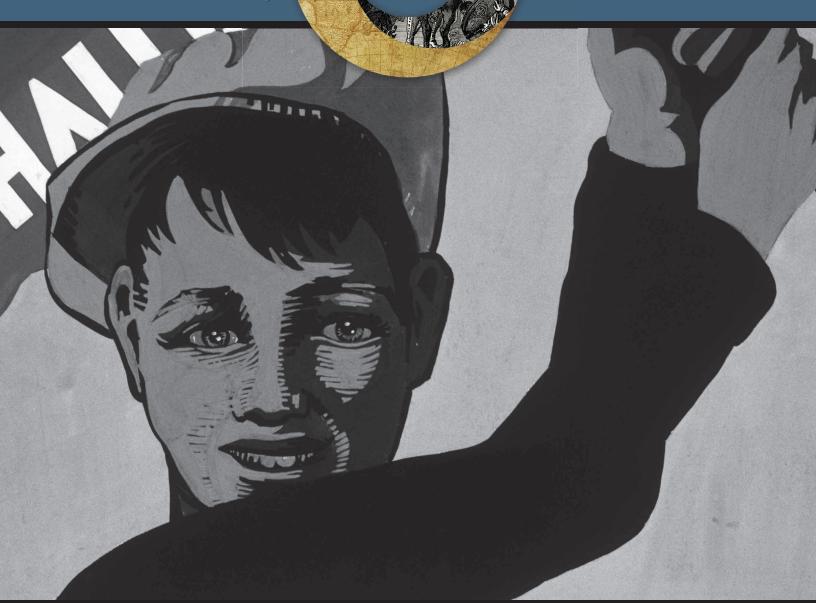


ISSUE 100

AUGUST 2025



THE CURRENT STATUS OF MILITARY HISTORY

IN THIS ISSUE

VICTOR DAVIS HANSON · EDWARD N. LUTTWAK · PETER R. MANSOOR

EDITORIAL BOARD

Victor Davis Hanson, Chair Bruce Thornton David Berkey

CONTRIBUTING MEMBERS

Peter Berkowitz Josiah Bunting III Gordon G. Chang Admiral James O. Ellis Jr. Niall Ferguson Chris Gibson Jakub Grygiel Josef Joffe Robert G. Kaufman Edward N. Luttwak Peter R. Mansoor Mark Moyar Williamson Murray Ralph Peters Paul A. Rahe **Andrew Roberts** Admiral Gary Roughead Kiron K. Skinner Barry Strauss Bing West Miles Maochun Yu

CONTENTS

August 2025 · Issue 100

BACKGROUND ESSAY

Strategika Turns 100: Why the Hoover Institution's Military History Working Group Was Formed and Grew by Victor Davis Hanson

FEATURED COMMENTARY

The Post-Heroic Era and Beyond: A Historical Assessment of European Armed Forces by Edward N. Luttwak

Military History in Academia by Peter R. Mansoor

EDUCATIONAL MATERIALS

Poll and Discussion Questions





BOOKS.

Give us the best novels, books on history, travel, science or religion, and current magazines that you can spare for our soldiers. Send them to any Y.M.C.A. ranch or to our Book ou. 244, Totted

ABOUT THE POSTERS IN THIS ISSUE

Documenting the wartime viewpoints and diverse political sentiments of the twentieth century, the Hoover Institution Library & Archives Poster Collection has more than one hundred thousand posters from around the world and continues to grow. Thirty-three thousand are available online. Posters from the United States, the United Kingdom, Germany, Russia/Soviet Union, and France predominate, though posters from more than eighty countries are included.

Strategika Turns 100: Why the Hoover Institution's Military History Working Group Was Formed and Grew

By Victor Davis Hanson

This month marks the 100th consecutive issue of *Strategika*, the online publication that appears approximately every six weeks from the Hoover Institution's "Military History Working Group" (MHWG), based on the Stanford University campus. The journal currently enjoys over 20,000 subscribers and is often consulted by diplomats, military officers, government officials, and journalists, both here in the U.S. and abroad.



