

BOOK REVIEWS

HOW TO AVOID SUDDEN SHOCK

Schwartz, Peter. *Inevitable Surprises: Thinking Ahead in a Time of Turbulence*. New York: Gotham, 2003. 245pp. \$27

The intelligence community is getting a bad rap these days as it attempts to help policy makers weather the myriad national security challenges in the Age of Disruption. The controversy over weapons of mass destruction and protracted post-conflict insurgency in Iraq are only two incidents in a series of surprises. Whether it is the demise of the Soviet Union, economic collapses in Southeast Asia, the development of nuclear weapons in India and Pakistan, North Korea's nuclear and missile programs, terrorist attacks on the United States, or the subsequent anthrax attacks, being taken by surprise is becoming the norm.

Peter Schwartz, however, was not knocked for a loop by many of these events—in some cases he predicted them. Schwartz is an expert at avoiding surprises. Starting with his work with Royal Shell in the 1970s, his efforts with the Pentagon's eighty-year-old futurist and director of the Office of Net Assessment, Andrew Marshall, and the U.S. National Security Commission in the last decade, up to his present consulting work with the Global Business Network,

Schwartz has made a career out of helping clients avoid strategic surprises. He does not necessarily make forecasts, but he does predict that denial, defensiveness, and ignorance are the principal preceptors for sudden shock.

Schwartz's specialty is researching the innumerable drivers and wild cards in our environment from which he can craft scenarios that will help strategic planners and decision makers anticipate crises well before they happen. He is no stranger to naval readers, who will be familiar with his *The Art of the Long View: Planning for the Future in an Uncertain World* (Currency, 1991), once required reading at the Naval War College. In *Inevitable Surprises*, Schwartz points out that we will face numerous sharp jolts or major discontinuities in political, military, and economic areas. "If anything," he notes, "there will be more, not fewer, surprises in the future, and they will all be interconnected."

These interconnected surprises, which Schwartz calls discontinuities, will bring about a different world, one in which the rules of the game are fundamentally altered. The critical value of

this work is the author's belief that many of these discontinuities have their roots in ongoing trends and that we can anticipate them. By realizing what today's driving forces are, we can alter our perception about today's emerging realities, anticipate the consequences, and avoid surprise.

Schwartz offers a simple process for thinking anew and avoiding major shocks. The first step is to pay attention and identify and monitor the driving forces that influence tomorrow's world, get ahead of the so-called inevitable surprises, and prepare for them. The second step is to remove ourselves from the rigid mental paradigms about what is fixed and what can be changed in the landscape. The final step is to envision new strategies for dealing with new circumstances.

Most of this book discusses macro-level factors in terms of social, economic, and technological change. Some of the discontinuities Schwartz deals with in chapter-length detail include: dramatic extension in human longevity based on improvements in medical science, with substantial influences on retirement, social institutions, and the political power of influential centenarians; a "great flood" of immigration with resultant social tensions in China, Europe, and the United States; continued economic growth in the developing world and a return to what Schwartz called the "long boom," predicated upon the enhanced productivity of the Information Age and the updated critical infrastructure that undergirds it; a series of interrelated breakthroughs in science and technology, especially nanotechnology, biomaterials, and regenerative medicine, quantum computers, and fuel cells; and a few environmental crises, including the

impact of global climate warming and the coming of a great plague.

Military professionals and policy analysts will be particularly interested in Schwartz's range of geopolitical scenarios. In one scenario, the European Union consolidates into an effective bloc and begins to challenge what it perceives as America the rogue superpower. China also grows in political and military muscle, and it too seeks to check the global dominance and influence of the United States. On the other extreme, Schwartz paints a scenario of American preeminence, including complete dominance of space with instant global strike. In this scenario, because the benefits of a benign superpower are shared, a quiet and sustained Pax Americana emerges.

Before anyone gets complacent about American preeminence, read chapter 5, in which the author details the dismal prospects of the near future. His "catalog of disorder" includes an updated version of the Four Horsemen of the Apocalypse, beginning with terrorism, religious wars—including evangelical Christianity in Africa—criminal statehood in Mexico, ethnic conflict, and HIV/AIDS. Schwartz's grasp of the interrelated nature of many of these depressing transnational problems is masterful. His grim projections of such disorders are largely predetermined, thus inevitable and therefore troubling. These future flashpoints are all too rarely identified as issues in the national security community until U.S. military forces are dispatched to provide some form of stability.

Inevitable Surprises is well worth anyone's time, as long as the reader understands that predicting is like planning—it is not the prediction or the plan itself

that is important but the diligent process of identifying drivers and developing scenarios that is invaluable. To paraphrase Helmuth von Moltke, no forecast survives contact with reality; good forecasters, like good planners, excel because they have gone through the rigorous intellectual process of examining the mental geography of a problem and anticipating the various contours and conditions that could arise.

Read this book only if you would like to avoid being surprised by tomorrow's predictable discontinuities.

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Gray, Colin S. *The Sheriff: America's Defense of the New World Order*. Lexington: Univ. Press of Kentucky, 2004. 232pp. \$29.95

What role should the United States play in contemporary international politics? This question, or rather debate, began at the end of the Cold War and has never really concluded. It is a unique debate because while everyone disagrees on the question, all agree on its substance—the United States is the preeminent power in the world. People refer to the United States by various names: the lone superpower, the unipolar moment, Pax Americana, and from some of its erstwhile allies and former enemies, the unilateral hegemon or hyperpower. All such names try to capture the signal fact that America carries tremendous weight in world affairs, though for obvious reasons everyone interprets the implications differently. In the United States, two different groups dominate the contemporary

study of strategy: defense analysts and scholars of international security. In both fields most writers seem content to work on very specific problems. Defense analysts tend to emphasize what many have called the Revolution in Military Affairs or military transformation, while many in international security still contend for a theory-driven approach to international conflict. However, despite the fact that strategy bridges politics and war, defense analysts narrowly focus on the details of defense policies to the exclusion of the larger political issues. On the other hand, security theorists miss even the most basic issues pursuing theoretical elegance and, consequently, tend to write only for one another. Colin Gray avoids the pitfalls of each approach in *The Sheriff*.

Colin Gray is professor of international politics and strategic studies at the University of Reading, England, and senior fellow of the National Institute for Public Policy in Virginia. He has written extensively on strategy, geostrategy, and defense policy, and has long been connected to the defense establishments of the United States and NATO. Many of his former students are working in both places and in the academy today.

Gray begins this work by trying to understand some of the major issues facing the United States in the post-post-Cold War era and finishes by noting it is the little things that imperiled everyone's ability to see the larger picture. "I found that so much about the U.S. role in the world is coming into contention, that were I to devote most of my pages to military issues, as long intended, I would be analyzing secondary issues while leaving matters of first-order significance insufficiently addressed." It is

to the issues of first-order significance that the book is addressed.

