

BOOK REVIEWS: AIR FORCE HISTORY

Dark Horse: General Larry O. Spencer and His Journey from the Horseshoe to the Pentagon
General Larry O. Spencer. Naval Institute Press, 2021, 182 pp.

Diving into *Dark Horse: General Larry O. Spencer and His Journey from the Horseshoe to the Pentagon*, it is imperative to first state what this book is not. It is not a boilerplate book on leadership, filled with lists of tips and tricks or tired adages that seem to be prevalent in many books written by military leaders. It is not a how-to guide about going from enlisted to officer or how to become a four-star general. Instead, this book is an honest, humble, and often raw firsthand account of one man's journey from a rough neighborhood in southeast Washington, DC, to become the US Air Force vice chief of staff.

The author writes this memoir-style book in a direct, down-to-earth manner. One thing that sets *Dark Horse* apart from other memoirs is the seemingly genuine account of his life. Throughout the book, the author does not appear to embellish or "clean up" certain life events or experiences. Instead, he simply writes them as he lived and perceived them.

The book's chronology is seamless as Spencer starts in his childhood and walks the reader through the important events at various stages of his life, including his appointment as the Air Force vice chief of staff and his early retired days after 44 years of active-duty service. Readers can easily follow the narrative without confusion or a break in continuity.

In a connected but almost separate final chapter, Spencer provides readers with a list of what he refers to as "life lessons." A person could read this chapter as a standalone, but the reasoning and credibility on why these life lessons matter are woven throughout the book. Because of the emotional depth and life experiences tied to these life lessons, readers could benefit from reading the entire book instead of simply skipping to the list of these lessons.

Throughout the book, a couple of key themes emerge and reemerge, two of which seem to shine the brightest. The first, introduced early in the book and prevalent throughout Spencer's life, is his deep belief in God. In the book's early pages, readers are introduced to his story of finding God and being baptized. In subsequent chapters, the author reiterates the importance of his faith in his life's decisions and successes. While this theme is clear throughout the book, the author does not alienate potential readers who may not share the same religious beliefs. Instead, as with the rest of the book, he simply writes his story, of which faith is a large part.

The second predominant theme is the adversities he faced throughout his life because of racism. A gut-wrenching aspect of the book is how he discusses with brutal honesty the racism he faced. Spencer provides several blunt examples of specific times racism impacted him. As readers, we are shown instances of deliberate racism and the effects on him, both directly and indirectly. The reader may need to pause for reflection after reading about a few events because of their power and rawness.

But even with the multiple examples of racism and its adverse effects, this is not a story fueled by negativity or self-pity. Instead, it is one of overcoming adversity and using that adversity and life experiences as building blocks to achieve more than most people think possible. The overwhelming theme and feel of this memoir are positivity and gratitude.

The author's curriculum vitae speaks for itself. He enlisted as an Airman basic and was eventually selected for Officer Training School. After he became a commissioned officer, Spencer was progressively promoted with his career culminating as the vice chief of staff. He is one of only nine African American four-star generals in Air Force history and one of only two who were not pilots. He is also the only person in Air Force history from the primary financial management career field to be promoted to four-star general. Also, he has the distinction of having two Air Force awards named in his honor, the *General Larry O. Spencer Innovation Award* and the *General Larry Spencer Special Acts and Services Award*. Even with this pedigree, the author still writes with incredible humility.

Overall, I would recommend *Dark Horse*. It gives the reader an inside glimpse into the life of an incredibly successful leader and the lessons learned from that life. Unlike the memoirs of many former military leaders in which the authors seem to inflate aspects of their life artificially, this

Book Reviews

book is written in a humble and down-to-earth way. This humility gives extraordinarily credibility to the book's life lessons.

The book also reminds us how far our nation and military have come regarding racism while pointing out that progress can still be made. General Spencer enlisted in 1971 and dealt with racial slurs from other Airmen at his first duty station. He retired from the Air Force in 2015 as the vice chief of staff and as someone who had seen the election of and met the first African-American US president. This memoir provides readers an insight into a leader's upbringing and life while giving life lessons that can be used in the military and our civilian lives.

Technical Sergeant Tyler B. Trusty, USAF

BOOK REVIEWS: AIR OPERATIONS

Rise of the War Machines: The Birth of Precision Bombing in World War II

Raymond O'Mara. Naval Institute Press, 2022, 352 pp.

Raymond O'Mara's *Rise of the War Machines: The Birth of Precision Bombing in World War II* covers the development of air warfare doctrine and the human-machine evolution for conducting aerial bombing until the end of World War II.

O'Mara retired from the US Air Force in 2016 as a colonel, having flown the F-15 in operations and operational test assignments. After his retirement, he worked in commercial aerospace and advanced technology startup companies and is an independent defense and technology consultant. He earned his doctorate in technology, policy, and engineering systems from the Massachusetts Institute of Technology.

The author focuses on the development of aerial bombing and the systems required to execute that mission. The systems are analyzed beginning with the relationship between the pilot and aircraft and working upward to doctrinal employment. O'Mara covers the inner workings of crew relationships in depth and how each member contributed to the systems of bomber employment. Each compartment is covered in depth and expands upon the specific relationship of its role and the equipment necessary to achieve bombs on target.

The book opens with the coverage of early bombing and explores the integration of machine-driven automation into flying. The early attempts at producing machine integration were difficult due to technological limitations. Because of the pilot aircraft system limitation, the role of bombing expanded into dedicated crew positions, and the people in those positions—bombardiers—became experts in aerial bombing. The early methods of bombing required a system in which the bombardier directed the pilot to actuate the aircraft to achieve the desired results. This laid the foundational relationship between doctrinal bombing and crew interdependency.