Image credit: Poster Collection, 3919, Hoover Institution Archives.

Some thirteen years ago in 2012, the MHWG was tasked by then Hoover Institution Director John Raisian to explore formally "the role of military history in contemporary conflict." Over the last decade, the group has become an integral part of a wider Hoover Institution initiative—spearheaded by current Director Dr. Condoleezza Rice—to promote traditional and narrative history, especially within academia and the confines of the university.

In that specific context, the MHWG—along with allied Hoover Institution research programs such as the Hoover History Lab, the Applied History Working Group, the Global Policy and Strategy Initiative, and the Middle East and the Islamic World Working Group—reflects Hoover's rising historical profile. These groups are in part an informal response to the quite different aims and agendas of most university academic departments and professional organizations. Many of these custodians of history have lost interest in preserving the grand Western tradition of narrative history and historiography—and military history in particular, which was synonymous with the birth of history itself by Herodotus and Thucydides.

In contrast, university history departments currently believe that history cannot be empirical and disinterested. But by nature, it is ideological and thus best explored through contemporary theoretical approaches presented via an arcane academic vocabulary and style that reflect the views of mostly university intellectuals, as well as the needs of campus promotion and tenure, and too often are of little general public interest.

The MHWG, however, is composed of an ideologically, politically, academically, and professionally diverse group of military analysts, current officers, retired generals and admirals, diplomats, and government officials. We embrace no ideological consensus, except perhaps a general agreement that across time and space, human nature is largely unchanging—and thus predictable within general parameters.

One of the directives, among the many I received some thirteen years ago, as the founder and chair of the MHWG, from then current Director John Raisian, was to "make it simple." He meant to seek balance between the past and the modern world, and to reflect the Hoover Institution's efforts to inform the wider public about its traditions, values, and beliefs that made the country unique and so often preeminent.

He advised me not to allow the group to become mere squabbling antiquarians, nor at the other extreme, opinion journalists with solely current agendas and little historical expertise. In addition, he reminded that scholars at the MHWG must be allowed to speak freely among themselves, but their spoken opinions and comments should remain off the formal record to encourage candid and controversial expression among the group.

In such a diverse assembly, Director Raisian further warned that all discussions and disagreements would abide by professional standards of respect and deference, without rantings, ravings, or ad hominem invective—a directive that also guides the tone of *Strategika* essays. His past periodic appearances, as those presently of Director Rice, I think confirm that the spirt of our diverse group is one of professional respect and polite pursuit of differences.

At the origin of the MHWG, Director Raisian encouraged our scholars periodically to publish monographs with the Hoover Institution Press, to speak at Hoover Institution donor retreats, and in general to present the scholarly views of our task force to the general public through *Strategika* and its related publications, as well as to publish and appear in the general media.

His final advice was to emphatically remind the public that our institution's formal title and, by inference, abbreviated mission statement was, "The Hoover Institution on War, Revolution and Peace" (emphasis added). That exact nomenclature was to remain relevant to a contemporary America that had fought and won two catastrophic and global wars of the 20th century. The public should be constantly reminded, he thought, that the study of "war" still remained part of that vital war/revolution/peace triad at Hoover, as it had been at its founding in 1919 in the aftermath of World War I—and, as Herbert Hoover advised, as a way of mitigating the death and destruction of human conflict.

Accordingly, the regular members of the MHWG and their guest attendees at meetings agree that the study of past wars—if disinterested and factually based—will provide didactic instruction about present-day low-level conflicts and theater wars. Our historical emphases seem preferable to perhaps more popular and therapeutic assumptions that contemporary utopian efforts to assure the perfectibility of mankind eventually will lead to eternal peace and a world without need of arms. In answer, the wisdom of the ages better reflects the ancient Roman adage of deterrence, popularized by the late Roman military analyst Vegetius, "If you want peace, prepare for war (*Si vis pacem, para bellum*)."