Given the fact of America's preeminence in the world, what should it do? Gray sees the United States performing the role of "sheriff" of international politics, where others suggest running an empire. Gray explains that "sheriff is of course a metaphor. By its use I mean to argue that the United States will act on behalf of others, as well as itself, undertaking some of the tough jobs of international security that no other agent or agency is competent to perform." That is precisely what the United States has been doing, albeit sporadically, since the end of the Cold War. However, during the interregnum of the Cold War and the attacks of 9/11, the United States was strategically adrift, particularly during the years of the Clinton administration, which had no real focus except in the hope of reviving multilateral institutions.

Three things gave rise to a renewed strategic focus for the United States. The first was the election of the generally experienced, conservative leadership of the Bush team; the second was the commitment to military transformation by Bush's Pentagon team under Donald Rumsfeld; and third, the catalyzing attacks of 9/11, which provided focus for their efforts. Though the administration is focused on the war on terror now, Gray believes that U.S. strategy should also prepare for the eventual return of state-centric conflict.

Gray is a classical realist. A classical realist differs from the neorealist of the academy, who emphasizes theoretical modeling from the *realpolitik* practiced by cynical German politicians of the Bismarck era. Classical realists take their lead from the writings of

Thucydides, Sun Tzu, and Clausewitz and calculate strategy in terms of power and geography, or geostrategy. Through five chapters, Gray shows why he believes the proper role for the United States is to sheriff the international system—that is, to regulate the international political order. He believes history shows that world order is not self-enforcing and unless the United States commits to regulating it, it may not be regulated at all; or, worse, U.S. neglect may encourage others to try their hand at regulating international politics, to the detriment of the current world order.

Gray makes a strong case for the U.S. role in regulating international politics. The role of sheriff will help provide the conceptual focus for military planners and advocates of transformation. He also suggests ways the United States can maintain its preponderance of power, prudent ways to serve U.S. interests as well as keep both domestic and international politics on its side, or at least not overtly hostile. What he does not address, however, is *why* the United States should act as sheriff. What is it about America that makes it the best candidate for the job? It cannot be simply because it is the most powerful country in the world.

Clausewitz famously links war—and the instruments of war, the military—to politics. The central question for strategy, then, should be to what end and for what purpose should strategy be made? To answer that question, one must first ask what are the conditions of internal politics that lead the United States to want, or need, to regulate international politics. What is it about the United States that makes it the *right* power to act as sheriff? Unfortunately,

Clausewitz himself never addressed politics much, and neither do his successors. However, if one assumes that the United States is the right country for sheriff, which Gray clearly does, then it behooves us to pay attention to what he says.

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Korb, Lawrence J. *A New National Security Strategy in an Age of Terrorists, Tyrants, and Weapons of Mass Destruction: Three Options Presented as Presidential Speeches*. New York: Council on Foreign Relations, 2003.

Since the end of the Cold War and the subsequent demise of the Soviet Union, the United States has been in search of a new grand strategy. Over time, the question “What should be the post-Cold War U.S. grand strategy?” evolved into “What should the United States do with its preeminence?” The answers provided by the various erstwhile successors to George Kennan, who gave us the Cold War’s “containment,” have ranged from neo-isolationism—dubbed “strategic independence” by some of its advocates—to primacy, the consolidation and indefinite preservation of U.S. hegemony, of what had initially been thought to be a “unipolar moment.” Some, most notably neoconservatives, have even made the case for a U.S. empire—primacy on steroids.

The declaration by the United States of a global war on terror following the attacks of 9/11 has done little to bring closure to the grand strategy debate. Indeed, the brutally manifest new threat and the response to it, particularly as formulated in the Bush administration’s

September 2002 *The National Security Strategy of the United States of America*, and implemented in Operation IRAQI FREEDOM, served to further fuel the debate. For many, the boldness, even arrogance, exhibited in the administration’s security strategy, especially the explicit embrace of “preemption” and the aftermath of the Iraq campaign, have raised more questions than have been answered.

It is here that Korb, with this admirably concise and sharply focused volume, steps up to the plate. In the tradition of such previous Council on Foreign Relations Policy Initiatives as *Reshaping America’s Military* by Korb (2002) and *Future Visions for U.S. Defense Policy* by Hillen and Korb (2000), Korb here lays out, in the form of presidential speeches, three alternative national security strategies.

As a senior fellow at the Center for American Progress, former director of the National Security Studies Program at the Council of Foreign Relations, and former assistant secretary of defense, Korb possesses the intellect and experience this project requires.

The author takes as his point of departure the concerns—in some corners, furor—generated by the Bush administration’s 2002 security strategy. Controversies surrounding four issues are highlighted: the embrace of preemption (and apparent abandonment of containment and deterrence); the willingness to sacrifice the principles of political and economic liberalism in the global war on terrorism by recruiting the likes of Pakistan’s President Pervez Musharraf to the cause, for example; the inclination to go it alone; and the evident internal tensions and contradictions, particularly the call for maintaining and enhancing

U.S. primacy in the face of chronic economic challenges.

These issues are featured in assessments of three alternative national security strategies. The first alternative, “U.S. Dominance and Preventive Action,” is embraced by neoconservatives and those within the administration and elsewhere who have been referred to as “assertive nationalists.” It begins with the premise that “the most serious threats to American security come from the combination of terrorism, rogue states, and weapons of mass destruction.” The capability and will to act preemptively and unilaterally are essential; American military dominance must be maintained; and U.S. security requires widespread democracy and capitalism.

The second option, “A More Stable World with U.S. Power for Deterrence and Containment,” is said to be favored by moderate Republicans and Democrats. They share the characterization of the threat provided by advocates of option one, yet counsel against elevating “preemption” to the status of a doctrine, emphasize the need for international support in the ongoing war on terror, and warn against the strategic overextension that may well result from proactively spreading free-market democracies.

The distinctly liberal third option, “A Cooperative World Order,” is reminiscent of the Clinton administration’s national security strategy—“Engagement and Enlargement,” in Anthony Lake’s formulation. To the nexus of terrorists, rogue states, and weapons of mass destruction, its proponents add the longer-term threats posed by “global poverty, growing lawlessness, and the increasing isolation of the United States from like-minded states.” This

multitude of dangers requires international diplomatic, economic, and military cooperation; military responses are not to be given pride of place. The United States must strengthen, not tear asunder, international norms and institutions. Even the world’s dominant military power cannot unilaterally ensure its security.