During World War II, the relationship between the bomber and aircrew changed from the start to the end of the war. In the early portions of the war, the bombardier had independent control of the aircraft with the Norden bomb site. This allowed the bombardier to control the aircraft during the most critical phase of the mission, the bombing run. The pilot and other crewmembers existed to get the bombardier to the mission objective. This system inside the aircraft in which everyone worked toward the bombardiers' goals provided a unique dynamic not seen in other aircraft.

In the beginning of World War II, each aircrew had the bombardier as a specialist, but this was later changed due to a doctrinal shift. Wings would now fly in combat formations and required only one lead crew to get the entire formation to the target. This changed the dynamic for the whole US Army Air Force. The new system required only one group of individuals to be experts in their machinery while the other bombers followed along. The new system created an environment where the specialists were selected to lead a mass group of people instead of each crew acting individually during the bomb run.

This doctrinal shift emerged from accuracy constraints due to technological limitations. The combat box and lead crews allowed massed airpower to deliver weapons on strategic targets and to work together to increase the entire systems' effectiveness. By the war's end, the system's entirety rested on a few individuals working in sync with their machine. Most of the aircrew were "toggle pushers," meaning they simply performed a switch when ordered.

The profound and intriguing parts of the book are the manner in which systems evolved. As a need arose, the system itself changed to fulfill the needs of the operator and war fighter. The system evolved from using a human-human operator to a human-machine operator relationship. This relationship required a specialist and a crew of specialized operators. Finally, doctrine shaped the system on a macro level where a single specialized crew fulfilled the role of an individual specialist. This well-written historical evaluation provides insight into the development of aerial bombing.

The author demonstrated the evolution of the relationship between the aircrew members and their machines. The argument falls short with the analysis of the pilot's employment capabilities,

highlighting the remotely piloted aircraft, the F-111, and F-117. None of these aircraft are categorized as bombers or are required to fulfill a strategic role akin to World War II bombers. Their mission sets fall within the tactical realm and are not designed to affect the operational level of warfare.

The B-52 is a relevant comparison of the system's evolution and employment practices. The long-range, all-weather bomber has been the backbone of US strategic operations since the early 1960s. The B-52 crew complement has remained consistent since its inception with a pilot, copilot, radar navigator (bombardier), navigator, and electronic warfare officer. Only the gunner has been removed from the original crew compliment.

The author postulates that the autopilot from an F-117 can replace the bombardier's job. This is incorrect because the other airframes must strike few tactical targets for an operation and fly a limited range for only a few hours. The bombardier must be capable of striking large operational-level targets across great ranges. Typical bomber sorties require 20-plus hours of mission employment, and the F-117 is capable of only a few hours due to fuel and system limitations. The comparison is not fully developed. Also, the increased automation the author suggests does not account for the dynamic and degraded environment operations must employ in current and future warfare.

This book is worth reading for those who would appreciate a thorough historical breakdown of early bombing practices through World War II. The bombing practices and problems go beyond dropping a weapon off an aircraft. O'Mara does a great job exploring the intricate workings of the systems required to accomplish the bombing mission. This exploration includes the aircraft, bomb sight, crew members, and doctrinal practices. The social dynamics of the crewed bomber have not changed much since World War II, and this work highlights the uniqueness of bomber airframes.

Captain Thomas J. Urbanek, USAF

Ghostriders 1968–1975: “Mors de Caelis” Combat History of the AC-130 Spectre Gunship, Vietnam, Laos, Cambodia

William Walter. Knox Press, 2022, 352 pp.

William Walter's *Ghostriders 1968–1975* is an excellent history of AC-130 gunships and the combat operations conducted in Vietnam, Laos, and Cambodia.

Ghostriders is compiled from historical accounts of declassified material and information gained from interviews with Special Operations Forces (SOF) veterans. It provides a fascinating perspective of the missions conducted by aircrew members and the challenges of employing a newly modified aircraft. For example, Walter stated that modifications to the aircraft did not come with technical data, leaving crews and maintainers to deal with complex problems requiring troubleshooting (86).

Walter is a retired US Air Force chief master sergeant and was an AC-130 Gunship aerial gunner. He participated in every AC-130 combat operation from 1980 to 1994. In 2001, Walter was inducted into the Air Commando Hall of Fame and the US Special Operations Command Hall of Honor in 2011. *Ghostriders* provides detailed accounts of AC-130s hunting trucks on the Ho Chi Minh Trail and supporting ground forces in the area. These operations proved to be very successful, saving countless lives and destroying thousands of tons of supplies. But that did not come without a cost: 6 AC-130 gunships were destroyed, and 52 crewmembers lost their lives (286).

Walter does a terrific job of telling the stories of crew members who flew on the AC-130 Gunships. A great level of detail exists on the specific missions executed and offers a unique point of view from those who were there. He also does an excellent job of explaining in detail each crewmember's position on the aircraft as well as their roles and responsibilities. Readers do not have to be familiar with gunships to understand the book. Walter additionally takes the reader through a chronological order of the operations adding to the ease of readability and allowing the reader to effortlessly keep track of the timeline.

A minor shortcoming of the book is a few missing perspectives. It offers references from the opposing side and some perspectives of the maintainers and ground forces. Still, more accounts from the People's Army of Vietnam and the aircraft maintainers could add to the content offering the reader more angles of the story. Even without these accounts, *Ghostriders* places the reader inside an AC-130 receiving effective enemy fire while performing evasive and emergency actions, thus keeping the reader engaged. At times, the book places the reader on the edge of their seat with adrenaline pumping. In these sections, the book is difficult to put down.

Ghostriders is a fantastic read for anyone interested in AC-130s in general or for those studying the conflicts in Vietnam, Laos, and Cambodia. This book offers a perspective that some may not have heard before. Special Operations Forces personnel could also benefit by gaining a better understanding of where gunships started, and the lessons learned early during employment that are still just as applicable today. These lessons should be passed down to future gunship aviators.