New technologies, methodologies, and protocols come and go throughout history. But the central tactical and strategic reasoning that guides them remains mostly the same—and that fact can be discerned only through the study of history and offers enormous value in analyzing why and how current wars arise, progress, and end.

More specifically, the journal, *Strategika*, like the MHWG itself, seeks to analyze contemporary conflicts, strategy, tactics, munitions, and revolutions in military affairs by comparisons and contrasts to the specific wars of the past. Consequently, in each issue a "background" essay of 1,500-2,000 words frames the question of the month in historical terms. It is bookended by two "featured commentary" essays—shorter opinion pieces, often taking opposite views in their contemporary analyses.

In addition, four or five questions for further study are posted that suggest additional avenues of related research and discussion. Each issue's poll also samples online readers' opinions about the topic at hand. Finally, all members of the MHWG present short essays submitted prior to our annual meetings that are then included throughout the year within the relevant issues of *Strategika*.

So all members also are asked to contribute regularly to *Strategika*, and, in addition, to a weekly series "Military History in the News" that highlights our scholars' interpretations of current breaking news, but in terms of past parallels and antitheses. We have also developed an additional featured archive, "Classics of Military History," also overseen by Managing Editor of *Strategika* and Hoover research fellow David Berkey. It collects from our members scholarly, but also concise and accessible, 300- to 500-word book reviews of "classical

military studies." Currently there are 78 such archived reviews that analyze historians such as Thucydides and Herodotus, analysts like Sun Tsu and Clausewitz, and memoirists like Winston Churchill.

In the thirteen years since the founding of the MHWG, military history has continued to capture the public imagination and to grow in a variety of ways at a time when university history departments are facing enrollment declines, faculty reductions, and budget cuts. Part of the enduring popularity of military history remains the human fascination about war—and why and how nations, tribes, and sects resort to violence to achieve political agendas, settle religious and tribal feuds, or simply prefer violence to diplomacy.

Yet another, though narrower—and ironic—reason why bookshelves in stores and online catalogues highlight military history is, until recently at least, the academic neglect of military history. In the void of academic interest in military history, the field naturally invites a far more diverse sort of historians and topics. Here, I plead guilty over the years to publishing a number of dire warnings that such a vital discipline was disappearing from universities' departments and curricula, even as the public was reading more excellent military histories than ever. In a January 2023 *New Criterion* article, "Uses & abuses of military history," I provided a small list of the most recent warnings about the academic decline of military history and the need for a renaissance in university war studies:

- "Our Elite Schools Have Abandoned Military History" (Peter Berkowitz)
- "Don't Let Academia Destroy Military History" (James Jay Carafano and Tom Spoehr)
- "The Course of Military History in the United States Since World War II" (Edward M. Coffman)
- "Why Study War?" (Victor Davis Hanson)
- "American Universities Declare War on Military History" (Max Hastings)
- "Why Military History Matters" (Frederick W. Kagan)
- "The Embattled Future of Academic Military History" (John A. Lynn)
- "The Current State of Military History" (Mark Moyar)
- "Reimagining Military History in the Classroom" (Carol Reardon)
- "Military History and the Academic World" (Ronald H. Spector)

For now, military history remains firmly lodged in the popular culture. The most widely read military histories are so often written by journalists, non-academic historians, and essayists rather than by academics. One result is that such independent authors must be self-supporting. Their military histories must win over an audience. And that reality in turn means their histories are often by needs better written, more wide-ranging, and far more empirical and disinterested than found in the work of most faculty in university departments. That is not to say that academic histories of war are not needed, for indeed their meticulous research can make more popular military histories possible. But in the past, the two poles—popular and academic—were not necessarily antithetical as they have grown to become now, but complementary and thus simultaneously engaging and exacting in fact and detail.