Korb masterfully translates the three alternatives into full-blown presidential addresses to Congress and the nation. He also systematically and evenhandedly assesses the strengths, weaknesses, and political impact of each. Significantly, “liberal,” for Korb, is not a four-letter word. Unlike many Republicans, he knows how to count. This volume should be required reading for President George W. Bush, his advisers, and the broader U.S. national security community.

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Scarborough, Rowan. *Rumsfeld’s War*. Washington, D.C.: Regnery, 2004. 253pp. \$27.95

Rumsfeld’s War is a close-up look at one of the most influential figures in the Bush administration, and a key leader in the current war against militant Islamism. The book examines Rumsfeld the man, reviewing his long and varied career at the top levels of government and industry, and analyzes his role in the two principal themes of his tenure, transformation of the Cold War military and defeat of Middle Eastern terrorism.

Rowan Scarborough is a well known *Washington Times* reporter, specializing in defense issues. While not a panegyric,

his book provides a sympathetic look at Rumsfeld. This is not surprising, in that the *Washington Times* has been notably supportive of the Bush administration. As in his reporting, when writing his book, Scarborough doubtless benefited from close and frequent contact with the senior people around the secretary of defense.

One characteristic of Donald Rumsfeld that leaps from the pages is his utter self-assurance, bordering on arrogance, which manifests itself as remarkable decisiveness and precision in thought and speech. The book opens with Rumsfeld's conversation with President Bush soon after American Airlines flight 77 crashed into the Pentagon. He is noted as saying, "This is not a criminal action, this is war." His phrase crystalized a radical shift in strategic thinking that decisively took America from the listless strategic drift of the 1990s to one of activism and intervention. As noted by Under Secretary of Defense for Policy Douglas Feith, "That was really a breakthrough strategically and intellectually. Viewing the 9/11 attacks as a war that required a war strategy was a very big thought and a lot flowed from that."

The twin themes of transformation and fighting wars are inextricably intertwined. Serving as secretary of defense for President Gerald Ford from 1975 to 1977, Rumsfeld returned to the White House a second time with a specific mandate from President Bush to "transform" the military—bring strategy and military capabilities into better balance with the post-Cold War geopolitical context. The Bush administration came into office believing that the Pentagon was too wedded to expensive, obsolescing systems from the Cold War and to the accompanying policies,

processes, and mind-set that demanded more of the same. When Rumsfeld aggressively set out to overturn the tables in the Pentagon, he was met with determined resistance, for both substantive and stylistic reasons. By early September 2001, there were widespread rumors that Rumsfeld would be the first cabinet secretary to resign, over his inability to foster change in the Pentagon.

Flight 77 changed all that. The United States was no longer chasing criminals, it was at war. The operations in Afghanistan were dominated by remarkable synergies between special operations forces and precision weapons, themes that had long been pushed by "transformation" advocates. In both Afghanistan and Iraq, Rumsfeld insisted on far smaller numbers of ground combat units than the military leadership was comfortable with, arguing that the synergies possible in a heavily netted joint battle space, coupled with precision weapons and targeting, greatly increased the lethality and effectiveness of U.S. forces. The combat results amply repaid his confidence.

The lessons from the fighting merely redoubled Rumsfeld's determination to keep transforming the Department of Defense. Battlefield results notwithstanding, change in the military bureaucratic processes remained difficult. Rumsfeld noted that he "was struck by . . . how resistant people are to looking at strategy in a different way and pursuing advantages, rather than focusing on reacting to threats." On the other hand, his often abrasive manner needlessly antagonized people otherwise willing to help bring about overdue change in the Pentagon.

There is no doubt, however, that Rumsfeld has made an enormous effort

to overcome the stultifying stasis of the huge Department of Defense bureaucracies—military and civilian—and the mental inertia of fifty years of Cold War thinking. As Scarborough notes, “Rumsfeld’s task of reconfiguring the military and fighting the war on terror is so immense that it will take the light of history to determine exactly what he finally accomplished and at what he failed.” If nothing else, Rumsfeld created, if not institutionalized, the state of intellectual ferment that antecedes major change in any large organization.

Rumsfeld’s War is a quick, instructive read from a pro-Rumsfeld perspective. In that sense, it perhaps could be considered a counter to Bob Woodward’s two recent “insider” books on the current war, for which Woodward received very little support from Rumsfeld, and in which Rumsfeld is not sympathetically depicted. On the downside, the book stylistically feels somewhat as if the author threw together some of his day-to-day reporting text and called it a book. Also, fully one-third of the book consists of appendices, with copies of various memos and papers, many classified “secret”; no military reader can applaud the open use of such documents. However, the book is an interesting depiction of a remarkable man. As Scarborough notes on the final page, “It is hard to imagine any other man to whom Bush could have turned to fight this war with more tenacity, panache, and, at the appropriate time, good humor.”

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Machiavelli, Niccolò. *The Art of War*. Edited and translated by Christopher Lynch. Chicago: Univ. of Chicago Press, 2003. 262pp. \$25

Machiavelli’s classic, if now rarely read, *The Art of War* was probably the single most popular military treatise in Europe prior to Jomini—Clausewitz was a professed admirer.

At first sight, this book, with its apparent attempt to revive the infantry-centered military organization of the imperial Roman legions, seems hopelessly irrelevant to present concerns. Even within its historical setting (it was originally published in 1521), Machiavelli’s work is often dismissed today for its alleged failure to appreciate the social and technological trends—particularly the growing importance of gunpowder—underpinning the “revolution in military affairs” of the sixteenth century. Christopher Lynch makes an excellent case that such interpretations neglect the literary or rhetorical dimension of *The Art of War* and its relationship to Machiavelli’s larger intellectual project. In an extensive introduction, as well as an interpretive essay, Lynch rebuts the criticisms of contemporary scholars, defends Machiavelli’s grasp of the military realities of his own day, and reinterprets the intention of the work in relation to Machiavelli’s more famous political treatises, *The Prince* and *Discourses on Livy*.

Lynch’s key point is that Machiavelli was not simply the backward-looking admirer of Rome he is often taken to be but a revolutionary thinker who combined elements of past military and political systems in a novel synthesis. His apparent reliance on Roman models is to be understood fundamentally as a

rhetorical device designed to appeal to the prejudices of the humanist-oriented Italian elite of his day. At the military level, Lynch argues that Machiavelli's appreciation of the role of artillery and cavalry has long been underestimated. Machiavelli goes out of his way to call attention to the limitations of the Roman way of warfare, which was evident in their campaigns against the Parthians, who relied exclusively on light mobile cavalry armed with the bow and guerilla-style raiding tactics.

Lynch suggests that what Machiavelli ultimately envisions is a synthesis of Rome or "Europe" and "Asia," a combination of Clausewitzian commitment to the decisive battle and extensive employment of maneuver, deception, and surprise in a manner reminiscent of Sun Tzu.

