force will have—or could have—a tougher row to hoe in the upcoming debates. If the Army and the Navy separately demonstrate the very high utility of surface maneuver forces in the immediate and distant future, the Air Force has two huge chores. First, it must dispute those very nearly indisputable arguments without further provoking the Army and the Navy. Second, it must contest the efficacy of surface maneuver doctrine and theory by advancing a credible and superior theory illuminating the un- or underappreciated power of airpower. In so doing, the Air Force also must avoid the trap of focusing its argument on its air and space platforms, knowing that, given the opening, both the Army and the Navy—and the CINCs—are willing to talk about platforms. Although Air Force chiefs of staff, like all the service chiefs, have the statutory obligation to organize, train, and equip forces for the combatant CINCs, the Air Force might be lulled, Icarus-like, into focusing only on equipage, incorrectly assessing that the debate is about equipment.[19]

The debate, I suggest, will not focus on equipment as much as it focuses on political science, military theory, and doctrine emerging from theory. Here, the Navy will wield the hammer of history and use it to pound awareness of the inescapable geography of the planet into the consciousness of the reviewers. America's Army has the powerful weapons of history and doctrine and is well equipped to engage in a debate on political science, military theory, and doctrine emerging from theory. In this arena, the Air Force could (or will) find itself at a disadvantage.

Theories of Airpower and Space Power

Air Force doctrine has remained somewhat fluid since the Air Force became a separate service, changing a dozen times in less than 50 years. Even today (a cynic might opine "most days"), a change to Air Force doctrine is in draft.[20] Since the collapse of the Soviet Union and the diminution of what used to be called the "strategic nuclear deterrence mission," the Air Force appears to be searching for a post-cold-war raison d'être. Although a massive effort is under way to revitalize long-range planning within the Air Force, the prospects for such a revitalization are not

good unless it is driven by vision and as long as purpose and platform remain closely linked within the minds of Air Force leaders. The Air Force has no metrics or war games—beyond simple or complex attrition models inherited from the Army—to demonstrate the power of airpower. The Army can use attrition or the movement of the forward edge of the battle area (FEBA) to show what armies can do. The Army can assert that it has a system of internetted "battle labs" to continuously test and refine its doctrine. The Army can assert that future competitor states will most certainly possess an army.

The Air Force can talk of the "enemy as a system" or of striking plural strategic "centers of gravity," but few people in the Air Force know precisely what those phrases mean.[21] Metrics, the imprecision of Air Force models, the quest for space, information-warfare dominance—all this is reminiscent of an overly diversified corporation whose errant product divisions march to different drummers while corporate headquarters focuses on manned air superiority fighters.[22] Is this the kind of organization we would expect to advance convincing arguments that air and space forces will have higher utility than surface maneuver forces in the distant future? Will the Air Force be able to demonstrate convincingly that air superiority and airpower defeat enemies? Probably not.

At the End of the Day

So how will it all turn out? Only the naive do not understand that at the end of the day, force-structuring decisions are a matter of politics in a democracy. "Politics," a very senior politician said, "is who is sticking who and who is sucking up to whom at any given moment."[23] If the administration in power finds it impolitic to make massive cuts to one service, it matters little which service bests the other in a debate or a review. If the administration in power finds it useful to make massive cuts, either a fair-share scheme or a necessary-and-sufficient scheme might be employed. A fair-share approach reduces all the services by some margin. A necessary-and-sufficient solution assesses the capabilities of the forces we have against the capabilities we need or the threats we expect to face.

The Army-Navy alliance will attempt to defeat by circumvention whatever arguments the Air Force raises about the power of airpower. . . . Airmen may then find themselves clinging to military medicine, space (including intercontinental ballistic missiles), and information operations.

In the fair-share approach, services with the greatest inherent slack will do better than those managing closer to the margin. Technology-intensive enterprises have less slack than personnel-intensive ones, but they also have potentially greater recovery capacity. A fair-share cut would, I believe, hurt the Air Force worse than the other services. To defer the Air Force's big-ticket items—if the Air Force remains wed to them—is to euthanatize these programs. To continue pumping money into a delayed or "stretched out" program is a form of whistling through the graveyard.

In the necessary-and-sufficient approach, the services with the best theory and doctrine probably will do better than those whose theories lack the underpinning of historical proof. If airpower advocates rely on a theory that places air superiority at center stage (if the platform becomes the problem, this is likely to happen), then the Air Force faces a dilemma. It must have the support of the other services and the CINCs for its theory. The air superiority theory is too easily nullified by awareness that air superiority may earn little in fights against what the Tofflers call "de-massified" forces.[24] What if fights with

these kinds of dispersed forces characterize the future? The US had air superiority in Vietnam. The Soviets had air superiority in Afghanistan. Thus, the Air Force must prove the air superiority theory with another theory: that fights of the future mandate present investments in air superiority so that we will have it with an old platform when the future need arises.

An implicit assumption in the theory underpinned by a theory is, unfortunately, yet another theory. That is, the Air Force must theorize that the theory of air superiority requires an atmospheric technical solution—not a surface one or a space one—and that the atmospheric technical solution only can be provided by a system with a human in the cockpit of the theoretical platform. At some point, the weight of theory would seem to some people to be heavy enough to collapse this model. Thus, the Air Force faces an almost intractable problem. It loses if the reviewers mandate across-the-board, fair-share cuts. It loses if it must fight and win the necessary-and-sufficient argument. Even if the necessary-and-sufficient model is employed, there is a real pork floor beneath which we will not go. The problem is that we do not know where that floor is. Knowing where future weapons systems will be produced provides a clue, but it does not provide an answer.[25]

My guess is that the Army-Navy alliance will attempt to defeat by circumvention whatever arguments the Air Force raises about the power of airpower. The platform consequences for the Air Force would then follow logically. Strategic lift is essential (our present *military-owned* lift is insufficient), so more C-17s are inevitable.[26] The surface maneuver forces probably will suggest that today's Air Force-operated air superiority force is both necessary and sufficient, although some modest upgrades and smarter weapons may be required. Leaders of the surface maneuver forces will remind us that those forces bear the proximate burden of a failure to achieve air superiority. The Army and the Navy will demonstrate how modest investments—in the Army and Navy air defense systems and naval aviation, of course—can offset those risks. The Army and Navy are likely to say, "If we are willing to take those risks—and we might be willing because both uncertainty of the future and the national treasury suggest that we must be—then that should weigh heavily in national deliberations." If the Air Force has defined itself in terms of the platforms it possesses or wishes to purchase—and if pork does not intervene—airmen may then find themselves clinging to military medicine, space (including intercontinental ballistic missiles), and information operations.[27]

There is, however, a way out of this dilemma. The service chiefs can agree to put interservice rivalry aside, to forget past grievances, to speak with one voice. This, however, could occur only in an aviation fantasy world—a world where pigs fly. No matter what a quadrennial strategy review concludes, we still will have an Army, a Navy, an Air Force, and a Marine Corps. No service will be so diminished that it is incapacitated. We are fighters, warriors, and survivors. We will live together to fight in another quadrennial review. Likelier than not, we will embrace the refrain and affirm that an important element of jointness is willingness to sing the refrain—if not in harmony, at least from the same sheet of music. □

Notes

1. See Col Richard Szafranski, "Annulling Marriages: Reframing the Roles, Missions, and Functions Debate," *Airpower Journal* 7, no. 4 (Winter 1993): 55-67.

2. See Sam Nunn, "The Defense Department Must Thoroughly Overhaul the Services' Roles and Missions," *Vital Speeches* 20 (1 August 1992): 717-24. Senator Nunn gave this speech in the US Senate on 2 July 1992. See also Les Aspin, *The Bottom-Up Review: Forces for a New Era* (Washington, D.C.: Department of Defense, 1 September 1993). *Report on the Bottom-Up Review* (Washington, D.C.: Department of Defense) followed on 1 October 1993.

3. *Directions for Defense: Report of the Commission on Roles and Missions of the Armed Forces* (Washington, D.C.: Government Printing Office, May 1995), 4-9.

4. John P. White, deputy secretary of defense, memorandum to the military services and Joint Staff, subject: Secretary

of Defense's Response to the Report of the Commission on Roles and Missions of the Armed Forces, 25 August 1995.

5. Grant Hammond, chair of National Security Strategy, Air War College, Maxwell AFB, Ala., conversation with author, 17 February 1996.

6. Others may view the central question as neither a dichotomy nor as a "true" dichotomy (as opposed to the cliché of a "false dichotomy"). On the contrary, the central question passes the test of a true dichotomy: there are two distinct and mutually exclusive parts. See Pennington, page 65, this issue.

7. Col John A. Warden III, "Air Theory for the Twenty-first Century," in Dr Karl P. Magyar et al., eds., *Challenge and Response: Anticipating US Military Security Concerns* (Maxwell AFB, Ala.: Air University Press, August 1994), 326–29. Warden asserts that one of the 10 concepts that describe "the revolution of the Gulf War" and that must be taken into account "as we develop new force levels" is "the dominance of air power" (page 326). Some people do not agree that airpower dominated in the Gulf War. See, for example, Robert H. Scales, *Certain Victory: The U.S. Army in the Gulf War* (Washington, D.C.: Government Printing Office, 1993); and Michael R. Gordon and Bernard E. Trainor, *The Generals' War: The Inside Story of the Conflict in the Gulf* (Boston: Little, Brown and Co., 1994).

8. A review of appropriations indicates that congressional cuts levied on DOD and the services between 1991 and 1995 resulted in average percentage reductions of 2.4 percent for DOD, 2.9 percent for the Navy, 0.2 percent for the Army, and 5.5 percent for the Air Force. Thus, Air Force cuts were 27 times greater than cuts taken from the Army and exceeded cuts to surface maneuver forces by a wide margin.

9. The "tank" is the Joint Chiefs of Staff conference room (Pentagon, room 2E924). It is here that the operations deputies of each service chief meet to settle (or start) disagreements over strategies, roles, missions, functions, and forces. It is here that the joint chiefs meet to resolve disagreements.

10. I believe that General McPeak approached the issues in good faith and after much reflection on an arrangement that simultaneously would increase combat effectiveness in all the warfare media, reduce duplicative force structure investments, and reduce the likelihood of future squabbles over roles and missions.

11. A very senior retired officer, speaking to Air War College students under the promise of nonattribution, used these words as a possible explanation for the behavior of some service chiefs in debates over roles and missions.

12. Michael E. O'Hanlon, *Defense Planning for the Late 1990s: Beyond the Desert Storm Framework* (Washington, D.C.: Brookings Institution, 1995), 4. O'Hanlon suggests that cuts on the order of $40 billion each year or a total DOD appropriation of $200 billion annually (in 1995 dollars) would be required to meet balanced-budget targets. See page 34 of O'Hanlon for savings for specific force elements .

13. The admiral made these remarks during a speech to Air War College students.

14. O'Hanlon, 34–35.

15. See Carl Builder, "Roles and Missions: Back to the Future," *Joint Forces Quarterly*, no. 4 (Spring 1994): 32–37; Samuel P. Huntington, "The Clash of Civilizations?" *Foreign Affairs* 3 (Summer 1993): 22–49; and Paul M. Kennedy, *Preparing for the Twenty-First Century* (New York: Random House, Inc., 1993), 129–30.

16. Viewed in this light, some people might reasonably conclude that the focus of Air Force testimony to CORM, although dressed in the clothes of future fights, was really aimed at creating a new joint doctrine and that all the services would be bound to it. Such doctrine would have emerged from the Air Force chief's proposal for solving the air operations and ground

coordination problems discovered during the last few days of February 1991 in the war against Iraq.

17. Alvin Toffler, *The Third Wave* (New York: William Morrow and Co., Inc., 1980). See also Alvin Toffler and Heidi Toffler, *War and Anti-War: Survival at the Dawn of the 21st Century* (Boston: Little, Brown and Co., 1993).

18. See Scales.

19. The fact that three of the last four Air Force chiefs, including the current chief, were Air Staff programmers suggests that focusing on platforms—what Carl Builder calls the "Icarus syndrome"—might be difficult to avoid. See Carl H. Builder, *The Icarus Syndrome: The Role of Air Power Theory in the Evolution and Fate of the U.S. Air Force* (New Brunswick, N.J.: Transaction Publishers, 1994).

20. On 22 February 1996, Prof Dennis Drew, School of Advanced Airpower Studies, Maxwell AFB, Ala., pointed out to me that although 12 different versions of Air Force doctrine have been published in 50 years, "most tinkered only at the extreme margins. I would argue that we have had three doctrines (theories) over that period and in those 12 publications: (1) strategic nuclear bombing is the be-all and end-all of airpower (1953–1971); (2) a gradual shift to tacair [tactical airpower] is the be-all and end-all (1971–1992); and (3) there is no universal formula (1992–present)." If doctrine is a body of faith built on experience, one might ask what experiences caused conversion of the faithful at each of the major epochs and the present.

21. See Dr Lewis Ware, "Some Observations of the Enemy as a System," *Airpower Journal* 9, no. 4 (Winter 1995): 87–93. See also Col Richard Szafranski, "Parallel War: Promise & Problems," US Naval Institute *Proceedings* 121, no. 110 (August 1995): 57–61.

22. Form should follow function. Function must be linked inextricably to a clear understanding—strategic foresight—of the organization's central strategic purpose. To remain vital, competitive, and focused, the organization must have the discernment and courage to eliminate activities and people that do not contribute to the organization's central strategic purpose. If this is so, why, one might ask, are 20 percent of the people in the Air Force in the medical or health professions? If the mission of the Air Force is "to fly and fight" or "to control and exploit the air and space," why is one-fifth of the Air Force dedicated to health and medicine? For an insightful discussion of "industry foresight" and "core competencies," see Gary Hamel and C. K. Prahalad, *Competing for the Future* (Boston: Harvard Business School Press, 1994), 76, 202–11.

23. A very senior elected official, speaking to an Air University class under the promise of nonattribution, used this definition.

24. Toffler, *War and Anti-War*, 59–60.

25. For example, one might ask in whose state(s) or congressional district(s) the F-22 is assembled.

26. The heavier the mass of surface maneuver forces, the more lift required. Thus, and in this regard, the Air Force is driven by the way the Army is structured. The Army is structured by its doctrine. Its doctrine derives from its theory. Thus, and in a very real way, land warfare theory appears to drive the force structure of Air Force airlift. It may not drive it if we accept that air transportation need not always be military air transportation or that short-haul transportation need not be Air Force transportation. Although difficult to accept, the same relationship between surface warfare doctrine and Air Force force structure may hold for other Air Force activities.

27. Better self-awareness would make some of the problems faced by the Air Force more tractable. Martin Libicki and I argue in a forthcoming article entitled ". . . Or Go Down in Flame?"—scheduled for publication in the fall issue of this journal—that the Air Force needs to move away from self-definition as an atmospheric force and embrace a broader, better definition of itself.

A COMMENTARY

Interservice Rivalry and Air Force Doctrine

Promise, Not Apology

GENE MYERS

I RECENTLY ATTENDED a joint-service conference advertised by its war and staff college sponsors as a reasoned, non-parochial discussion of interservice rivalry. With some notable exceptions, the conference admirably attained this objective. In some cases, however, I witnessed an occurrence of an increasingly common phenomenon—an attack on the US Air Force and its core doctrinal beliefs by two of its own. Col Richard Szafranski's "Interservice Rivalry in Action: The Endless Roles and Missions Refrain?" was one of the presentations.

> *While I tend to agree with the general notion that Air Force personnel in general show little interest in their history, I don't think Air Force officers are any more or less "guilty" than officers of any other service in this respect.*

I guess I should have expected that somehow a modicum of service bashing would enter otherwise constructive academic dissertations, but the delivery of what I believe to be a fratricidal attack on the core beliefs and mission of the Air Force by two representatives of the service came as quite a surprise. This situation was particularly unpalatable because the Air Force was the only service to receive such harsh treatment during this two-day conference, which consisted of 24 presentations. If the conference had intended to foster an interservice free-for-all, surely all services would have received at least a share of the criticism—but such was not the case. Truly constructive criticism—the kind that offers even-handed critiques accompanied by at least some attempt to present remedies—was conspicuous by its absence from the two presentations. Their comments reminded me of others from presumably more parochial quarters.

This article uses Colonel Szafranski's remarks as a springboard to address concerns larger than academic fratricide. It points to the promise of airpower doctrine rather than serving as an apologist for it. It seeks to counter such parochial arguments by emphasizing the need for Air Force leaders (anyone in a position to influence policy, education, or attitudes) to understand the basics of their service's doctrine and to appreciate its historical, theoretical, and technological foundations.

The gist of the two presentations at the conference on interservice rivalry is that past budget cuts and resulting interservice battles over roles, missions, and dollars are but a preview of what's coming as future budgets are cut to draconian levels (as low as $150 billion a year, according to some commenta-

tors). In this environment, Szafranski asserts, the Air Force will not be able to hold its own.

The supporting arguments are not new. The other services have used them in their efforts to obtain an increased share of the nation's defense budget. Their arguments, however, are somewhat different in that they address not doctrinal issues but the competency of the service members themselves. Some of the arguments are as follows:

- Unlike their colleagues in the other services, Air Force officers neither study their history nor care about lessons of past air warfare. When practitioners are uncomfortable with their doctrinal dictums, they tend to substitute technology in the form of glittery new weapons and computerized command and control (C^2) wizardry for sound, experience-based doctrine.

- Those few officers who concern themselves with the study and formulation of doctrine must "genuflect" to the holy grails of independence, decisiveness, and central control of aerospace power in order to get a hearing from the "fighter pilot dominated" service. Although Air Force critics note that these icons of air warfare form an inadequate basis for a vibrant doctrine, they offer no reasonable substitute for them.

- Both strategic attack and air superiority are insufficient as rationale and unproved in reality. In the future, the Army and Navy will provide their own air superiority with an improving array of defensive weapons; the Air Force will have little to do. Further, after all these years, strategic attack is still an unproved theory—despite much Air Force rhetoric to the contrary. World War II, the Vietnam War, and the Persian Gulf War did little to prove the effectiveness of the theory of bypassing surface forces and bringing decisive power straight to the heartland to affect the enemy's willingness and long-term capability to continue conflict.

- In the coming budget bloodlettings fostered by the need to balance Uncle Sam's books, the Air Force will come out on the short end of the stick because it has not adequately justified itself in the pages of the history its leaders refuse to acknowledge. As a result, the American people feel more comfortable with "traditional" surface forces (of the Army and Navy) and will insist that a large portion of the budget pie go to those services. Thus, the Air Force may need to fear for its organizational future.

The clear implication is that the Air Force—or what will replace it in the smoldering wreckage of the coming budget battle—will be useful for nothing other than the direct support of surface (read Army) forces. In this postrivalry world, close air support and interdiction would usurp the concepts of strategic attack and air superiority as the Air Force's reason for being. In such a world, the Army and Navy in all their land, sea, and air guises would be fully justified—both doctrinally and, most importantly, financially.

The idea that strategic attack is an unproved theory and should be relegated to history's dustbin is absurd.

While I tend to agree with the general notion that Air Force personnel in general show little interest in their history, I don't think Air Force officers are any more or less "guilty" than officers of any other service in this respect. In most cases, the more junior people in the field/at sea are busy with the rigors of daily life—learning and doing the jobs they were trained to do. This is not intended either as a criticism or an excuse; it's a fact of life in an increasingly complex and busy environment. With some exceptions, the staff billet offers the chance and

need to become familiar with the macro view of the whys and wheres of military employment and with the senior command position that absolutely demands it.

That said, I have difficulty accepting the criticisms leveled at the Air Force. In general, I submit that the "holy grail" of central control, decisiveness, and independence derided by many critics across the services as substitutes for air doctrine consists in fact of precepts learned through the school of experience. For more than 60 years, leaders and visionaries like Billy Mitchell, Hap Arnold, Carl Spaatz, Ira Eaker, and John Warden—keenly aware of both their service's history and potential—outlined the importance of these precepts to the fielding of effective air forces. In fact, these military principles were first clearly codified as early as 1943 with the publication of War Department Field Manual (FM) 100-20, *Command and Employment of Air Power,* published by the Army to counter the ineffectiveness of dividing airpower applications early in the war.[1]

To insist, as do many airpower critics, that the failure of airpower to win in Vietnam is somehow an indictment of the Air Force is preposterous.

I would also point out doctrinal "truths" that riddle Army, Navy, and Marine doctrine but that escape without even a tip of the hat from the·Air Force's critics. These include such dictums as Marine air serves *only* Marines; *only* troops on the ground can achieve decisive victory; or *only* the Navy can provide forward presence. I suggest that from an airman's perspective, it is very tempting to launch similar assaults on many of these guiding principles as poor substitutes for a comprehensive doctrine. However, doing so without reference to the expansive volumes of Army and Navy doctrine amounts to taking

central beliefs out of their logical context and opening Air Force doctrine to similar parochial attacks—a notion dismissed by most airpower critics, assuming they are aware of it at all.

I also state proudly that the Air Force is indeed the most technologically oriented of the services—not as a substitute for doctrine but as a result of it. More than any other service, the Air Force must rely on technology to keep it on the cutting edge of military capability. Indeed, it is the only service charged by law with developing and maintaining the *nation's* capability to operate military forces in the hostile environments of air and space.[2] Additionally, one need only review other service (as well as Air Force) failures that resulted from too firm a foundation in history (read tradition) to realize that proper doctrine must come from the careful blending of past and future.[3] Lessons of the past are vitally important, but caveats about repeating the past carry a double meaning.

The idea that strategic attack is an unproved theory and should be relegated to history's dustbin is absurd. History, not theory, points to several facts—one of which is that the European strategic bombardment campaign accomplished the following:

- Destroyed the German air force as it defended against heavily armed bombers escorted by the most advanced fighters in the world.

- Played a decisive role in World War II by devastating German industry and transportation, albeit over a longer time than predicted. German leaders like Albert Speer clearly acknowledged the devastation to German war-making capability caused by the raids.[4]

- Allowed the Normandy invasion to proceed. Without the destruction of the Luftwaffe and the mauling of the Reich's oil industry and transportation, chances were very good that the Germans would have flung General Eisenhower's forces back into the sea—a likelihood acknowledged by Eisenhower himself and Field

Marshal Bernard Montgomery (commander of the invasion's ground forces).

Air forces again demonstrated the utility of strategic attack—this time conclusively—during the Persian Gulf War, when the coalition marshaled airpower in all its forms and service livery to render the adversary leadership deaf, dumb, and blind, and isolate it from its military forces. Only then did the ground war proceed.[5] Nonetheless, critics could correctly point out that since every conflict differs in terms of environment, intensity, adversary, and objective, the contributions of strategic attack would vary from decisive (as in war winning) to unnecessary. But the tone and context of some recent comments lead me to believe that these critics would no doubt subscribe to the view expressed by many marines and soldiers that placing ground troops in harm's way from the "get go" in bloody surface action is the only way to really "win" a war.

