

REVIEWS

Information Warfare Book Falls Short

The Next World War: Computers Are the Weapons and the Front Line Is Everywhere by James Adams, Simon and Schuster, New York, 1998, 336 pages with endnotes, \$25.00.

Chinese contributions to the 1996 Clinton reelection campaign, the contemporary relevance of Clausewitz, French commercial espionage in the post-Cold War era, and the first day of the air campaign during the Gulf War — what do each of these disparate topics have in common? More than meets the eye, but perhaps a good bit less than suggested by author James Adams in *The Next World War: Computers are the Weapons and the Front Line is Everywhere*. A veteran defense correspondent for the *London Sunday Times*, Mr. Adams displays a seasoned reporter's talent for touching lightly on these topics and many more in a relatively short book. Consequently, *The Next World War* offers readers an interesting, but less than satisfying overview of the pervasive and growing influence of computers, the internet, and information technology upon the conduct of modern warfare, the conduct of intelligence collection, and the conduct of economic espionage. His writing flows smoothly, and his narrative tone is consistently engaging. Yet for covering so much, Mr. Adams may be rightly accused of saying far too little.

Mr. Adams' message is simple. In *The Next World War*, he asserts that information warfare and information espionage are with us to stay, and require a revolutionary transformation of western militaries, their governments, and the expectations of a democratic society to adapt. *The Next World War* is structured into three separate sections in an effort to sustain this claim.

In the first part, Adams reviews the impact of information technology upon the future of conventional warfare. Here, his military background and extensive knowledge of U.S. military experiments and exercises since the Cold War serve him well while presenting basic facts. He distills recent U.S. Army, Navy, Air Force, and Marine exercises into a useful contextual narrative. He traces the genesis of global military interest in information warfare to the success of coalition air and missile strikes against Iraqi commercial electric grids and civilian telecommunications and to the streets of Somalia in 1993, where the need to avoid casualties was driven home. In describing the Army Warfighting Experiment (AWE) of 1996-97 and the Navy/USMC Fleet Battle Alpha exercises of early 1997, Adams exposes the degree to which rapidly advancing information technology has begun to affect modern militaries.

In part two of *The Next World War*, Adams describes the challenge facing the intelligence

community in its quest to assimilate the information revolution. He tantalizes the reader with vignettes that clearly indicate the CIA, DIA, and NSA no longer have a monopoly on near-real time information, imagery, and intelligence. He also demonstrates that these agencies are struggling mightily to adopt increasingly irrelevant procedures and practices to an era where CNN, *USA Today*, and commercial satellite down-links often provide operational level military commanders with more useful, time-relevant information than daily intelligence briefings. En route to these insights, however, Adams drags the reader through a thick underbrush of mostly interesting if not obviously relevant tales of non-lethal weapons in Somalia and the potential for hackers to penetrate national defense computer systems while working for civilian subcontractors. The essential truths Adams seeks to highlight suffer from these multiple digressions.

Strong in entertainment value but weak in cohesion and focus, part three of *The Next World War* reaches a conclusion that fails to reach closure. Mr. Adams weaves together a loose tapestry of chapters about Russian fear of information warfare, Chinese use of campaign finance contributions to assist their steady integration of Western information technology, and French use of computer hackers for economic espionage. Adams would have the reader believe that each of these vignettes highlights U.S. vulnerability to the negative dimensions of the information revolution. In some respects they might, but not unavoidably so. Neither, however, do they offer fundamental proof that the nature of warfare has changed so dramatically that traditional military thinking, save the estimable Sun Tzu, must be relegated to the ash can of history. Yet, this is the unsatisfying conclusion of *The Next World War*.

Part three of *The Next World War* betrays its weakness. Adams' analytical segments do not meet the standards of his descriptive work. While Adams captures the essential dynamics vexing western militaries in their ongoing quest to adapt to the information revolution, he establishes a stark and intuitively false dichotomy for analyzing the pace of change. The evolutionary school, he asserts, views the information revolution as best assimilated into traditional military doctrine, where warfare will still be decided by the will of directly clashing combatants on land, sea, and in the air. The revolutionary school, he counters, argues that the information medium will be the new field of battle, thus cyber-warriors must supplant soldiers, sailors, airmen, and marines. Adams unabashedly champions the revolutionary point of view, asserting that the U.S. military is failing to concentrate sufficient resources on the revolutionary approach. However, there are many shades of gray that Adams' black

and white dichotomy misses. Clearly, information technologies have impact upon the strategic, operational, and tactical levels of war. These impacts are emerging rapidly and almost simultaneously within each level of warfare. The military challenge, therefore, may be less revolutionary than Adams suggests, but dramatically more progressive than the evolutionary approach underway. The future may be brightest when the military moves to accommodate the essential possibilities from information technology within and between each level of warfare.