Master Sergeant Daniel Christenson, USAF

Air Power in the Falklands Conflict: An Operational Level Insight into Air Warfare in the South Atlantic

John Shields. Air World, 2021, 384 pp.

The Falklands War suffers from no shortage of literature. What the current body of work lacks, however, is an objective and data-based approach to analyzing the course of the conflict. It is here that John Shields' *Air Power in the Falklands Conflict* makes its contribution. Far from being another narrative account or personal memoir, Shields combines the practical knowledge of a serving Royal Air Force aviator with the historian's training. *Air Power in the Falklands War* is a deeply researched addition to understanding the role of airpower in the South-Atlantic conflict.

Shields' work can be divided up into four major sections. The first two chapters outline his motivation for the work, a review of the existing literature, and a summary of the methodology used in the rest of the book. This methodology section describes Shields' major contribution to the existing literature: a day-by-day, sortie-by-sortie breakdown of how each side employed (or, as we come to learn, did not employ) airpower in the pursuit of their objectives. To further refine his analysis, Shields also develops a framework for analyzing what each side's targets should have been for a given phase of operation, that is, their opponent's centers of gravity.

The next section, consisting of three chapters, describes Argentinean efforts to attack British centers of gravity over three distinct phases of the conflict: the preinvasion, invasion, and postinvasion ground campaign. In the first phase, the British required some semblance of local air and naval superiority to enable the amphibious assault's success. Shields convincingly argues the British center of gravity during this phase were the two aircraft carriers and their embarked air wings. In the second phase—the invasion—the British center of gravity shifted to the British amphibious force necessary to transport and land ground forces. Finally, in the ground campaign, the British center of gravity was the ground force necessary to take back the islands. It is against these centers of gravity that Shields judges the effectiveness of Argentine airpower.

In the campaign's first phase, no Argentine weapons struck the British center of gravity. Shields identifies several reasons for this failure, including a failure to find the target (44 percent of the weapons), soft kills by Sea Harriers (16 percent), and missions canceled (12 percent), among others. The second phase of the campaign, during which British forces landed in the Falklands, continues the trend of Argentina failing to employ airpower against its enemy's center of gravity. The book shows the largest causal factors for this failure were canceled missions (23 percent), missing the target (23 percent), air aborts (13 percent), and not dropping ordnance (13 percent).

In the campaign's final phase—the British ground force operation—Shields again highlights the failure of the Argentine Air Force to apportion its assets against the British center of gravity.

From postinvasion until the end of the conflict, the Argentines allocated 38 percent of their aircraft against maritime targets—primarily British aircraft carriers—and only 62 percent against the more critical land targets. Again, the biggest causal factors for the Argentine inability to get weapons on target were all within Argentina's control: missing the target, failing to drop weapons, and air aborts.

After covering Argentine airpower, the next two chapters cover British efforts to defend their centers of gravity and prosecute the Argentine center of gravity. Here, Shields appears somewhat iconoclast in his assessment of British defensive efforts. His analysis shows that British defenses—air, land, and sea—accounted for the destruction or deterrence of only 13 percent of Argentine weapons. In other words, it was not that British forces were particularly effective but that Argentine forces were particularly ineffective at their theoretical task.

On the offensive front, Shields defines the Argentine center of gravity as their land forces in the Falklands, without which the Argentines would be unable to hold the islands. Instead of striking this center of gravity, the British allocated some 67 percent of their air weapons to counterair-type missions, with 51 percent of weapons targeting Argentina's airfield on the island. The British allocated only 28 percent of their weapons to ground-force targets. Thus, like the Argentine air forces, the British air arms do not appear to effectively use their assets.

The final two chapters provide a summary and concluding thoughts. Shields identifies four major operational level lessons:

- (1) The importance of generating and distributing a coherent joint air campaign plan
- (2) The importance of understanding the theatre through reconnaissance and other activities
- (3) The need to integrate and understand capabilities across services
- (4) The peril of focusing on outputs (sorties, bombs dropped, etc.) instead of outcomes (Did those strikes meaningfully contribute to victory?)

Shields also explicitly outlines and debunks several myths from the conflict, such as the decisiveness of the Sea Harrier and the lethality of the new Sidewinder variant. These final chapters offer a useful summary of the work and much food for thought for current air planners.

While Shields' work is an effective contribution to Falklands War literature and airpower literature writ large, it is not without its faults. Principally, Shields does not include any narrative overview of the air campaign and only provides a few tactical vignettes in the text. Thus, the book is largely inaccessible to those without an understanding of the course of the conflict. While the book's intended audience is likely already familiar with the subject, the omission is still puzzling.

Additionally, readers are sometimes left wondering about alternative hypotheses or interpretations of the data. For example, Shields does not explicitly tackle the question of whether Argentine pilots may have missed their targets because of Sea Harrier patrols, thereby understating the impact of the Sea Harrier in the data. While these omissions do not change the overall conclusions, they may leave the reader with additional questions. Despite these faults, Shields' work is a must-read for any student of operational-level airpower, particularly for those interested in the Falklands conflict.

Second Lieutenant David Alman, ANG

Spymaster's Prism: The Fight against Russian Aggression

Jack Devine. Potomac Books, 2021, 304 pp.

Spymaster's Prism: The Fight against Russian Aggression stands out for its relevance and applicability in the growing field of literature on countering Russia.

Jack Devine's experience with the clandestine conflicts against the Soviet Union is invaluable for present-day intelligence personnel, military leaders, and policy makers. Devine explicitly wrote this book to help leaders choose "how to effectively respond in light of Russia and others' ongoing intelligence assaults on the United States" (xx). His hard-earned lessons from the Cold War will make American decisionmakers more successful today.