Despite the critics' strident denunciation of air superiority, I would insist that it is in fact a *vital* function of air forces. It isn't always required, but surface forces laboring under constant air attack will surely notice its absence. One need only reflect on the trials of the British in the Falklands War in 1983 and of most of Western Europe's forces in 1939 and 1940 to realize the importance of this mission.[6] I agree that active defenses of surface forces are becoming very lethal and effective. Deprecation of the air superiority mission, however, ignores the synergy created by active defenses both in the air and on the ground as well as the crucial need for offensive counterair to take the war to the enemy's airfields and missile launchers before they can begin their deadly missions. It also ignores the effect of stealth and concentrated precursor attacks on surface defenses—demonstrated so effectively during Operation Desert Storm.

To insist, as do many airpower critics, that the failure of airpower to win in Vietnam is somehow an indictment of the Air Force is preposterous. I suggest that there is plenty of blame to go around: ridiculously tight civilian control, the substitution of body and sortie counts for effective military strategy, outrageously poor military C^2 procedures founded in blatant service parochialism, the now discredited theory of gradualism, and the fact that one side waged total war while the other did not—to name but a few. I would use the "he who is without sin" argument with throwers of interservice rocks and would suggest that Navy and Army failures were every bit as stark as the Air Force's. They didn't win the war either.

In short, I would characterize Colonel Szafranski's article as a visible incarnation of an

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almost fashionable current tendency among many people in the military establishment to bash the Air Force. If such criticism came from other services, I would chalk it up to organizational paranoia brought on by the aftermath of Desert Storm and by the shadow of budget decimation. Properly or not, it now seems politically correct to see airpower as the source of "immaculate interdiction"—a quick way to punish offenders while not risking many American lives or exposing the resultant blood and destruction to much media scrutiny. On the one hand, the fact of the matter is that in some cases such use of airpower is appropriate—it might suffice to accomplish national objectives. On the other hand, to see airpower as a panacea for all problems is as erroneous as using it only to support land forces. The real strength of airpower and space power resides in their versatility and ability to make a major—in some cases, decisive—contribution in just about

any scenario. The fact that the denunciations addressed here come from Air Force representatives is disappointing but not as bothersome as the errors in their doctrinal conclusions, which are common to non–Air Force detractors of airpower, and which this article attempts to address.

Airpower critics' accusations of ignorance on the part of Air Force people may require a little more introspection, not only from me but also from them, because many of their conclusions are reminiscent of those drawn by people uneducated in the history and theory of airpower doctrine. I would also admonish the people responsible for running the world's premier air force to pay attention to the principles that supposedly guide their service and to the procedures for assembling airpower doctrine. Despite critics' pronouncements to the contrary, such doctrine is the result of a very deliberate process that involves "ivory tower" airpower theorists, historians, and technocrats as well as folks in the field who must deal directly with the doctrine's strengths and weaknesses—to the degree that they are willing to be involved.[7] Airpower doctrine is the result of as careful a blending of history, theory, and technology as is currently possible in an admittedly bureaucratic system that, like any other, tends to defer to position and rank rather than process and consideration. Nonetheless, airmen must know their doctrine and must be prepared to participate in its development and application. In the words of Gen Ronald Fogleman, Air Force chief of staff, "We've got to understand airpower—its strengths, its weaknesses, and its potential—if we are to fully capitalize on it to attack an adversary's strategy and to compel him to do our will."[8] ☐

Notes

1. FM 100-20 was printed on 21 July 1943 and reprinted in 1990 at the direction of Gen Michael Dugan, then the Air Force chief of staff.

2. See Department of Defense (DOD) Directive 5100.1, *Functions of the Department of Defense and Its Major Components,* 25 September 1987. This document states that a primary function of the Department of the Air Force is "to organize, train, equip, and provide forces for the conduct of prompt and sustained combat operations in the air" (page 19). The directive goes on to designate specific missions for the service, including air superiority, space operations, and control of vital air areas. The Air Force is the only service so tasked by national authority.

3. Glaring examples that come immediately to mind include (1) the slaughter in the mire of World War I trenches caused to great extent by religious adherence to the spirit of the offensive and failure to recognize the lethality of modern weapons like the machine gun, (2) the virtual strangulation of the British Isles and the decimation of the US Merchant Marine during the first years of World War II for lack of antisubmarine warfare training and equipment despite proof of the submarine's effectiveness in World War I, and (3) the prohibitive losses suffered by US bombers early in World War II's European strategic air campaign due to the Army Air Forces' insistence on unescorted bomber penetrations (compare the bombers' splendid success after escorts were provided).

4. See *The United States Strategic Bombing Survey: Over-all Report (European War)* (Washington, D.C.: Government Printing Office, 1945), 107; and Albert Speer, *Inside the Third Reich: Memoirs,* trans. Richard Winston and Clara Winston (New York: Macmillan, 1970).

5. See Col Richard T. Reynolds, *Heart of the Storm: The Genesis of the Air Campaign against Iraq* (Maxwell AFB, Ala.: Air University Press, January 1995); and Col Edward C. Mann III, *Thunder and Lightning: Desert Storm and the Airpower Debates* (Maxwell AFB, Ala.: Air University Press, April 1995). These two volumes discuss in great detail the rationale and planning factors behind the successful Desert Storm air campaign as well as the chronology and process of its execution.

6. See Max Hastings and Simon Jenkins, *Battle for the Falklands* (New York: W. W. Norton & Co., 1983) for discussion of the problems produced by Britain's lack of air superiority over both land and sea.

7. An example of recent criticism (the constructive kind, not the sort of bashing highlighted in this article) of the doctrine development process includes Prof Dennis Drew's conclusion that doctrine, which oftentimes "seems to reflect the opinion of the 'senior officer present' . . . is our theory of victory. As such, it deserves our best intellectual efforts and our utmost attention. In the past, our doctrine has received neither. The first step in correcting this unacceptable situation is to treat the development of doctrine as a profoundly important and continuous intellectual process rather than simply a bureaucratic requirement." Col Dennis M. Drew, USAF, Retired, "Inventing A Doctrine Process," *Airpower Journal* 9, no. 4 (Winter 1995): 43, 51.

8. Gen Ronald R. Fogleman, "Airpower and the American Way of War," presentation to the Air Force Association Air Warfare Symposium, Orlando, Florida, 15 February 1996.

A COMMENTARY

Prophets, Heretics, and Peculiar Evils

Reina Pennington

ON SZAFRANSKI:

IN HIS article, in this issue of *APJ*, Col Richard Szafranski considers the implementation of a Quadrennial Strategy Review as proposed by the secretary of defense and supported by the Department of Defense (DOD). He suggests that the Army, Navy, and Marine Corps will be pitted against the Air Force and that the central issue would be whether surface or air and space forces are more cost-effective. Szafranski speculates on whether jointness or interservice rivalry would prevail in such a scenario and seems to believe that the joint culture created in the past decade is a frail thing indeed. He suggests that the debate on roles and missions continues to be "the capstone activity of interservice rivalry" and is still the driving force in the Pentagon. Factors such as continued budget cuts, the lack of an identifiable threat, and uncertainty about the future will exacerbate rivalries, throwing the services into a Darwinistic struggle unmitigated by Joint Staff efforts to foster cooperation rather than competition. As the "gloves [come] off" and the services "scoot down Maslow's pyramid," any review process will resemble a demolition derby in which survival is based on the destruction of other services' programs.

The possibility of a recurring strategy review provides Szafranski an interesting framework within which to examine the state of airpower theory and doctrine. When the nature of future conflict is uncertain, he believes, then the services will attempt to justify their strategic utility by asserting superior theories and by drawing on tradition and historical successes. Szafranski says the Air Force will have "a tougher row to hoe" in these debates than the Army or Navy.

A strategy review would be conducted in the context of the uncertain view of the future threat. Here, Szafranski paints a grim picture indeed. Like Samuel P. Huntington and Martin

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But Colonel Szafranski believes the Air Force will find itself unable to prove its utility. He argues that the failure of airpower in Vietnam and Afghanistan has, for many people, invalidated the concept of air superiority.

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van Creveld, he postulates a world where civilizations descend a long spiral into ever-more atavistic nationalism and terrorism conducted by "de-massified" forces. This sort of threat, he implies, can be countered only by the Army and Navy. The Army will argue that its "simple, all-weather, all-terrain soldiers" are the most flexible tool in any future war; that territory matters; and that only the Army can control territory. The Navy, he suggests, will argue for John Keegan's theory of

future war along the littoral, making the Navy the best response. The Air Force, however, will find itself hard-pressed to justify its utility in such an unpredictable environment.

The Air Force, he believes, cannot survive unless it can both refute what he describes as the "very nearly indisputable arguments" of the other services and then advance an alternative and "superior theory" of airpower. But Colonel Szafranski believes the Air Force will find itself unable to prove its utility. He argues that the failure of airpower in Vietnam and Afghanistan has, for many people, invalidated the concept of air superiority—though he does not suggest that the failure of the *armies* in both cases invalidated the utility of surface maneuver forces. In addition, he says, the Air Force must prove that its human-operated platforms are the only means of accomplishing air superiority.

The Air Force will find itself in a Catch-22: it can only justify its utility based on theory . . . but the theory we have is shaky and overextended.

Colonel Szafranski seems to say that the Air Force's problem is both too little and too much theory. He dismisses Col John Warden's theories (generally credited as key to the success of air operations in Operation Desert Storm) as being little understood in the Air Force. The Air Force has no "success metrics" to prove its power. We have no airpower theory that can stand. The theory of air superiority, he believes, is a house of cards: we theorize that air superiority will be meaningful in a future conflict (Szafranski argues that it may not); we theorize that atmospheric solutions are required when surface solutions might suffice; and we theorize that these atmospheric solutions require a human in the cockpit—a requirement that Szafranski implies may soon be impracticable. At some

point, he says, the weight of theory would seem to collapse the Air Force's model. Thus, the Air Force will find itself in a Catch-22: it can only justify its utility based on theory (Szafranski finds Air Force history and tradition an inadequate base compared to the history and tradition of surface forces), but the theory we have is shaky and overextended. It is a no-win situation. Szafranski seems to agree with Goethe that life—in this case, the life of the Air Force—is set into a theory just as a live body is set on the cross on which it is crucified.

There are several problems with Szafranski's analysis, which is admittedly provocative. First is the conflation of airpower theory; Colonel Szafranski's discussion merges all the potential roles and missions of the Air Force into a single "theory of air superiority." Second, he says that the Air Force will find it hard to justify the use of manned aircraft in the future, implying that technology will replace the human elements; yet, he says it is precisely the continued reliance on the human component that will give the Army its flexibility. Third, it is highly debatable that the Army will in fact disavow the utility of the Air Force. The Army has explicitly stated in its own manuals that it "cannot win the land battle without the Air Force."[1] If the inutility of the Air Force must be proved, then the burden of proof will rest at least as much on the Army as on the Air Force.

Richard Szafranski deals in realms of theory that are fascinating, exasperating, compelling, and dismaying. With every new twist of technology, theorists have postulated the reduction or elimination of the Air Force—and of the human in the cockpit. Today, futurists prophesy a return to barbarism: future war will combine high technology with primitivism—and still they predict the demise of airpower. Dr James Mowbray has noted the fact that "the Air Force is still plagued by a high degree of paranoia about its survival as a service in spite of its track record of success."[2] One can only hope that

Szafranski is a victim of this paranoia rather than a prophet.

Colonel Szafranski posits an extreme scenario in which choices must be made between surface and air forces, in which the Air Force must prove it is the be-all and end-all of military power—or else be diminished or even absorbed. Like most dichotomies, this one is false. There are multiple scenarios of future war, and it is easy to see that in some situations airpower might indeed be decisive. In others, naval or ground forces might be pivotal. A true joint-service perspective, especially in the area of roles and missions, should help to eliminate such false dichotomies. Szafranski himself acknowledges that his grim scenario could be avoided if the service chiefs could speak with one voice but notes that such a solution—a truly joint

solution—will happen only in "a world where pigs fly."

Richard Szafranski deals in realms of theory that are fascinating, exasperating, compelling, and dismaying.

Although most Air Force officers will reject Szafranski's approach, it is useful for the discussion it generates—and perhaps this is precisely the effect he hopes to achieve. Szafranski *wants* to infuriate the Air Force so it will finally decide what it wants to be when it grows up. Undoubtedly, Colonel Szafranski's work will be a centerpiece of the roles and missions debate for years to come.

ON MYERS:

THESE COMMENTS were first prepared in response to Colonel Szafranski's presentation at a recent conference panel on the topic of "Interservice Rivalry and the Rise of Jointness." At that time, I stated that I admired his moral courage in challenging the Air Force's party line. Unfortunately, it does still require courage to state a position that is bound to be unpopular and controversial. In the aftermath of the conference, charges of "bashing" were leveled at Colonel Szafranski and other speakers who found the current state of airpower theory lacking.[3]

The Air Force's continuing inability to tolerate self-criticism is even more dismaying than Szafranski's article. Dr Mowbray noted that the Air Force's paranoia is practically a "sacred legacy of the service."[4] It would appear that Szafranski and his critics share this paranoia; Szafranski exacerbates it, while his critics cannot tolerate its discussion. This intolerance is all the more disturbing

because a flurry of discussion on this very issue occurred more than a decade ago. In 1984, William S. Lind charged the Air Force with "unilateral disarmament in the war of ideas."[5] In 1988, Murphy Donovan wrote an eloquent plea for free discussion in an article on "Strategic Literacy" that appeared in this journal. Donovan noted that one result of the heated debate over Lind's views was that

In 1984, William S. Lind charged the Air Force with "unilateral disarmament in the war of ideas."

"someone shot the messenger. *AU [Air University] Review* was consigned to the boneyard."[6] The editor of *Airpower Journal* (the successor to *Air University Review*) is now trying to revitalize free discussion (see his editorial

"There Are No Sacred Cows" in the Spring 1995 issue).[7] But it would appear that conditions are only slightly more receptive in the 1990s than they were in the 1980s.

We're all familiar with Voltaire's famous aphorism "I detest what you write, but I would give my life to make it possible for you to continue to write."[8] That is what I would say to Dick Szafranski. We need thinkers like him, however much we disagree with their views. Murphy Donovan charged that

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We're all familiar with Voltaire's famous aphorism "I detest what you write, but I would give my life to make it possible for you to continue to write." That is what I would say to Dick Szafranski.

"of all the services, it is no accident and more than a little ironic that the Air Force—a corps inspired by the vision of Billy Mitchell and Hap Arnold—is now a slack player in the world of strategic ideas."[9] We might finally reach pro status if we learn to conduct an intelligent and reasoned debate with theorists like Szafranski rather than irresponsibly dismissing their ideas.

Ironically, Szafranski is hardly the first to suggest that a comprehensive theory of airpower is lacking. Dr Harold R. Winton, who constructed the course in military theory at the School of Advanced Airpower Studies,

Maxwell AFB, Alabama, recently concluded that "there simply does not exist any body of codified, systematic thought that can purport to be called a comprehensive theory of air power" and then elegantly articulated the preconditions for developing such a theory.[10] Winton described the current state of Air Force thinking in this area as a "black hole" but seems to have avoided charges of "bashing."

Is Richard Szafranski a prophet or a heretic? Neither, I hope; he is simply an able thinker who challenges our assumptions. He should be neither canonized nor pilloried. Instead of castigating Szafranski, we should look to our own arguments. If airpower theory is soundly developed, then Szafranski's scenarios will never occur. If jointness prevails over interservice rivalry, the United States will get the military forces it needs and can afford. We can only hope for a world in which pigs fly but "pork" dies.

John Stuart Mill said it best in *On Liberty*:

The peculiar evil of silencing the expression of an opinion is, that it is robbing the human race: posterity as well as the existing generation; those who dissent from the opinion, still more than those who hold it. If the opinion is right, they are deprived of the opportunity of exchanging error for truth: if wrong, they lose, what is almost as great a benefit, the clearer perception and livelier impression of truth, produced by its collision with error.[11]

This journal provides an excellent arena for such collisions and exchanges—but only if the players agree upon the rules. Are we ready for a fair fight?   □

Notes

1. Army Field Manual (FM) 100-5, *Operations*, 1976, 1.

2. Dr James A. Mowbray, "Air Force Doctrine Problems: 1926–Present," *Airpower Journal* 9, no. 4 (Winter 1995): 36.

3. See Gene Myers, "Interservice Rivalry and Air Force Doctrine: Promise, Not Apology," this issue.

4. Mowbray, 41 (note 127).

5. William S. Lind, "Reading, Writing, and Policy Review: The Air Force's Unilateral Disarmament in the War of Ideas," *Air University Review* 36, no. 1 (November–December 1984): 66–70.

6. Lt Col G. Murphy Donovan, "Strategic Literacy," *Airpower Journal* 2, no. 4 (Winter 1988): 71.

7. Lt Col James W. Spencer, "There Are No Sacred Cows," *Airpower Journal* 9, no. 1 (Spring 1995): 2.

8. This quotation is often attributed to the *Essay on Tolerance;* actually, it occurs in a letter to Abott le Richie. Thanks to Dr Daniel Moran of the Naval Postgraduate School for tracking this down for me.

9. Donovan, 74.

10. Harold R. Winton, "A Black Hole in the Wild Blue Yonder: The Need for a Comprehensive Theory of Air Power," *Air Power History* 39, no. 4 (Winter 1992): 32.

11. John Stuart Mill, *On Liberty* (Chicago: Henry Regnery Co., 1955), 23.

DEFEATING INSURGENTS WITH TECHNOLOGY

Col Jeffery R. Barnett, USAF

AS THE United States military looks to the future, two themes dominate most projections. The first is advanced technology. Underwritten by the microchip, the technologies of war are changing rapidly. Weapons with micro-precision accuracy, supercomputers linked by unlimited bandwidth, platforms providing continuous surveillance of practically any spot on the digitally mapped earth—all are coming into view. These emerging technologies are combining to produce orders-of-magnitude increases in military capabilities. Adm William Owens, vice-chairman of the Joint Chiefs of Staff, calls this "The Emerging System of Systems," spawning a new revolution in military affairs.[1] Understanding the ramifications of this revolution is an immense challenge for US military planners.

The second trend facing the US military involves insurgencies. For the past 50 years, insurgencies have been the most common type of war. Wars in Afghanistan, Angola, Bosnia, Chechnya, Liberia, Malaysia, Nicaragua, Vietnam, and many similar conflicts pitted insurgent groups against established governments. This course will likely continue. Trends in demographics, economics, and technology all indicate continued worldwide instability as many nations grapple with exploding populations, stagnant economies, and centuries of ethnic hatred. Although conventional aggression (such as the Korean War and the Gulf War) will continue to threaten US interests, insurgencies will probably persist as the most likely form

of conflict in which US military forces may be called upon to fight.

A major challenge for American military planners is to reconcile these twin themes of technology and insurgency. Some may argue that the two themes are mutually exclusive—that using high technology against guerrillas is pointless. However, that argument is not entirely true. As curious as it may sound, a guide for using modern technology to defeat insurgency was provided 60 years ago by a master of guerrilla warfare—Mao Tse-tung.

Mao taught us that insurgencies must transit three phases before gaining victory: strategic defensive, stalemate, and strategic offensive. During the first phase, insurgents use guerrilla tactics to sap the will and strength of government forces. They raid when possible and retreat when necessary. During the second phase—stalemate—neither side can conduct major offensives. A sense of futility or endlessness seeps into the government's troops and populace. Casualties and costs mount, with no decision in sight. During this second phase, insurgents build up their strength and retrain their guerrillas. When government forces and morale are sufficiently weakened by stalemate, the insurgents launch the strategic offensive, using conventional maneuver attacks with organized army units. Their goal in this third phase is to defeat government forces and exercise political control over territory. Mao insisted that an insurgency *must* transit all three phases to gain victory.

The major point here—one that is poorly understood by some defense professionals—is that insurgents must eventually adopt a conventional posture in order to finally "win." According to Mao, insurgents in the first and second phases can only weaken government forces; they can't win. To replace an existing government, insurgents must eventually shed their guerrilla tactics and fight as a conventional force. Governments may be weakened during the first two phases, but they won't fall without a final

Mao Tse-tung

"push." It's the goal of the first two phases to impair the government to the point that a strategic offensive has a chance of victory.

> The concept that guerrilla warfare is an end to itself and that guerrilla activities can be divorced from those of regular forces is incorrect. . . . Guerrilla operations during the anti-Japanese war may for a certain time and temporarily become its paramount feature, particularly insofar as the enemy's rear is concerned. However, if we view the war as a whole, there can be no doubt that *our regular forces are of primary importance, because it is they alone who are capable of producing this favorable decision.* (Emphasis added)
>
> —Mao Tse-tung, *On Guerrilla Warfare*

Reflecting Mao's theory, the Khmer Rouge, Vietminh, Vietcong, and Afghan Muj all started fighting as guerrillas but eventually fought strategic offensives as organized units. More recently, we saw the Bosnian Serb insurgents evolve into an organized army with heavy weapons. All of these in-

surgents used tanks, artillery, logistics bases, command and control nodes, and so forth, in their final (strategic offensive) campaigns. In so doing, they reflected Mao's theory: insurgents must eventually organize, equip, and fight as a conventional army.

Contrary to many impressions, insurgents can't remain guerrillas indefinitely and expect to win. Only a concerted offensive can topple a political system. Terrorism may cause great damage, but it won't overthrow a regime. This is why the Irish Republican Army (IRA) and the Palestine Liberation Organization (PLO) have failed to win, despite inflicting substantial damage. Neither progressed to a strategic offensive. In addition, by staying indefinitely in the guerrilla stage, insurgents practically ensure their eventual defeat. This was Che Guevara's mistake in Bolivia. State security forces eventually hunted him down in 1967. Abimael Guzman's *Sendero Luminoso* in Peru also remained in the guerrilla mode too long. His arrest in 1993 caused the insurgency to collapse. The lesson is clear: given enough time, state security forces will eventually kill or capture guerrilla leadership. The few exceptions, such as Fidel Castro's victory without an offensive in Cuba, are just that—exceptions. In order to win and survive, guerrillas must progress to the strategic offensive phase.