Whatever view one takes of Lynch's bold and provocative reading of Machiavelli's text, his handling of the translation is exemplary and unlikely to be challenged in the foreseeable future. He makes use of the definitive critical edition of the Italian text published in Rome in 2001, which removes many errors present in older versions. The translation itself is relatively literal, with occasional awkwardness but much enhanced access to the terminology of Machiavelli himself; there is also a very extensive glossary of terms.

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Singer, Peter W. *Corporate Warriors*. Ithaca, N.Y.: Cornell Univ. Press, 2003. 330pp. \$35

Corporate Warriors is a must read for military professionals and national security experts. It opens a dialogue to a

valuable aspect of national security that demands greater attention—the armed forces' use of contractors. The framework Singer develops is especially worthwhile, and although many of his suggestions are often provocative, in some areas his analysis is flawed and the implications are loose and unsupported. Overall, however, this work is a superb effort to advance discussion on a critical topic.

The Bush administration has made it clear that even with the demands related to the global war on terror, it would prefer not to dramatically increase the size of its forces. To make up for the difference—particularly with respect to Afghanistan and Iraq—contractors have been hired to pick up the slack. Hence, the current war is one where corporate warriors of private military firms have become part of the environment.

Throughout the world other states and international organizations have also turned to private military firms for assistance. Singer argues persuasively that there are policy and operational concerns about the use of these firms that need to be examined more thoroughly.

The book is divided into three parts, of which the first two are the most useful and of durable value. "The Rise" contains an interesting thumbnail of mercenaries through the ages and sets the context for understanding contemporary motivations for the use of private military firms. "Organization and Operations" provides an exceptionally useful framework for understanding the roles of various private firms that perform duties often identified with the military. Chapter 6, "The Private Military Industry Classified," lays out the taxonomy for firms involved in

military-like activities and distinguishes between providers, consultants, and support firms. The next three chapters are devoted to contemporary examples for three types of firms: Executive Outcomes, the notorious but now officially disbanded South African-based mercenary group, illustrates a military provider firm. MPRI, an American-based firm founded, run, and largely staffed by retired flag officers, illustrates a military consulting firm; and Brown and Root, logistics providers, is a U.S.-based Halliburton subsidiary and illustrates a military support firm. In addition to clarifying the types of firms, these chapters are engaging case studies of prominent and influential corporations.

The book contains some significant flaws, but they generally stem from the groundbreaking effort to comprehend the significance of these firms. There are also many loose assertions, insinuations, and innuendos that are unlikely to withstand closer scrutiny, but for now, as an opening argument, they should be taken seriously.

The effort to differentiate the firms in an analytical and useful fashion breaks down in part 3, entitled “Implications.” The words “possible,” “might,” and “can” show up with inordinate frequency and are indicative of a looser, more speculative analysis. Here, Singer has a hard time maintaining the distinction between the firms he had carefully created earlier. The effect is often to tar all provider firms that bear the most resemblance to mercenaries or traditional military combat organizations. Singer darkly intones about the pitfalls and potential problems that can arise from the use of private military corporations. In this section, he tends to lump together all flavors of private

military corporations, suggesting guilt by association with a small number of admittedly distasteful companies. This tendency to associate loosely all firms with the sins of the most egregious ones (almost always provider firms) seems even less fair given the fact that elsewhere Singer notes that such firms constitute a small fraction of the overall private military firm population. Many of his accusations do not apply well to support firms. A more useful approach would have been to assess the implications for each type of firm with respect to contracting dilemmas, market dynamics, accountability, civil-military relations, morality, and effectiveness.

Corporate Warriors is a valuable point of departure for understanding private military firms. It has cut a path through the dense thicket of concerns about their appropriate role but has by no means cleared the way. The book opens a debate that should engage military professionals, civilian national security leaders, and civil society. In the pursuit of national objectives there are many potentially useful instruments, and this book is clearly one of them. Better understanding private military firms and addressing their appropriate role are essential challenges.

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Schneider, Barry R., and Jerrold Post, eds. *Know Thy Enemy: Profiles of Adversary Leaders and Their Strategic Cultures*. Maxwell Air Force Base, Ala.: U.S. Air Force Counterproliferation Center, 2002. 325pp.

The devastating attack of 9/11 starkly revealed how the United States failed to

understand its adversary and, by extension, itself. The difficult, age-old challenge for the United States to accurately assess foreign leaders has not changed, nor has its spotty track record of getting it right.

It is a tough business getting at human identity and predicting the behavior of reclusive, complex characters to whom we have no access and who possess weapons of mass destruction. However, with America's extraordinary resources one must ask why the United States has not brought to bear its best know-how to fill this serious vacuum of understanding.

The U.S. Air Force's Counterproliferation Center's "America's Adversary Project" has tackled this problem and produced *Know Thy Enemy*, which is a fine collection of studies on the personalities and cultural context of such dangerous international rivals as Iran, North Korea, Libya, Syria, and terrorist groups like al-Qa'ida.

Co-editors Jerrold Post, psychiatrist and former CIA profiling guru, who now heads the Political Psychology Program at George Washington University, and Barry Schneider, director of the Counterproliferation Center at Maxwell Air Force Base, assembled a formidable group of leadership assessors with regional knowledge and functional expertise ranging from history, international relations and security, and war fighting to Japanese art.

Schneider's introduction, "Deterring International Rivals from Escalation," critiques the inadequacies of classical political science deterrence theory relative to twenty-first-century enemies armed with lethal weapons. The United States must know these enemies' "hot

buttons" and what contingencies could affect their decision to use weapons of mass destruction.

Both authors argue that although necessary, traditional profiling is not sufficient to understand the enemy. A deeper appreciation of individual personalities and their strategic cultures is necessary to supplement deterrence theory's shortcomings. What is now required in each case are specific U.S. deterrence policies tailored to each leader's unique profile, which directly informs our policy and public diplomacy.

Three essays bookend seven leadership profiles, offering a loose theoretical alternative and some recommendations. The seven assessments are timely, in-depth, and informative. "Kim Chong-Il's Erratic Decision Making and North Korea's Strategic Culture" by Merrily Baird is well done, synthesizing excellent research analysis into a working model for assessment.

Two other thought pieces are Alexander George's "The Need for Influence Theory and Actor-Specific Behavioral Models of Adversaries" and the concluding chapter by Post and Schneider, "Precise Assessments of Rivals: Vital Asymmetric War Threat Environment." George argues that it is necessary when dealing with irrational adversaries to distinguish between abstract concepts and real-time strategy. He states that "actor specific" calls for a more differentiated behavioral model of adversaries, but he qualifies the recommendations in light of the high degree of uncertainty and context specificity within strategic cultures. Post and Schneider reiterate that to avert an adversary's use of weapons of mass destruction, models of actor-specific psychology and decision making are required.