The popularity of military history among the public, however, may be beginning to be reabsorbed by campuses. For example, in the same *New Criterion* article I recently quoted the military historians William Hitchcock and Meghan Herwig, who in a glass-half-full argument, advised pessimists that military history classes still represent some seven percent of all history course offerings at major universities—not a great percentage, but on the other hand something to build upon in history departments. However, they also grant that military history related courses had experienced the greatest decline in class offerings between 2015 and 2021—but may now be beginning to recover.

For example, there are currently over thirty military history programs in English-speaking countries that offer both MA and PhD degrees in military history. Some twenty alone are found in the United States. Among the most recognized are those at The Ohio State University, Kansas State University, the University of North Carolina at Chapel Hill, the University of Alabama, and the University of North Texas, Military History Center—and a newly established military history program at Hillsdale College.

It is one of the missions of the Hoover MHWG and its journal *Strategika* to encourage universities to return to the roots of Western historiography that have traditionally since Homer, Herodotus, and Thucydides not glorified war but envisioned conflict tragically at the center of history itself. Military history is worthy of renewed academic study to remind an increasingly uncurious and less well-educated generation of college students about unchanging human nature, and its oldest propensity of resorting to the use of arms to settle differences, both often to prevent evil—and sometimes to perpetuate it.

VICTOR DAVIS HANSON is the Martin and Illie Anderson Senior Fellow at the Hoover Institution and chairs its Role of Military History in Contemporary Conflict Working Group. He is an American scholar of ancient and modern warfare and has been a commentator on contemporary politics for various media outlets. He is a professor emeritus of classics at California State University, Fresno, and the Wayne and Marcia Buske Distinguished Visiting Fellow in History at Hillsdale College. Hanson was awarded the National Humanities Medal in 2007 by President George W. Bush and was a recipient of the Bradley Prize in 2008. Hanson is also a farmer and a critic of social trends related to farming and agrarianism. He is the author of numerous books including The Second World Wars: How the First Global Conflict Was Fought and Won (2017), The Case for Trump (2019), The Dying Citizen: How Progressive Elites, Tribalism, and Globalization Are Destroying the Idea of America (2021), and The End of Everything: How Wars Descend into Annihilation (2024).

The Post-Heroic Era and Beyond: A Historical Assessment of European Armed Forces

By Edward N. Luttwak

More than thirty years ago I started writing about the "post-heroic era," to acknowledge the greatly reduced tolerance of combat casualties manifest in the United States which did fight, and in Europe which did not, but where several countries sent soldiers on peace-keeping missions, but proved ready to withdraw them if even just one was killed.

I attributed the phenomenon to declining fertility rates and the drastic decline in average family size, thereby implicitly suggesting that the wars of history had been fought by the spare male children of families who had one son to work the family land and another who might find a bride with her own land, so that if a third or fourth son went off to war and did not come back, there might be great sadness but the family would survive.



Image credit: Poster Collection, 2305, Hoover Institution Archives.

What has happened since then is that in Europe especially, but also in the United States, fertility rates have fallen even further, family size has further declined, and the intolerance of casualties has further increased—to such an extreme that France abandoned its sphere of influence in sub-Saharan Africa because of a handful of Foreign Legion casualties, and we have witnessed a war of independence in Ukraine in which perhaps a third of the eligible conscripts have ever served (more than 200,000 Ukrainians of military age were officially counted in Germany), no international brigade of volunteers arrived to fight against aggression, and no NATO member has sent even logistics units which would remain in the safe rear to provide supplies, repair equipment, and others such to free Ukrainians for combat.

When President Macron at one point suggested that NATO troops might be needed to hold the line after all, Italy's ministers of defense and foreign affairs promptly convened a press conference and stood side by side to declare that Italian troops would only be sent into combat if there were a UN Security Council Resolution to that effect . . . which logically means that Italian troops could only be sent to fight the United States, because China and Russia have their Security Council vetoes. Nobody burst out laughing, and nobody suggested that the two gentlemen be disinvited from NATO gatherings; fair enough because other NATO allies are less explicit but no more willing to fight . . .