As long as insurgents remain guerrillas (in the first two stages of insurgency), they remain difficult to target with American weapons. Small groups intermingled with the populace are poor targets for foreign military forces, whether the latter be special forces, infantry divisions, cruise missiles, or bombers. If anything, Vietnam taught the US military the high cost of applying military force against guerrillas. However, once insurgents move to the third phase—the strategic offensive—they change from a guerrilla posture to that of a conventional army operating without air cover. In so doing, the insurgents present a key weakness to modern, high-technology weapons—especially those delivered by air. *This third and final stage is the insurgents' crucial weakness.* Should the US decide to commit military forces against an insurgency, it should wait until the insurgents commit to the strategic offensive. Such a delay requires patience; the US has an understandable tendency to get involved at the early stages of most wars. However, this third stage exposes the insurgents' greatest vulnerability to US military power. When insurgents launch conventional operations, they become exposed to crushing defeat.

Emerging US technology weapons are proficient at detecting and destroying unprotected surface forces. Modern surveillance systems can detect even modest troop concentrations, logistics, and command structures. Satellites and unmanned aerial vehicles can monitor movements of large surface forces without putting US personnel at risk. Manned aircraft, operating from third countries, can supplement these platforms. Aircraft orbits can be offset 100 or 200 miles to reduce their chances of attrition to near zero. Working together, these surveillance systems can track and target surface forces with high fidelity. Small detachments will surely escape detection, but battalion-sized forces—the type Mao said are mandatory for insurgent victory—will be seen.

Insurgencies will probably persist as the most likely form of conflict in which US military forces may be called upon to fight.

Once pinpointed by US surveillance systems, insurgent forces and infrastructure can be attacked by precision missiles and bombs. The US military currently has 300,000 precision missiles and bombs in its inventories or under contract[2]—more than enough for several insurgencies. These weapons have the capability to strike specific insurgent targets with low risk of casualties to the larger population. Because political support is a

center of gravity for all combatants in an insurgency, such care is mandatory. By using precision weapons, the US can destroy the heavy weapons, logistics, and command structure of the insurgents without alienating crucial political support in the process.

This combination of Maoist theory and US high-technology weaponry presents any insurgent with a conundrum. According to Mao, insurgents must eventually become a conventional army in order to topple an existing government. However, as soon as insurgents change to a conventional army, they become vulnerable to detection and destruction by US high-technology weapons. Thus, the insurgents are left with two unsatisfactory options: remain on the strategic defensive (in which case they cannot win) or progress to the strategic offensive stage (in which case they face certain destruction by US weapons).

It's important to emphasize **the ability of high-technology airpower to deny insurgent victory over an extended time with minimal risk of US casualties.**

As long as the US employs high-technology weapons from the relative sanctuary of the air, insurgents can do little to stop the attacks. Missiles and aircraft can launch from bases at sea or in third countries, outside the reach of the insurgents. Aircraft at high altitude can operate outside the range of most surface-to-air missiles (SAM) available to insurgents. Although a few airplanes will almost certainly be shot down (such as the F-16 in Bosnia flown by Capt Scott O'Grady), losses should be slight. Aircraft can suppress the small number of insurgent-operated SAMs and can fly outside the range of insurgent guns. Despite such high-altitude operations, modern aircraft have proven capabilities for delivering precision weapons.

For example, in August/September 1995, North Atlantic Treaty Organization (NATO) aircraft (primarily American) dropped 1,026 bombs on 338 Bosnian Serb targets.[3] Only one aircraft was lost (a French Mirage 2000K), and collateral damage was insignificant. The Bosnian Serbs, on the other hand, lost crucial equipment, logistics, and command infrastructure. It was not a fair fight. This operation demonstrated how high-technology weapons can remain beyond the insurgents' reach yet still have substantial effect.

If used alone, independent of US ground forces, high-technology weapons launched from the relative sanctuary of the air could indefinitely deny insurgents any chance of victory—as long as US political will remains intact (a status undermined by high casualties or promises of quick victory). However, by making the mistake of inserting ground forces during any stage of the insurgency, the US would present the insurgents with a proven method for removing the US totally from any further operations. That weakness is US casualties.[4]

The US track record for casualty tolerance in insurgencies is very consistent. Without clear risks to national interests, the American public has little stomach for US casualties. The lessons of Vietnam, Lebanon, and Somalia are plain. Knowing this fact, insurgents would pay a heavy price—possibly including suicide attacks—to inflict US casualties. In the past, such attacks have usually triggered political crises in the US. To resolve such crises, presidents almost always order withdrawals and are loath to reintroduce any type of military force—including high-technology airpower—at a later date. Once the US withdraws from a war, it seldom reenters it. By targeting US ground forces, insurgents could dissuade the US from employing its high-technology air forces.

Does this mean the US can use its high-technology airpower to force/coerce/win an insurgency? No, it doesn't. The US goal against insurgents should be neither "victory" nor "coercion" within a short time pe-

riod. Those goals are beyond the attainment of foreign forces—whether they be ground, air, or naval forces. As evidenced by the longevity of the IRA and PLO, insurgents can always revert to the strategic defensive and then fight as long as they wish (or until they are killed/captured). In the final analysis, only indigenous government forces can exert long-term political control over a country. As a foreign power, the US will never be able to force a complete victory over insurgents.

Does this mean the US should just stand by and watch during the first two stages of insurgency? Of course not. Early in the war, the US can assist indigenous governments with security assistance by providing equipment, intelligence information, and training to government forces. It can provide this help over a long period of time with little risk of US casualties. By giving the indigenous government additional means to counter insurgents in the strategic defensive (i.e., guerrilla) and stalemate phases, the US may decisively affect the outcome of the war.

Can high-technology airpower do more than just deny victory? In some cases, yes. Depending on terrain and the quality of the indigenous army, US airpower may degrade insurgents to the point that they go on the strategic defensive. We saw this happen in the autumn of 1995 in Bosnia. Although the Bosnian Serbs were on a general offensive during the spring and summer of 1995, the introduction of NATO (primarily US) airpower against Bosnian Serb heavy weapons, logistics, and command facilities stopped this offensive (i.e., produced a stalemate). With the Bosnian Serbs weakened, the Muslim and Croat forces went on their own offensives, actually putting the Bosnian Serbs on the strategic defensive. The difference in this war was high-technology airpower; it tipped the balance in favor of the Muslim and Croat forces. Precise air strikes did more than just deny an insurgent victory by halting the Bosnian Serb offensive. It also weakened the insurgents to the point that government troops could break the stalemate.

Driving insurgents into the strategic defensive is situation dependent, requiring a credible indigenous ground force capable of offensive operations. But the ability of high-technology airpower to stop insurgent offensives is a constant. For this reason, it's important to emphasize *the ability of high-technology airpower to deny insurgent victory over an extended time with minimal risk of US casualties*[5]—a valuable capability. A recent editorial by Gen Ronald R. Fogelman, the Air Force chief of staff, reflected this theme: "And in most cases, when properly employed, [airpower] can deny an adversary victory. In today's environment, denying an aggressor's war aims at minimum risk to American and coalition forces may often become the primary objective."[6]

In summary, the US can defeat insurgencies by using its high technology to deny the insurgents' strategic offensive. It does this by destroying any massing of men/equipment by the insurgents. *Inflicting such destruction is high-technology airpower's decisive role against insurgents*. By this means, the US can deny insurgents any chance for a strategic offensive. The US can force insurgents to remain in the first two phases (strategic defensive and stalemate), where forces of the indigenous government can eventually deal with them (with US security assistance, as needed). Once the insurgents' strategic offensive is rendered impossible, the insurgents must—sooner or later—cut a political deal. The timing is unknown, but it is inevitable.

Sixty years ago, Mao Tse-tung outlined three mandatory stages for insurgent warfare: strategic defensive, stalemate, and strategic offensive. Curiously, he did far more than give insurgents a recipe for success. He also gave governments the blueprints of insurgency. For the US, these blueprints reveal a fatal weakness in any insurgency—the strategic offensive, which US high-technology airpower can exploit. By using this airpower to deny insurgents any chance of a successful strategic offensive, the US can deny victory indefinitely. Thus, the US can take

advantage of its high-technology edge, its "system of systems," to decisively negate the

type of war it will most likely encounter—insurgency.   ☐

Notes

1. Adm William A. Owens, "The Emerging System of Systems," US Naval Institute *Proceedings*, May 1995, 35–39.

2. "Precision Guided Munitions in Inventory, Production, and Development," Report no. B-260458 (Washington, D.C.: General Accounting Office, 23 June 1995), 12–13.

3. Fact sheet, Public Affairs Office, Allied Forces Southern Europe, Naples, Italy, 6 November 1995.

4. Another insurgent option is to take hostages, who may be American civilians or foreign peacekeepers. Contrary to popular perceptions, however, hostage taking has limited utility during the insurgents' offensive. Hostages can dissuade attacks on existing gains, but they won't dissuade attacks on maneuver units—unless they are moved with those units.

5. US staying power over an extended period of time will usually be necessary as the war moves among the three phases of insurgency at varying rates in different parts of the country.

6. "What Air Power Can Do in Bosnia," *Wall Street Journal*, 11 October 1995, 15.

There is only one thing which will really train the human mind and that is the voluntary use of the mind by the man himself. You may aid him, you may guide him, you may suggest to him, and above all you may inspire him; but the only thing worth having is that which he gets by his own exertions, and what he gets is proportionate to the effort he puts into it.

—A. Lawrence Lowell

Spring 1996

IRA C. EAKER AWARD WINNER

Lt Col Michael Straight, USAF

for his article

Commander's Intent: An Aerospace Tool for Command and Control?

Congratulations to Lt Col Michael Straight on his selection as the Ira C. Eaker Award winner for the best eligible article from the Spring 1996 issue of the *Airpower Journal*. Lieutenant Colonel Straight receives a $500 cash award for his contribution to the Air Force's professional dialogue. The award honors Gen Ira C. Eaker and is made possible through the support of the Arthur G. B. Metcalf Foundation of Winchester, Massachusetts.
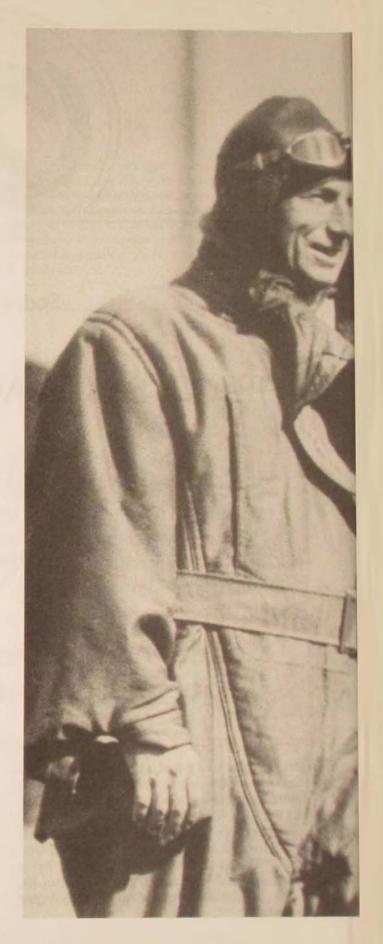
If you would like to compete for the Ira C. Eaker Award, submit an article of feature length to the *Airpower Journal*, 401 Chennault Circle, Maxwell AFB AL 36112-6428. The award is for the best eligible article in each issue and is open to all US military personnel below the rank of colonel or equivalent and all US government civilian employees below GS-15 or equivalent.
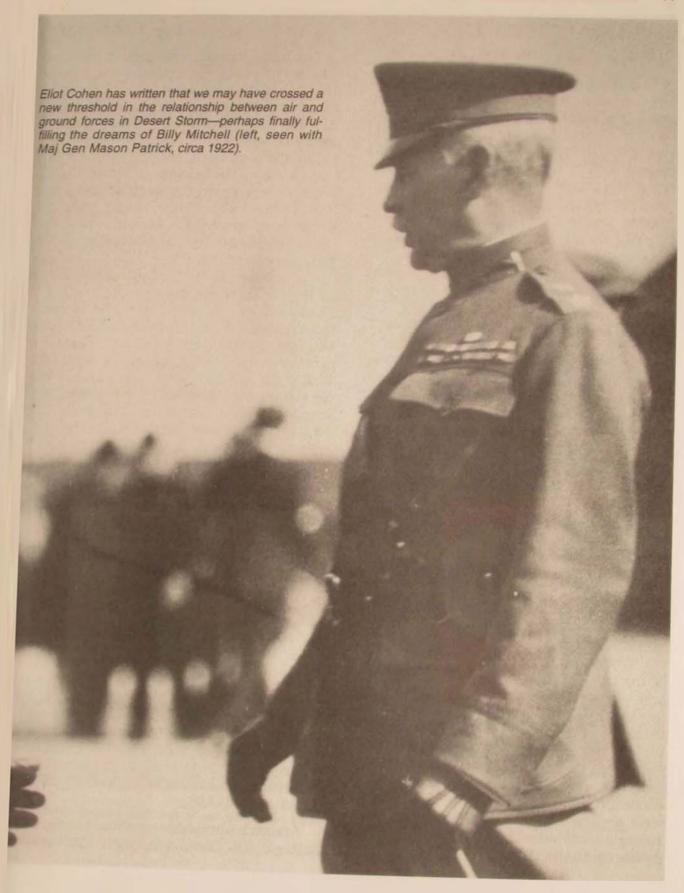
BOMBER BARONS, BUREAUCRATS, AND BUDGETS

Your Professional Reading on the Theory and Doctrine Of Strategic Air Attack

Dr David R. Mets

THE SPRING 1993 issue of this journal contained an article titled "The Douhet Society: A Recipe for Your Professional Development Program?" In it, Lt Col Kimble D. Stohry advocated the formation of a kind of great books discussion group for the unit level to stimulate Air Force professional reading programs. It is a great idea. One sample of a similar idea currently in operation is among School of Advanced Airpower Studies (SAAS) graduates who organized a Mitchell Society at the Air Staff and interested others in participating. A sort of precedent for them was the mentorship of Gen Fox Conner for Maj Dwight Eisenhower in the 1920s. That, too, was built around the reading and discussion of the military classics.[1]

Eliot Cohen has written that we may have crossed a new threshold in the relationship between air and ground forces in Desert Storm—perhaps finally fulfilling the dreams of Billy Mitchell (left, seen with Maj Gen Mason Patrick, circa 1922).

Strategic Attack: A Unifying Vision

Carl H. Builder, in *The Icarus Syndrome: The Role of Air Power Theory in the Evolution and Fate of the U.S. Air Force,* has complained that for all the years from the First World War through Sputnik, the Air Force was blessed with a firm vision of what it was about. He asserted that the notion of strategic bombing against industrial vital centers as a possibly decisive factor in wars was a unifying factor of the first order. But since Sputnik, according to Builder, the Air Force has lost its way. The unifying vision is badly eroded, and it needs a new one—a new theory of airpower.

Whatever the merits of Builder's argument, the evolution of the theory and doctrine of strategic attack would certainly provide a useful organizing theme for your local Mitchell Society or personal professional reading program—or a mentorship program. Any or all of them would be small steps toward removing the Builder complaint and, more generally, the erosion of the Air Force's image of anti-intellectualism. There can hardly be any doubt that strategic attack was the bread-and-butter mission that justified the founding of a separate air force in the first place. The five books at hand are all related to that subject in the years since Hiroshima, and they form the building blocks of this review/article. The essay also aims to serve as one tool for the planning of mentorship efforts.

Professors still debate fiercely the causes of the Japanese surrender. But the promptness with which the surrender came after the first use of nuclear weapons led many to make inferential leaps about their decisiveness. But the *US Strategic Bombing Survey (USSBS)* asserted that the Japanese had already been defeated by the submarine blockade and the conventional bombing when the atom bombs were dropped. The dawn of a new era of strategic study nonetheless followed, and the debate continues still.

The Phases of the Cold War

The immediate postwar period was characterized by great hopes that were soon dashed. The United Nations would do much better than had the League of Nations, for the world had learned a second grim lesson. Further, the economic roots of the Communist Revolution, the Depression, and the Second World War would not be relevant in the future because an era of free energy would come from atomic science that would make the whole world prosperous as well as peaceful. Unhappily, this era of US nuclear monopoly had a very short half-life.

The USSR exploded its first nuclear device in 1949, long before most people thought it would happen. Still, the West had an enormous lead in the delivery capability for atomic weapons, which was thought to guarantee security and peace for at least a while—the time of the massive retaliation hegemony. But even at the beginning of his administration, President Dwight Eisenhower understood that this hegemony could not be counted on very long to bring peace and balanced budgets. As John Kennedy came to office, it was clear that nuclear parity was not far off. Something akin to parity existed from the closing years of President Lyndon Johnson's administration until the collapse of the Iron Curtain in 1989. Even so, the fears of a nuclear holocaust are not gone, for nuclear proliferation could conceivably cause the horror so long avoided.

Our array of books, then, begins with one by William S. Borgiasz that discusses the principal instrument of the US monopoly and its subsequent hegemony.

The Strategic Air Command: Evolution and Consolidation of Nuclear Forces, 1945–1955 by William S. Borgiasz. Praeger Publishers, 88 Post Road West, P.O. Box 5007, Westport, Connecticut 06881-5007, 1996, 158 pages, $49.95.

Against a formidable potential enemy, the Strategic Air Command, with inadequate

The first in a new breed—a B-47 with jet-assisted takeoff (JATO) undergoes testing at Edwards AFB, California.

funding, personnel, bases, intelligence, and technology, employed extreme dedication and superb leadership to achieve the deterrence mission despite the impossible odds. That is only a little exaggeration representative of the central message of the book.

William S. Borgiasz resides near Washington and is listed as an adjunct professor at the Northern Virginia Community College. His PhD is from the American University, and the book is a retread of his dissertation. In fact, it is clear that there was not much significant change made for the book, and many defects typical of a dissertation remain. Borgiasz worked for perhaps two years in the Office of the Chief of Air Force History, and he cites many of the experts there in his acknowledgments. *The Strategic Air Command: Evolution and Consolidation of Nuclear Forces, 1945–1955* travels a well-worn path, but might nevertheless have been a useful book. The concept for its organization is good, starting with the general and proceeding to the particular—national strategy development at the dawn of the nuclear age in the first two chapters, and then on to some of the details of the principal instrument of that strategy. These details are described in the next four chapters on personnel policies, maintenance, the building of the B-47 and then the B-52 force structures, and intelligence. The conclusions are predictable and suggest a naive, uncritical handling of the sources.

The Strategic Air Command was born weak and remained so for a few years before increased funding, vigorous leadership, improved personnel policies, growing aptitude in aircraft acquisition, and hesitant progress in intelligence and targeting resulted in achieving the mission. That is Borgiasz's view, and there is little therein that would have been found offensive in the public affairs office at Offutt Air Force Base.

But there are so many simple mistakes throughout the work as to cast doubt on the reliability of the whole. The third word in "Air Force Materiel Command" is variously spelled throughout the book—sometimes appearing as both *Materiel* and *Material* in the same paragraph. The USAAF becomes US Army Air Force instead of *Forces*. That may seem like nit-picking, but there is a point when the sum of nits becomes serious. Added to this is a curious ineptitude of expression—leading to confusion in some cases and amusement in others. The author speaks of an airplane's "rear tail," making one wonder what a front tail would look like. He is constantly careless about figures that should contain the units of measurement if they are to have meaning. He speaks of the K-2 bombing system's 70 percent failure rate—without specifying whether it is per mission, per week, per month, per year, per war, or what. The limitations of the research are further demonstrated by such things as speaking of the B-1 replacing the B-52 as if it were about to happen and calling the Air Force Systems Command (AFSC) a "center" instead of a "command."

There are methodological faults throughout, one conspicuous one in the bibliography being the inclusion of the memoirs of folks like Dean Acheson, James Killian, George Kennan, and the *Eisenhower Diaries* under "Secondary Works." That suggests that the author classifies printed sources as secondary and unprinted ones as primary. It appears that he simply did not receive the editorial support that would have removed a host of errors like that.

The Strategic Air Command is published by one of the most prestigious publishing houses in America, which has a specialty in national security studies. The book is so faulty as to suggest that the publishers need to reconsider their arrangements for refereeing and editing manuscripts for publication. Meanwhile, the national security scholar need not include this work on his or her reading list.

Borgiasz carries the story up to the middle of the American hegemony. Our next author covers the same time but is focused on the British acquisition of a nuclear force.

The Bomber in British Strategy: Doctrine, Strategy, and Britain's World Role, 1945–1960 by S. J. Ball. Westview Press,

This F-111 is carrying the 4,700-pound GBU-28, one PGM that in combination with stealth and other technologies may be causing a revolution in warfare.

5500 Central Avenue, Boulder, Colorado 80301-2847, 1995, 246 pages, $59.95.

The Bomber in British Strategy tells an interesting story about a set of national dilemmas. Should the United Kingdom avoid a continental commitment, or should it concentrate on sustaining the British Empire? Should it depend on the alliance with the United States within which it fought two successful world wars, or should it assert its independence and great power status? Should Britain see to its security through deterrence via nuclear weapons or via conventional weapons in a war-fighting alliance with its noncommunist friends on the European continent?

Simon J. Ball is a graduate of Oxford University. He earned his doctorate at Cambridge and now teaches at the University of Glasgow. On the surface, it appears that he is a young scholar, as neither the Air University Library catalog nor *Books in Print* shows that he has any other published works, and the one at hand does give the appearance of a converted doctoral dissertation. The writing style is adequate, but the narrative goes into excruciating detail that makes it somewhat

dreary reading. The primary source documentation leaves little to be desired, and the secondary sources seem adequate though naturally focused for the most part on those published in the United Kingdom.

The Bomber in British Strategy is in general organized into chronological chapters, each covering a similar set of issues. It begins with the immediate postwar period, which was necessarily one of great adjustment for Great Britain. It concludes when the adjustment was fairly complete in 1960 at the twilight of the period of US nuclear hegemony. American readers will be at home with much of it. Many of the same issues were driving the making of strategy in both countries, and one of the premier works on American decision theory, Graham T. Allison's *Essence of Decision: Explaining the Cuban Missile Crisis*, is recognized in Ball's work and was an obvious influence on it. Ball convincingly claims that both rational strategic logic and bureaucratic interests affected British policy and strategy in countless ways—and neither is alone sufficient to explain the outcomes.

One of the parallels in British and American strategy making had to do with the de-

sire to use nuclear weapons as an economy device to bring the budgets back into balance in the aftermath of World War II. There was the hope in both countries that modest nuclear forces could yield the same security and support of the other national interests as could much larger conventional forces. The Royal Air Force (RAF) had already decided that it would need to build a major strategic bomber force before the coming of the nuclear bombs; and when they did come, they enhanced the airmen's arguments for that bomber force. So, too, in America. There, the Seventy Group Program had its origins before Hiroshima among people who did not know anything of the potential for atom bombs. Also, just as Ball explains in the case of Britain, both the Army and Navy in America found many good reasons why national security could not be founded upon nuclear weapons—or at least not wholly so. But getting big bomber forces (or any military forces) funded in the postwar period was worse than pulling teeth.