Adams correctly notes that inter-service rivalry has contributed to the fragmentation of military effort in synchronizing a more progressive response to the challenges of the information revolution. He thumps this theme, however, to the point that it trivializes a deeper and more compelling clash that does not originate between military services, but between the specialties within them. The intelligence, communications, and satellite control communities within each military service remain paralyzed in Cold War organizations and fragmented from each other in stove-piped communities. Training, organization and doctrine within these communities remains stagnant and disjointed despite the fact that the commercial world is rapidly forging common operating systems and corporations for the delivery of telecommunications, cyber-media and satellite imagery, acoustics, and electronic signals across a common medium. Dominated by service warfighters, the Pentagon leadership seems to lack the interest, insight, or the stomach to force progressive solutions upon these info-relevant communities. Here, military conservatism and the go-slow approach can only produce a more vulnerable military, leaving it increasingly reliant upon commercial know-how and support for real-time and near real-time information.

Armor leaders who are keen students of military history will certainly take issue with the analytical framework Adams develops to support his argument for revolutionary military change. From the outset, Adams suggests that Clausewitz is incapable of accommodating the implications of the information revolution. He seems to anchor this controversial proposition on two unsustainable interpretations of Clausewitz: First, Clausewitz speaks of the essence of battle to the practice of warfare in the human condition; and this proposition is anathema to an advocate of bloodless warfare like Adams. Second, Clausewitz wrote incessantly of the "friction [fog] of war," so he could not conceive of the impact of the revolution in information technology that would blow away the proverbial Clausewitzian fog. Paradoxically, Adams simultaneously asserts that the writings of Sun Tzu do not suffer from this failing, intimating that today's Chinese communists covet western information tech-

nology as an involuntary cultural reflex to Sun's warning to "...know your enemy as you know yourself...if you desire victory on the field of strife." This bit of politically incorrect cultural determinism is less offensive than it is humorous. Nonetheless, it again highlights the suspect analytical framework Adams employs in an attempt to move beyond the entertaining cyber-vignette.

The book's analytical shortfalls are all the more dissatisfying because Adams squanders some very important insights. One such insight is his observation that, despite its initial promise, the Army AWE process has begun to look a bit like, "...putting a high tech-shine on an old pair of boots." He even produces a classic quote from an Army TRADOC bureaucrat that drives home the point before heading off in a different narrative direction. Later on the same page, however, Adams quotes a military analyst with much to say regarding the failings of the U.S. Army to adapt more dramatically to the information revolution. Yet he never cites Dr. Andrew Krepinevich in this context. Head of the Center for Strategic and Budgetary Assessment, Dr. Krepinevich has stated publicly that he fears the present U.S. Army approach to "evolutionary change" resembles the French military approach to the revolution of aviation and mechanization between the World Wars. While the Germans assimilated airplanes and tanks within a fundamentally new doctrine featuring a blitzkrieg approach that sought speed and shock to psychologically unhinge the will of the opponent to continue the fight, the French did not. French military doctrine remained wedded to the supremacy of the World War I infantry regiment, and focused upon the deliberate destruction of the enemy fighting force. French industry created technologically sophisticated planes and tanks for the sole purpose of reinforcing and supporting the infantry regiment in the defense and the attack...war at a snail's pace. The French force-fitted revolutionary technology to their preferred doctrine, while the Germans exploited the potential of new technology in a fundamentally new doctrine. The May 1940 battlefield clash between these divergent doctrinal approaches produced a decisive German victory that is well known, and a bit of history that Adams might have counseled the bureaucrats at Army TRADOC to study a bit more carefully.

In this vein, *The Next World War* opens the door to useful historical analogy that Adams never walks through. If he had been a bit more exhaustive in his review of military history, Adams may have found the debates regarding the future of air power during the inter-World War years eerily similar to contemporary policy discussions regarding how best to utilize information technology.

For most of the Great War, tradition-bound western militaries viewed the airplane as a tool of their signals and intelligence arms. Aircraft could help with battlefield reconnaissance and with the transmission of messages, but were too flimsy to matter in the serious business of fighting. This mirrors, almost pre-

cisely, the initial U.S. military assimilation of information technology in the early 1990s.

