

Weaponizing Conventional Weapon System Effectiveness Aiaa Education Series

Unofficial United States Guide to the First Additional Protocol to the Geneva Conventions of 12 August 1949
Command in Air War
Effects of Nuclear Earth-Penetrator and Other Weapons
Chasing Success
The Air War in Southeast Asia
Joint Urban Operations
Toppling the Taliban
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Improving the Decision Making Abilities of Small Unit Leaders
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Creating a DoD Strategic Acquisition Platform
Advances in Protective Structures
Research
Weaponizing: an Introduction
Tactical Missile Design
Army Fires Capabilities for 2025 and Beyond
Innovative Fields of Ballistics & Applied Physics
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Marine Rifle Squad (Marine Corps Warfighting Publication 3-11.2)
Field Artillery Manual Cannon Gunnery
The Operations Process
Precision and Purpose
Technology, Policy, Law, and Ethics Regarding U.S. Acquisition and Use of Cyberattack Capabilities
Deliberate Force - A Case Study in Effective Air

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Campaigning Aerospace America Naval War College Review 21st Century
Prometheus Guns, Mortars, and Rockets Targeting: The Challenges of Modern
Warfare

Unofficial United States Guide to the First Additional Protocol to the Geneva Conventions of 12 August 1949

Ballistics and applied physics plays a very important role in the system design and development of rockets, missiles and weapon systems. This book is an outcome of a seminar on these topics

Command in Air War

Effects of Nuclear Earth-Penetrator and Other Weapons

Proceedings of SPIE present the original research papers presented at SPIE conferences and other high-quality conferences in the broad-ranging fields of optics and photonics. These books provide prompt access to the latest innovations in research and technology in their respective fields. Proceedings of SPIE are

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among the most cited references in patent literature.

Chasing Success

This work examines whether "centralized control and decentralized execution" is a valid doctrinal tenet, given the technological advances in the information age. Fascinating scenarios from recent operations, set in the context of a "complex air operations system," show the dilemmas presented by participants' increased access to information-and the resulting consequences of their decisions. With the uncertainty of war and the blending of diverse organizations, the author illustrates that commanders must balance empowerment with accountability by developing depth in command relationships among their subordinates. Originally published in 2007.

The Air War in Southeast Asia

The International Association of Protective Structures (IAPS) was launched on 1 October 2010 in Manchester, UK during the first International Conference of Protective Structures. The primary purpose of IAPS is to bring researchers and engineers working in the area of protective structures together, and to promote research and development work for better life and structure protection against

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shock and impact loads. More information can be found at <http://www.protectivestructures.org/contact.html>. Advances in Protective Structures Research is the first publication in a series of planned publications by IAPS. It contains 13 chapters prepared by active and prominent researchers around the world in the area of protective structures. It covers the dynamic material model and material properties, structural response analysis, structural reliability analysis, impact loads and ground shock. The contents of the book reflect well the current research achievements and practice in structural protection against blast and impact loads. They represent the advanced international research status in theoretical derivations, numerical simulations, and laboratory and field tests for structure protections.

Joint Urban Operations

Underground facilities are used extensively by many nations to conceal and protect strategic military functions and weapons' stockpiles. Because of their depth and hardened status, however, many of these strategic hard and deeply buried targets could only be put at risk by conventional or nuclear earth penetrating weapons (EPW). Recently, an engineering feasibility study, the robust nuclear earth penetrator program, was started by DOE and DOD to determine if a more effective EPW could be designed using major components of existing nuclear weapons. This activity has created some controversy about, among other things, the level of

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collateral damage that would ensue if such a weapon were used. To help clarify this issue, the Congress, in P.L. 107-314, directed the Secretary of Defense to request from the NRC a study of the anticipated health and environmental effects of nuclear earth-penetrators and other weapons and the effect of both conventional and nuclear weapons against the storage of biological and chemical weapons. This report provides the results of those analyses. Based on detailed numerical calculations, the report presents a series of findings comparing the effectiveness and expected collateral damage of nuclear EPW and surface nuclear weapons under a variety of conditions.

Toppling the Taliban

Originally published in 1982, this re-written edition begins with a brief review of the historical development of artillery, emphasizing the interdependence between doctrine and technology which is still a fundamental factor in weapons design. The indirect fire system is then examined in order to demonstrate the need for a systems approach to current and future developments.