The coming of the first Soviet nuclear explosion in the fall of 1949, and especially the outbreak of the Korean War the following summer, unlocked the gates of the treasuries in both the US and Britain. But Simon Ball explains that then and thereafter there was a tension between the justification of the RAF nuclear bomber force for the sake of deterring the newly credible Soviet threat in the NATO area or for war fighting in the peripheral areas away from Europe—or in both. Similarly, in America the Joint Chiefs of Staff were carefully limiting the forces that they sent to Gen Douglas MacArthur because of the perceived need to save the best for deterrence and for building up the NATO forces. The B-29s were sent to Korea in substantial numbers, but the B-36s, B-50s, and the anticipated B-47s were to be held back for use against the main threat—the Soviet invasion of western Europe.

The Bomber in British Strategy well explains that the British bombers had one purpose with no exact counterpart for the American planes—to influence the policy of the other English-speaking ally. Even at the

end of World War II, there was genuine concern in Europe, and especially in Britain, that the United States would shrink back into its isolationist shell. So, the RAF argued that a major bomber force was necessary in order to persuade the Americans that the British were indeed serious about the collective preservation of security in Europe and were not trying to get Uncle Sam to pull English chestnuts out of the fire. It also argued persuasively that the bomber force, with its nuclear weapons, was necessary to convince America and the rest of the world that the United Kingdom remained a great power, one to be reckoned with and one that could guarantee the American nuclear deterrent force's involvement in European security by the maintenance of a somewhat independent center of nuclear decision making in London.

In the end, Ball shows that the Royal Air Force won its struggle—to some extent, anyhow. It did get its big bomber force, though it did not get on the line until the late 1950s when its days were already numbered. It did help sustain the focus of British policy on the NATO scenario. It did successfully defend itself against the efforts of the British army and navy to reduce its influence and its force structure. Whether it also was significant as a part of the deterrence of Communist aggression is probably unknowable, and though we do know that the United States remained engaged in Europe for the next half century, it is equally unknowable whether that would have happened even without the RAF and its Bomber Command.

The Bomber in British Strategy is a competent piece of work. Although its author recognizes the importance of the bureaucratic factor, he deals with the strategic arguments to a much greater degree—and that is regrettable, for a more extensive treatment of the former might have yielded important insights that would have helped the American reader understand our own interservice bureaucratic wars. The book goes into far more detail on the rational side of British strategy making than is needed by the typical reader of *Air-*

power Journal. So, unless you have a special interest in British foreign and national security policy, you need not give this good work a high place on your reading list. Probably most libraries having a strategy orientation will want to acquire the book, but its very high price is prohibitive for the personal professional libraries of serving officers.

We have noted that President Eisenhower himself knew that US nuclear hegemony could not be forever preserved. The roots of the Kennedy flexible-response strategy were appreciated by a few in his administration. But the Bay of Pigs and Cuban missile crises during that administration made it transparent that the US could no longer act with the confidence it had shown since Hiroshima.

David Sorenson's book is next, and his three case studies span our entire story: one is from the monopoly phase, one from the time of hegemony, and one from the era of nuclear parity. As we moved from the monopoly toward the end of the hegemony phases, the Soviet acquisition of a formidable strategic force increasingly presented us with a dilemma. The president feared that he would be faced with a choice between being nibbled to death by conflicts in the peripheral areas or bringing on a nuclear conflict that would make everything meaningless. In the West, bombers were increasingly unusable in an active way for coercion and were limited to the passive role of deterrence.

The Politics of Strategic Aircraft Modernization by David S. Sorenson. Praeger Publishers, 88 Post Road West, P.O. Box 5007, Westport, Connecticut 06881-5007, 1995, 234 pages, $59.95.

The main drivers of bomber-acquisition decisions seem to be the imperatives of strategic logic. The other conditioning factors include the reactions to armament choices on the other side of the cold war, bureaucratic interests arising largely from interservice rivalry, congressional politics, technology push, and the need to avoid the erosion of the defense industrial base. That is David Sorenson's

message. Cynics will scoff at the idea that bombers were in the main a logical answer to strategic problems; others will agree with Sorenson but wonder whether this is the same old dog biting the man.

Dr David S. Sorenson was born during World War II and is now a tenured professor at the Air War College at Maxwell AFB, Alabama. He was an enlisted man in the US Navy during the 1960s and taught for some years at Denison University. He earned his doctorate at the University of Denver in 1977. His dissertation there was about military construction and models that might explain decisions in that area. He also has worked as a research associate at Ohio State University's Mershon Center. He arrived at the War College in 1991, and the work at hand seems to be his first book, though he has had several articles published in military journals.

Sorenson uses three case studies in the attempt to infer generalizations on armament acquisition that would enhance our understanding of the process in the hopes of improving it. Wisely, he qualifies his work by asserting that any such inferences could never be definitive, much less so because of being based on but three case studies, all on bombers at that. Even the choice of these cases was necessarily arbitrary: the B-36, the B-52, and the B-2. One interesting point he emphasizes is that the first two were designed, developed, tested, and procured in the era when the uniformed military had the paramount voice in most of the choices involved. However, the process was transformed in the McNamara period so that the military influence was diminished and the civilians in the Department of Defense became the main drivers. Too, it was at about the same time that the appropriation processes in the Congress were so changed as to give its members much more of a role in the oversight of the details. To some extent, that is but a restatement of the obvious, but interesting nonetheless. More novel is Sorenson's argument that the military-dominated process resulted in a more rational selection and in more

The long-lived B-52—here in prototype at Edwards AFB, California. Sorenson suggests that its success is due to the military-dominated acquisition process of the 1950s.

effective design and procurement than has been the case since civilians took charge.

In Sorenson's arguments relating to the inferiority of civilian-dominated acquisition efforts, he is on shaky ground. The only case in the latter era he covers is the B-2, and that story is not over yet and much of the documentation remains classified. The selection of cases, in addition to being a small sample, has a disproportionate effect on that inference. What if the B-50, B-58, B-70, FB-111, and B-1 had been included? What if the experience of other nations, like the United Kingdom and (now that the Soviet archives are beginning to be opened) the USSR, had been used for comparative purposes? Doubtless the author would immediately see the difficulty: one lifetime is not long enough to cover all that, but that being so, a work like this must remain highly uncertain. Many full-length

books have been written about just one of Sorenson's cases—the B-36.

The Politics of Strategic Aircraft Modernization is about decision making. Yet it does not seem to build much upon the rich political science literature in that subfield. The classical work in that area, Graham T. Allison's *Essence of Decision,* uses the Cuban missile crisis as a single case to explore the subfield, and it is one of the most cited works in America. However, that book does not appear in the bibliography of this work, nor do the ideas from it or its critiques seem to inform the substance of this work.

Understandably, Dr Sorenson is clearly more comfortable with the period since 1945 than theretofore. Yet, there are many, many mistakes of substance throughout the work that would have been cleaned out by a competent military editor with some aviation expertise. (Billy Mitchell's *Ostfriesland* bombing

tests are moved to 1922 at one place but remain in 1921 in another; the *Strategic Bombing Survey* calls airpower *the* decisive factor in the defeat of Japan [it really does not], though in another place the book allows the submarines a role; the Air Force's pride-and-joy tank killer, the CBU-97, is transformed into an antipersonnel bomb; in a book about acquisition, the name of the Air Force Materiel Command is written incorrectly in all of the hundreds of cases where it is used; and worse, Secretary of the Air Force Sheila Widnall's name is misspelled the single time it is used.) Further, there is an infelicity of expression and a host of English errors that good copy editors would have removed. Clearly, Sorenson was not well served by the Praeger editorial staff. Unhappily, there are so many of these errors that singly would be inconsequential that they in the end tend to undermine the credibility of the whole.

I suspect that the publisher is taking advantage of the standing orders of university libraries all around America by denying this and other works the editorial effort they deserve. The list price prohibits its acquisition for your personal library, and *The Politics of Strategic Aircraft Modernization*'s credibility is not enough to warrant a high place on the Air Force professional officer's reading list. As for the librarians, they owe it to the taxpayers and tuition payers to reconsider their standing order policies.

The Approach to Nuclear Parity

Ball's bombers and Sorenson's B-52s were just coming on the line as the growth of the Soviet intercontinental ballistic missile force was making it increasingly difficult to use them in any active role. The Cuban missile crisis was often cited as a success story for the coercive use of nuclear bombers. But the frustrations of Vietnam soon demonstrated the shakiness of that proposition. As Mark Clodfelter has well demonstrated in *The Limits of Airpower: The American Bombing of North Vietnam,* President Johnson's concern was that the pressing of what was called strategic bombing (with conventional weapons) would cause Chinese and Soviet intervention. That was a principal factor preventing a decision. Johnson feared it might well lead to nuclear war, which would be a solution worse than the problem, far worse. This, according to Terry Terriff, was also a source of anxiety in the Nixon administration, which thought the outcome would undermine the confidence of our NATO and other allies in the validity of our nuclear guarantee. The president still seemed to face a choice between surrender and nuclear annihilation. Flexible response had tried to get around the dilemma by building up conventional forces. As Terriff shows in our next work, the limited nuclear options idea was in part yet another attempt to solve the dilemma, this time with the use of nuclear weapons for less than total war.

The Nixon Administration and the Making of U.S. Nuclear Strategy by Terry Terriff. Cornell University Press, 124 Roberts Place, P.O. Box 250, Ithaca, New York 14851, 1995, 252 pages, $35.00.

The Nixon administration entered office in January 1969, which was a time of great trouble. The US was nearing its humiliation in Vietnam. It was obvious that the American public would not support long, bloody, and expensive overseas wars for any but the most grave reasons, and the Soviets were clearly approaching full nuclear parity. As Terry Terriff describes it, the new regime met these changes with new policies, including the Nixon Doctrine, the completion of the withdrawal from Vietnam, the Strategic Arms Limitation Treaty (SALT) I, the shifting of domestic spending priorities, and a significant change of nuclear targeting policy. The last was declared to be the outcome of new strategic conditions associated with our NATO alliance. However, the theme of *The Nixon Administration and the Making of U.S. Nuclear Strategy* is that the real motivations

were somewhat different than those declared. Terriff does agree that the strategic factors were the main drivers, but the concerns were broader than merely the reassurance of the NATO allies of the constancy of the US nuclear guarantee to their safety. Further, there were many other factors like bureaucratic, financial, political, and technological imperatives that conditioned the structure of the new policy and the way that it was sold to the Congress, the public, and the NATO allies. In fact, his assessment of priorities among motives is similar to that of Dr Sorenson—the primary one being the imperatives of strategic logic, but many other variables had an impact.

Terry Terriff is a young scholar who was born in 1953. He did a part of the research for this book at King's College in London and is now a senior research fellow at the University of Calgary, Canada. He was the coeditor with Ivo H. Daalder of *Rethinking the Unthinkable: New Directions for Nuclear Arms Control*, published in London in 1993. He is blessed with a good writing style, and he seems to have been well supported by competent editors in the preparation of a clean and technically correct manuscript.

There were four main groupings that had an influence on the development of a new strategic targeting policy that came to be known as limited nuclear options. One was the National Security Council, which was largely dominated by Henry Kissinger. Two of the other groups were parts of the Department of Defense—one civilian, centered on the Office of Systems Analysis, and the other

The B-2 may be the last in a series of strategic air-attack aircraft or the first of a new breed.

This gaping hole in an Iraqi bunker provides a typical view of coalition command of the air.

the uniformed military, led principally by the Joint Chiefs of Staff. The remaining group was composed of the concerned parties from the State Department.

The motivations of each of these groups were somewhat different than those articulated by Secretary of Defense James Schlesinger. He had first achieved an internal consensus and then took the new policy proposal elsewhere to try to sell it to the other bureaucracies, the Congress, and especially the European allies. He made much of the need to couple the US nuclear deterrent to the security of NATO Europe, for example. But few of those who had developed the new policy had been principally motivated by that concern. Henry Kissinger, for example, is said to have been much more interested in having usable military power for conflicts with the USSR all around the periphery. He could not

count on our conventional power there not only because of the post-Vietnam drawdown and public disillusionment, but also because of its concentration in the European arena. But under the strategic targeting policy inherited from the McNamara years, there did not seem to be enough flexibility in the plans for nuclear options to credibly threaten the use of even a few such weapons in peripheral areas where the national survival was not clearly at stake.

The strength of Terriff's analysis has to do with the process more than the substance of the debate. He discusses, in order, the genesis of the desire for innovation, the internal processes within the Department of Defense for developing a consensus, the effort to recruit the support of the other bureaucracies of the federal government, and, finally, the winning of the support of the Congress and the allies.

The urgency of nuclear targeting will doubtless seem of limited relevance to the modern reader now that the cold war appears to be over. But the process of developing major new defense policies is of enduring interest to the readers of *Airpower Journal.*

Terriff is erudite and articulate and does a rather impressive job of analyzing that process. His arguments seem sound, though the purists among us will wince at his method of citation. He argues that many of his sources wished to remain anonymous, apparently because they are still active in our political life. Thus, he has granted anonymity to most of them and we wind up with many of the citations attributing the ideas and factual details to interviews with unnamed officials of the National Security Council, the Office of Systems Analysis, or whatever. Still, Terriff's argument is coherent, and the case study does explain much about the way that our government worked at a high level. That makes his work useful, if not urgent, reading for the practicing Air Force professional. Libraries with an emphasis on national security or political decision making will want to acquire it for their collections.

Nowadays, the idea that large numbers of officials at the highest levels would spend endless hours seriously debating the nuances of using nuclear weapons in place of rifles seems quaint or even a little bizarre. How did we depart that fearsome world and return to one wherein the debate is about strategic bombing with conventional weapons?

The Twilight of the Cold War and the End of Nuclear Parity

Afghanistan and the Soviet adventures in noncontiguous areas of sub-Saharan Africa, among other things, led to the cooling of the détente which had characterized international relations in the wake of the end of the Vietnam War and the conclusion of the SALT agreements. At first, both seemed to portend big trouble for the West. But as time passed, the Soviets discovered the difficulties of both counterinsurgency in Afghanistan and distant operations in Africa. All this contributed to a change in outlook in both Washington and Europe that caused President Jimmy Carter to start to restore US military power and to persuade the NATO allies to promise to follow suit. That tended to prevent the Soviets from finding the resources to see the conflict through in Afghanistan by a drawdown in either the Warsaw Pact forces or their own strategic nuclear units. All the while (it now appears) the Soviets and Eastern Europeans were stretching their social and economic fabrics ever tighter. Though hardly anyone in the West forecast it, the whole structure began its collapse in 1989. The Berlin Wall came down, and the cold war was over. The threat of nuclear war was much diminished, or so it appeared.

The Gulf War and a Revival of Nonnuclear Strategic Air-Attack Theory

Just as *USSBS* served as the springboard for the cold war debate on strategic air-attack theory and doctrine, the *Gulf War Air Power Survey (GWAPS)* promises to serve the same function in the new world ahead. Our last book is a slightly revised version of the *GWAPS* summary volume:

Revolution in Warfare? Air Power in the Persian Gulf by Thomas A. Keaney and Eliot A. Cohen. Naval Institute Press, 2062 Generals Highway, Annapolis, Maryland 21401, 1996, 344 pages, $38.95.

The short answer to the question in the title is a qualified yes; a slightly longer answer is as follows:

But if air power again exerts similar dominance over opposing ground forces, the conclusion will be inescapable that some threshold in the relationship between air and ground forces was first crossed in Desert Storm.

A Shoestring Primer on Strategic Attack
Theory and Doctrine

World War II Background. In spite of the utter decisiveness of Allied victory, there was no consensus on the impact of strategic air attack on the outcome—notwithstanding the nukes that the pioneer theorist of the nuclear age, Bernard Brodie, asserted had corrected the mistakes of Giulio Douhet. The US, led by Bernard Baruch, made an ineffective stab at establishing nuclear arms control in 1946, and SAC was then established.

The Era of American Monopoly. American leaders little doubted that nuclear technology would spread but thought it would take longer than it did. President Harry S. Truman wanted to overcome the economic bite of World War II by using the nuclear monopoly to escape the high costs of conventional military power and thus balance the budget and pay the national debt—and avoid the depression Moscow said was imminent. But the 1949 Soviet nuclear explosion and the Korean War ended that hope.

The Eisenhower Massive Retaliation Hegemony. America came out of Korea much disillusioned with the idea that the demise of Nazism and Japanese imperialism plus the coming of nukes would guarantee "One World Built on a Firm Foundation of Peace" forevermore—and with the outcome of the Korean War, which it vowed never to repeat. Notwithstanding the Soviet nuclear explosion, the US still had an enormous lead in delivery systems that it hoped would deter future Koreas or at least terminate them in the incipient stages through nuclear attacks on the Communist heartland. SAC was transformed from the "hollow threat" of the B-29s to the fearsomeness of a B-52 retaliation force—security *and* a balanced budget.

Approaching Parity: The Kennedy/Johnson Balance of Terror. Many in Europe and the US Army argued that massive retaliation would not survive the coming of full-fledged Soviet nuclear power, and the Kennedy administration agreed. It added flexible response and renewed pressure for ICBM and nuclear-weapon development to the national strategy to reassure NATO that the nuclear guarantee extended across the spectrum of conflict—and made some hesitant steps toward a renewed quest for arms control. Some have argued that the Cuban missile crisis was a trauma that convinced the Kennedy men that graduated military threats work and the Khrushchev men that they had to close their nuclear missile gap to avoid future humiliations. They did close it, and the balance of terror was fully matured. What was called strategic attack in Vietnam used only conventional weapons.

The Hesitant Dawn of Nuclear Parity. Vietnam disillusioned America in many ways, but it was not free for the other side of the bipolar world. That was one of many things conducive to a moderation of the cold war and the revival of the prospects of nuclear arms control. One result was détente and the ratification of the SALT I arms control agreements by both sides. The future seemed brighter, but Watergate and Afghanistan made it look like a false dawn to both. The Senate refused to ratify SALT II, but Afghanistan and many other things (it now appears) were badly tearing the USSR's social and economic fabric. In the US, they said the "Fighter Mafia" unseated the "Bomber Barons."

A Shoestring Primer on Strategic Attack
Theory and Doctrine
(continued)

The Twilight of Nuclear Parity. The Reagan administration undertook a massive expansion of US military power and more elaborate arms control agreements ensued—followed by the collapse of the Communist empire. Again, cause and effect were debated endlessly, but the disappearance of the bipolar world was clear enough—though whether the replacement was to be unipolar or multipolar was debatable. Many feared that at the end of the day, nuclear proliferation would bring on the holocaust so long denied. Some would say cold war deterrence worked; flexible response in Vietnam did not.

The Dawn of a New Era of Human Conflict? Still, the yearned-for "One World Built on a Firm Foundation of Peace" seemed as far away as ever. Some argued that Desert Storm was the last of the old-style wars—that the drug cartels and potential Mao Tse-tungs would learn from Saddam Hussein's experience and return to less direct efforts to undermine the security, prosperity, and balanced budgets of Western civilization. Others asserted that Desert Storm proved that the various high-tech dimensions of airpower, if properly understood, would indeed be the foundation of one more century of peace and prosperity—a Pax Americana in place of the ancient Pax Britannica.

The pages of the US Naval Institute's *Proceedings* have seldom been free of partisan views of airpower. But the publicity accompanying this book refers to it as "impartial" and it is to the institute's credit that it has published the tome with that kind of statement. (I know that there are those in the Air Force who were not satisfied with the parent *Gulf War Air Power Survey* and that the authors use *airpower* in its larger sense to include naval, marine, US Army, and coalition air forces.) Nonetheless, it is a powerful suggestion that we may be nearing the dawn of a new day in warfare. ·

When Secretary of the Air Force Donald Rice commissioned the *Gulf War Air Power Survey*, there were immediate worries that it would never reach the status that has been achieved by World War II's *USSBS*. In the first place, it was sponsored by the Air Force, whereas *USSBS* had been commissioned by the president himself—albeit originated by people associated with the US Army Air Forces. In the second place, the *GWAPS* staff-

ing seemed to have a greater increment of folks who had Air Force backgrounds than was the case with *USSBS*.

Notwithstanding the roots of the *GWAPS* in the Air Force, its head was from academia and is one of the authors of the present work: Dr Eliot A. Cohen. He was educated at Harvard and is currently a distinguished faculty member of Johns Hopkins University. A military historian, his most successful book heretofore seems to be *Military Misfortunes: The Anatomy of Failure in War* (1990), which he coauthored with John Gooch. Dr Cohen is well versed in airpower affairs among other things, having frequently been a speaker and discussant at the various colleges of Air University. His coauthor in the present case, Col Thomas A. Keaney, provides a nice blend of academic expertise, teaching experience, and practical military work. His PhD is from the University of Michigan, and he has taught history at his alma mater, the Air Force Academy. He has combat experience in the forward air control business in Vietnam and also commanded a

Thomas Keaney and Eliot Cohen argue that the US advantage in its enhancement and support functions may be even greater than in direct combat roles. A sample is the KC-135, seen here refueling an F-111 in the Gulf War.

B-52 squadron, which was selected for the annual award as the best bomber unit in the Strategic Air Command while he was squadron commander. He was one of Cohen's major assistants in the writing of *GWAPS* and now teaches at the National Defense University. The two authors are indeed a pair of scholars whose views demand attention.

In the Winter 1995 issue of *Airpower Journal*, I asserted that those who would aspire to become Air Force professionals must become conversant with the contents of at least the two summary volumes of the *USSBS*, the one on Europe and the other on the Pacific—if for no other reason than that they seem to be quoted and misquoted as frequently as the Holy Bible. If you are one of those aspirants, I fear that you must add *Revolution in Warfare? Air Power in the Persian Gulf* to that task, for it is practically certain to also

become one of the classics. It will be widely read and cited not only among your colleagues but also among your counterparts in the other services and the staffers and decision makers in Washington. This is all the more true because the Naval Institute has seen fit to publish the work, which is but a little modified version of the original. The institute no doubt has a point in its assertion that the official version is not widely available enough to be delivered to a larger audience. But the task of adding this to your imperative-to-read-soon list will not be as onerous as you might think. It is exceedingly well written, and the editing is near perfect—a pleasure to read, in fact.

Revolution in Warfare? Air Power in the Persian Gulf claims not to be a definitive history of the air war. Still, in retaining the organization of the original, it does give a

rather good overview of the experience. It starts with a summary of events and then proceeds to a set of topical chapters: planning, the effects of the execution of the plan, the achievements and disappointments of intelligence, the degree to which the Air Force ideal of centralized control—the joint force air component commander (JFACC) concept—was implemented and succeeded, and then a series of chapters on the nuts and bolts of executing an air war in a faraway desert environment.