Spymaster's Prism, Devine's second book, is a passing of the flag between generations of those dedicated to preserving America and our way of life. His first book, *Good Hunting*, is an autobiography detailing his time at the Central Intelligence Agency (CIA). While *Spymaster's Prism* describes some of his life, it emphasizes choices available to the US national security establishment.

In this book, Devine distills 32 years of experience as a CIA officer, solidifying his position to speak as an authority on American efforts against Russia. His career covered such notable events as the Aldrich Ames scandal, the Iran-Contra affair, and the US arming of mujahidin forces in Afghanistan. He ended his career as the CIA's acting deputy director for overseas operations.

Spymaster's Prism fits with similar books on US and Russian competition, such as Michael McFaul's *From Cold War to Hot Peace: An American Ambassador in Putin's Russia*, Richard Stengel's *Information Wars: How We Lost the Global War Against Disinformation and What We Can Do About It*, Stephen F. Cohen's *War with Russia: From Putin and Ukraine to Trump and Russiagate*, and Ion Mihai Pacepa and Ronald J. Rychlak's *Disinformation: Former Spy Chief Reveals Secret Strategies for Undermining Freedom, Attacking Religion, and Promoting Terrorism*. But Devine adds a unique perspective, from his time within the US Intelligence Community. His prescriptions aim at countering Russia in a domain where that nation traditionally excels.

Devine's experience is crucial at this moment since "Russia's assault on Western democracy has primarily been predicated on what can traditionally be considered intelligence actions" (xviii). This is natural for a nation led by a former intelligence officer and a close association of the so-called "Siloviki," or members of Russia's security services. Moscow's most recent actions toward the West, including assassinations, election interference, planting illegal agents, or corrupting Western officials, all illustrate this point.

Yet, these are not new steps for Russia. As Devine states in the introduction, the "current contest with Russia is very much a continuation of our intelligence dueling with Moscow since the end of World War II" (xxi). For most of that time, the difference was an informal, mutually agreed-upon intelligence competition framework that existed between the United States and Soviet Union—the Moscow Rules. Devine describes how this framework was abandoned after the fall of the Soviet Union in 1991. Without it, the United States and the West lack a common language to deter or mitigate Russian aggression.

The bulk of *Spymaster's Prism* is dedicated to 13 axioms to use in creating a new set of "Moscow Rules." These observations (called "lessons") center on the human dimension of intelligence, including descriptions of Russia's leadership and goals, suggestions for gaining sources within Russia, or counterintelligence actions to be taken within the United States. These recommendations appear effective because they narrowly focus on the Intelligence Community. Relatively little discussion of technical methods, including cyber, happen. Devine is less interested in the means to act than he is in the ends they seek.

While a strength, Devine's focus can also be *Spymaster's Prism's* greatest weakness. His book is a product of the US Intelligence Community, written for the members of the same group, especially human intelligence practitioners. His recommendations will be less applicable to those in other fields. Similarly, Devine perceives Russia exclusively through the lens of intelligence

competition. Thus, his lessons are all symmetric to Russian actions, founded on the assumption that Russia will respond in kind.

This last assumption is where perhaps Devine is most vulnerable. His understanding of Russia as a revanchist Cold War power might not accurately represent Russia after 2000, with the ascension of Vladimir Putin to the presidency. Events since the Russian invasion of Ukraine on February 24, 2022, show that Putin and his Siloviki might not be interested in creating a shared framework.

The Soviet Union at least understood that it needed to compete cooperatively with the United States; naked aggression would lead to catastrophe. In contrast, modern Russian leaders seem willing to cut their country off from the West and the entire liberal, democratic global community. Russian leadership's collective policy shrug toward spiraling sanctions indicates a willingness to take measures the Soviet Union would never have. Western leaders today may need to reevaluate what levers of influence are truly available to the United States to alter Russian behavior.

By contrast, Devine's vision of America is compelling. Although he witnessed moral failures in US leadership, such as Aldrich Ames' spy activities or the Iran-Contra investigation, he retains an unshakable faith in America's moral superiority and historical exceptionalism. As he describes it, this "combination of freedom, quality of life, and aspirational wish for a more fair and just world" (220) is the source of America's ultimate success. The need to live by these values is woven throughout his lessons. Devine dedicates two chapters to the requirement to fight a just conflict without stooping to the immoral practices that ultimately form a cancer in our adversaries.

Spymaster's Prism is a useful read for members of the US Intelligence Community, military leaders, and policy makers. It adds texture to a rich field of applying Cold War principles to the ongoing, overt conflict with Russia. More than that, Devine builds a credible structure to use when evaluating Russian actions or determining the appropriate American response. It is a reminder that all conflicts must follow our beliefs and values to succeed; otherwise, we fall into the moral trap Russian leaders set. While clear-eyed, Devine insists we can prevail if we hold true to our mission and integrity.

Lieutenant Colonel J. Alexander Ippoliti, ANG

Klimat: Russia in the Age of Climate Change

Thane Gustafson. Harvard University Press, 2021, 336 pp.

Climate change will be the defining issue in this century's international politics. It will shift international trade, drive conflicts, and—at least for some low-lying Pacific islands—be an existential threat.

Thane Gustafson's *Klimat: Russia in the Age of Climate Change* seeks to predict the effects on Russia. The book charts a perilous course for the Russian economy and society in the next 30 years, a course beset by the storms of shifting international markets and the shoal waters of poor domestic economic management. That course is only possible without any surprise, world-changing events beyond the COVID-19 pandemic that began as Gustafson completed his book. We are now beset by another world-altering event: Russia's February 2022 invasion of Ukraine. *Klimat* has only become more compelling as a result.