In other words, with the known exceptions, mostly the now very small British army and a few elite units of battalion size or less in several countries, our European allies have passed the post-heroic stage in which only a few casualties are acceptable to a new situation in which no casualties are acceptable.

Hence it is foolish to count NATO troops in comparisons with Russian troops, who admittedly fight reluctantly and only for the money, but who are still gods of war as compared to the soldiers of most NATO armies who

each day willingly eat breakfast, lunch, and dinner in their barracks, but are not actually willing to fight anywhere, for any reason. Given the still falling fertility rates across Europe, and the shrinking number of families with more than one child, there is no prospect of a reversal of attitudes.

Ironically the best example of the consequences was provided by the non-reaction to the Houthi attacks on Red Sea shipping. That closed Israel's tiny commercial port in Eilat which is inconsequential for the Israeli economy. It also deprived Genova, Gioia Tauro, and all other major ports of Italy of all their eastward traffic to the Middle East and Asia, did the same for the French port of Marseille, and the Spanish ports of Barcelona and Alicante. Between them, the French, Italian, and Spanish navies have hundreds of warships, and each has an aircraft carrier. But when the U.S. and British navies started countering the Houthis under the "Operation Prosperity Guardian" mission, the French, Italian, and Spanish navies did nothing, except for committing a rotating frigate to a European Union mission that has mostly remained very quietly in the upper Red Sea. Still, there was a scandal when one Italian warship launched one missile to protect itself . . .

But it is true of course that everything has now changed totally because our NATO allies have decided to double or triple their spending even to the extent of reaching 5% of their GDPs. Immense sums are therefore arriving, after deducting for accentuated diversions (characteristically, the Italian Government has just decided to build a bridge to connect Calabria with Sicily, paying the cost out of the defense budget, because it is, after all, possible that some Sicilian recruits might come by road). That is a definite escalation of previous diversions, starting with shipbuilding in state-owned shipyards for ships duly delivered but never actually manned to go to sea—even so Italy did not reach the 2% of GDP standard. Still if at least some of the money does arrive, a solution for NATO's combat manpower problem can certainly be found. Notoriously, the British Army could easily recruit several times as many Ghurkas as it now recruits, and for all the fame of those fine people, in India alone there are others just as ready to be very good soldiers.

That may seem a literally outlandish solution but to pretend that Europeans are like Israelis and actually willing to fight to defend themselves is a fantasy that cannot end well.

EDWARD N. LUTTWAK works as a contractor for the U.S. Department of Defense and has served as a CIA contractor, and as a consultant to the National Security Council and the armed services. Luttwak founded and heads a cattle ranch in the Amazon. His most recent book coauthored with Eitan Shamir is The Art of Military Innovation (Harvard University Press). His earlier English-language books, including The Rise of China vs. the Logic of Strategy, The Grand Strategy of the Byzantine Empire, The Grand Strategy of the Roman Empire, and Strategy: The Logic of War and Peace, have been published in twenty-six other languages. He has also published books in Japanese only. He has a number of honorary as well as academic degrees.

Military History in Academia

By Peter R. Mansoor

Academic military history in the United States has come a long way since its origins during and after World War II. That conflict inspired Edward Mead Earle, Gordon A. Craig, and Felix Gilbert to edit Makers of Modern Strategy: Military Thought from Machiavelli to Hitler, published in 1943 by Princeton University Press. The torch then passed to one of the chapter authors, Theodore Ropp, who led a prominent military history program at Duke University until his retirement in 1980. His work, War in the Modern World, was one of the premier texts in the field for several decades after its publication in 1959. Sadly, the military history program at Duke would not survive Ropp's departure. Leadership in the field then passed to other institutions, among them The Ohio State University, where Allan R. Millett established a military history curriculum upon his arrival in 1969.

During Millett's thirty-seven years at Ohio State, he oversaw the growth of the program from one to five military BOOKS.

BOOKS.