Cohen and Keaney give full recognition to the notion that the Gulf War was unique, that the environment was well-nigh perfect for the application of airpower, and that the enemy could hardly have played into the hands of the air assault more than he did. But for all of that, recognizing that sea power and land power were also important, their thrust is that airpower came as close as it ever has to being *the* decisive factor in a war. That is not to say that either the plan or its application was perfect.

Certainly, the way that the campaign was planned little resembled the prewar visions of the ways in which that should be done. Checkmate (an Air Staff agency) got into the game more or less fortuitously, and the plan it conceived and brought to the theater was focused on strategic air attack. That was deemed insufficient by the theater authorities and excessively offensive and "strategic" in its outlook. So, the Checkmate leader was invited to leave the theater, his assistants were drafted onto Gen Charles Horner's inner planning group, and Brig Gen Buster Glosson was brought in to direct them. The original plan was greatly expanded to include more work against the Iraqi fielded forces, though the attacks on downtown Iraq were retained. In my mind, it was a wonderful demonstration of one of the Air Force's (and America's) greatest strengths—and weaknesses. The plan never survives the first encounter with the adversary, the authors say, and one needs pragmatism to adapt more quickly and effectively than the enemy does—which is what this was.

Revolution in Warfare explores the outcome of the air plan in detail. Its greatest success seems to have been the degradation of the enemy's command and control system and the incapacitation of his integrated air defense organization. Among its disappointments, they say, was the outcome of the anti-Scud campaign and the limited effects of its assault on the Iraqi weapons of mass destruction (WMD) infrastructure (chemical/biological/nuclear weapons facilities). In the technical and tactical arenas, among the greatest satisfactions were the superiority of the coalition's air-to-air technology and force structure as well as the accompanying lethal and nonlethal suppression of enemy air defenses (SEAD) capabilities. Among the least satisfying were the limitations of the arrangements for bomb damage assessments (BDA) and intelligence—even though the notion is cited that in the overall sense, the intelligence advantage over the enemy was greater than it ever had been before. The problems here were not so much in the collection function, nor even so much in the interpretation area, but in the dissemination of the product to the people who needed it soon enough for it to be useful. At the end of the day, though, that intelligence had, through formal or informal channels, proved adequate to achieving a substantial air victory.

For all our obvious materiel superiority, things were not altogether tranquil in the "tail" part of the deployment and application of airpower. As Keaney and Cohen well demonstrate, Western pragmatism was given yet another true test. Though the distribution system worked like clockwork in comparison, the supply function appeared to be a magnificent "goat rope." Having flown in the tactical airlift system in Vietnam, I felt quite at home with their description. But one would think that in the 30 years since then, we would have perfected our computer systems for keeping track of things. Far from it. Apparently the giant logistics system dumped a profusion of goods into the yards of the Saudi ports in a way that would make either Tan Son Nhut or Da Nang seem like a

A 10-Book Sampler on Strategic Air-Attack Theory*

Works for USAF Professional Development

Two for the Macroview

Bernard Brodie, *Strategy in the Missile Age.* Brodie was a pioneer, perhaps the dean, of the postwar strategic theorists. The first part of the book provides an excellent summary review of the World War II background, and the rest introduces one to the world of deterrence theory.

Peter Paret, ed., *Makers of Modern Strategy: From Machiavelli to the Nuclear Age.* The last four chapters yield a good summary.

Eight for More Detailed Knowledge

Thomas C. Schelling, *Arms and Influence.* This is one of the classics of postwar nuclear theory, perhaps the most influential. It founds one theory on the modern utility and limitations of military force as an instrument for the achievement of national political objectives.

Robert Jervis, *The Meaning of Nuclear Revolution.* This can well serve as a basic text on the subject.

Henry Kissinger, *Nuclear Weapons and Foreign Policy.* Both the book and its author have had an enormous impact on US strategy making.

Alexander George and William E. Simons, eds., *Limits of Coercive Diplomacy: Laos, Cuba, Vietnam.* This work is becoming a classic in examining another dimension of the problems Schelling grappled with using a case study method.

Irving L. Janis, *Of Strategic Air War and Emotional Stress: Psychological Studies of Bombing and Civilian Defense.* One of the enduring problems in bombing has been the difficulty in transforming physical damage into adversary behavior changes—which makes the whole thing a psychological as well as a technical exercise, and which is a major factor in inducing the uncertainties Clausewitz warned us about.

Steve Hosmer, *The Psychological Effects of US Air Operations in Four Wars, 1941–1991.* This is the latest on the subject from RAND.

Fred Charles Ikle, *Every War Must End.* This work, written by a prominent scholar and practitioner, is in part a plea to adhere to the Clauswitzean notion that war must have a political end in view if it is to be a rational thing and a proposal on how nations might go about thinking conflict through to that end prior to undertaking dangerous enterprises.

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*This sampler provides a baseline for the generalist professional officer; it is not for the specialist in nuclear or airpower theory and doctrine—such a bibliography would require hundreds of pages. I acknowledge the expert advice I received from my colleagues Col Phillip Meilinger and Profs Dennis Drew and Karl Mueller—and thank them for it.

A 10-Book Sampler on Strategic Air-Attack Theory
(continued)

John A. Warden III, *The Air Campaign: Planning for Combat.* This work is so widely cussed and discussed in the profession that you will need to be familiar with it.

One for Good Measure

Thomas A. Keaney and Eliot A. Cohen, *Revolution in Warfare? Air Power in the Persian Gulf.* This is a slightly modified version of the summary volume of the *Gulf War Air Power Survey* and is sure to become a classic that will be widely quoted and misquoted.

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model of efficiency. The software of the distribution system was not compatible with that of the supply system, and the result was that a large chunk of that profusion was lost in the storage yards—causing stuff to be reordered and further confusing the situation.

Keaney and Cohen correctly point out that the US demonstrated a substantial lead over the rest of the world (including its allies to varying degrees) in the core combat functions of airpower—air superiority, strategic air attack, interdiction, and close air support. But they add that the advantage was significantly larger in the specialized areas. Among the latter are the airborne warning and control system (AWACS) and the joint surveillance target attack radar system (JSTARS) for command and control, tactical and strategic airlift for intratheater and intertheater mobility, and SEAD units for force security and especially for space support in the various nonlethal functions now a part of that capability. Cohen and Keaney further argue that the lead enjoyed in all these areas is very substantial and that it is likely to persist for at least a decade and perhaps longer. This makes me wonder if some of our Air Force folks out at Colorado Springs who seem so eager to weaponize space might ponder this in the context of the history of Adm John A. ("Jacky") Fisher of the Royal Navy.

Fisher was the one who killed Pax Britannica and the Victorian Age, not to mention

bringing about the carnage in the trenches of World War I—or so would argue some of the reductionist historians. The British had enjoyed a huge naval lead over all possible rivals ever since Lord Horatio Nelson had dispensed with Napoléon's fleet at Trafalgar. It was a wonderful century of security, peace, growing prosperity, and increased democracy—all emerging from the fact that the English had an enormous superiority in ships of the line, the very core of sea power. In the first decade of the new century, no one else had a prayer of overtaking the British numerical lead—until Admiral Fisher threw it all away. He got behind the dreadnought program, which was such a technological leap that it made all other capital ships obsolete in one stroke. But the downside was that the British lost much more than did the others. Hundreds of their capital ships and cruisers were instantly reduced to worthlessness while the other states lost the value of but dozens. Now the British lead was only one ship to none for the Germans (and the Americans).[2] All of which, reductionist authors say, led to a naval race which in turn led to World War I and the end of the long peace.

The point for the Air Force professional to ponder might be, What if we create a space dreadnought—one that would immediately make obsolete all of our many advantages in air and space power as suggested by Cohen and Keany? Would that reduce our lead to one

Offensive counterair in the Gulf War proved devastating to the Iraqis.

MAJ MASON CARPENTER

versus zero? Would that so threaten the rest of the world's security as to stimulate a coalition against us as the perceived hegemon? Is there a case for leaving well enough alone?

Moving on from that diversion, another major point made by *Revolution in Warfare? Airpower in the Persian Gulf* is that centralized control of airpower works. The long-held dream of Air Service/Air Corps/Army Air Forces/USAF leaders has finally been realized in the JFACC system. The authors are wise enough to qualify the idea some, but they are enthusiastic for the notion. There are many doubters—and not all of them are in green or navy blue uniforms. I have heard a knowledgeable Air Force veteran say, in the presence of General Glosson himself, that the JFACC system has just papered over the problem—and our authors recognized that with the abundance of airpower at hand in the Gulf War, many of the hard decisions that the JFACC and the joint forces com-

mander (JFC) would have made in other circumstances were not required. Doctrine does not matter much when you have wall-to-wall airpower.

As indicated above, there are few who could speak to the subject with more authority than Dr Cohen and Colonel Keaney. Further, *Revolution in Warfare? Airpower in the Persian Gulf* is well organized, elegantly written, and expertly edited. It is not only a credit to its authors, but also to the Naval Institute in its decision to publish it. If you are an Air Force professional, or especially professional in one of the other services, and you have time for only one book this year (Perish the thought!), then make it this one.

Well, so much for five new books on our topic. Whether you contemplate a mentorship program in your squadron, a great books study group, or merely your own personal professional reading program, you could

well use a strategic air attack theory and doctrine as a skeleton for your enterprise. You might want to use the first two and the last on the "10-Book Sampler" (above) as openers. Only one of the books reviewed in this article is included there, but you might also want to include Terriff's work.

If you do start such an enterprise, the following questions might help you plan your next year's reading. Is formal warfare between states as a method of settling disputes any longer practical? If so, can airpower ever be the primary instrument of causing an adversary to modify his behavior to suit our objectives? Is there the possibility of an air-only campaign ever existing or must all campaigns and wars be joint? Has strategic air attack ever been *the* decisive factor, or even a decisive factor? Is nuclear warfare a possibility? Is the study of nuclear strategy and arms control worthwhile? Has there been a recent military technical revolution? Is a revolution in military affairs under way or in the offing? Is America obsessed with technology? Do service officers and civil servants always have a hidden agenda? To work toward answers, why not read one of the sampler books or a substitute each month[3] for the next year?

Notes

1. Robert H. Ferrell, ed., *The Eisenhower Diaries* (New York: W. W. Norton and Co., Inc., 1981), 6.

2. Martin van Creveld, *Technology and War: From 2000 B.C. to the Present* (New York: Free Press, 1989), 206; E. B. Potter, ed., *Sea Power: A Naval History*, 2d ed. (Annapolis, Md.: Naval Institute Press, 1981), 195; Robert L. O'Connell, *Of Arms and Men: A History of War, Weapons, and Aggression* (New York: Oxford University Press, 1989), 226.

3. Except January, which is for bowl games.

Among professional soldiers, anti-intellectualism can also express itself in an uncritical veneration of the military treatises of the past which, with almost metaphysical reverence, are taken as permanent contributions to military doctrine.

—Morris Janowitz, 1960

Error of opinion may be tolerated where reason is left free to combat it.

—Thomas Jefferson

SPACE IS MORE THAN A PLACE*

LT GEN JAY W. KELLEY, USAF

I F THERE'S ONE WORD that accurately characterizes today, it's *change*—and lot of it. Not a little bit—a lot. That's threatening to some, because they would say, "Let's just hold on here; hang on, we'll get through this rough air, this white water, these potholes. Things will steady out, and then things will be okay." That's not going to happen! The pace of change may indeed change, but it's going to increase—not slacken. And when you look at some of the things changing, it really gets your attention—people, for instance. When I enlisted, there were 850,000 people in the Air Force. Today there are 396,000. I've never been in an Air Force this small! America has never had an Air Force this small. This heightens the importance of each and every one of us still on active duty. So an award-winner evening such as this, which recognizes top performers, is more important—not less. So again my congrats to each of tonight's award winners.

Space Operations Today

Now let me change the vector a little, and let's talk about change in a slightly different context. We all fly airlines—the peanut appetizers, the pretzel entree, the safety instructions. There are no surprises, and flights usually run on time. What if the airlines didn't operate that way? What if there were only five air terminals in the United States—two on the East Coast, a couple on the West Coast, and maybe one in Chicago? Booking flight reservations would be a problem, and the waiting list—the backlogged manifest—likely would be quite long. If you wanted to fly home for Thanksgiving in 1998, you would have needed to make reservations during President Reagan's first term. But let us say you were persistent as well as fortunate and booked a flight.

What if, when you walk to the end of the jet way, there is no airplane waiting there? Instead, there is a bus to drive you to the end of the runway. When you get to the end of the runway, over to the left lies one of the wings, to the right another wing, and in the background rests the fuselage of an airplane. The engines are stored on the side of the area. You remain on the bus and watch nearly 2,000 airline employees begin to assemble the airplane. When they get it all put together—this takes a little while of course—the flight attendants invite everyone to board the airplane. Even then, the plane is still not ready to go. First, the newly assembled airplane needs to be fueled. Next would come a series of engine checks. And then, the very first time that the newly assembled airplane moves, it moves to take off down the runway. When its flight is completed, nothing on the airplane but the passenger compartment will ever be used again.

Now, some of you think that is rather foolish, but let me tell you, that's how this great country of ours gets to space every day. As Lt Gen Don Cromer (retired) once said, "We use the launchpad not as the end of the runway, but as an extension of the factory." We put the rocket together and mount the payload, all right there at the launchpad! And, oh, by the way, there's only a couple of pieces of concrete called launchpads on the East Coast of the United States from which you can launch a Delta II rocket or a Titan IV rocket, let alone a space shuttle. About the same thing is true on the West Coast. There's something wrong with this picture.

Space Operations Tomorrow

Back in the summer of '93, the chief of staff of the Air Force called and asked Air University to do a study on the Air Force and space—to take a look into the far future and identify the military capabilities that were important to the United States Air Force and the nation in the far future. The SPACECAST 2020 study generated a number of ideas, most of which were recently ratified by the Air Force Scientific Advisory Board in its study, *New World Vistas*. The SPACECAST 2020 study reached some interesting observations. These can be described in three ways: as insights into technology, insights into orientation or philosophical perspective, and observations regarding social change. All aimed at changing the way in which we think about space operations.

From a technology standpoint, the study found uses and values to things that are over 30 to 40 years old. JP-5 and hydrogen peroxide—the same rocket propellant that was used by Chuck Yeager—emerged again as a potential propellant for a future, transatmospheric vehicle (TAV) or space plane. At the other end of the technology spectrum, the study identified the utility of high-energy density fuels—antimatter.

From a philosophical point of view, the study observed that today we have magnificent command, control, communications, and intelligence (C^3I) or a command, control, communications, computers, and intelligence

(C^4I) architecture. The architecture was designed so that the person up on top of the hierarchy, the commander in chief, could get an order to the troops down below in a timely manner. And, by and large, that's also the way we pass information because the information architecture arose from the communications architecture around which it was built. This command or top-down architecture creates some problems.

Some comments which came out of the Gulf War—Desert Storm—are an example: "The system didn't work. I couldn't get the information I needed at the right time." The folks back in Washington said, "We don't understand that. We sent you a thousand pictures. The one you wanted had to be in there somewhere!" Thus, the architecture to pass information suffered from the fact that it was really designed for passing orders—not information. The warrior in the desert, on the beach, in the jungle, in the dark, all alone, wants to know where the bad guy is. Is he around the corner? Is he over the hill? And how many? And how are they equipped? The warrior has a need for immediate and accurate information. Thus, we need a demand-oriented architecture to complement the command-oriented architecture that we already have. The *New World Vistas* study calls this need the need for "Knowledge on Demand," and the Joint Staff calls it "Dominant Battlespace Awareness." Both followed SPACECAST.

The third observation can be described as a commercial and societal point of view. We're all familiar with airways; we fly them all the time. We feel safe in them. They are regulated. They are controlled, deconflicted. But who's working space ways; who's in charge of that operation? It's not sufficient to know what is in orbit and where the orbiting objects are. If there is an increase in orbital objects in the future—and there most assuredly will be—some agency or entity must be responsible for deconflicting objects. Thus, just as airways and jet ways arose to handle increased traffic, space ways are overdue for arrival.

Space Lift

SPACECAST was similar to many other studies in that it began by focusing more on being in space than on getting to space. We figured that surely by 2020, someone would have solved the space-lift problem. But then we thought again and decided to come up with some options and some ideas of our own. We set up two separate teams to look at space lift—one to look at the nearer-term, alternative means of access and another to look at some of the more radical means that do not "depend on a tail of fire." The radical team found, as did others before it, that antimatter was a great idea, but it's not likely to solve our problem soon. The alternative team found Capt Mitch Clapp and his concept of a TAV.

There are many paper solutions to real problems, and Mitch may not have had the perfect solution, but he did have a good idea with a couple

of interesting aspects to it. First, its payload capability wasn't too interesting until the team discovered that expert after expert was telling us that microminiaturization plus high-power computing was going to enable drastically smaller, lighter satellites. Second was a realization that firsthand experiences are important to Americans. Generations of Americans are growing up on airpower. They can see, touch, hear, and experience it. TAV can bring that same thing to America as a space-launch vehicle.

We noted also that the United States Air Force does not assemble and launch, hands-on if you will, any space-lift vehicle. I think the last one we did was Atlas, an old ICBM. Today, airmen monitor or oversee contractors who perform vehicle assembly and launch operations. In other words, we watch, but we don't do. If space lift were like baseball, the Air Force would be like the team owner—we've always got a nice seat at the park (the launch), but we don't play third base and we don't bat. We watch. Now some might say that's okay—today's space-launch systems were designed for engineers by engineers. I say we need a new philosophy for tomorrow. We need systems designed to be operated by well-trained college graduates—history majors!—and maintained by well-trained high school grads. That's a change for space—but normal for our Air Force!

Planning

Today the Air Force uses a linear or evolutionary planning system. Major commands identify requirements and do the development. Headquarters Air Force crunches the numbers and does the analytical planning. The Office of the Secretary of Defense reviews the work and selects the system—corporate planning, if you will—and together with Congress, funds it. In this linear process, there's always a follow-on, an X system, out there at the end on the right-hand side of the chart. The follow-on fighter, bomber, missile, or space lifter takes advantage of opportunity as it arises, incident to the process. We have done some exciting things along the way—the U-2 and the SR-71, some tremendous satellite systems, the B-2, and the F-117. But those were the products of creativity and innovation aside from the process. We need this creativity and innovation—this sharp stimulus to our thinking, these maverick ideas—to be embraced as an active and accepted part in the planning process, not aside from it.

This is not to say that evolutionary planning is bad and maverick planning or revolutionary planning is good. It's that they work much better when they complement one another. Maverick planning can point the way to a great, new opportunity.

Alternate Futures

Planning for the future is sort of like gambling—a crapshoot! Planning for alternate futures—different futures—is more interesting because no one

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knows what the future will be. What if the road to 2020 is more peaceful than violent? What if the concept of "bad" fragments and moves more toward the concept of gangs and cartels as opposed to an Evil Empire? What if, because of this fragmentation, there is greater economic and technological competition than in the Evil Empire days? In this future, technology proliferates. The use of space increases because someone flattened the speed bump called space lift so that it's now reasonable, reliable, and routine versus the way it is today.

But focus not just on the remarkable changes that occur in this future. Focus also on the thing that will not change—human nature. Someone's always going to want the other guy's stuff, and in this world, "stuff" can be information! Information, we all know, is becoming increasingly important—in fact, critical. Alvin Toffler suggests that information or knowledge and the means to produce it are the wealth of the future.

The 9 August 1995 headlines of *USA Today* were "Windows 95 Won't Be Delayed" and "Computer Sales Exceeded TVs in 1993." It also noted that the value of Microsoft® on the stock market exceeded that of General Motors. We are moving to a time when knowledge is more valuable than material things. So, in a way, information equals wealth. Someone will want to achieve leverage and power by denying access to and use of space—and thus information—to someone else. Space will increasingly be the place to gain and, in turn, to deny to others when necessary—and along with it information and thus wealth and power. Its importance to daily life will become vital—therefore, the importance of being capable. It seems to me that it will always be necessary to protect against the high-end threat—that which can bring us to our knees, that which can directly imperil our vital interests.

Once we have become as dependent as I believe we will upon the vantage of space, then I believe denial of that vantage will strike at our vital interest—and therefore rise to an unequivocal mission in space to defend our vital interest there. Thus, the "need" is clear. Likewise, I believe "opportunity" exists. The question becomes one of do we sustain our lead, or do we throttle back on any lead we already have? Do we demonstrate greater "competency," or do we let others become more competent than we?

Shaping the Future We Want

My friend Jacques Klein suggests that as we look back in military history, we note that nations are known for certain things: Rome was known for its roads and legions in a time when land was critical. Britain for ships and its navy when commerce depended on the sea. And in a time when airways and space ways are—and will be—vital to our national

interests (and others'!), America will be known for its airpower and space power. But Saturn flies no more, and we didn't build Energia or Ariane.

So who will be in the driver's seat when the space-lift speed bump gets flattened and the breakthrough occurs? Would America and the Air Force rather be known for

- Hootie and the Blowfish and MTV? or TAV?
- staying with evolutionary planning or aiming higher and redrawing that line through maverick planning?
- doing or watching?

Space Is More than a Place

It was said quite some time ago that space is a place—not a mission. I believe space is more than just a place. It is more than a place because there is no other "place" like it:

- Space lets you see not just over the next hill—but all hills.
- Space lets you be not just in one time zone—but all time zones.
- Space is more about time than means.

The vantage of space provides opportunity and advantage. To relinquish the vantage is to let opportunity pass, to resign ourselves to becoming disadvantaged. The Air Force and its industry teammates have always been innovators—and, yes, the mavericks too. We are writing the next chapter of the Air Force in space. And with tomorrow's Air Force in the hands of the award winners recognized this evening, it's going to be great!

Maxwell AFB, Alabama

THE AIR AND SPACE ALTERNATIVE

Lt Col Gary Endersby, USAF
Maj John Brence, USAF

THE BOTTOM LINE for determining the value of any military force is its ability to effectively achieve its nation's political objectives. Today, our national military strategy, based on our national security strategy, defines the value of our military forces in terms of their presence and power-projection capabilities. However, ever-shrinking defense budgets and declining force structures dictate that we look for more effective and efficient ways to carry out these traditional missions. In this light, this article examines the value of space forces and land-based air forces.