By the early 1920s, however, rapid advances in aircraft design and capability had airpower zealots on the rise. Led by the Italian Giulio Douhet, proponents of strategic air power argued that the modern airplane could (and should) render traditional warfare obsolete. Douhet's theory of air power suggested that the ultimate deterrent for conventional war would be a large fleet of strategic bombers. Strategic bombers, he argued, would hold the entire civilian populace of a would-be aggressor state hostage to wanton, horrific bombing campaign, thereby deterring all but the most dreadful tyrant from contemplating war. Sir Arthur "Bomber" Harris was a British disciple of Douhet, arguing in the 1930s that Britain need not have a costly and wasteful standing Army when a fleet of strategic bombers would do the trick. If deterrence failed, Harris added, then one massive bomber strike against the aggressor's homeland should break civilian morale and bring an immediate end to the hostilities. The ghosts of Douhet and Harris cast an eerie shadow across the arguments of those in favor of a radical revolution in response to the challenge of the information age, including Adams himself in *The Next World War*.

Meanwhile, inter-war German military practitioners were less interested in the strategic possibilities of airplanes than they were in the tactical and operational utility of an air arm. The *Luftwaffe*, therefore, eschewed strategic bombers in favor of tactical dive bombers and fighter aircraft combined with logistical support aircraft in order to protect and sustain racing panzer formations deep inside the enemy lines. The German focus upon the operational and tactical utility of revolutionary aerial technology mirrors the contemporary U.S. approach to the information revolution up to a point. Although Army TRADOC and its sister service doctrinal caretakers have embraced the tactical and operational aspects of the information revolution, they have yet to do so within the context of a revolutionary doctrine. Hence, Dr. Andrew Krepinevich's assertion that the U.S. military approach presently mirrors that of the inter-war French.

In the end, World War II proved that none of the "either-or" approaches to assimilating airpower were correct. Douhet and Harris were wrong: The threat of strategic airpower was not enough to deter brutal conventional war. The Germans were initially, fleetingly right in focusing upon the tactical and operational aspects of airpower, but were soon done in by their anemic strategic bomber force. In this context, "Bomber" Harris was right: A strategic bombing campaign could cripple a nation-state's war machine. However, he was also wrong about its effects on the populace: Even a devastating strategic air campaign was insufficient to break civilian morale and force a state like Germany to sue for peace before it was defeated in a decisive ground campaign. When the war was over, balance in military aerial innovation had proven essential. The Allies won the war with

an air arm composed of complementary strategic bomber forces and tactical/operational air forces. Allied strategic bombers proved useful in securing operational objectives (the use of B17s/B24s to bomb key road and rail routes into Normandy in 1944, for example) to a degree unforeseen by Douhet and the strategic air proponents. Allied tactical/operational air forces operated best when supporting mobile, mechanized strike forces fighting with an operational doctrine very similar to that employed in blitzkrieg, demonstrating that World War I infantry-based doctrine could not accommodate the full potential of aerial warfare.

If the air power analogy is sound, then *The Next World War* focuses the reader upon the wrong policy question. The question of the moment is not whether information technology has supplanted conventional warfare and traditional military theory. Instead, it is about how to best capture information technology's revolutionary potential in the tactical/operational level of war while simultaneously assimilating its revolutionary strategic potential into a broader framework for understanding the art of war in the context of societal interactions. All of this, it must be said, will have to be accomplished in an environment of fiscal austerity and general public apathy about the course of military modernization.

Is the inter-war revolution in air power a worthy analogy in the present? Whether it is or not, a more historically grounded analytical technique might have made *The Next World War* a valuable contribution to the ongoing defense policy debate. Unfortunately, Mr. Adams' conclusion leaves this chore to other writers and to books that remain to be published.

In the end, *The Next World War* is an entertaining but far from important book on one of the three great challenges facing Western militaries at the turn of the millennium (the other two are national missile defense and the militarization of space). Armor leaders unfamiliar with debates regarding privacy in cyberspace, the potential for information warfare to wreak havoc with a national power grid or financial infrastructure, and the challenges to military and intelligence community norms and practices posed by the information revolution will find *The Next World War* worthwhile. Those in our armor community anxious to explore the pros and cons of potential solutions to the most vexing doctrinal challenges of the information age will find that *The Next World War* provides far too little grist for the mill.

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WWII U.S. Infantry: A Reconsideration

The G.I. Offensive in Europe, The Triumph of American Infantry Divisions, 1941-1945 by Peter R. Mansoor, (Lawrence, Kan.: The University Press of Kansas, 1999), 346 pages with index, \$35.00.