Gustafson argues that climate change's net effects on Russia will be negative (6). There will be benefits, such as marginal improvements in agricultural productivity in parts of Russia and greater access to Arctic waterways, but the costs will surpass these. Melting permafrost will degrade infrastructure across 70 percent of Russia's landmass (210). Droughts, floods, and extreme weather events will make parts of Russia less habitable and economically productive. This will drive economic migration, pushing rural populations into already crowded cities.

Compounding this problem for Russian policymakers, Gustafson argues that external actors control the economic impact of climate change on Russia. (7) Russian export revenue comes

overwhelmingly from hydrocarbons, precisely those resources the world must wean itself from to limit the impact of climate change. Russia's economic output and its tax revenue are at the whim of governments actively seeking to move their economies away from oil and gas (15, 52). Changes in European policy toward fossil fuels, such as a carbon border tax, would strongly affect Russian exports. Similarly, any change in Chinese demand could radically change Russia's economic fortunes.

Gustafson predicts Russia will continue to benefit from its hydrocarbon resources in the short term as the global energy transition slowly builds speed. By the early 2030s, the global demand for fossil fuels will continue to increase, and Russia will remain in a strong economic position (13). But from the 2030s to 2050, the global energy transition will gain steam, and Russian exports of oil, gas, and coal will fall precipitously (13). The result will be a Russian economy short of export revenues, a state short of tax incomes, and a society struggling to cope with the effects of climate change.

All told, Gustafson paints a grim picture of Russia's economic future. This future has grown bleaker in the wake of Russia's 2022 invasion of Ukraine. Sanctions on Russia's central bank have obliterated the currency reserves that Russia developed during the last 20 years. This will reduce Russia's ability to offset the costs of climate change. Shell and BP—major British oil companies—withdraw their Russian investments. The four largest international oilfield servicing firms also left Russia.

With these departures, Russia loses the capital to finance the development of its fossil fuel reserves and the technical knowledge to exploit them. This will seriously constrain Russia's ability to benefit from its natural resources even to the early 2030s horizon that Gustafson predicts. Furthermore, Europe plans to cut Russian gas imports by 66 percent this year and intends to have complete energy independence from Moscow well before 2030. The 10 years of strong fossil fuel exports that Gustafson predicts seem to have burned up, leaving Russia in a much weaker position.

This is not to criticize Gustafson's work, which provides a sober analysis of the structural factors that will govern Russia's experience of and ability to respond to climate change. The point is to highlight the precarity of Russia's economic position until 2050 and its vulnerability to Kremlin mismanagement and outside events. Few predicted Russia would invade Ukraine in 2022, and fewer still predicted the unprecedented scale of economic sanctions the United States, European Union, and others enacted in response.

Russia could only overcome the structural problems that Gustafson highlighted if incredibly skilled and lucky political leaders in the Kremlin worked with all parts of Russian civil society and coordinated with their counterparts in other countries. Instead, Russian President Vladimir Putin launched his country into a war that puts Russia in opposition to its primary hydrocarbon customers and the source of the high technology the future Russian economy needs.

As we work to understand the world that will emerge after the Russo-Ukraine War, I strongly recommend *Klimat* for the insights it provides on Russia's future, climate change, and the future of international relations.

Ian T. Sundstrom

America's Wars: Interventions, Regime Change, and Insurgencies after the Cold War

Thomas H. Henriksen. Cambridge University Press, 2022, 324 pp.

Documenting America's military actions since the fall of the Soviet Union, Thomas Henriksen provides a compact and succinct outline of US intervention in Panama, the Balkans, Somalia, Haiti, the wars in Iraq, Afghanistan, and efforts throughout the continent of Africa.

Henriksen, an academic and senior fellow emeritus at the Hoover Institution, provides a temperate historical overview of these conflicts with elements of international relations theory embedded throughout the analysis. In examining conflict during America's unipolar moment, Henriksen portrays the United States as a liberal hegemon using its unrivaled power to project Wilsonian-like internationalism across the globe.

Henriksen's evaluation appears heavily influenced by mainstream liberal internationalist thought, accepting America's role as the enforcement arm of the liberal or "rules-based" international order. Despite this, he occasionally references international relations scholars and theorists with realist inclinations. While this work focuses primarily on the conflicts mentioned above, the brief conclusion offers an estimation of America's power projection capabilities in the imminent world of great power competition.

The author's views remain relatively absent during the book's first chapters. Still, the more nuanced analysis dissipates as the more recent and politically charged conflicts in Iraq, Afghanistan, and throughout Africa take center stage in the latter half of the work. While he is willing to concede misjudgment in some instances, Henriksen strongly suggests that any misfortunes seen in our recent foreign policy prescriptions are due to a lack of escalation, even in the face of repeated failure.

We have all heard the aphorism, "No plan survives first contact with the enemy." Yet, time and time again, Henriksen cannot seem to accept the practical application of this maxim, which is the reality of unintended consequences. Instead, when policies fail to materialize, every setback, complication, and frustration is met with the same passive refrain. All would have been well had we just executed said plan even more.

The subtle implications throughout the work echo the tired clichés of the armchair interventionists, who appear convinced that our actions in no way influence our adversaries. Thus, any policy out of Washington is necessarily a good policy, and the true motivations of critics are questioned. While remaining fairly mild, Henriksen says that a commander who continues down the path of past mistakes shows "a profile in courage," but one who scales back is *retreating*. Those who support intervention are *patriotic* and show "altruism," while skeptics "trivialize the sacrifice" of our service members. Though he briefly notes the cost of the past two decades of continued warfare, both in American lives and resources, legitimate concerns about the direction of US foreign policy are usually dismissed. Critics who oppose prolonged entanglements, he says, "have no realistic plan" as an alternative.