For those seeking more than a basic education, this work provides a serious guide to today's "hottest" adversaries and their weapons of mass destruction. Through well researched history, biography, and analysis of the cultural and strategic setting, this book acquaints readers with today's enemies and invites them to ponder critically the propensity of these enemies to use their weapons.

A curious omission of this research is its lack of any systematic methodological discussion. The book's primary assumption is that deterring adversaries requires an understanding of their strategic culture. Yet nowhere do the editors formally define strategic culture or its link to the adversary. The reader comes to appreciate, however, that each study uniquely attempts to make the connection.

Between the lines, this study calls for a new paradigm, yet the book itself mostly relies on an outdated theoretical approach that ultimately handicaps what it set out to do—assess adversaries. That kind of work requires a deeper analytic template for profile analysis than presently conceived, one that cannot be wedged into political science paradigms.

Ultimately, knowing the enemy requires a better appreciation of the advanced capabilities that studies of such behavioral areas as emotion, cognition, and performance can offer. Alongside traditional political science and psychology, this brings a deeper understanding to the urgent and complex problem of knowing our adversaries in relation to deterrence, information warfare, and psychological operations.

An adversary's behavioral structure reflects his identity and a consistency of pattern and style that no amount of

image management can disguise. Direct microanalysis at the level of structure of a leader's videotaped expression offers insights into psychological states and cognitive patterns, cues into how these contextually unfold over time, and topic-yielding insights into stress, credibility, level of certitude, and conflict that can still remain undetected after years of traditional analysis.

Challenging the way policy makers and analysts think about this vacuum in understanding weapons of mass destruction and foreign adversaries is the problem that this book illuminates, and it is perhaps ultimately its most significant contribution.

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Keegan, John. *Intelligence in War: Knowledge of the Enemy from Napoleon to Al-Qaeda*. New York: Knopf, 2003. 387pp. \$30

Among many military historians, the release of a book by John Keegan is cause for celebration, and the sentiment is not altogether out of place. Keegan's prolific output of insightful studies, reaching back to his seminal *Face of Battle* (1992), has won for himself devotees from both the academic and public sectors. In his latest book, *Intelligence in War*, Keegan returns to the distinctive format he used in *The Face of Battle*, dividing his study into several vignettes from a broad range of military history—what he labels here as “a collection of case studies”—organized, in this case, to highlight the effect that good intelligence has on military operations, and the general role intelligence plays

in underpinning the effectiveness of armed forces in the field.

Beginning with Admiral Horatio Nelson's chase of the French Mediterranean fleet in 1798, Keegan goes on to discuss the role of intelligence in Stonewall Jackson's Shenandoah Valley campaign of 1862, the British navy's search for Rear Admiral Maximilian von Spee and his ships in World War I, and the battle of Midway, the German assault on Crete, and the Battle of the Atlantic in World War II. In each of these, we see how the gathering and the use of intelligence—two very different acts—affected the action. As usual, Keegan's narrative skill sets the stage succinctly for his discussion. We feel how heavily the unknown weighs on the commanders, Nelson especially, and how at times they were bogged down sorting through an overabundance of intelligence, especially after the advent of wireless communication, to divine the plans of the enemy. Commanders had to deal with many possible answers to difficult questions, usually with only one being the right answer. Intelligence, we realize, works to weed out possibilities and narrow the options.

A book-length study of how crucial intelligence is will almost inevitably run the risk of elevating this one element above all other elements in a successful military operation. "If only this commander had known about the enemy's troops," we might find ourselves saying, or, "If only his spies would have alerted the admiral to his opponent's plans the outcome here would surely have been different." To his credit, however, Keegan avoids this determinism that would cause us to think that with good intelligence, battlefield victories can be made all but certain. On the contrary,

he acknowledges that "however good the intelligence available before an encounter may appear to be . . . the outcome will still be decided by the fight." Brutal fighting, we are reminded, along with a good bit of luck, are the key determinants of battlefield success. What Keegan instead shows is that good intelligence can reduce the scope of the unknown, and most importantly remove guesswork from the equation as much as possible. "Thought," Keegan explains, "offers a means of reducing the price" of the cold, bloody attrition that lurks in the background of all battlefield victories.

Unlike some other Keegan volumes, this work builds its effectiveness only cumulatively through its stories. If one picks up this book and reads but one or two of the vignettes, a clear and timeless axiom of intelligence is likely to elude him. It is through the cumulative effect of all these stories, one after the other, that we begin to grasp Keegan's broader point and see just how varied in form and content, but fundamentally useful, sound intelligence of every sort can be. One clear contribution that this book makes is to remind us that intelligence has much to do with mundane issues of how dense that forest on the map really is, how muddy that road becomes in April, or how to interpret what we inadvertently overhear on the radio.

Professional military readers will understand intuitively the importance of intelligence in the new kind of war the United States finds itself fighting today, and that brings us to the book's subtitle. Given the recent debates over the quality of American intelligence, many readers will eagerly anticipate that Keegan's analysis of the war against

al-Qa'ida and that the war on terror will be as fully developed as his examination of Jackson's Valley campaign or the battle of Midway. Those readers will be disappointed. The discussion of al-Qa'ida is only a small part of his penultimate chapter, "Military Intelligence since 1945," which discusses the Falklands War in greater length than what the United States faces today. Nevertheless, Keegan speculates that old-fashioned human intelligence will be the best means of carrying the war to the new enemies of the United States, and through his historical exposition of intelligence, we are well reminded just how crucial this apparently mundane work really is.

DAVID A. SMITH
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Reeve, John, and David Stevens, eds. *The Face of Naval Battle: The Human Experience of Modern War at Sea*. Crows Nest, Australia: Allen and Unwin, 2003. 363pp. \$24.95

An author who uses the words "the face of battle" in the title of any book pertaining to military matters is throwing down a pretty hefty literary gauntlet. For "face of battle" guarantees that the work in question will be compared to Keegan's 1976 landmark volume of the same name. Keegan asked the basic question, "What is it like to be in a battle?" He sought the answer in a comparative study of the battles of Agincourt, Waterloo, and the Somme.

John Reeve and David Stevens were well aware their book would be compared to *The Face of Battle*. In fact, they encourage the comparison and offer their book as a sort of maritime bookend to

Keegan's earlier work. There is a patent need for such a work and while some, including Keegan himself, have tried to fill it, none have yet succeeded. Despite a most encouraging beginning, however, Reeve and Stevens also miss the mark, although this book is still worth reading.

Rather than a coherent examination of the human experience of naval combat, this work is a collection of essays by seventeen separate authors, the majority of whom happen to be Australian. This is not surprising when the reader learns that most of the essays were originally presented at the 2001 King-Hall Naval History Conference in Canberra.