From the Line in the Sand

The U.S. must be prepared to respond to a broad set of national security missions,

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both at home and abroad. Yet many deficiencies exist in defense capabilities need to support these missions -- systems are aging and technologies are becoming obsolete. Fixing the DoD acquisition process is a critical national security issue -- requiring the attention of the Sec. of Defense. DoD needs a strategic acquisition platform to guide the process of equipping its forces with the right materiel to support mission needs in an expeditious, cost-effective manner. The incoming leadership must address this concern among its top priorities, as the nation's military prowess depends on it. This report offers recommendations for rebuilding the defense acquisition process.

Improving the Decision Making Abilities of Small Unit Leaders

FM 5-0 (C1), The Operations Process, constitutes the Army's view on planning, preparing, executing, and assessing operations. It describes how commanders-- supported by their staffs, subordinate commanders, and other military and civilian partners--exercise mission command during the conduct of full spectrum operations. It describes how design assists commanders with understanding complex problems and developing an operational approach to solve or manage those problems throughout the conduct of operations. This manual applies to all Army forces. The principal audience for this manual is Army commanders and unit staffs (officers, noncommissioned officers, and Soldiers). Commanders and staffs of Army headquarters serving as a joint task force or a multinational headquarters

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should also refer to applicable joint or multinational doctrine for the exercise of command and control. Trainers and educators throughout the Army also use this manual.

Modeling and Simulation for Military Operations II

The first edited volume addressing analysis for unmanned vehicles, with focus on operations research rather than engineering • The editors have a unique combination of extensive operational experience and technical expertise • Chapters address a wide-ranging set of examples, domains and applications • Accessible to a general readership and also informative for experts

Psyop

Marine Corps Warfighting Publication (MCWP) 3-16, Fire Support Coordination in the Ground Combat Element, is a framework for coordinating and employing supporting arms in consonance with maneuver elements.

The Aeronautical Journal

Artillery Strong tells the story of the US Army's Field Artillery modernization efforts

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from the Gulf War of 1991 through the first two decades of the 21st Century. This study originated as the US Army Field Artillery School published Operation Desert Storm and Beyond: Modernizing the Field Artillery in 2005. The 2005 edition covered field artillery developments during the 1990s.--Provided by publisher.

Beyond Close Air Support

Written as a Top Secret US Army procedural manual and released under the Freedom of Information act this manual describes the step-by-step process recommended to control and contain the minds of the enemy and the general public alike. Within these 180+ pages you will read in complete detailed the Mission of PSYOP as well as PSYOP Roles, Policies and Strategies and Core Tasks. Also included are the logistics and communication procedures used to insure the "right" people get the "right" information.

Setup

Operations in Afghanistan and Iraq have renewed interest in close air support and the integration of air and ground power. In particular situations, either might predominate, and their relationship is likely to shift over the course of a campaign. This report addresses three questions: (1) How should air attack and ground

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maneuver be integrated? (2) How should the terminal attack control function be executed? (3) How should ground maneuver/fires and air attack be deconflicted? It recommends that the Army and the Air Force work together to develop new concepts and technologies to improve the partnering of air and ground. It recommends new processes to effectively designate targets and improved control mechanisms to exploit the benefits of the digital battlefield.

Weaponering

American air power is a dominant force in today's world. Its ascendancy, evolving in the half century since the end of World War II, became evident during the first Gulf War. Although a great deal has been written about military operations in Desert Shield and Desert Storm, this deeply researched volume by Dr. Diane Putney probes the little-known story of how the Gulf War air campaign plan came to fruition. Based on archival documentation and interviews with USAF planners, this work takes the reader into the planning cells where the difficult work of building an air campaign plan was accomplished on an around-the-clock basis. The tension among air planners is palpable as Dr. Putney traces the incremental progress and friction along the way. The author places the complexities of the planning process within the con- text of coalition objectives. All the major players are here: President George H. W. Bush, General H. Norman Schwarzkopf, General Colin Powell, General Chuck Horner, and Secretary of Defense Richard Cheney. The

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air planning process generated much debate and friction, but resulted in great success - a 43-day conflict with minimum casualties. Dr. Putney's rendering of this behind-the-scenes evolution of the planning process, in its complexity and even suspense, provides a fascinating window into how wars are planned and fought today and what might be the implications for the future.