The logical conundrums the author finds himself in to justify his bias toward intervention are evident in his overview of intervention in Libya and the second-order effects this had on conflicts throughout Africa. He notes in earnest the "fire spread" throughout the region when Tuareg militants, formerly loyal to the deposed dictator Qaddafi, returned to Mali from Libya. The militants seized control of the northern portion of the country, unleashing a wave of violence and terror that spread through the region.

The destabilization of northern Africa empowered terrorism and militancy, with Henriksen specifically noting numerous subsequent military coups, the rise of Al Qaeda in the Lands of the Islamic Maghreb (AQIM), Ansar Dine, Boko Haram, and the terror of other violent extremist organizations who conducted mass murder, kidnapping, and terrorism throughout Nigeria, Niger, Cameroon, Chad, Somalia, Ethiopia, Uganda, and others.

Yet, somehow, the chapter concludes with the assertion that the "interventionist response" in Northern Africa was a "prominent victory" in deterring terrorist attacks. The problem with Libya, he reasons, was that there was not a firm enough commitment in the aftermath of intervention. There was "no follow-on treatment to stabilize the chaotic nation." The prescription always supports more escalation, more involvement and more intervention, no matter the cost.

Thus, blowback only flows in one direction, where the hand is not heavy enough. This refusal to acknowledge unintended consequences, or to selectively assess them in accordance with a preconceived agenda, is certainly a mistake that any policymaker or military theorist should avoid as we anticipate and plan for future conflicts, at the very least because it opens policy makers to the risk of making avoidable mistakes.

For example, he concedes "Iraq stands out in many ways as the exception" due to the "higher costs in lives and money" after the "strategic miscalculation" of removing a regional counterbalance

to Iran. But he clarifies this admonition by stating the mistake was in the withdrawal, not the intervention itself. In this way, we see why his evaluation of second-order effects in Libya appears disordered. If those who do not learn history are doomed to repeat it, it stands to reason that those who learn the wrong lessons are also doomed to repeat them.

This point cannot be overstated. The rising threats we face as a nation are of vital importance as we see a return to superpower politics. Assessing the consequences of our actions so we can effectively plan for contingencies, is essential to mission accomplishment. So, too, is assessing the rational calculus of our adversaries to consider how they will respond to our actions.

These two points make up the facets of Sun Tzu's famous proverb, "If you know the enemy and know yourself, you need not fear the result of a hundred battles. If you know yourself but not the enemy, for every victory gained you will also suffer a defeat. If you know neither the enemy nor yourself, you will succumb in every battle." Unfortunately, in this book, the focus is on neither.

Second Lieutenant Micah Mudlaff, USAF

Illicit Money: Financing Terrorism in the 21st Century

Jessica Davis. Lynne Rienner, 2021, 240 pp.

Illicit Money by Jessica Davis is a critical pillar of financial terrorism research and may become a foundational text for the field. Its use of data strikes a perfect balance between being evidence-based while not blindly following what out-of-context numbers say in an area almost defined by incomplete information. If the author had chosen to go in-depth in some case studies instead of brief descriptions of how capital was used, the book would also have been excellent for those outside of the field. *Illicit Money* is effective in showing how terrorists raise and deploy funds, but it falls short of being a text capable of generating more interest in a field unjustly written off as merely academic.

Davis discusses how terrorist organizations and actors acquire capital and use it to achieve various objectives. The book is broken down into three main parts—raising money (how groups collect resources), using money (how groups use, store, and obscure funds), and new frontiers (an analysis on financing methods and emerging tactics). It draws statistical evidence from 55 terrorist organizations, 18 plots, 32 attacks, and the authors' experience working on terrorism funding.

Multiple sections provide incredible insight into how money affects the operations of a terrorist group. One excellent example is the ransoming of hostages. As a summary, terrorist groups sometimes take people hostage to demand money for their release. While this traditionally happens to locals, the author's analysis shows that the big bucks (and high-profile incidents) are when foreigners are traded. She discusses how nation-states are put in awkward positions, wanting to spend money to free their citizens while also needing to avoid breaking international laws. Sometimes, individual family members make the payments themselves, even if that means funding a terrorist group.

The author does an excellent job discussing the "overhead" costs associated with ransoming: setting up communications, keeping the hostage alive, and paying the appropriate middlemen to transfer the prisoners and payment back and forth. The whole system is much more complex than it first appears. Learning about how this prohibitive cost could turn less organized groups away from ransoming was an absolute joy to read.

Another fascinating chapter was managing, storing, and investing funds. The author describes how the Palestinian Liberation Organization (PLO) invested in banks, businesses, factories, and all sorts of legitimate business activities (144). These investments provided more than half of the funding for the organization in 1987. It was a bit surreal comparing how action-packed one would expect terrorist activities to be with the duller dimensions of generating a return on investment high enough to beat inflation.

While some authors rely too heavily on their data, Davis expertly avoids this trap. Data is used to back it up when a claim is made, along with the author's expectation of it being over or underestimated. She explains her reasoning for her expectations. Given the lack of reliable data on terrorist funding, failing this crucial step would have compromised the entire text. Instead, the book goes above and beyond illuminating what the data suggests but never simply letting the numbers speak for themselves. The context she provides is critical to the conclusions which are drawn.

While many aspects of *Illicit Money* reconfirm preconceived notions about terrorist funding, the analysis also highlights truths that seem counterintuitive. One example is hawala, an informal method of money transfer that was vilified after the 9/11 attacks. A false raid against such an operation led to the seizure of immigrant remittances to families abroad. No one targeted in the raid was prosecuted for terrorist-related financing. Hawala can be used to fund terrorism but no more than any other source.

Another counterintuitive result is the volume of legitimate institutions which are used for the transfer of capital. To this day, traditional banking remains the dominant method by which money is moved for terrorist activities. New technologies, such as crowd sourcing through social media, can be adopted, but this is not always the case as cryptocurrency remains a small and niche corner of terrorism funding.