The book starts off strongly with a masterful essay by John Reeve, who discusses naval history in general, identifying certain challenges in "piercing the veil" of individuals' experiences in naval battle and suggesting an organizational approach, analogous to that used by Keegan, that could be used to grow a general understanding of naval combat. Unfortunately, the use of preexisting essays may have precluded such an approach, and the promise of the first chapter is not met in the book's subsequent pages.

The essays are arranged more or less in chronological order and cover such diverse topics as a look at the battle of the Yellow Sea, the treatment of German sailors taken prisoner in World War I, and the personal experiences of an officer in command of an Australian guided missile destroyer in Operation DESERT STORM.

Despite its failure to live up to the promise of its title, this work is worth reading for several reasons. First, much of it, especially the portion written by Russell Parkin, deals with the

development of Australian naval power and doctrine. Though it was one of the staunchest allies of United States, Australia's development and contributions in this area are often overlooked or misunderstood. In addition, the naval challenges Australia has faced and continues to face are by and large shared by other maritime nations that do not have the industrial or economic capacity of a superpower. Thus the Australian experience may contain lessons for other mid-sized naval powers. Furthermore, as all U.S. sailors lucky enough to have worked with their counterparts "down under" know, Australian warships are superbly handled, well maintained, and boldly employed. Australian sailors' maritime skills and contributions to both world wars, Korea, Vietnam, and DESERT STORM deserve wider recognition.

A second reason to read this book is that several of the writings illuminate obscure yet fascinating historical episodes. Bruce Elleman's discussion of the 1894 battle in the Yellow Sea between modern Japanese and Chinese warships is excellent, although his attempt to draw parallels between the Chinese navy of 1894 and that of today is on less firm ground. Likewise, Michael Dowsett's examination of the treatment of casualties resulting from the 9 November 1914 battle between the German SMS *Emden* and the Australian cruiser HMAS *Sydney* makes for compelling reading.

A significant portion of this work is devoted to personal recollections. The best of these are written by Rear Admiral Guy Griffiths, AO, DSO, DSC, RAN, Ret., and Commodore Lee Corder, AM, RANR. Griffiths is a veteran of World War II, Korea, and Vietnam, where he commanded HMAS *Hobart*.

Commodore Corder commanded HMAS *Sydney* during Operation DESERT STORM and is an alumnus of the Naval War College. A third essay, written by Michael Whitby, which discusses the wartime diaries of Commander A. F. C. Layard, DSO, DSC, RN, is also well done. Yet as good as these individual accounts of service and command are, so much more could have been done if the editors had mined these narratives for points of commonality. For if the face of naval battle is not so unique as to preclude any similarities between one battle and the next, it should be possible, as Keegan did with land combat, to identify the shared perspectives and experiences that affect sailors who make war upon the sea.

At least the editors did not fall into the trap of concentrating solely upon the memoirs of officers. Some room is also provided to the enlisted view of naval combat. These include a discussion by David Jones on the wartime experiences of U.S. submariner Thomas R. Parks, and Peter Stanley's quick look at the naval life of J. S. Macdonnell, who rose to the rank of gunner in the Royal Australian Navy and then went on to a life of writing "potboiler" novels. While entertaining, and at times poignant, these recollections, like those of the senior officers, lack the analysis and study that could elevate them to more than just brief biographical sketches.

The book concludes, somewhat predictably, with a look at "The Face of the Future Naval Battle." There is a discussion of such emerging technologies and concepts as network-centric warfare, and transformation and concept-led long-range planning. These complex issues

are barely touched upon, so readers who are familiar with them will not learn anything new, and readers who had not heard of them will know little more.

No doubt the day will come when someone will write the book that truly reveals the face of naval battle in all its dimensions, but this is not the day. Taken as a whole, Reeves and Stevens have created a work of interest and merit that is able to stand on its own. It is a significant contribution to an increased understanding of history and the contribution of the Royal Australian Navy. Readers who do not expect more will not be disappointed.

RICHARD J. NORTON
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Phillips, Donald T., and James M. Loy. *Character in Action: The U.S. Coast Guard on Leadership*. Annapolis, Md.: Naval Institute Press, 2003. 178pp. \$22.50

According to the opening chapter, the Coast Guard manages to achieve a complex mission on an annual budget that is smaller than 2 percent of all the other services' combined budgets. Phillips and Loy identify a twelve-part mission that includes responsibilities ranging from boating safety to homeland defense. Thus they argue that the Coast Guard provides a valuable case study for leading a complex organization because it achieves so much with limited funds.

Using a variety of approaches, including historical examples, anecdotes, and organizational philosophy, Phillips and Loy illustrate sixteen principles that they believe are foundations for a well-run organization. For example, the first

principle they posit is "define the culture and live the values." By discussing exactly how the Coast Guard achieves this goal, they then set forth how this principle can also be successfully implemented by other organizations.

The authors are uniquely positioned to examine Coast Guard leadership. Donald Phillips has written ten books on leadership, including the best-selling *Lincoln on Leadership* (Simon and Schuster, 1992), and spent twenty-five years as a manager in major corporations. After graduating from the Coast Guard Academy in 1964, coauthor Admiral James Loy served in the Coast Guard for over thirty years, culminating in four years as commandant. Upon his retirement in 2003, he assumed the post of administrator of the Transportation Security Administration.

Overall, this book has many points to recommend it. Unlike many management books, this one is written in an easy-to-read fashion. The aforementioned sixteen principles are grouped into four parts: Set the Foundation, Focus on People, Instill a Bias for Action, and Ensure the Future. Readers can thus focus on groups of principles that are of specific importance or interest in their own organization. In addition, while leaders may be reluctant to read a management book that discusses "sea stories" over the latest theories, the authors do an excellent job of linking the Coast Guard experience to leadership and management principles. Every chapter closes with a summary of the important leadership points behind each principle.

The leadership principles presented here will resonate with federal civilian and military managers alike as many relate to issues they currently face. The

chapters that cover “Promoting Team over Self” and “Instilling a Commitment for Action” in part 1 will assist those federal leaders who work in a team environment. In part 2, “Focus on People,” there are discussions of such principles as “Eliminating the Frozen Middle,” “Cultivating Caring Relationships,” and “Creating an Effective Communication System.” The Coast Guard experience in this area may be a source of ideas to federal leaders who are currently struggling with workforce planning issues such as recruitment, retention, and motivating a large population that is or soon will be retirement eligible. Part 3, “Instill a Bias for Action,” also proves helpful in thinking about current issues. For instance, chapter 12’s “Give the Field Priority” will provide ideas to both military leaders working to implement network-centric warfare and a State Department leader working to improve communication between Washington and the field. Other chapters in this section, “Make Change the Norm” or “Encouraging Decisiveness,” may seem self-evident, but they are actually cultural changes needed to bring the federal workforce into the twenty-first century. Lastly, part 4’s discussion of “Ensure the Future” may also seem obvious, but a recent management survey noted that most workers want to hear “thank you” above all other rewards. Chapters on topics of “Spotlighting Excellence” are also important reads.