New Technologies and the Law in War and Peace

Fire Support Coordination in the Ground Combat Element

The First Additional Protocol to the Geneva Conventions ("AP I") is central to the modern law of war, widely referred to as international humanitarian law outside the United States. It updates the Geneva Conventions for protection of war victims and combines them with new or updated rules governing hostilities and the use of weapons found in the Hague Regulations Respecting the Laws and Customs of War. Due to its comprehensive nature and adoption by a majority of States, AP I is frequently cited as the source for law of war rules by attorneys and others interested in protecting humanitarian interests. The challenge for United States attorneys, however, is that their country is not a party to AP I and has been a persistent objector to many of its new rules. While the United States signed the

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First Additional Protocol to the Geneva Conventions in 1977, it determined, after 10 years of analysis, that it would not ratify the protocol. President Reagan called AP I "fundamentally and irreconcilably flawed."¹ Yet, as will be detailed throughout this guide, United States officials have declared that aspects of AP I are customary international law. Forty years after signing AP I, and 30 years after rejecting it, the United States has never presented a comprehensive, systematic, official position on the protocol. Officials from the United States Departments of Defense and State have taken positions on particular portions of it. This guide attempts to bring those sources together in one location.

Artillery Strong

For the past decade, the U.S. Marine Corps and its sister services have been engaged in what has been termed "hybrid warfare," which ranges from active combat to civilian support. Hybrid warfare typically occurs in environments where all modes of war are employed, such as conventional weapons, irregular tactics, terrorism, disruptive technologies, and criminality to destabilize an existing order. In August 2010, the National Research Council established the Committee on Improving the Decision Making Abilities of Small Unit Leaders to produce *Improving the Decision Making Abilities of Small Unit Leaders*. This report examines the operational environment, existing abilities, and gap to include data, technology, skill sets, training, and measures of effectiveness for small unit leaders in

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conducting enhanced company operations (ECOs) in hybrid engagement, complex environments. Improving the Decision Making Abilities of Small Unit Leaders also determines how to understand the decision making calculus and indicators of adversaries. Improving the Decision Making Abilities of Small Unit Leaders recommends operational and technical approaches for improving the decision making abilities of small unit leaders, including any acquisition and experimentation efforts that can be undertaken by the Marine Corps and/or by other stakeholders aimed specifically at improving the decision making of small unit leaders. This report recommends ways to ease the burden on small unit leaders and to better prepare the small unit leader for success. Improving the Decision Making Abilities of Small Unit Leaders also identifies a responsible organization to ensure that training and education programs are properly developed, staffed, operated, evaluated, and expanded.

Thunder and Lightning

Every airman or person interested in the art and science of air and space warfare should read this book. True to the direction of Gen James Jamerson, former deputy commander in chief of US European Command, and the author, the Air University Balkans Air Campaign Study (BACS) has emerged as a balanced and wide-ranging discussion of the Deliberate Force air campaign, which occurred during the fall of 1995. Exploiting the sources and resources available to them, the BACS team

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members have laid out a mile-wide and foot-deep exploration of the context, theoretical foundations, planning, execution, leadership, and effects of this milestone event. In so doing, they have contributed significantly to our knowledge about the political, military, technical, and human elements that shape air campaigns and influence their outcomes. Moreover, the BACS offers insights into persistent questions of military planners, such as the relationship of diplomacy and war; the synergy of land power, space power, and airpower; and the role of chance and “fog” in the conduct and outcome of air and space warfare. Finally, because the BACS team from the start wrote this report for immediate declassification, virtually the entire report and all of its substantive elements are available here as an open source, only four years after the event. Given its scope, this book should contain material of interest to all aerospace-warfare practitioners and/or thinkers, regardless of their area of expertise.