Give us the best novels, books on history, travel, science or religion, and current magazines that you can spare for our soldiers. Send them to any Y.M.C.A. branch or to our Book Bureau, 244, Tottenham Court Road. We need them by thousands and at once.

The Local Depot for receiving Books is:

Image credit: Poster Collection, 3919, Hoover Institution Archives.

history professors, along with supervising sixty-eight doctoral dissertations to completion, seeding the military history field with his advisees in civilian academia, professional military educational institutions, and government. His retirement in 2006 left vacant the General Raymond E. Mason Jr. Chair of Military History, one of the few military history chairs in civilian academia and a key part of the program at Ohio State. Approached to compete for the position, I decided to apply and upon acceptance, retired from the U.S. Army after a twenty-six-year career and two combat tours in Iraq.

Along with my colleagues—Mark Grimsley, Joe Guilmartin, Geoffrey Parker, and Jennifer Siegel—I sought to maintain the military history field at Ohio State as one of the best in the nation. It quickly became apparent to me that to prevent the field from disappearing through attrition as had happened earlier at Duke, we would have to generate endowed positions that would exist in perpetuity. Through generous gifts from donors, we accomplished this goal through the creation of two additional chairs in military history and a professorship of World War II history in the adjacent European history field. These four positions will ensure that there will always be a military history field at Ohio State. The current field consists of Bruno Cabanes (Donald G. & Mary A. Dunn Chair in Modern Military History), Mark Grimsley, Geoffrey Parker (Distinguished University Professor and Andreas Dorpalen Professor of European History), Lydia Walker (Seth Andre Myers Chair in Global Military History), and me. Our breadth and depth enable Ohio State to offer the full gamut of military history, from strategic and operational studies to topics on society and war, culture, memory, and other elements of the (not so) "new military history," which since the 1960s has expanded military historical studies beyond the traditional focus on battles, campaigns, and strategy in war.

Fortunately, if the student body at Ohio State is any indication, there is no lack of student interest in military history. Classes are routinely filled at or near capacity, generating large enrollments for the Department of History. Grants received by military history professors, including a National Endowment for the Humanities "Dialogues on the Experience of War" grant to support the study of soldier experiences in the Civil War, World War I, and the wars in Afghanistan and Iraq, have benefitted not just our own students but those of other fields

POLL: Why is military history not more studied in colleges and universities?

- ☐ The modern liberal mind equates it with a love of violence.
- People no longer believe in good or just wars to stop evil.
- ☐ Popular Peace Studies programs on campuses claim negotiation not deterrence prevents wars.
- ☐ Young people are rediscovering the timeless value of studying wars of the past.
- ☐ Military history will once again regain its ancient preeminence among historians.

working on military history topics, broadly conceived. We have developed a World War II study abroad program, which the university recognizes as its flagship overseas program due to its generous scholarship endowments made possible by donors participating in associated "Friends of OSU History" World War II tours to Europe and the Pacific. We receive dozens of applications for the handful of slots available in our graduate program, and our graduates go on to serve in civilian colleges and universities, war and command and general staff colleges, military academies, government offices such as the Defense POW/MIA Accounting Agency, museums, and other positions.

The experience of military history at Ohio State shows that a well administered and innovative military history program will work in civilian academia, provided it is substantially self-funding and builds bridges across other fields and disciplines. It is no secret that the focus of many history departments on topics other than politics, diplomacy, and war often leaves little room on their faculties for military historians. But with funding comes agency. The development of donor funded military history chairs and professorships can seed departments with military historians, who in turn offer courses that students want to take and generate resources in the form of grants that can help a broad array of students in a variety of disciplines. The civic

health of the Republic requires a population educated on those issues that have made America great in both peace and war. Offering military history as part of a liberal arts curriculum should be part of that effort, but we cannot rely on faculty votes to make it so.