Character in Action does have some limitations. Due to a publication date that preceded the Coast Guard’s merger into the Department of Homeland Security, readers may find themselves wondering if the book’s lessons still hold true. For an answer to this question, see the

Spring 2004 *Review* article “Change and Continuity: The U.S. Coast Guard Today,” by Admiral Thomas H. Collins.

LAURA MILLER
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Funabashi, Yoichi, ed. *Reconciliation in the Asia-Pacific*. Washington, D.C.: U.S. Institute of Peace, 2003. 240pp. \$19.95

Asia’s brutal colonial and wartime history has left wounds that continue to shape the region’s politics and international relations. Traditional approaches to international relations say little about how to overcome lingering animosity and to replace it with trust and harmonious relations. Time alone is never a solution. Nor, as Japan has discovered repeatedly, are apologies enough. Even need, as that between developing China and economically and technologically advanced Japan, is insufficient. The contributors to this volume demonstrate that the path to reconciliation is different for each country, requiring unique blends of a wide range of political and social ingredients, many of which are in short supply.

This volume is the result of a conference sponsored by the U.S. Institute of Peace, which includes chapters on intrastate (Taiwan, Cambodia, East Timor, Australia) as well as interstate relations (Japan-China, Japan-Korea, North Korea-South Korea, and an appendix on Germany-Poland). Its timing is propitious as reconciliation itself is a growing phenomenon. South Africa’s Truth and Reconciliation Commission and the UN-led war crimes tribunals for Bosnia and Rwanda have elevated world

consciousness. Democratization has allowed for the spread of appropriate legal structures, even as it has promoted self-awareness and sometimes ethnic nationalism. Media attention and the Internet strengthen such dynamics.

Yet the kind of success seen in South Africa and between Germany and its European neighbors has not been achieved in the Asia-Pacific. Daqing Yang shows how, following normalization of relations and apologies by Tokyo, the “history problem” resurfaced in the 1980s and has not gone away since. Diet members and millions of Japanese citizens have expressed their opposition to offer further apologies and to any prolonged self-flagellation. For its part, Beijing occasionally “plays the history card” in order to wrest concessions out of Japan, although the “card” is often played because of belligerent actions in Tokyo and “held” by the millions of Chinese who retain legitimate grievances for the ills of the 1930s and 1940s. Yang argues that historians on both sides need to acknowledge the complexity of the relationship and to disseminate their knowledge among large segments of the population. A more fundamental problem is that reconciliation presupposes an autonomous society capable of critical self-examination—in other words, democracy. In this case the People’s Republic of China has a long way to go.

Victor Cha explains how despite the establishment of formal relations between Seoul and Tokyo in 1965, and a great deal of mutual interest and admiration between the two societies, historical animosities prevent the sort of cooperation that one might expect from a rational or *realpolitik* perspective. The two main South Korean national

holidays celebrate independence from Japanese colonial rule. Substantive problems include the content of Japanese history textbooks, the political and social discrimination to which some 650,000 Korean-Japanese are subjected, the memory of Korean forced laborers killed by the atomic bombs, and the use of Korean “comfort women” by Japanese troops during the war. The security threat of the Democratic People’s Republic of Korea (DPRK), as well as concern in Seoul and Tokyo over Washington’s commitment to provide a security umbrella, have both contributed to the steps toward reconciliation that have been made, including apologies, high-level meetings on the subject, and the establishment of consultations on security cooperation. Cha argues that democracy and development have contributed to this process. “As generations of Koreans, in the South or in a unified entity, come to live in a democratic and developed society, they will cultivate norms of compromise, nonviolence, and respect for opposing viewpoints that will become externalized in their attitudes toward Japan.”

The argument about democracy and norms is critical. Interestingly, Seoul’s perception of a lessened threat from the DPRK has actually increased its invectives toward Japan. Cha claims that without a process of identity change, material incentives such as the need for security or economic cooperation alone cannot ensure a continued march toward reconciliation.

This notion also captures the promise and peril of intra-Korean relations, where the nature and timing of reconciliation will have serious implications for the region’s security. Scott Snyder argues that Pyongyang’s economic

needs have driven the process, while public opinion in the South has determined its course. South Korean nongovernment organizations have also contributed large sums of money. The whole process presents a major challenge to the North's system "as it will be more and more difficult to build fences around South Korean economic investments and business practices." Once again, democratization and normative development will be as important as economic and security imperatives to successful reconciliation. Considering the implications, it is sobering to consider that there is no obvious way that such identity change can occur peacefully in North Korea.

Internal reconciliation processes are no easier than external ones. Nayan Chanda explains how Cambodia has achieved only superficial reconciliation following the genocidal acts of the Khmer Rouge regime. The Buddhist tradition can justify much as resulting from actions of a prior life. The lack of political stability makes many Cambodians fearful of reopening old wounds, particularly when racist aspects of Cambodia's political philosophy may bear some culpability. Phnom Penh earlier granted amnesties that would make it difficult to prosecute former leaders, and more recently argued that a full-blown tribunal would make reconciliation less likely. The legitimacy bestowed on the regime by other states makes prosecution somewhat awkward, and China opposes revealing fully the record of the former regime. The prospects are not good for major trials capable of healing this nation.

Other chapters present a mixed record on the prospects and benefits of reconciliation for Aborigines in Australia and

East Timor, and for the loved ones who died in a popular uprising on Taiwan in 1947. In addition to the political and cultural repression involved, the dead in each case number in the tens of thousands. The Taiwan case makes what is probably the most convincing argument that democratization and political stability, combined with firm political leadership, are critical to successful reconciliation.

All who study Asian security or the role of justice in international relations should read this book. Reconciliation can bring restorative justice to war-torn peoples. However, this requires a rejection of purely retributive justice. In addition, the case studies in this volume reinforce that there is no universal formula and that a great deal of political creativity and political courage is required. As the editor also concludes, victims and victimizers must work together and maintain a forward-looking approach, preferably in a democratic environment. Most of all, there must be a commitment to the process. It is perhaps this factor that promotes the kind of identity change that is required for true reconciliation.