Furthermore, capital is used to provide social services with the goal of breaking state legitimacy through winning hearts and minds versus mere intimidation. At one point, Hamas was estimated to use up to 95 percent of its resources on social welfare programs. Some groups even have rudimentary taxation policies to track who has "contributed." It is difficult to ascertain if people paying the tax are merely being extorted, truly believe in the organization's mission, or some combination of the two. While it seems easy to say that providing money to a terrorist group ought to be sufficient grounds for terrorism financing charges, this book paints a more accurate but less crystal-clear world. These examples show how commonly held assumptions about terrorist financing can be false.

The book serves as an excellent foundational text for understanding the world of financial terrorism. Unfortunately, many elements of the book can be a bit dull to read that seems difficult to believe given the espionage involved in moving large amounts of money around the world. Davis could have dropped in more interesting case studies in multiple places.

It is strange that this phenomenon is treated as an afterthought, considering the prevalence of state-funded terrorism. For example, the role of the Central Intelligence Agency in providing funds to the Mujahedeen is essentially a part of the public discourse. American-funded Islamist proxies in the Soviet-Afghan War could have been an excellent concrete case study for how states provide resources to terrorist groups. The way the capital was transferred, the nature of the relationships, and the conflicting interests of the two parties would have been fascinating to read through the financial lens. This could have flowed perfectly into today's modern analysis of the modus operandi of Iranian-backed groups in the Middle East.

Another missed opportunity was when the author discussed legitimate political activities. Multiple groups attempted to use lobbying to achieve strategic objectives. For example, Davis mentions a law firm that the Liberation Tigers of Tamil Eelam (LTTE) hired to get its name off the State Department's terrorist list. But there is no follow-up to such an interesting relationship. Not only would it have been an illuminating example, given that the book lists multiple other groups who have pursued similar strategies, but it would have generated much more interest in the terrorist financing field. Since terrorism is violence pursued in hopes of political change, directly spending capital on lobbying is crucial to such movements. Why dedicate so little time to what might be the most interesting and unexpected way terrorist groups deploy funds?

A final area worth exploring would have been the chance and impact of collateral damage from counterterrorism operations in the financial domain. While drones striking the wrong target is

obviously terrible, one can imagine how angry an individual would feel if their bank accounts were frozen with no ability to appeal. The author briefly mentions this possibility and provides an example of laws being misused concerning hawala. While terrorist financing laws could be helpful in retrospect to prosecute a terrorist or terrorist sympathizer, the impact of unilaterally seizing capital, which can be moved internationally almost instantly, was not explored to the extent necessary.

Illicit Money ended up doing exactly what the author intended to do, but nothing more. Still, given that Davis acknowledges the need for interest in financing terrorism, it is disappointing that more in-depth case studies were not explored. Individual name drops and brief descriptions of incidents do occur but are insufficient to generate the desperately needed interest from those outside the field.

The flows of capital dominate our world. From the outsourcing of jobs to access to healthcare and even how marriage has become as much of a contract as an intimately personal choice, almost every aspect of the human condition has been captured by economics. Thus, any discussion that highlights the role of capital in political struggle is critical to understanding how such activities take place, even if terrorism seems to “break” the logic of calculated self-interest.

Readers looking for intimate case studies of how finances flow may find *Illicit Money* sorely lacking in those examples. Given that part of the problem is a lack of interest in terrorist financing, the author missed a major opportunity to develop that interest outside of the traditional terrorist financing community. Still, the book serves its function well, providing an unparalleled foundation for those who want to pursue this area more vigorously.

Vivek Thangam

From Berkeley to Berlin: How the Rad Lab Helped Avert Nuclear War

Tom Ramos. Naval Institute Press, 2022, 288 pp.

While no longer owning a seat at the forefront of Americans’ minds as was the case during the Cold War, nuclear weapons still hold a commanding seat at the table as policymakers develop national defense policy. Tom Ramos delves into the history of the founding of Lawrence Livermore National Labs (LLNL), a decades-long employee there himself. Though the book is historical, a great effort was put forth in capturing the leadership and management necessary to bring the national lab from a University of California outpost to the institution it is today.

The book does a fantastic job of contextualizing events as they occur. Ramos does this from the genesis of the Manhattan Project to the need for a second nuclear weapons lab to the need for a submarine-launched ballistic missile (which led to the modern intercontinental ballistic missile) to Kennedy going to Berlin and giving his “Ich bin ein Berliner” speech. He works through these major events that he argues were enabled by the LLNL. But there is a bias toward the LLNL vice Los Alamos (LANL), given his background. Ramos is fair in his treatment of the other weapons lab, and he reasonably explains why the governing philosophies of the two labs enabled the LLNL to expand into technology development while the LANL remained focused on technology refinement.

Ramos spends most of the first half of the book building up to the first years of the LLNL, giving historical accounts focusing on E. O. Lawrence and the work needed to develop a fusion bomb. He sets the stage, including a discussion of the personalities of the various scientists involved. The second half of the book focuses on nuclear weapon testing. He goes into details about atomic device naming, why they were testing, and the struggles. While the chapters are discrete, each one builds upon the next, and the theme that resonates is the leadership that was required by each scientist, senior military officer, and engineer and the sheer amount of willpower that was needed in the first two decades of the lab’s existence to bring it to the prominence it knows today.

This book is a must read for any technical officer or government scientist/engineer who deals with nuclear weapons or manages highly technical problems. For anyone who has been able to visit the LLNL, you would undoubtedly recognize the names of his main characters whom he puts into focus. Ramos keeps the book technical enough to keep the scientist reading while offering enough policy and Cold War history to keep everyone interested.