In this, his first book, Peter R. Mansoor conducts a direct assault against some of the strongest assertions of modern American military history. He does so in a deliberate and methodical manner and generally succeeds in illustrating that U.S. Army infantry divisions were effective combat forces throughout the European theater during the Second World War. This is no mean feat, because, in doing so, Mansoor confronts some of the all-time heavyweights of American military history.

Taking on the still-significant historical legacies of men such as S.L.A. Marshall, Trevor N. Dupuy, Martin Van Creveld, and Russell Weigley, is not something one attempts lightly. Mansoor does so with skill and an obvious attention to detail. In this well researched and documented book, he not only illustrates logical inconsistencies in the previous works, but simultaneously paints a comprehensive and intellectually satisfying picture of his own. In doing so, Mansoor links together some of the best new works on the ETO with his own extensive primary source research to resuscitate the reputation of the infantry divisions in Europe.

Mansoor's central thesis is that the "plain vanilla" infantry divisions of the European Theater of Operations (ETO) were more effective than their German counterparts. His thesis attempts to prove that while these divisions were often hamstrung by an inefficient mobilization and training process, the Americans' ability to learn and modify their approach based upon the hard lessons of combat allowed them to become efficient combat forces. Secondary to their effectiveness was the American Army's ability to sustain their relatively few infantry divisions for extended periods, although this particular ability had both benefits and drawbacks.

It is in the qualification of the scope of his study that Mansoor makes much of his money. Prior to this study, many of the general and even academic works on the ETO focused an inordinate amount of attention upon these specialized units. This is, perhaps, one of the most damning elements of his critique of the previous historiography. Dupuy, for example, found the Germans an average of 20% more effective when using his quantitative analysis

formula on 81 engagements. These fights, Mansoor points out, often pitted an "elite" German division against a "vanilla" U.S. division — in effect, comparing apples and oranges. By excluding the specially trained or equipped airborne and armored divisions of both sides he has arrived at the heart of the matter. Mansoor is comparing apples and apples, and here the American "apples" come out ahead.

Although I strongly recommend this work as one of the new defining books on the topic of tactical combat effectiveness in Europe during the Second World War, I feel that in at least one respect Mansoor slightly missed his mark. In his defense of the American infantry division, he neglected to defend the G.I. himself. I expected something slightly more revisionist when I read the title. After all, the book is titled *The G.I. Offensive in Europe*, yet in his analysis, he focused on the division level. Unfortunately, this is not where most of the criticism of the American forces has historically been focused. It is the combat skills of the lowest level — the soldier, squad, platoon, and company — that have traditionally borne the brunt of historians' condemnation. Mansoor lightly dances around this by addressing the critics for the faults in their own works while using the majority of his text to address the readiness and abilities of the American Army at the division level. Thus, although the text is extremely well researched and credibly presented, I feel that its title is somewhat misleading. This does not, however, significantly detract from the value for a professional military leader or defense-minded civilian. Buy the book and decide for yourself. In any event, you will learn a lot about how a nation transitions from peace to war and the attendant growing pains that one feels when mobilizing an eight million man army.

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The Iron Cavalry by Ralph Zumbro, Pocket Books, New York, 1998, 528 pages, \$6.99 (paperback).

Ralph Zumbro's collection of mounted armored history, *The Iron Cavalry*, covers a span from 1257 B.C., through the present, and into what he believes is a not-so-distant future. It is a good choice for the serious military enthusiast looking for a jumping-off point for further reading. By the same token, it is a good choice for the new trooper who knows very little about what he

has gotten himself into as an *iron cavalryman*. (Actually, the vast amount of time covered is somewhat misleading; most of the book's subject matter takes place during the 20th century.)

The material covered in the 20th century is quite varied. The author covers topics military professionals and serious readers will already be familiar with from the soldiers' perspective. The chapters on less-known armored clashes offer something for those who are already well read on Cambrai and the like. These little known clashes serve as primers for further study.

The most important and recurring theme in the book is this: Iron cavalrymen have always been innovators. This is our heritage and legacy. The book is filled with examples of troopers, just like the author's intended audience, who through their creativity have come up with viable solutions to problems that confront them. Viable solutions are those that keep the crew alive and allow them to close with and destroy the enemy by means of fire, maneuver, and shock effect. Many of these viable solutions are not to be found in any field manual, but learned through trial and error with a heavy dose of creativity.