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Langston, Thomas S. *Uneasy Balance: Civil-Military Relations in Peacetime America since 1783*. Baltimore: Johns Hopkins Univ. Press, 2003. \$39.95

Thomas S. Langston believes "it has never been easy for Americans to decide what to do with the military" at the end of a war. During peacetime, should the military solely focus on preparing for future wars, or should it usefully serve

the nation in other ways? Langston cites some examples of the military providing a service to the nation during peacetime. For instance, after the War of 1812, the military “took the lead in opening the West for settlement” by building roads, surveying canals, and farming. After World War I, the military “operated the main barge line on the Mississippi River . . . operated and extended cable and telegraph lines in Alaska, operated steamship and canal services in Panama, and responded to natural disasters.”

According to Langston, the “transition to peace and the postwar era” is important to civil-military relations.

Langston, a professor of political science at Tulane, has written several books with political themes, including: *With Reverence and Contempt: How Americans Think about Their President* (1995), and *Ideologues and Presidents: From the New Deal to the Reagan Revolution* (1992).

Langston relies on historical analysis and judgment to determine how the military balanced war preparation and internal reform with service to the nation after the following conflicts: the Revolutionary War, the War of 1812, the Mexican War, the Civil War, the Spanish-American War, World War I, World War II, the Vietnam War, and the Cold War. He wrote this book halfway through George W. Bush’s term and before Operation IRAQI FREEDOM. Langston predicted that the war on terror would essentially be like a police operation, similar to the war on drugs. It turns out, however, that the post-Cold War peace was short-lived; America currently finds itself fully engaged in the war on terror.

Independent of whether the United States is currently fighting a war or enjoying peace, Langston’s thesis still applies, believing that the ideal postwar transition balances military reform with service to the nation. This balanced “happy state of affairs” occurs when there is cooperation between civilian and military leaders and when “political consensus [is] in support of the military and its varied uses.” For example, is there agreement for the use of military force? Should it be used to protect only vital interests or should it also support humanitarian objectives? Does the nation expect a “peace dividend”? According to the author, during the post-Cold War period of the late 1990s, there was an uneasy balance between the military’s desire to hold onto a Cold War force structure and the president’s use of military force that “stretched a shrinking force around the globe.”

In my opinion, it is understandable that the military would want to prepare for the next war during peacetime. Likewise, it makes sense for the nation to expect the military to provide different services to the nation when not at war. My only wish is that the author had specifically recommended a list of military service projects for the post-Cold War period.

Langston’s work is useful because of its depth of research on previous peacetime periods. Although all the details can be cumbersome, his idea that military and civilian leaders must cooperate and reach consensus on the purpose of a peacetime military force is clear and succinct.

CYNTHIA PERROTTI
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Dick, Steven J. *Sky and Ocean Joined: The U.S. Naval Observatory, 1830–2000*. Cambridge, U.K.: Cambridge Univ. Press, 2003. 609pp. \$130

In this beautifully produced, albeit very expensive volume, Steven Dick of the U.S. Naval Observatory in Washington, D.C., has written the fascinating story of the origins and development of the Navy's and the nation's oldest scientific organization. It is a fascinating and well written story that ranges from the establishment of the observatory in 1830, as part of the Navy's Depot of Charts and Instruments under Lieutenant Louis Goldsborough, to the sixteen-and-a-half-year tenure of the longest-serving superintendent, Matthew Fontaine Maury, who led when it was first designated the National Observatory. The institution was originally established to serve the very practical application of astronomy to the measurement of time in day-to-day navigation at sea. Under Charles Wilkes and Maury, it quickly moved beyond this restricted use to extend its work to geomagnetic, astronomical, and meteorological observations that soon brought it into the forefront of scientific research, bringing global credit to the U.S. Navy and the United States.

Dick, who has a degree in astrophysics, as well as a doctorate in the history and philosophy of science, tells the wide-ranging story of the observatory's work over 170 years, from the rise in the use of the chronometer in the U.S. Navy in the early nineteenth century, to its new work in the opening of the twenty-first century with the application of the satellite Global Positioning System. His highly competent and very readable explanation of the observatory's scientific

accomplishments ranges across the administrative and bureaucratic elements in its history and provides strikingly humanistic portraits of some of the key and colorful scientific figures that were involved, such as Maury, Simon Newcomb, and Asaph Hall.

The story that unfolds encompasses a range of fascinating and quite different events and details, which many readers, whether they are general readers, naval historians, or historians of science, will not readily associate with the achievements of the U.S. Navy. Chief among them are the discovery of Phobos and Deimos, the moons of the planet Mars, and Charon, the moon of Pluto; the sixteen nineteenth-century expeditions to measure the transit of Venus across the face of the Sun; and the establishment of the master clock of the United States.

In terms of practical contributions to fleet operations, the observatory played a key role in providing the most up-to-date navigational technology to ships at sea, even mass-producing chronometers during both world wars, and providing early applications of punch-card calculating technology for the production of an improved and more accurate *American Air Almanac* from 1941. Because the *Nautical Almanac* had one of the few scientific computation laboratories in the United States, its equipment was adapted in late 1943 to do rapid calculations in spherical trigonometry to calculate the positions of German U-boats, using incoming intelligence and radio bearings from a hundred listening stations around the world. For this purpose, the observatory staff used the equipment at night, when it was not being used for *Almanac* computations, and calculated solutions to a quarter of a million

spherical triangles to locate the real-time positions of enemy U-boats within five miles.

For those interested in the history of Washington, D.C., the book contains a fascinating account of the different sites of the Naval Observatory, as it moved from its first location on G Street near the White House, to Capitol Hill from 1834 to 1842, to temporary quarters on Pennsylvania Avenue near New Hampshire Avenue from 1842 to 1844, on to Foggy Bottom until 1893. It was then that famed architect Richard Morris Hunt designed the buildings on Observatory Hill on Massachusetts Avenue, including the Superintendent's Residence, which served from 1928 as the residence of the Chief of Naval Operations, and which in 1974 was designated as the official residence of the vice president of the United States.

Readers of this journal will be particularly interested in the recurring civilian-military controversy through the observatory's history and in the question as to whether the Navy should hand over administration of all or part of its functions to the Smithsonian Institution, the National Bureau of Standards,

or some other civilian agency. The natural administrative tensions that result from competing national security interests and scientific interests were ameliorated as early as 1908 by the creation of the Astronomical Council that allowed leading astronomers to have an influence on decisions relating to the staff's scientific work. From 1958, with the employment of increasingly complicated astronomical technology, the appointment of a civilian scientific director has provided a more effective means to work under the active-duty naval officer who is the superintendent. On this point, Dick concludes that maintaining the observatory as a scientific institution under Department of Defense control, within the Department of the Navy, is particularly important in regard to the observatory's continuing role in providing accurate atomic-clock time to the Global Positioning System satellites and its contributions to accurate detail on star positions and earth orientation, critical elements to current defense projects in space.

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