From Berkeley to Berlin would have made past visits to the lab more impactful and put the lab's goals into great context. But the book only focuses on the infancy of the lab until about 1962. While that is the main intent, given how Ramos contextualized the first 20 years of the lab, writing a longer epilogue about its impacts would have added value. It was appreciated how he closed the loop on many of the characters in the epilogue, but he suggests things the lab contributed to throughout the 1970s and 1980s that leave the reader wanting slightly more.

Ramos' effort is an overall, thorough, and quick read on the lives of the scientists and engineers who helped found the Lawrence Livermore National Laboratory and how they contributed to preventing nuclear war during the Cuban Missile Crisis.

Captain Glenn R. Peterson, USAF

Risk: A User's Guide

General Stanley McChrystal and Anna Butrico. Penguin Books, 2021, 368 pp.

Having spent the better part of the latter half of my 30-year Air Force career as a strategist and a fan of retired General Stanley A. McChrystal's postmilitary transition and work, I was excited to see the title of this book as it was coming out.

Risk: A User's Guide, as a component of strategy and strategic planning, is vital as it reconciles an organization's ever-expensive requirements and appetites with its coffers' budgetary reality. Yet, at a deeper level, the understanding of risk and the science of "buying it down" through the art of the numerous and methodical approaches outlined in this user's guide will go a long way in conserving precious resources—people, monetary or other. The work and its analysis of risk will also help reduce, mitigate, or eliminate surprise and concern from the planning equation.

Risk is the perfect topic to discuss today. As McChrystal and coauthor Anna Butrico note early in the work, they wrote *Risk* during the pandemic when the world was fumbling with what to do about it, mitigate its spread, develop a vaccine, and respond to myriad other cascading events. Admittedly, and as McChrystal observes, after a military career in combat dealing with risks, many would think he has mastered the subject, yet the opposite is true. As he faced risk, dealt with it, and watched others contend with similar risks under roughly similar circumstances, he was intrigued by the many divergent approaches taken to deal with risk.

Thus, he set about to understand it in order to manage it better. *Risk* is not really a work on different types of risk, but an explanation of "the factors by which we can strengthen our ability to respond to risk, and how we can turn the dials up and down to make our responses more effective" (xix). And while McChrystal could have simply cataloged and cast his military experiences throughout the entirety of the book (which might have been a bit self-incriminating in some circumstances), they constitute but a small portion. A big strength of the book is that it covers examples across military, government, civil society, and business—ensuring a broad and appealing applicability to numerous audiences. The thesis is tackled in three parts.

Part one constructs a paradigm around a concept he describes as a risk immune system. Part two builds on this foundation by introducing 10 risk control factors (communication, narrative, structure, technology, diversity, bias, action, timing, adaptability, and leadership) "in identifying, analyzing, and ultimately controlling risk" (xxi). Part three takes these factors and offers proven tools and exercises through plausible scenarios with a fictitious airline—FlyVA—to tease out the germane takeaways. This is another strength of the book in that rather than telling stories and

providing tools, the reader can visualize through the various scenarios how those tools are used, which is something of great comfort to those unaccustomed to managing and dealing with risk.

One of the aspects of this book that makes it a page-turner a reader will not want to put down is the breadth and variety of stories and how they are woven into the DNA of the thesis. For example, not only do the authors draw examples from Pearl Harbor, the 9/11 attacks, and COVID 19, but they also discuss Apple, the Alamo, Boston's Big Dig, the Cuban Missile Crisis, Google, Hurricane Katrina, Microsoft, pandemics writ large, Operation Eagle Claw, Overstock.com, Ponzi schemes, China, Russia, Greta Thunberg, the World Wars, military services, and of course, special operations—just to name a handful! With uncanny pertinence, the authors weave many of these topics throughout, applying the various tools in different circumstances so that the reader can evaluate them through multiple lenses.

Ultimately, in this reviewer's humble estimation, the authors support their thesis. They narrowly define their task and deliver a readable and practical guide for all to better understand and deal with risk. Buying down and understanding this risk, whether it be when lives are at stake, profit and loss are on the line, or organizational reputation hangs in the balance, the authors show readers that despite the greatest risk to us, we must understand the inputs and factors inherent in a given situation. Then we can apply tools and measures and not be surprised by outcomes we wish to avoid but can roll with them because of sufficiently adept planning and forethought.

But there is a big elephant in the room that is neither addressed in this book nor considered in passing. And so, all readers considering the context for reading a book should first reflect on the author's credibility in writing it. The elephant is the author's error of developing and signing off on an unrealistic strategy for Afghanistan that flew in the face of certainty his troops faced on the ground. Risk, and a bit of hubris, conspired to create battlefield outcomes that led to the deaths of the likes of Pat Tillman. But of greater unmentioned are the colossal strategic shortcomings leading to the unfortunate deaths of numerous civilians—some even bordering on war crimes.

The book is chock full of platitudinous bromides sprinkled liberally throughout, diluting the meaning behind many exceptional suggestions and useful tools. Readers see right through this filler. Still, if these issues do not knock your conscience, and you can separate them from the pure content of the book, it is most useful. No stone has been left unturned in that pursuit.

Yet, the reviewer is still troubled a bit as a commander at the highest levels; McChrystal personally risked nothing while enabling stalemate at best on the battlefield, if not contributing to losses on a grand scale.

Brigadier General Chad T. Manske, USAF, Retired

Disclaimer and Copyright

The views and opinions in Air & Space Operations Review (ASOR) are those of the authors and are not officially sanctioned by any agency or department of the US government. This document and trademarks(s) contained herein are protected by law and provided for noncommercial use only. Any reproduction is subject to the Copyright Act of 1976 and applicable treaties of the United States. The authors retain all rights granted under 17 U.S.C. §106. Any reproduction requires author permission and a standard source credit line. Contact the ASOR editor for assistance: asor@au.af.edu.