Data and Decision Sciences in Action

This book offers a multidisciplinary treatment of targeting. It is intended for use by the military, government legal advisers and academics. The book is suitable for use in both military training and educational programs and in Bachelor and Master degree level courses on such topics as War Studies and Strategic Studies. The book first explores the context of targeting, its evolution and the current targeting process and characteristics. An overview of the legal and ethical constraints on

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targeting as an operational process follows. It concludes by surveying contemporary issues in targeting such as the potential advent of autonomous weapon systems, 'non-kinetic' targeting, targeting in multinational military operations and leadership decapitation in counter-terrorism operations. The deep practical experience and academic background of the contributors ensures comprehensive treatment of current targeting and use of force issues. Paul Ducheine is Professor for Cyber Operations and Cyber Security, Netherlands Defence Academy, Breda, The Netherlands; and Professor of Law of Military Cyber Operations and Cyber Security at the University of Amsterdam, The Netherlands. Michael Schmitt is Charles H. Stockton Professor & Director, Stockton Center for the Study of International Law, U.S. Naval War College, Newport, Rhode Island, and Professor of Public International Law, University of Exeter, UK. Frans Osinga is Chair of the War Studies Department, Netherlands Defence Academy, Breda, The Netherlands, and Professor of Military Operational Art and Sciences.

Airpower Advantage

Training Circular (TC) 3-09.81, "Field Artillery Manual Cannon Gunnery," sets forth the doctrine pertaining to the employment of artillery fires. It explains all aspects of the manual cannon gunnery problem and presents a practical application of the science of ballistics. It includes step-by-step instructions for manually solving the gunnery problem which can be applied within the framework of decisive action or

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unified land operations. It is applicable to any Army personnel at the battalion or battery responsible to delivered field artillery fires. The principal audience for ATP 3-09.42 is all members of the Profession of Arms. This includes field artillery Soldiers and combined arms chain of command field and company grade officers, middle-grade and senior noncommissioned officers (NCO), and battalion and squadron command groups and staffs. This manual also provides guidance for division and corps leaders and staffs in training for and employment of the BCT in decisive action. This publication may also be used by other Army organizations to assist in their planning for support of battalions. This manual builds on the collective knowledge and experience gained through recent operations, numerous exercises, and the deliberate process of informed reasoning. It is rooted in time-tested principles and fundamentals, while accommodating new technologies and diverse threats to national security.

Creating a DoD Strategic Acquisition Platform

Between March and October 2011, a coalition of North Atlantic Treaty Organization (NATO) member states and several partner nations waged a war against Muammar Qaddafi's Libyan regime that stemmed and then reversed the tide of Libya's civil war, preventing Qaddafi from crushing the nascent rebel movement seeking to overthrow his dictatorship and going on to enable opposition forces to prevail. The central element of this intervention was a relatively small multinational force's air

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campaign operating from NATO bases in several countries, as well as from a handful of aircraft carriers and amphibious ships in the Mediterranean Sea. The study details each country's contribution to that air campaign, examining such issues as the limits of airpower and coordination among nations. It also explores whether the Libyan experience offers a potential model for the future.

Advances in Protective Structures Research

En analyse af den amerikanske debat om, hvorledes flystyrker bedst anvendes, set i relation til den anvendelse, de fik under Golfkrigen "Desert Storm" 1990-1991.

Weaponering: an Introduction

Fleet Marine Force Manual (FMFM) 6-5, Marine Rifle Squad, provides basic guidance to enable the rifle platoon squad leader to fight and lead his squad in combat. This manual describes the organization, weapons, capabilities, and limitations of the Marine rifle squad. It addresses the squad's role within the platoon and that of the fire teams within the rifle squad. Emphasis is placed on offensive and defensive tactics and techniques, as well as the different types of patrols the squad will conduct.

Tactical Missile Design

In this highly anticipated second edition, Morris Driels continues to assist those engaged in assessing the effects of conventional weapons. This Second Edition provides an extensive analysis of the techniques used to predict the effect of air-launched and surface-launched conventional weapons directed against ground targets.

Army Fires Capabilities for 2025 and Beyond

"In this highly anticipated third edition, Morris R. Driels clearly and comprehensively describes tools and strategies for assessing the effects of conventional weapons. The intent is to explain the underlying methodologies behind various weaponing tools rather than how to use the tools themselves. This introductory volume covers the basic subjects that need to be understood to compute weapon effects based on the concept of an effectiveness index (EI). These subjects include weapon delivery accuracy, warhead lethality, and target vulnerability. This approach gives reasonable, rapid results and allows an easier understanding of current methods used to estimate weapon effects"--

Innovative Fields of Ballistics & Applied Physics

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This report describes the preparations for Operation Enduring Freedom, Army operations and support activities, coalition issues, and civil-military operations in Afghanistan from October 2001 through June 2002.