The book is not written in a scholarly manner and filled with footnotes, but the author tells the reader up front that this is not his intent. That is not to say that the book is not well researched. Clearly the author has invested much time and energy in assembling this work, drawing heavily on secondary sources and, interestingly enough, old *Cavalry Journal* articles. The chapters are structured for a single short reading session. There is no necessary requirement to read the chapters in chronological order, though some characters appear in more than one chapter. There are no maps, so a decent atlas is required for a better appreciation of the location and distances involved in some of the battles. There are a limited number of black and white photos.

Though I personally did not enjoy the chapters which tended to be more historical fiction than fact, if they capture and hold the attention of a new soldier, I'm all for them. My own copy of *The Iron Cavalry* was worn around the edges by the successive radio watches at my TOC. They all found something they liked and, more importantly, they all learned something. This is the best review that a book written by a soldier, for soldiers, can hope for.

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The 1st Cav in Vietnam, Anatomy of a Division by Shelby Stanton, Presidio Press, Novato, Calif., 1999, 246 pages w/index, 2d edition, \$17.95 (paperback).

This is a book about the idea of air cavalry, expressed as a short history of the 1st Cavalry Division during the Vietnam War. Stanton traces the development of air cavalry from the days of the Howze Board to the early air mobility tests of the 11th Air Assault Division to the capture of the idea of "Cavalry, and I don't mean horses!" of LTG James Gavin. While this is an interesting history, in short form, of the trials and tribulations of Army air mobility, this book really is about the spirit of cavalry as it relates to the concept of battlefield agility.

The real idea of the book did not strike me until the last chapter, but I will get to that point. Stanton organizes the book well. His first chapter was very instructive for students of our Army and its resistance to change and new ideas, and how those new ideas must be supported. There's a great discussion of the early days of MG Kinnard and the 11th Air Assault Division. Kinnard had to fight both the U.S. Air Force and the Army establishment to gain acceptance of the idea of air mobility and air assault via helicopter. The subsequent chapters are a short story of the transformation of the 11th Air Assault to the 1st Cavalry, and therein is the heart of the idea.

SOFTWARE

The Operational Art of War, Volume II, 1956-2000. Produced by Talonsoft, designed by Norm Kroger. Copyright 1998-1999. One CD-ROM Gamedisk, 1 Player's GuideBook. Price: \$49.95.

With the release of Talonsoft's *The Operational Art of War, Volume II, 1956-2000*, designer Norm Kroger follows up the initially successful *Operational Art of War Volume I, 1939-1955*. As stated in the introduction, this game covers military campaigns at the operational level. It serves as a simulation of these campaigns as realistically as possible. The introduction goes on to cover some definitions of military terms and explains how the game recreates these campaigns. It also describes the scenario editor capabilities and the purpose of the Player's Guidebook.

Overall, the game proved a disappointment. While the graphics meet the current market standard of full color and vehicle icons, playing the game becomes the challenge. The game suffers from many shortcomings that take away any pleasure I first

felt. The game does not have a tutorial in the game or Guidebook. This omission makes it extremely difficult to learn how to play, even for an experienced player. The scenarios do not cover much of the stated period.

Without a "how-to" section, the scenario editor becomes another source of frustration, as one cannot design his own scenarios. In attempting to play two scenarios, there were also several order of battle and organizational errors.

Upon opening the game, I read the back of the box. The game immediately appealed to me for numerous reasons. First, the iconic unit symbols could change to vehicle icons for aesthetic appeal. Second, the game covered most of the major conflicts in the time period covered by the game's title. Third, it included some future scenarios of projected conflicts. However, once sorting through the Player's Guidebook, I realized that it did not explain how to play the game. It did not provide an example of play. The Guidebook serves primarily as an explanation of the different abstractions in the game, such as air power, and how the designer deals with

that abstraction. It also had a listing of the hot keys and a brief description of that key's function. This list of hot keys did not help in learning how to play the game. Undeterred, I pressed on into game play. Being an experienced wargamer of over 20 years, I quickly realized that without some instruction on how to play, the trial and error method of playing proved tedious. Choosing a modern scenario in Korea, another shortcoming appeared. The order of battle for post-Desert Storm U.S. units is incorrect. Shortcomings in the organization of other units became apparent as well.

Having stated earlier that I own several Talonsoft games, I would not recommend this game. I have given up all hope of learning to play it and am surprised because this game falls short of what I expect from Talonsoft. It does not have any user-friendly tips on play, tutorials, or examples. *Westfront*, from Talonsoft, does just the opposite. (Although it also suffers from erroneous research in orders of battle and unit organizations.)

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