Traditionally, power projection and presence have been associated with localized military forces. This concept is dated because it doesn't recognize that air and space forces are capable of exerting influence

anywhere on the globe, at any time. The Air Force white paper on global presence reexamines the traditional concepts of presence and power projection and offers new alternatives, defining power projection as a

means to influence actors or affect situations or events in America's national interest. It has two components: *warfighting* and *presence*. *Warfighting* is the direct use of military force to compel an adversary. *Presence* is the posturing of military capability, including nonbelligerent applications, and/or the leveraging of information to deter or compel an actor or affect a situation. (Emphasis in original)[1]

Further, it espouses three tenets for moving beyond the traditional concept of presence:

- All military forces can exert *presence*;
- Forces have unique attributes that affect the scope and quality of the *presence* they exert and complement each other when appropriately applied; and
- Technological advances are enhancing the contributions of military forces to *presence* missions. (Emphasis in original)[2]

Global presence considers the full range of potential activities, from physical interaction of military forces to virtual interaction achieved with America's information and space-based capabilities.

With this in mind, the objective of military presence is not simply to be physically present as events occur but to deter, compel, or affect those events. Presence and influence are related, but they are not synonymous. One can achieve presence in some circumstances by sending a carrier battle group or amphibious force; in other circumstances by rapidly deploying Army elements; or in still others by unleashing space power and airpower in the form of Air Force warplanes quickly launched from distant bases—including those in the continental United States (CONUS). In all these cases, presence is designed to influence a potential adversary. Mere physical presence is no guarantor of influence.

A traditional view of power projection and presence holds that the Navy's ability to operate in the world's coastal or littoral areas makes it the most visible and flexible service supporting forward presence. However, this definition does not acknowledge that littoral presence may or may not provide an avenue for achieving influence. Let us examine this traditional solution to power projection and presence in greater depth.

At present, when 14 days is considered the maximum warning time for an emergency and budgets are fiscally constrained, many traditional solutions are no longer attractive. First, given the fact that a naval task force has a top speed of approximately 30 knots, one can easily conceive of many situations in which such a response time will not be adequate. A carrier battle group may take many days to respond, depending on its location relative to the crisis area. However, air and space forces can respond in a matter of hours rather than days or weeks.

Second, let us examine the notion that an aircraft carrier can arrive on scene with 70–75 aircraft. At first glance, employing naval task forces

whenever possible sounds very efficient and cost-effective. However, in addition to the rather extensive costs of operating a naval task force, there are significant capital costs as well. The aircraft carrier is accompanied by three to five surface combatants, one to two submarines, and one to two surface support ships. A *Nimitz*-class carrier costs $3.5 billion, and her escorts each cost from $.4–1.8 billion apiece. Add to that the cost of the planes on the carrier itself, and a significantly different picture emerges as to the real costs involved when the nation's leaders deem that a military response is appropriate.

We should also carefully examine the real power-projection capability of carrier-based air. Of the carrier air wing's 70–75 airplanes, typically only 54 are able to employ air-to-surface weapons over land. In addition, a certain number of these aircraft conduct fleet defense (the actual number is based on the perceived threat to the carrier battle group). Furthermore, the F/A-18 aircraft, which makes up nearly half of the carrier's aviation assets, has a combat radius of 350 miles unrefueled. The fact that the carrier has to stand some reasonable distance out to sea further reduces the effective combat range of the F/A-18. Thus, the ability of carrier-based aviation to project power ashore is limited, especially if naval aviation is not supported by land-based air-refueling assets. Finally, inherent dangers to naval forces operating in the littorals will continue to restrict the utility of naval task forces. Constricted waterways, the increasing threat of diesel submarines, and an adversary's introduction of extended-range aircraft all combine to make littoral operations difficult and costly. Although naval forces are an important component of our overall military force structure, naval task forces may not always be the answer to America's power-projection and presence needs.

Keeping in mind the above-mentioned definition of power projection, as well as its implications for presence, let us examine the air and space alternative. Space assets continuously monitor global events. Not only do they monitor the situation, but they are an integral part of the command, control, communications, computers, and intelligence (C^4I) system that ensures rapid crisis response. This flexible C^4I system, when married to the concept of "global reach–global power," ensures that land-based air assets will be at the right place, with the right numbers, at the right time, much more efficiently than ever before. Whether the assigned mission is a strike, a military operation other than war (MOOTW), or a sustained operation against a determined foe, air and space assets offer viable alternatives to our nation's leaders.

Let us examine this assertion in more detail. Since the object of presence is not simply to be physically present as events occur, but to deter, compel, or affect those events, air and space forces oftentimes offer elegant solutions to difficult problems. Extending their range through in-flight refueling, land-based air assets are able to reach any corner of the

globe in a timely fashion. Further, the airlift capability of land-based aviation can deliver critical cargoes anywhere on the globe. By exploiting such advanced technologies as stealth, precision weaponry, and advanced information systems, land-based air assets are also able to precisely deliver the right weapon, to the right place, at the right time. These capabilities, operating as a synergistic whole, make airpower and space power both a potent instrument of national will and a means to deter, compel, or affect foreign powers as necessary.

Through their inherent flexibility, airpower and space power offer two other critical advantages. First, they can be used with other military forces and other instruments of national power, making the sum of their efforts much greater than the individual parts. Second, because of their ability to operate and maintain global vigilance from the CONUS, land-based air assets in combination with space assets are extremely effective—both in terms of cost and capability.

In conclusion, air and space forces provide viable alternatives to traditional means of power projection and presence, thus making global presence through global reach–global power a reality. The important thing to remember is that the objective of presence is not mere physical presence but the ability to deter or compel an actor—or affect a situation. In the final analysis, the only question of importance is, What is best for America? The bottom line for determining the value of any military force is its ability to effectively achieve its nation's political objectives. Land-based air assets in combination with space assets do just that. They provide new alternatives to traditional problems.

Maxwell AFB, Alabama

Notes

1. *Global Presence 1995* (Washington, D.C.: Department of the Air Force, 1995), 3.
2. Ibid., 8.

TECHNOLOGY AND STRATEGY

LT COL ROY A. GRIGGS, USAF

TODAY WE ARE seeing a rapid growth of technology, or as some term it, a technology explosion, and it is affecting our military strategy. But this is nothing new. Throughout history new technology has been the impetus for new strategies and eventually changes in warfare. However, to be a true revolution in military affairs (RMA), changes must also occur in rules, equipment, organization, training, doctrine, and just about everything else.

There is considerable evidence to suggest that we are in a period of revolutionary change. We are witnessing advances in nonnuclear technologies such as stealth, precision guided munitions, and

sensor-to-shooter data fusion. Also, information technologies such as advance sensors and open-source information networks are proliferating worldwide. Rapid advances in computational power are dramatically increasing the pace of developing and understanding new technologies. These developments may provide opportunities for countries other than the United States to develop unique challenges in the military arena. So, it is crucial that we maintain our competitive military edge during this period. To do that, the United States must exploit key technologies, alter its traditional approach to system development, identify new concepts of operation, promote organizational innovation and adaptation, and use simulation and modeling to make operational decisions. Technology interacting with systems and organizations will produce new strategies. As such, this article centers around three areas that I think best demonstrate the connection between technology and strategy: (1) technology demonstrated in the Gulf War, (2) technologies currently impacting strategy, and (3) technology and future war. Before proceeding, it is necessary to define technology and strategy.

Technology, according to *The American Heritage Dictionary*, is "the body of knowledge available to civilization that is of use in fashioning implements, practicing manual arts and skills, and extracting or collecting materials." It is society's way of providing its members with those things they need or desire. From this rough definition, it can be seen that the concepts of technology and society are closely related, even though society consists of people and their laws and technology consists of devices and methods. Technology has played a critical role in warfare since man began to fight with more than his bare hands. *Strategy*, on the other hand, is a broad term that looks beyond the battlefield to the theater of operations and forward to relative national means and ends. It tells us how to proceed from here to there and how to set priorities.[1]

As we review the link between technology and strategy, one of the best examples we have to draw from is Desert Storm. As we assess the association between technology and strategy in Desert Storm, there is considerable debate about whether or not it was a revolution in military affairs, or what the Russians have called a military-technical revolution (MTR)—a change in warfare brought about by the application of new technologies into military systems combined with innovative operational concepts and organizational adaptation to alter fundamentally the character and conduct of conflict. Some think Desert Storm was the end of an era; others say it was the beginning of one. One thing is for certain: Desert Storm demonstrated a marriage of technology and strategy unlike any we have witnessed in some time. Technology definitely gave the coalition a decisive edge. The uniqueness of the Gulf War is partly reflected in its characteristic technologies and equipment.

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After World War II, Gen Dwight D. Eisenhower and his staff identified what they believed were the five most important pieces of equipment contributing to the US success in Africa and Europe. Eisenhower speaks of them in his memoirs. They were the "Duck," an amphibious vehicle, the bulldozer, the jeep, the two-and-a-half-ton truck, and the C-47 airplane. Curiously, although regarded as among the most vital elements of US success, not one of the last four was designed for combat.[2]

Thomas A. Keaney and Eliot Cohen used this approach in their analysis of the air campaign in Desert Storm (*Gulf War Air Power Survey—GWAPS*). To mirror Eisenhower's example, they identified five technologies that seem to best characterize the air campaign. The five technologies chosen were stealth/low observability; laser guided bombs (LGB); aerial refueling; the high-speed antiradiation missile (HARM); and the secure telephone unit, better known as the STU-III.[3] Each technology brought a unique characteristic to the air campaign.

Stealthy, low-observable platforms were used to attack Iraqi air defense systems, leadership, and communications targets early on the first day of the war. US forces used three stealth/low-observable platforms: the F-117 stealth fighter, the Tomahawk land attack missile (TLAM), and the conventional air launched cruise missile (CALCM). According to Keaney and Cohen, none of these systems figured in the deployment plans envisioned in pre–Desert Shield operation plans. However, they became vital parts of the strategic air campaign. "Low observability made possible direct strikes at the heart of Iraqi air defense systems at the very outset of the war." In the past, air forces had to fight through elaborate air defenses and accept losses on their way to the target or roll enemy defenses back. "In the Gulf War, Iraq's air defenses were immediately struck, and they never recovered from those initial, stunning blows."[4]

F-117s were the nucleus of the strategic air campaign. They flew only 2 percent of the total attack sorties yet struck nearly 40 percent of the strategic targets. Throughout the war, they attacked with complete surprise and were immune to Iraqi air defenses. "In a fashion analogous to a virus attacking a cell," F-117 stealth fighters destroyed Iraq's air defense network, shattered its integrity, and opened up the country to strikes by older, nonstealth aircraft.[5] All the stealthy platforms used needed minimal penetration support from other aircraft and were able to provide stealth to much larger forces by disabling the enemy's air defense system, thereby making all aircraft harder to detect and attack. Stealth restored a measure of surprise to air warfare. "An attacker armed with stealth and smart bombs had an immense psychological and military advantage over an opponent without them."[6] Stealth also provided the rest of our airpower freedom of action that otherwise might not have been attainable.[7]

In conjunction with stealth, precision bombing provides a tremendous leap in lethality. "The average accuracy in so-called daylight precision

bombing raids in World War II was 3,300 feet—over 1/2 mile. To get a 50–50 chance of hitting the target within 15 feet, you had to drop 16,000 bombs."[8] During Desert Storm, the story was very different. Few scenes were as vivid on television as the picture of a guided bomb going through a ventilation shaft in an Iraqi headquarters building. From all appearances, a new age of precision bombing had emerged, replacing years of reliance on large numbers of less accurate weapons.[9] As a matter of fact, this new age has been developing for years. As Keaney and Cohen note, precision bombs are not new. They have been around for over 30 years. Radio guided bombs were used in World War II, and many other precision weapons were used in Vietnam. However, during the Gulf War, LGBs achieved dramatic success. One reason was the early neutralization of the Iraqi air defense systems. The wartime preeminence of LGBs, a not so new weapon, which comprised only a small part of the munitions expended, is easily explained. LGB attacks were needed to attrit the heavy Iraqi armor in the Kuwait theater.[10] Following is an example:

> The use of F-111s, F-15Es, and A-6s carrying 500-pound LGBs against dug-in Iraqi armor was one of the major innovations of the war and marked a major turning point in the destruction of the Iraqi army. In fact we destroyed or neutralized the equivalent of a Division's worth of armored vehicles on some nights. Also, this episode was an excellent example of the flexibility of the weapon, the aircraft, and the organization in dealing with the unexpected. Throughout the air campaign, the stealth assets were used to attack even the most heavily defended areas.[11]

This was revolutionary because the ordinary doctrine of a bombardment campaign is to attack only those targets where our losses are tolerable and to give up on the targets that are too tough. But in the Gulf War, stealth assets suffered *no losses*. Every target in Iraq was available, and virtually every target attacked was destroyed by one or two precision weapons.[12] In retrospect, the Gulf War air campaign heralded a new type of campaign. In conjunction with jointness, it demonstrated our ability to conduct parallel or nonlinear warfare. The fielding of the F-117, the TLAM, and other low observables enabled us to simultaneously attack a broad variety of target sets. Stealth and precision redefined strategy.

Air refueling was vital to our success in the Gulf. Again, a not so new technology had a revolutionary impact. Air refueling between aircraft was developed well prior to World War II and has been a part of normal US air operations since the 1950s. It was absolutely essential to deploying aircraft and to the war itself. Some aircraft required as many as 17 refuelings to deploy from the United States to the Gulf region. More than 100 tankers operated as part of the Atlantic and Pacific air refueling bridges, thereby permitting the rapid deployment of some 1,000 fighters, bombers, and support aircraft. During the war, tankers flew almost 5,000 sorties, totaling nearly 20,000 flight hours, refueling almost 15,000 Air Force, Navy, and Marine airplanes.[13] The importance of the refueling mission cannot be described by merely reciting the numbers of sorties, aircraft refueled, or

gallons of fuel dispensed. The "strike packages" that hit Iraq on the first night of the war were successful only because of repeated aerial refuelings going to and returning from their targets.[14] Air operations without the extensive support of aerial tankers would have definitely changed the character of the war. How much is uncertain. One thing is for sure—initial deployments to the theater would have been delayed, making more use of en route bases and requiring considerable logistical support. Also, because of the ranges to the targets, all dimensions of the air campaign would have been altered.[15]

The weapon that contributed most to command of the air over Iraq was the high-speed antiradiation missile (HARM). Over 1,067 were fired. They effectively neutralized surface threats and were the primary lethal means used to suppress enemy air defenses.[16] On the first night of the air war, an elaborately orchestrated combination of stealth aircraft, specialized electronic warfare aircraft, decoys, cruise missiles, and attack aircraft delivered a sudden, paralyzing blow to Iraq's integrated air defense system, from which it never recovered. According to Rick Atkinson in his account of the Gulf War, more than 200 HARMs were fired in the first night and fell like a "volley of arrows" on dozens of Iraqi air defense networks.[17] These defense systems, which had cost billions of dollars and taken years to construct, were crippled in less than an hour. The HARMs were so effective that Iraqi operators would, in fact, turn off their radars if they knew a HARM-carrying aircraft was in the area. As the war progressed, the radar threat was reduced substantially because of the Iraqi fear of HARMs. Aircraft could now fly in some areas where radar-guided, surface-to-air missiles (SAM) would have normally posed an unacceptable threat.[18]

The STU-III was an invaluable piece of support equipment for the units that deployed to the Persian Gulf. Over 350 were used in the area of operation alone. The STU-III and field phones, as well as secure fax machines at the headquarters and the Pentagon, enabled air campaign planners and staffs to preserve operational secrecy and still establish the informal and ad hoc organizations to conduct the campaign.[19] Keaney and Cohen discussed how the STU-III enhanced battlefield planning and created the potential for a tremendous volume of communication between parallel groups in the theater and the US dealing with everything from selection of targets to status of various spare parts and to faxing target information. All this was done without the Iraqis ever knowing what was happening. The STU-III, like the other four technologies featured, came into its own in the Gulf War.

For the most part, these four technologies were not really new and were available in less sophisticated forms during the Vietnam War.[20] All these technologies, however, were vital to our success in the Gulf War, but the global positioning system (GPS) was just as important. GPS is a satellite-based, radio-navigation system that provides precise worldwide

three-dimensional position, velocity, and timing data.[21] It enables us to know our position or location. During the Gulf War, 16 GPS satellites provided navigation and positioning data. GPS receivers were used throughout the theater to assist forces at sea, on land, and in the air. For example, GPS fixed navigational positions during mine-clearing operations and provided launch coordinates for ship-firing TLAMs. Among other uses, GPS-guided maneuver units helped minimize fratricide, registered artillery, and precisely located land mines.[22] The Air Force used GPS to guide aircraft to targets. Situational awareness, which is absolutely essential, integrated with stealth is highly lethal and is a powerful tool.

The adoption of new technology does not constitute a revolution in itself. It is a far more complex phenomenon involving new operational concepts, organizational change, and other aspects that span the entire spectrum of military operations. But technology can lead to new strategies. Two examples have already been discussed: stealth and precision. As we've seen, the marriage of old and new technologies brought about a fundamental change in the way air campaigns are conducted. Let me highlight two other examples—air supremacy and information dominance.

At the high end of modern conventional conflict, no form of military power—land, sea, or air—has been employed effectively without first controlling the skies. Because the coalition established air supremacy early in Desert Storm, we were able to traverse at will over Iraq, while at the same time our ground forces operated below it in a protected sanctuary. In conjunction with traditional methods, technologies such as stealth, GPS, and space-based information-gathering systems contributed to establishing air supremacy in the Gulf. Early air supremacy in future campaigns will be critical. Once control of the skies has been seized, everything else will fall into place.

Another example is the power and potential for what some are calling information dominance. In the Gulf, information supplied by space systems, airborne warning and control systems (AWACS), and the joint surveillance target attack radar system (JSTARS) began to give commanders a current, comprehensive, and shared view of the battlefield along with the capability to redirect forces against time-urgent targets. As we saw, the potential is there, but we also saw some painful limitations in the war. For all our advances in command, control, communications, and intelligence, it still took hours, even days, for target data to reach the combat crews that fight the air-to-ground battle. During the Gulf War, we developed some work-arounds, but we need to find permanent solutions. In the future, we will need information platforms that can provide real-time targeting information to long-range, precision guided advanced conventional munitions. Our goal is to have freedom of action with our information systems while blinding or manipulating our opponent's systems. We must get inside our opponent's decision cycles. These activities can take place

either before a conflict by altering a potential foe's perceptions of our capabilities and intentions or after hostilities have been initiated. In the latter case, our tasks are more difficult. Stealth and precision guided weapons will help us in this regard. These technologies, in combination with emerging communication technologies, will enable simultaneous and sustained attacks on broad sets of strategic targets, paralzying or dramatically slowing an enemy's decision-making loop. Additionally, we will soon be able to provide real-time intelligence directly to the cockpit. This can also help us actually get inside the enemy's decision cycles, enabling responses to enemy activities and forces before they directly threaten American forces. All of these activities relate to information dominance. Control of the battlefield in the future will increasingly depend on how well we are able to control the information available to forces on both sides of the battle. Information dominance conducted aggressively will allow the United States to retain the technological advantage and maintain the initiative in the international arena.

Perfecting these new concepts and technologies in the absence of a major conflict is a difficult task. Modeling and simulation offer the greatest opportunity to understand and adapt to these emerging technologies and concepts.[23] Also, through advanced simulation techniques ranging from advanced theater dynamics models and simulators to networks of simulators and computer-assisted manufacturing and design, forces can be trained and equipped far more effectively and efficiently than ever before. The cold war is over, and so are cold war budgets. We simply cannot afford to conduct business as we have in the past. Fortunately, modeling and simulation technology is getting vastly better and cheaper, which should help offset reductions in defense spending. This can help us to better equip and effectively train our forces despite reductions in defense spending. Modeling and simulation will continue to receive increasing emphasis in all areas within the Air Force. We are receiving big payoffs in readiness and support for decision making. Readiness includes training, war gaming, doctrine, and strategy. Decision-making support includes mission-area analysis, cost-benefit analysis, and other analyses that support the requirements process, research and development, test and evaluation, and so on.[24]

Dr Edward Teller, father of the hydrogen bomb and the person who convinced President Ronald Reagan of the value of the Strategic Defense Initiative (SDI), reiterated that while technology may eventually replace people in high-risk combat situations, humans will remain the decision makers.[25] Dr Teller believes that modeling and simulation applications to train leaders will be vitally important. In this arena, the Air Force has some specific needs; we need better air warfare simulations. Our current ones are not realistic. For example, we need better modeling of the effects of command, control, communications, computers, and intelligence (C^4I) on

combat operations not only for friendly forces but also for the potential adversary. Information warfare, as I have noted, is a key facet of the revolution in military affairs. Lastly, we need better modeling of strategic attack and some aspects of interdiction. We saw in Desert Storm the value of these missions. Now we need to replicate that value in realistic simulations. The modeling and simulation step is an important one, not only for operators but for the whole Air Force. Modeling and simulation can be a real test bed for developing new technology and testing its impact on strategy.

Now let's talk about future technologies and their implications for strategy. I believe we are at the beginning of a revolution in military affairs. Even though all its implications are not known, it may be a change as momentous as that which occurred when nuclear weapons were invented. We are moving toward an era of brief and intense conflicts waged by forces that are relatively small compared to those being fielded today. In the future, we will have to fight and win with a smaller force and at extended ranges. We will be extremely dependent on our power-projection capabilities. These kinds of future conflicts will emphasize high-technology warfare and play on our aversion to protracted and costly conflicts (in terms of both casualties and resources). For successful military operations, we must be able to quantify the threat, plan the operation, mobilize the forces, transit to the theater safely, and project lethal/nonlethal force precisely against a sophisticated enemy with relatively few casualties and minimum collateral damage. High-technology wars might also avoid potential problems associated with a long war, problems such as Reserve call-ups, high casualties, and a growing reliance on overseas suppliers for key components to US weapons. Yet, it is precisely because this future war paradigm seems to be well suited to US needs that competent enemies of the United States will try to insure that the nature of conflict is otherwise. For example, clever adversaries will try ambiguous aggression to avoid conflict with the US. If they cannot, they will most likely attempt to pursue asymmetric strategies to deny America its advantages by avoiding our strengths, exploiting our vulnerabilities, prolonging the conflict, trying to increase US casualties, or blurring the distinction between military and civilian targets. We have to have the capability to fight a broad range of conflicts—our opponents do not. Our air forces must be able to respond to a very wide range of demands across the entire spectrum of air taskings from global situation awareness to theater conventional operations to humanitarian airlift to—whatever. The future tasking of the Air Force will spring from new, nontraditional challenges.

Future conflicts will also be totally joint. One-dimensional strategies—built solely around airpower or any other weapon category are misguided. The nation needs a balance of land, sea, air, and space forces. We should approach any potential engagement with an optimum mix and optimum

timing in the application of forces to achieve the best results with the fewest casualties. Stealth, precision, information dominance, and simulation and modeling will help us remain preeminent in many aspects of future warfare.