PETER R. MANSOOR, U.S. Army colonel (retired), is the General Raymond E. Mason Jr. Chair of Military History at the Ohio State University. A 1982 distinguished graduate of the United States Military Academy at West Point, he earned his doctorate from Ohio State. He assumed his current position after a twenty-six-year career in the U.S. Army that included two combat tours, the first as a brigade commander in Baghdad and his final duty as executive officer to General David Petraeus, commander of Multi-National Force-Iraq. Among other works, he is the author of Surge: My Journey with General David Petraeus and the Remaking of the Iraq War (Yale University Press, 2013) and has coedited (with Williamson Murray) Hybrid Warfare: Fighting Complex Opponents from the Ancient World to the Present (Cambridge University Press, 2012), Grand Strategy and Military Alliances (Cambridge University Press, 2016), and The Culture of Military Organizations (Cambridge University Press, 2019). His latest work, Redemption: MacArthur and the Campaign for the Philippines, will be published by Cambridge University Press in August 2025.

Discussion Questions

- 1. How are military histories helpful to modern commanders?
- 2. Can wars be prevented by studying conflicts of the past?
- 3. Can wars be eliminated by negotiations between pacifist enlightened minds?
- 4. Why did ancient historians focus mostly on wars rather than social or economic history?

Military History in Contemporary Conflict

As the very name of Hoover Institution attests, military history lies at the very core of our dedication to the study of "War, Revolution, and Peace." Indeed, the precise mission statement of the Hoover Institution includes the following promise: "The overall mission of this Institution is, from its records, to recall the voice of experience against the making of war, and by the study of these records and their publication, to recall man's endeavors to make and preserve peace, and to sustain for America the safeguards of the American way of life." From its origins as a library and archive, the Hoover Institution has evolved into one of the foremost research centers in the world for policy formation and pragmatic analysis. It is with this tradition in mind, that the "Working Group on the Role of Military History in Contemporary Conflict" has set its agenda—reaffirming the Hoover Institution's dedication to historical research in light of contemporary challenges, and in particular, reinvigorating the national study of military history as an asset to foster and enhance our national security. By bringing together a diverse group of distinguished military historians, security analysts, and military veterans and practitioners, the working group seeks to examine the conflicts of the past as critical lessons for the present.

Working Group on the Role of Military History in Contemporary Conflict

The Working Group on the Role of Military History in Contemporary Conflict examines how knowledge of past military operations can influence contemporary public policy decisions concerning current conflicts. The careful study of military history offers a way of analyzing modern war and peace that is often underappreciated in this age of technological determinism. Yet the result leads to a more in-depth and dispassionate understanding of contemporary wars, one that explains how particular military successes and failures of the past can be often germane, sometimes misunderstood, or occasionally irrelevant in the context of the present.

Strategika

Strategika is a journal that analyzes ongoing issues of national security in light of conflicts of the past—the efforts of the Military History Working Group of historians, analysts, and military personnel focusing on military history and contemporary conflict. Our board of scholars shares no ideological consensus other than a general acknowledgment that human nature is largely unchanging. Consequently, the study of past wars can offer us tragic guidance about present conflicts—a preferable approach to the more popular therapeutic assumption that contemporary efforts to ensure the perfectibility of mankind eventually will lead to eternal peace. New technologies, methodologies, and protocols come and go; the larger tactical and strategic assumptions that guide them remain mostly the same—a fact discernable only through the study of history.



The publisher has made this work available under a Creative Commons Attribution-NoDerivs license 4.0. To view a copy of this license, visit http://creativecommons.org/licenses/by-nd/4.0. Efforts have been made to locate the original sources, determine the current rights holders, and, if needed, obtain reproduction permissions. On verification of any such claims to rights in the articles or images reproduced in this publication, any required corrections or clarifications will be made in subsequent printings/editions. The views expressed in this publication are entirely those of the authors and do not necessarily reflect the views of the staff, officers, or Board of Overseers of the Hoover Institution.

Copyright © 2025 by the Board of Trustees of the Leland Stanford Junior University