We are in a period of revolutionary change. Even though all the implications associated with the revolution in military affairs are not known, American technological prowess and many dedicated men and women will give us the potential to meet tomorrow's challenges. If we pursue our quest for better technology and strategy, we will maintain our global reach and global power throughout the twenty-first century.

Headquarters USAF

Notes

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13. Hallion, 138.

14. *Conduct of the Persian Gulf War: Final Report to Congress*, vol. 1 (Washington, D.C.: Government Printing Office, 1992), 170.

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17. Atkinson, 45.

18. Cohen and Keaney, 230.

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21. *Conduct of the Persian Gulf War*, 806.

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23. Lt Gen Thomas G. McInerney, address given to the Electronic Security Command and AFA Symposium on Modeling and Simulation for the New Defense Acquisition Strategy, Washington, D.C., 24 March 1994.

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CHILDHOOD'S END

A PERSONAL VIEW OF THE FUTURE OF AIRPOWER AND THE AIR FORCE

Lt Col D. Robert Poynor, USAF

THE UNITED STATES AIR FORCE is at a crucial point in its history and development. It has emerged from the long shadow of World War II and the cold war—conflicts with defined enemies whose closeness provided clear focus and urgency to Air Force planning and thinking. Bolstered by a generally held theory of long-range warfare, we airmen felt little need to closely examine the future direction of airpower. Any talk of future airpower issues quickly devolved into dreams of systems that went further and that were faster and more powerful than ever before. We discussed nothing fundamentally new—after all, weren't Billy Mitchell's airpower theories essentially proven in World War II? Wasn't strategic airpower the linchpin that successfully held the Commies at bay for so long?

We now live in interesting times. The threats that held our attention have dissipated like a morning mist, leaving us without a benchmark against which to measure ourselves. Internally, the Air Force is at a crossroads: we have all read Carl Builder's *The Icarus Syndrome: The Role of Air Power Theory in the Evolution and Fate of the U.S. Air Force,* but what to do? We fought a lopsided war in the Middle East that seemed to vindicate everything the airpower priests claimed, yet the service still struggles with its identity and sense of direction, all made worse by recent, deep budget cuts and intense interservice competition over roles and missions. To complicate our thinking, we are told that we are on the cusp of a revolution in military affairs driven by information technology whose impact on both the civilian and military worlds is at the moment unclear but definitely has profound possibilities.

What's needed is a new basis for thought about aerospace power—that unique medium which makes conflict three-dimensional. Our problem is that our philosophical underpinnings—what I call the force-centered view of airpower—will no longer serve the Air Force in the next century because the nature of international conflict is changing in ways Mitchell and his contemporaries could not envision. A brief examination of the historic context that influenced early airpower visionaries would be helpful at this point.

Airpower thinkers such as Mitchell and his contemporaries were educated in warfare as it existed around the turn of the century. By today's standards, competition between states was rather simple: one attempted to persuade another state to accede to one's wishes (the role of

diplomacy). Failing that (and if the issue were sufficiently important), one declared war and pressed on to the enemy's center (usually his capital city) and defeated him utterly. This direct approach doesn't always work today, because the world has changed radically since Mitchell's time. We are much more sophisticated in our relationships, largely due to the interdependence of trade and the rise of information systems. Nations in competition (a simplification because nonstate actors are now major players) have many more instruments short of armed conflict with which to influence each other. Thus, we have more tools in our bag: economic embargoes, sanctions, freezing of assets abroad, and—most importantly—a wide variety of information tools. We could use many of these, short of actual armed conflict; indeed, they are an integral part of our arsenal of options.

Coincident with this increased sophistication is the changing nature of the military itself. When Mitchell went through training, warfare depended primarily on the infantry, which emphasized using firepower (look at the tooth-to-tail ratio) and capturing territory, with the enemy's capital city as the center of gravity. Mitchell echoes this orientation in his vision of the air instrument as simply another way to apply "fire and steel" directly to the enemy's center. However, modern warfare is much subtler. We think in terms of multiple centers of gravity (which may not include the adversary's capital), of interdependent networks, of Col John Warden's five rings, and of inducing chaos to the enemy's systems. Today's military is called on to exert pressure in many nontraditional, "limited" operations—actions that are something less than total warfare or even nonviolent. Our support of modern operations has increased the ratio of the tail over the tooth beyond anything Mitchell or his contemporaries could have envisioned. Finally, we have this new kid on the block—"information warfare"—that doesn't quite fit within our airpower theology.

Given all these changes, it's not surprising that we airmen have trouble squaring everything the Air Force does with force-centered airpower theory. Within today's Modernization Planning Process, most mission areas are certainly not fire and steel, and the proper execution of some of this support is almost as important as the fire-and-steel missions themselves. What's needed for tomorrow's Air Force is a break with our basis for aerospace power theory (i.e., Douhet, Mitchell, and like-minded thinkers). Such a break would have consequences for our organization and culture.

It might be useful to introduce an example from outside the military as a model for our evolution. The noted futurists Alvin and Heidi Toffler posit three "waves" of civilization: agricultural, industrial, and informational. The transition from industrial to informational is exemplified by our national industrial base converting from heavy manufacturing to services—or knowledge-based work. The parallel for the Air Force is that the bomb-dropping, fire-and-steel missions are second wave and that the

gathering, digestion, and distribution of information are third wave. With this as a framework, our massive investment in non-fire-and-steel infrastructure now makes eminent sense. However, the definition of what constitutes a mission—as well as the internal organizational and cultural implications for the future Air Force—is profound.

The salient operating concept concerns "perspective"—that unique aspect of the aerospace medium which distinguishes it from the surface battle arts. The vertical dimension offers not only a fluid medium in which to move around (and through which to apply firepower) but also a God's-eye view of the battle space and a perfect medium for communication. Airmen have an advantage over their surface-bound colleagues—quite literally, a unique perspective. Through the medium of aerospace, airmen can apply many sophisticated tools of influence and utility—not just bombs and bullets—and can do so not just for the Air Force, but for all the military services and, indeed, the nation.

The Air Force of the future is a third-wave entity. It provides a service to the nation: *the application of long-range, short-notice, strategic influence.* In addition to its hoary, traditional, bomb-dropping job, the future Air Force will also do all the information gathering, digestion, and dissemination—worldwide and on demand. It will provide the sensors, the command-and-control backbone, the finished technical intelligence, the information fusion, and the complete picture of the battle space from the surface upward—all operated from over the horizon. It will perform the so-called virtual-presence mission ("I see you"). As the lead service for collecting and moving information, the future Air Force will also become the lead military agent in information warfare. Finally, many of the nontraditional taskings the Air Force has been involved in recently (e.g., humanitarian relief, peacekeeping and peacemaking, counternarcotics, etc.) nestle quite well under the framework of projecting influence, which could be a helping hand just as easily as a fist.

All of these changes—and opportunities—indicate a profound milestone for the Air Force. Many people point to Operation Desert Storm's air campaign as the birth of a new era in aerospace power. But I contend that it marked a maturation—a childhood's end—whereby aerospace power moved from adolescence to adulthood. As airmen, we must put simpler things behind us and enter a far more complex, sophisticated world. Foremost among those simpler things we must drop is a doctrine—along with the institutional culture that enshrines it—which posits that the premier task of the Air Force is the application of fire and steel. Mitchell served us well in our adolescence, but his vision is no longer our beacon.

Headquarters USAF

Third-generation wars are an outcome of developments in rifled small arms and tube artillery. Fourth-generation warfare, in turn, is founded upon automatic weapons, tanks and military aircraft, new transport means, and signal equipment. Fifth-generation warfare is based on nuclear missiles—a dead end, for, if unleashed, such warfare would be the last on our planet.

Sixth-generation warfare is viewed as being waged only by the most technically advanced states, such as the United States. Precision-strike capabilities, nonlethal weaponry, computerization of the battlefield, and other advanced technologies are viewed as forming the basis of this emerging mode of warfare. Opposing nation-states will be defeated at marginal costs in casualties and without the occupation of their lands. Soviet military theory is in some ways more advanced than American thinking on this topic. The Soviets declared that a military-technical revolution (MTR) was taking place back in the early 1980s. The MTR was the forerunner of the revolution in military affairs (RMA) concept of the 1990s, promoted by Andy Marshall of the Office of Net Assessment (ONA). As a result, this theory is being taken seriously by the ONA and other governmental agencies. Since sixth-generation warfare promotes the "ascendancy of aerospace operations," it should only be a matter of time before it begins to openly influence Air Force thinking on future war.

Few criticisms of this theory have developed because of General Slipchenko's scholarly credentials and because of its recent appearance. My basic criticism is that categorizing 2,000 years of Western civilization into first-generation warfare results in inaccurate historical modeling. Because of this methodological flaw, the larger "strategic contex" of the RPMA, which is now under way, is never addressed. In terms of outcome, no mention is made of the new war-making entities now emerging. At best, only an RMA is viewed to be taking place, equal in magnitude to technical developments in the 1920s and 1930s or to those that took place in the 1950s and 1960s.

Eleven Modern Military Revolutions (1994)

This theory was developed by Dr Andrew F. Krepinevich and published as "Cavalry to Computer: The Pattern of Military Revolutions" (*The National Interest*, Fall 1994). Dr Krepinevich, formerly of the ONA and a well-respected military theorist, is currently director of the Center for Strategic and Budgetary Assessment and an adjunct professor at Johns Hopkins University.

This theory focuses on the 10 military revolutions that have taken place in the modern world since the fourteenth century, as well as the 11th revolution, which is now under way. Analysis is based on changes in combat potential and military effectiveness stemming from advances in technology. The historical revolutions include the Infantry Revolution (fourteenth century); Artillery Revolution (fifteenth century); Revolution of Sail and Shot (fifteenth century); Fortress Revolution (sixteenth century); Gunpowder Revolution (sixteenth century); Napoleonic Revolution (late eighteenth century); Land Warfare Revolution (nineteenth century); Naval Revolution (nineteenth century); Interwar Revolutions in Mechanization, Aviation, and Information (early twentieth century); and Nuclear Revolution (midtwentieth century).

It is thought that the Gulf War provided a glimpse of the recent military revolution. Dr Krepinevich's theory, like Russian sixth-generation warfare theory, acknowledges that advances in information technology and precision targeting are resulting in an operational shift in the nature of warfare. They are viewed, however, through the prism of four elements that comprise military revolutions: technological change, systems development, operational innovation, and organizational adaptation. For this reason, many insightful questions and observations are raised about the military revolution that is upon us.

This operational-level theory has been widely referenced in policy journals and in the interservice publication *Joint Force Quarterly*. It represents a perception of future warfare that is based on the type of military revolution which appears to be in accord with the views held by the ONA. As a result, this theory is gaining influence with senior decision makers. Because it is set solely in the modern world from the fourteenth century onward, this theory promotes observations that appear technically correct at the operational level of analysis. This strength is also its greatest drawback. The theory can account only for the RMA type of change that took place during the 1920s and 1930s. Because of its microlevel of analysis, changing social, political, and economic factors pertaining to the RPMA cannot be accounted for any more than can the current shift away from an international system dominated by the nation-state.

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There are men that will make you books, and turn them loose into the world, with as much dispatch as they would do a dish of fritters.

—Miguel de Cervantes

Operation Moonlight Sonata: The German Raid on Coventry by Allan W. Kurki. Praeger Publishers, 88 Post Road West, Westport, Connecticut 06881, 1995, 177 pages.

Current Air Force doctrine holds that the objective of strategic attack is to destroy or neutralize an enemy's war-sustaining capabilities or will to fight. The issue of which is more important—the enemy's war-sustaining capabilities or his will to fight—has been much debated. In *Operation Moonlight Sonata,* Allan W. Kurki provides us with an opportunity to explore this matter. His book lends support to the view that the proper course of action is to attack the enemy's war-sustaining capabilities—a view embodied in current Air Force doctrine.

The author examines the popular contention that the British government withheld knowledge of the raid from both the military forces guarding the city and from civil authorities responsible for its defense. The government gained this critical knowledge through Ultra—the British system for breaking military codes. Many historians feel that Winston Churchill withheld this information for fear of alerting the Germans that the Allies had broken their codes; thus, he sacrificed the lives of 586 of Coventry's citizens. In his research, the author found many inconsistencies in this story and in the written histories of the raid itself. Thus, Kurki sets out to explore and dispel much of the mystery surrounding Operation Moonlight Sonata.

Kurki also examines the raid in the larger context of the Battle of Britain and the ability of the Luftwaffe to carry out a strategic air campaign. In this vein, one can view the operation as another change in objective of the Luftwaffe's strategic air campaign against Great Britain. Kurki maintains that the actual Battle of Britain extended well beyond the official dates accorded by the British government. In fact, he feels that the battle extended into 1945. He, as well as several other authors, points out that the German attack on Great Britain occurred in several different phases. Viewed in this light, the Battle of Britain did not end until 1945 with the end of the V-2 rocket attacks.

As well as addressing the length and structure of the Germans' strategic air campaign against Great Britain, Kurki also examines the Luftwaffe's ability to conduct a strategic bombing campaign. He correctly points out that the Luftwaffe was not properly structured in terms of doctrine, training, or equipment to conduct such a campaign. Although the Luftwaffe was an independent service, its doctrine was based on the direct support of surface forces. Thus, the Luftwaffe was an excellent weapon for executing blitzkrieg operations. Yet, the very things that made the Luftwaffe such an effective tactical force worked against it during a strategic bombing campaign. The lack of a four-engine heavy bomber, the lack of properly armed and armored bombers, and the lack of appropriate intelligence were direct manifestations of the Luftwaffe's prewar doctrine and training.

Kurki divides his book into five parts. In part 1, he overviews his argument, traces the historical roots of Coventry, and presents a brief description of the raid. In part 2, he outlines the Luftwaffe's strategy for conducting the air campaign against Great Britain and reviews the aircraft, weapons, and some of the navigational aids used by the Germans in their bombing efforts. Part 3 covers the Battle of Britain from the viewpoint of the Royal Air Force. Part 4 covers Operation Moonlight Sonata, and part 5 deals with the aftermath of the raid on Coventry, detailing both the physical and psychological damage.

This book provides valuable insights into the doctrinal issue of strategic bombing. Because it is very interesting and well written, it makes for easy reading. However, it only scratches the surface of the issues under examination. Nevertheless, *Operation Moonlight Sonata* offers a good summary of how the Germans tried to implement the idea of strategic bombing and thus should be of interest to any serious airman.

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Thoughts of a Philosophical Fighter Pilot by James Bond Stockdale. Hoover Institution Press, Stanford University, Stanford, California 94305-6010, 1995, 241 pages, $15.95.

This remarkable volume is a compilation of some of Vice Adm James B. Stockdale's best articles and speeches. It is divided into three sections, one dealing with "Trials by Fire," another with "My Kind of Guys," and the third with "Education for Leadership and Survival." After being shot down by the North Vietnamese in September 1965, Stockdale spent nearly eight years as a prisoner of war (POW). The leadership, courage, and tenacity he displayed earned him a richly deserved Medal of Honor.

No fair-minded reader can depart these pages without deep admiration for Stockdale and for the Stoic philosophy he propounds. He argues, in essence, that warriors must be people of competence and character and that a proper education in philosophy can help develop the kind of inner conviction and confidence that help build worthy character.

Education teaches us how to fail, Stockdale tells us. It also tells us how to rebuild—something Stockdale and other heroic POWs did after torturers broke their bodies but not their invincible wills. After his release from North Vietnamese prisons, Stockdale served a tour at sea; at the Pentagon; and at the Naval War College, where he was president and founded the "Stockdale Course" in moral philosophy.

The close reader of this volume will have to ask whether Stockdale is right about the inestimable value of stress in life and in education; to what extent his views on the Code of Conduct are compatible with military service at the edge of the twenty-first century; and how thoroughly educated in philosophy he would want today's midshipmen and cadets to be—and at the sacrifice of what else in the curriculum.

"Integrity," he writes with typical insight, "is a powerful word that derives from a specific concept. It describes a person who is *integrated*, blended into a *whole*, as opposed to a person of many parts, many faces, many disconnects. The word relates to the ancients' distinction between *living* and *living well*. . . . Knowing he is whole, he is not preoccupied with . . . continual anxiety but is free to [experience] *delight with life!*" (page 117). One may disagree with some of Stockdale's particulars, but one nonetheless reaches an inevitable conclusion: the Navy and our country are much the better for Stockdale's principled service.

Although some of the essays and articles overlap, they are well arranged. They are clear, concise, and cogent. The word *inspirational* has become almost hackneyed by repetition, but, truly, this volume is exactly that—inspirational. This is a book to be read, pondered, and cherished.

Dr James H. Toner
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Russia 2010: And What It Means for the World by Daniel Yergin and Thane Gustafson. Vintage Books, 201 E. 50th St., New York 10022, February 1995, 327 pages, $13.00 (paperback).

One must acknowledge a certain intimidation factor when reviewing a book that has already been acclaimed by the *New York Times, Financial Times,* and *Foreign Affairs,* as well as the late president Richard Nixon—not to mention the fact that one of the coauthors is a Pulitzer prize winner. Alas, the definitive text on anticipated change in Russia over the course of the next generation remains to be written. *Russia 2010* illustrates the difficulty inherent in addressing rapidly changing subject matter in any book: the 1994 hardback edition had already been updated and revised by February 1995. The dynamic nature of the political, economic, and social landscape of Russia might more effectively be depicted in either magazine or CD-ROM software format, either of which could include much-needed graphics and illustrations.

Still, *Russia 2010* is certainly not without merit. The book highlights for a sizable new audience the growing popularity of using scenarios (defined by the authors as "storytelling plus analysis") and alternate futures in the strategic planning process. The last two chiefs of staff of the Air Force have both been quick to recognize the value of using scenarios and alternate futures as meaningful strategic planning tools when crafting future studies such as Spacecast 2020 (General McPeak) or Air Force 2025 (General Fogleman). Although the process of constructing scenarios can often be as beneficial as the final product itself, Yergin and Gustafson offer little insight regarding how they arrived at the scenarios included in their book.

In *Russia 2010*, various scenarios result from Russia's simultaneous triple transition from totalitarianism to democracy, from centrally planned economy to market economy, and from imperial state to postimperial state. According to Yergin and Gustafson, these scenarios—which they title "Muddling Down," "Two-Headed Eagle," "Long Good-bye," "Russian Bear," and *Chudo* (the Russian

economic miracle)—are not uniquely independent alternate futures. Rather, more than one is likely to occur, and the authors attach great importance to the order in which they take place. (For reasons unknown, they chose not to use the most evocative scenario title: "Yugoslavia in 11 Time Zones.")

Unfortunately, the authors' basic premise—that Moscow's inevitable destination just one generation beyond the Gorbachev era will be capitalism Russian-style—is at best unproven and at worst fatally flawed. One can almost hear Lt Gen William E. Odom, former director of the National Security Agency, posing his favorite question: "But are the changes *irreversible?*" As if in reply, the authors simply offer this statement: "Russia has been driven inexorably away from the centrally planned economy and the one-party state. There is no going back to the past as it was." Here is another sound bite that will surprise many people: "The fact is that the population inside Russian borders today is more homogeneously Russian than at any time in the last 400 years." Perhaps so, but that fact certainly does nothing to diminish the divergence of cultural heritage or political thought in Russia today. And yet one more curious statement: "Beginning in the 1600s, Russia turned its steps toward the West and has never looked back." This unsubstantiated claim appears to contradict the authors' own depiction later in the book of historical and future conflict between Westernizers (or Atlanticists) and Slavophiles (or Eurasianists).

As a military officer, I was particularly disturbed by the authors' open advocacy of the Russian government's further manipulating its own military officers, who, according to Yergin and Gustafson, "above all, must be subsidized, rehoused, and kept quiet." One can only pause and wonder to what extent the authors would express similar sentiments toward US military officers.

Given Boris Yeltsin's current health-related incapacity to govern and in light of widespread speculation regarding his eventual successor, here is the authors' concise description of the next effective Russian president: "He would have to be a new and exciting figure who could appeal to the younger urban voter, someone untarnished by any past association with the unpopular . . . administration."

Do-it-yourself Kremlinologists can easily chart the relative accuracy of the authors' forecasts by creating a three-dimensional pipeline model of the various scenarios leading from the infancy of the postcommunist era to capitalism Russian-style in 2010 and periodically plotting where they think Russia is located within the pipeline. But

no reader should be surprised if the result more often resembles an overlapping wormhole than a straight line or if the ultimate destination 15 years hence bears little or no resemblance to capitalism Russian-style.

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Overlord: General Pete Quesada and the Triumph of Tactical Air Power in World War II by Thomas Alexander Hughes. Crown Press, 866 Third Avenue, New York 10022, 1995, 380 pages, $28.00.

With *Overlord*, Thomas Hughes has broken new ground in the study of airpower during World War II. The story of both IX Tactical Air Command (TAC) and Gen Elwood R. ("Pete") Quesada has long been shrouded in historical fog. Largely ignored by both airpower professionals and historians, the success of tactical aviation operations in Europe was quickly subsumed by postwar debates for an independent Air Force and then by the cold war's emphasis on long-range bombing.

The book traces both the development of tactical aviation and Pete Quesada's career from the 1930s through World War II. Not only a biography, *Overlord* is also a campaign history and a combat analysis. It carefully recounts the development of airpower doctrine from the experiences of the battlefield. More than just a paean to the forgotten greatness of the fighter-bomber boys, it is a careful analysis through which Hughes seeks to explore and understand the limits of tactical airpower.

Implicitly suggesting that World War II marked the end of one era and the beginning of a new one, *Overlord* provides insight into the interplay of doctrine and strategy and their influence on tactics; the impact of technology; and innovation on the battlefield. Although it is not a critique of the role of heavy bombers in the war, it is critical of the employment of these aircraft in close support of ground forces. Further, Hughes takes to task Gen Hoyt Vandenberg's plan to use fighter-bombers to interdict the Ruhr Valley in February 1945.

Overlord is the story of another air war—one waged with fully as much intensity as that in the bloody skies over Germany but one that has received short shrift in airpower histories. It is the story of the development of tactics, techniques, procedures, and doctrine by Quesada's IX TAC to better conduct operations in support of the ground offensive that sailed across the channel and then

charged across France in 1944. This account may well have as much relevance today, in the wake of the cold war, as it did in 1945 in the wake of World War II. Then, as now, the Air Force grappled with determining how to balance its strategic and tactical force mix, develop a doctrine, and thus meet the nation's need for both strategic and tactical capabilities. As Secretary of the Air Force Donald Rice said following Desert Storm, "The line between strategic and tactical air power has become blurred"; he just as easily could have said that in August 1945.

This long-needed study of both a forgotten general and a forgotten air force clearly points out the failings of the Air Corps Tactical School's (ACTS) prewar airpower doctrine. Tracing General Quesada's somewhat unorthodox prewar career, which began in 1924, *Overlord* shows how his prewar assignment to nonoperational billets as an aide or as a pilot for senior officers and government officials kept him from adopting either the ACTS's strategic bombardment theories or the pursuit theories espoused by Claire Chennault. Thus, when he was sent to North Africa in 1943 as a young brigadier, he was not committed to either school of thought. Consequently, his open mind was willing to learn how to employ airpower to help win the war.

Overlord does not canonize either Quesada or IX TAC. It is a carefully constructed analysis of the man, his command, and their contributions to the war. For example, Hughes analyzes Operation Queen (the attempt to use tactical and strategic attack to punch a hole through the Siegfried line in late 1944), concluding that it was "a good indication of the lack of sound analytical thought which marked the close air support of U.S. forces in World War II." Carefully researched and well documented, the book explores and analyzes the limits of tactical airpower. Although some minor editorial glitches are present (*Douhet* is misspelled as *Douchet*), they do not detract from the study.

Overlord is not just for the military historian. It is a must read for anyone who has an interest in or who is involved in envisioning and developing doctrine for joint operations today. Although technologies have changed, the problems and questions of strategic and tactical mix, the employment of airpower, and the development of doctrine are still with us. I recommend this volume without reservation. Someone has finally told the story of General Quesada and IX Tactical Air Command.

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War in the Shadows: The Guerrilla in History (revised and updated) by Robert B. Asprey. William Morrow and Company, Inc., 1350 Avenue of the Americas, New York 10019, 1994, 1,279 pages, $40.00.

Nineteen years have elapsed since Robert Asprey first published *War in the Shadows.* Persuaded by his editors to revise and update his book, Asprey spent the better part of four years doing so. Originally published in two volumes, the single-volume, updated and abridged version begins with America's concluding involvement in Vietnam. It ends some 1,200 pages later on 31 December 1993, in Afghanistan, the former Soviet Union's own version of Vietnam.

When originally published, Asprey's denunciation of high-ranking officers' conduct of the war in Vietnam came under intense criticism. Asprey claims the US military lost the war in Vietnam due to its total ignorance of unconventional and guerrilla warfare. Though blackballed by military scholars for almost a decade, he refused to retract his accusations. Instead, he continued to cite 2,000 years of guerrilla warfare tactics, operations, and strategy as proof the US military violated most, if not all, principles of unconventional warfare. The revised version, still the most definitive study of guerrilla warfare available, continues to remind the military of the requirement to fully understand unconventional warfare's capabilities and limitations.

Asprey states that he updated his work for three reasons: (1) to complete the story of the Indochina nightmare as best he could, even though there are millions of documents still awaiting declassification; (2) to update readers on the status of 20 additional years of ongoing and new guerrilla wars; and (3) to warn the American people about the dangers of military "revisionist rewriting of the history of the Vietnam War. He does not want Americans to forget "the fifty-seven thousand dead, the 380,000 wounded and the veterans' children who are afflicted by defoliant-responsible birth defects." Even more importantly, Asprey does not want us to forget guerrilla wars *period.* "So long as Western governments fail to work with less democratically minded governments in trying to eradicate in whole or in part the basic reasons for regional insurgencies," he warns, "these will continue to burst forth." As with the first *War in the Shadows,* Asprey does not trust conventionally trained military commanders to meet the challenges presented by guerrillas. His 2,000-year historical analysis demonstrates

repeatedly that guerrilla warfare is different from conventional warfare, requiring the skills, techniques, and perseverance that only trained special forces possess today.

Of immediate and particular relevance are the chapters regarding the history of guerrilla warfare in the Balkans. They are particularly instructive since the inhabitants of the region have been masters of unconventional warfare since the fourteenth century. In World War II, guerrilla leader Tito successfully kept nine *Wehrmacht,* 10 Italian, and numerous Bulgarian divisions pinned down in Yugoslavia, preventing them from fighting on the Allied and Russian fronts. When a heavy German Mountain Corps attempted to withdraw northward during a major Partisan offensive operation, close to 100,000 of its men were killed and over 200,000 captured. Asprey did a ground reconnaissance to research these particular chapters, writing an analysis of the terrain, weather, and air and ground corridors relevant for today. Present and future commanders of American forces in Bosnia should read these chapters closely since involvement in the Balkans, according to Asprey, "always turns out to be longer than expected and a whole lot bloodier than imagined."

For researchers and scholars of the Vietnam War, *War in the Shadows* is still an important source, since approximately one-fifth of the book is about US involvement in Southeast Asia and US doctrinal, organizational, and leadership failures. For understanding the Vietminh's guerrilla warfare theories, chapter 59 contains one of the most superb summaries in print of the National Liberation Front's political and military aims. Asprey's synthesis of the *binh van* (action among the troops) and *dich van* (action among the people) programs shows a clear and superior understanding of the interconnectivity between military, political, and diplomatic struggles. Let readers with thin skins be forewarned—his words about our "criminal military-political strategy" are even more vitriolic than those in his earlier edition.

For doctrine analysts and airpower practitioners, chapter 71—"Summing Up the Use of Air Power in Vietnam"—is important. In 14 pages, Asprey traces the Douhet theory from inception to failure when used against an unconventional foe. The net accomplishment of our strategic and tactical air campaign was "very little, except to disprove the Douhet theory." It did confirm that "the bombing of the North was probably the greatest of the strategic errors of the war." In fairness, Asprey does conclude that the American

bombing effort, selectively controlled and misused by President Lyndon Johnson and his courtiers, did not help the role of airpower. Consequently, Hanoi survived the bombing campaigns and became the eventual winner of one of this century's longest, costliest, and most devastating wars.

Overall, Asprey's work is very edifying. His 30-year research effort brilliantly imparts lessons of guerrilla warfare, its causes and effects, and victories and defeats. His reminders to the military about going off to an unconventional war halfcocked contain some of the most valuable military thinking of our time. *War in the Shadows* is far more than a historical appraisal. It is a usable doctrinal text of events that, while historically embedded, continue to speak to the contemporary experience of unconventional warfare. This book should be in every professional's library.

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The War in North Africa, 1940–1943: A Selected Bibliography by Colin F. Baxter. Greenwood Press, 88 Post Road West, Westport, Connecticut 06881, 1996, 119 pages, $49.95.

Greenwood Press has done it again! In its Bibliographies of Battles and Leaders series, Greenwood has produced another magnificent treasure of information for the would-be historian. In *The War in North Africa, 1940–1943,* by Colin F. Baxter, professor of history at East Tennessee State University, Greenwood Press has put together a wealth of information concerning the North African campaign.

This book attempts to teach the reader many of the details concerning the war as it was fought in North Africa during World War II. It is much broader in scope than Eunice Wilson's *Dangerous Sky: A Resource Guide to the Battle of Britain,* also from Greenwood Press. A well-written, thought-provoking historical synopsis of the desert war precedes the selected bibliography. In this background information, the author gives the reader much to think about in terms of the scope of the conflict, significant personalities, and the soldiers' living conditions.

Baxter does an excellent job of presenting the reader suitable locations for finding pertinent information on the North African campaign. He directs the reader to the Public Record Office in the United Kingdom as well as other significant research centers in Italy, Australia, Germany, and the United States. Unfortunately, he lists no

archives or museums from South Africa, whose forces played a significant role in the campaign. The author then gives an excellent bibliography—a list of combat atlases, biographical dictionaries, and encyclopedias that deal specifically with war and combat.

Six chapters make up the remainder of the book: "Desert War," "The Axis Powers in North Africa," "Montgomery, Alam Halfa, and El Alamein," "Torch: The Landings in French North Africa," "The Tunisian Campaign," and "Future Research." In the sixth chapter, the author attempts to provoke thought as to what areas are in dire need of aggressive research to help fill significant gaps in historical information. This chapter is ideal for any potential historian who would like to do some original research and writing. Indeed, some of the author's ideas would make interesting and profitable graduate-level work. The author not only gives us exemplary references to pursue further study and research on topics such as Desert Air Forces, morality issues, strategic debate, Malta, Kasserine Pass, El Alamein, and many other topics, but also attempts to give the reader a certain amount of background information concerning the selected topics. Baxter's book is a good stand-alone reference for any beginning-to-midlevel student of the North African campaign.

The War in North Africa, 1940–1943 is a credible, readable, and extremely likable book. Baxter, author of *The Normandy Campaign, 1944: A Selected Bibliography* (1992) and coeditor of *The American Military Tradition: From Colonial Times to the Present* (1993), has already achieved a certain degree of credibility within his field; this book will give him even more. To his credit, the author avoids injecting unwanted or—even worse—incorrect opinions. In only one place did I find the author's opinion forcefully stated, and in that case his observation was relevant and quite correct.

The presentation of this book is ideal. Its information is accessible and easy to extract. The author's methodology is clear and concise. Any researcher of the North African campaign will find it a handy, portable document of enormous power and utility. The contribution of this book to its topic will make an immediate impact. I wholeheartedly recommend *The War in North Africa, 1940-1943* to anybody with any curiosity at all about the North African campaign. Because of my interest in the war in North Africa—the battles, equipment, personalities, and, especially, the air war—I will always keep my copy close at hand.

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A Very Short War: The Mayaguez and the Battle of Koh Tang by John F. Guilmartin, Jr. Texas A&M University Press, Drawer C, College Station, Texas 77843, 1996, 264 pages.

John Guilmartin is a talented historian as well as an airman who flew 119 combat missions in Southeast Asia. He drew from this background to author an in-depth and detailed analysis of the *Mayaguez* incident.

The book sets the stage by discussing the US evacuation of our embassies in Saigon and Phnom Penh that occurred weeks prior to the incident. It then moves quickly to the crisis itself, which was sparked by the seizure of an American merchant ship, the SS *Mayaguez,* off the Cambodian coast in 1975. The ship's crew was taken to nearby Koh Tang Island, under Khmer Rouge control. In response, President Gerald Ford ordered the US military to recapture the ship, repatriate the crew, and demonstrate US strength and resolve. The president mandated a very tight time line in order to execute the operation quickly and avoid a prolonged hostage situation. This required the use of in-place operational forces—truly a come-as-you-are war.

Under fire, Air Force CH-53 and HH-53 helicopters inserted marines, who engaged a well-trained and determined Khmer Rouge battalion. Air and naval attacks against the Khmer Rouge were critical to the marines' survival. Ultimately, the mission was successful, as the Khmer Rouge abandoned the ship and released the crew.

The author covers command and control relationships, force structure, and political environment. Guilmartin goes into detail on tactics, specific units that participated, and the time line of the assault and subsequent battle. The discussion is augmented by maps showing the relative position of the combatants. Also included are two annexes covering tactical communications and the operational characteristics of the HH-53 helicopter, both of which were to prove pivotal to the operation's success.

Besides offering a historical account, Guilmartin uses the *Mayaguez* incident to demonstrate his conviction that cause and effect in war are not necessarily related to one another in a linear fashion. He contends that minor tactical events and unanticipated human—and technological perturbations can produce—or threaten to produce—major changes in outcome with respect to strategic or policy goals. It becomes quite obvious that this operation easily could have failed, except for the personal initiative, tenacity, and

courage demonstrated by the participants—as well as a degree of luck. Because of the limited scope of this operation, individual actions—even personalities—take on increased importance and support the author's convictions on cause-and-effect relationships. The *Mayaguez* incident also demonstrated the role of technology in increasing the flow of information to and from the battlefield. Accurate and timely command, control, communications, and intelligence (C^3I) is vital to the success of any operation. However, it also provides an open door for senior leaders to micromanage at the tactical level, while their thinking and expertise should be directed at the operational and strategic levels of war.

A Very Short War is well researched and presented. I recommend it for several reasons. First, it tells the story of brave Americans who fought in a brief but vicious engagement that has, until now, been largely overlooked. Second, it provides several lessons that are of value today. It identifies shortfalls in training and lack of interoperability between services, which hindered the execution of joint operations.   Many of these same problems would haunt us five years later in the failed attempt to rescue the Iranian hostages. One hopes that such problems are behind us now. Third, the book highlights the implications of command, control, communications, computers, and intelligence (C^4I) technology on military operations. In spite of enhanced communications and information-gathering technology, leadership can still get the wrong message—even in a small, limited operation like this. The ongoing information revolution is truly a double-edged sword. The capability for direct connectivity between the national command authorities, intermediate commanders, and the soldiers or airmen pulling the trigger or dropping the bomb was just emerging in 1975; it is much more pervasive now. We will need wise leadership to determine how to correctly use the information genie, now that the bottle is open. Perhaps *A Very Short War* will enhance our understanding.

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Dirty Little Secrets of World War II: Military Information No One Told You about the Greatest, Most Terrible War in History by James F. Dunnigan and Albert A. Nofi. William Morrow and Company, 1350 Avenue of the Americas, New York 10019, 1994, 416 pages, $25.00.

If incredibly light, albeit interesting and informative, reading on World War II is something that interests you, then you will want to add *Dirty Little Secrets* to your collection. James Dunnigan and Albert Nofi have presented a very serious and demanding subject in a way that will interest even the most casual student of World War II.

The purpose of this book is to provide you with several hundred separate and distinct pieces of information, including anecdotal stories and other unrelated "nuggets of knowledge" to enhance your insight into a multitude of factors regarding World War II. Although the format differs from that of the typical book about the war, it is essential and seems to work well. The book includes eight chapters, which cover most of the major theaters of operation and the events leading up to the war. It concludes with a time line of events from the beginning to the end of the war. The book also contains an excellent reading list as well as a detailed index.

In *Dirty Little Secrets*, the authors state no specific thesis or theory but just attempt to uncover and present little-known facts about World War II.   In this book you will find topics such as "George S. Patton Slaps a Private, Twice" and interesting numbers and figures, such as the number of ships lost by all belligerents during the war, the number of Medal of Honor recipients listed by service, the tons of fuel consumed per 100 miles by a German tank division during different phases of the war, or the total number of German generals killed. The facts are seemingly endless and truly fascinating. The title, however, may be a little misleading in that it implies that the book is about deliberately hidden secrets that have been tucked away in some secret archive until recently. Actually, the items presented are not secrets at all but little-known facts that, for whatever reason, have been forgotten or ill-represented in history.

Dunnigan and Nofi have been writing since the 1960s on military history and defense-analysis projects and are the authors of literally hundreds of books and articles on military-related subjects. Among their published works are *A Quick and Dirty Guide to War: Briefings on Present and Potential Wars; How to Make War: A Comprehensive Guide to Modern Warfare;* and *The Complete Wargames Handbook: How to Play, Design, and Find Them.*

By the very nature of this type of collection, specific facts tend to be spaced haphazardly and are somewhat difficult to find. Consequently, unless you have a specific idea of what you are looking for, you may not know what is contained inside the book. But that liability is also the beauty of this book. The best way to glean all the information from *Dirty Little Secrets* is to sit down and read it from cover to cover. The amount of information is enormous. As an avid student of World War II, I was shocked by all the interesting facts I did not know about the war.

The book does make a significant contribution to the study of the war, although not on the same scale as some other well-known works. The value of *Dirty Little Secrets* lies in its ability to totally captivate even the most nonchalant reader of military history. No matter where you turn to in the book, you will find facts that are certain to amuse you and enlighten your thoughts about World War II. I thoroughly recommend this book to any student of military history—novice and expert alike.

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Wahoo: The Patrols of America's Most Famous World War II Submarine by Rear Adm Richard H. O'Kane, USN, Retired. Presidio Press, 505 San Marin Drive, No. 300B, Novato, California 94945–1309, 1987, 345 pages, $15.95.

Bluewater Sailor: The Memoirs of a Destroyer Officer by Comdr Don Sheppard, USN, Retired. Presidio Press, 505 San Marin Drive, No. 300B, Novato, California 94945-1309, 1996, 333 pages, $24.95.

Since time immemorial, lads have been enticed into a life at sea by the romance of it—as related by old salts. Who can forget the great C. S. Forester tales of Horatio Hornblower? One trip across the Atlantic on a destroyer, though, was enough to teach me something about military history: one forgets the pain more quickly than the glory, and that is what enables the old salts to give us such romantic and engaging sea stories.

Both Rear Adm Richard O'Kane and Comdr Don Sheppard qualify as old salts. They qualify, too, as first-rate storytellers. Both have previous books to their credit: O'Kane a 1977 tale about the war patrols of the submarine *Tang,* and Sheppard a tale about the riverine force in Vietnam. O'Kane is the more relaxed of the two, and his ego is better controlled; Sheppard came up the "hard" way via the enlisted ranks with some of the standard emotional baggage I share with him. He rails on and on about how unfair the Annapolis fraternity within the Navy is—but in the end, the officer he admires most and has the most gratitude toward *is* his destroyer skipper (who *was* a Naval Academy graduate).

All that notwithstanding, though, both stories are fine reading. The many patrols of the *Wahoo* are engagingly told by O'Kane, who was the executive officer on several of them. Unhappily, after establishing a splendid record with a crew that demonstrated courage well beyond the call of duty, the boat was finally lost to Japanese action on 11 October 1943. Like Sheppard, O'Kane—who himself won the Medal of Honor and rose to flag rank—shows an enduring respect, even admiration, for his skipper, Dudley Morton, who went down with the *Wahoo.* O'Kane had been transferred to another boat by then and survived until 1994.

Sheppard's story is mostly a peacetime one but is engaging nonetheless. He relates his experiences (sometimes changing names to avoid embarrassment for surviving shipmates) as a junior officer aboard a USN destroyer in the 1950s and early 1960s. Clearly, he is a competent person, having been an aviation electronics technician in his enlisted life—which he treats here only tangentially. Doubtless, the Navy system, for all its flaws, worked here in raising him from the ranks to the command of a destroyer (regrettably, his command time is not covered herein). Most of the story has to do with service in the Pacific and the Far East, and, naturally, the exciting parts receive more notice than the long periods of drudgery that work entails. Notwithstanding the fact that Sheppard allows too much of his own ego to show, the tale is entertaining.

Neither book is essential reading for the modern Air Force professional. In terms of entertainment, though, one might find some spin-offs in the realm of leadership from both books and a few notions to ponder relating to doctrine and technology in O'Kane's work.

Dr David R. Mets
Maxwell AFB, Alabama

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The Editor

Our Contributors

Gen Ronald R. Fogleman (USAFA; MA, Duke University) is chief of staff of the United States Air Force. A command pilot with more than 6,300 hours, General Fogleman has commanded an Air Force wing and air division, directed Air Force programs on the Air Staff, and served as commander of the Seventh Air Force of Pacific Air Forces with the added responsibility as deputy commander of US Forces Korea and commander of Korean and US air components assigned under the Combined Forces Command. Prior to becoming chief of staff, he was commander in chief of the US Transportation Command and commander of the Air Force's Air Mobility Command. General Fogleman is a graduate of the Army War College.

Charles W. Colson (BA, Brown University; JD, George Washington University) is the founder and chairman of Prison Fellowship, an international outreach that helps prisoners, ex-prisoners, victims, and their families. The former special counsel to President Richard Nixon, Mr Colson served a prison term himself for Watergate-related offenses. He writes a monthly column, contributes articles to magazines and newspapers, and has authored a number of books.

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Brig Gen Malham M. Wakin, USAF, Retired (BA, MA, University of Notre Dame; PhD, University of Southern California), is professor of professional ethics at the US Air Force Academy, where he has taught since 1959. He began his military service in 1953 as an aviation cadet in the navigator training program, and he retired as a brigadier general in 1995. He has authored numerous articles and has authored or edited four books on ethics, leadership, and the military profession. General Wakin was featured as one of 12 "great professors" in a 1975 issue of *People Magazine* and was the subject of a feature article in the 19 November 1984 issue of *Newsweek.* He was national chairman of the Joint Services Conference on Professional Ethics from 1979 to 1992 and is a member of the Ethics Oversight Committee for the US Olympic Committee.

Maj Gen Jerry E. White, USAFR (BS, University of Washington; MS, Air Force Institute of Technology; PhD, Purdue University), is mobilization assistant to the commander, Headquarters Air Force Materiel Command, Wright-Patterson AFB, Ohio. The general entered the Air Force in 1959 as a distinguished graduate of the University of Washington Reserve Officer Training Corps program. He served as a mission controller at the height of the space program. He taught at the US Air Force Academy for six years, coauthoring a national textbook on astrodynamics that is still a standard reference text. In his civilian capacity, General White is president and chief executive officer of The Navigators—an international Christian organization headquartered in Colorado Springs, Colorado, which boasts a staff of 3,600 in 96 countries. The general is a graduate of Squadron Officer School, Air Command and Staff College, and Air War College.

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Col Richard Szafranski (BA, Florida State University; MA, Central Michigan University) is the first holder of the Chair for National Mili-

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Gene Myers (BS, Clemson University; MS, Utah State University) is a doctrine analyst at the Air Force Doctrine Center, Langley AFB, Virginia. A retired Air Force lieutenant colonel, Mr Myers served as an air-rescue helicopter pilot and instructor in the Philippines, Thailand, and Hill AFB, Utah; as a B-52 pilot, instructor, and assistant squadron operations officer at Barksdale AFB, Louisiana; as a politico-military affairs officer at Headquarters Strategic Air Command; as a research fellow at Maxwell AFB, Alabama; and as a nuclear plans and policy and arms control officer at Headquarters US European Command. He has published numerous articles in a variety of journals and is the author of *Aerospace Power: The Case for Indivisible Application* (1986) and the coauthor of *Dynamic Stability: A New Concept for Deterrence* (1987). Mr Myers is a graduate of Squadron Officer School, Air Command and Staff College, and Air War College.

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Col Jeffery R. Barnett (BA, College of the Holy Cross; MS, Troy State University) is the chief of staff and American contingent commander, United Nations Transitional Authority for Eastern Slavonia (UNTAES), headquartered in Vukovar, Croatia. He is a senior navigator with 2,000 flying hours in the C-130 and the C-9. Colonel Barnett flew 40 combat and combat-support missions in Southeast Asia. His staff assignments include military assistant to the director, Net Assessment, Office of the Secretary of Defense; Headquarters USAF; and Headquarters Pacific Air Forces. During the 1991 Gulf War, he was attached to the Checkmate planning cell. He is a distinguished graduate of Squadron Officer School and the Army-Air Force Air/Ground Operations School and a graduate of Air War College and Air Command and Staff College. Colonel Barnett, who has published in *Marine Corps Gazette, Parameters,* and US Naval Institute *Proceedings,* is the author of *Future War* (Air University Press, 1996).

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