Operations Research for Unmanned Systems

En analyse af den amerikanske anvendelse af flystyrker under Vietnamkrigen.

Thinking about Deterrence - Enduring Questions in a Time of Rising Powers, Rogue Regimes, and Terrorism

Explains how existing and proposed law seek to tackle challenges posed by new and emerging technologies in war and peace.

Marine Rifle Squad (Marine Corps Warfighting Publication 3-11.2)

This book examines how international expectations intersected with the United States Air Force's fight for autonomy and utility, explains how the service began to change, and asks how airpower-and the US military as a whole-might further deepen its efforts. The author expands perspectives on assessing and directing the

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use of airpower and encourages further work to maximize both mission accomplishment and civilian protection. The recent evolution of US airpower offers inspiring, if incomplete, evidence that the conduct of war can become more humane while remaining effective. Technology, adversaries, and the goals of armed conflict will continue to evolve, but the central challenge of humanizing war will endure. Part one outlines the challenge that contemporary expectations about the American use of force pose for airpower. Part two describes the Air Force's adaptation to modern expectations of civilian protection, tracing operational experiences during the 1990s and the consequent operational and institutional innovation.

Field Artillery Manual Cannon Gunnery

This textbook will provide a basis for including tactical missile design as part of the aerospace engineering curriculum, providing new graduates with the knowledge they will need in their careers.

The Operations Process

Captain Vriesenga presents a compilation of essays by 34 participants below the rank of major who contributed to the Gulf War. Their stories focus on such topics as

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deployment, organizational patterns of units, delegation of authority and responsibility, emotions and psychology of combat, the impact of combat losses, airfield construction, medical care, and aircraft preparations.

Precision and Purpose

The United States is increasingly dependent on information and information technology for both civilian and military purposes, as are many other nations. Although there is a substantial literature on the potential impact of a cyberattack on the societal infrastructure of the United States, little has been written about the use of cyberattack as an instrument of U.S. policy. Cyberattacks--actions intended to damage adversary computer systems or networks--can be used for a variety of military purposes. But they also have application to certain missions of the intelligence community, such as covert action. They may be useful for certain domestic law enforcement purposes, and some analysts believe that they might be useful for certain private sector entities who are themselves under cyberattack. This report considers all of these applications from an integrated perspective that ties together technology, policy, legal, and ethical issues. Focusing on the use of cyberattack as an instrument of U.S. national policy, *Technology, Policy, Law and Ethics Regarding U.S. Acquisition and Use of Cyberattack Capabilities* explores important characteristics of cyberattack. It describes the current international and domestic legal structure as it might apply to cyberattack, and considers analogies

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to other domains of conflict to develop relevant insights. Of special interest to the military, intelligence, law enforcement, and homeland security communities, this report is also an essential point of departure for nongovernmental researchers interested in this rarely discussed topic.

Technology, Policy, Law, and Ethics Regarding U.S. Acquisition and Use of Cyberattack Capabilities

Deliberate Force - A Case Study in Effective Air Campaigning

Aerospace America

Offering a concise and multidisciplinary reference guide to the state of the art in Australian operations research, this book will be of great value to academics working in many disciplines associated with operations research, as well as industrial practitioners engaged in planning, scheduling and logistics. Over 60 papers, with topics ranging from academic research techniques and case studies to industrial and administrative best practices in operations research, address aspects such as:

- optimization, combinatorial optimization, decision analysis,

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supply-chain management, queuing and routing, and project management; and • logistics, government, cyber security, health-care systems, mining and material processing, ergonomics and human factors, space applications, telecommunications and transportation, among many others. This book presents the Proceedings of the National Conference of the Australian Society for Operations Research, the premier professional organization for Australian academics and practitioners working in optimization and other disciplines related to operations research. The conference was held in Canberra in November 2016.

Naval War College Review

This publication has been prepared under the direction of the Chairman of the Joint Chiefs of Staff (CJCS). It sets forth joint doctrine to govern the activities and performance of the Armed Forces of the United States in joint operations and provides the doctrinal basis for interagency coordination and for US military involvement in multinational operations. It provides military guidance for the exercise of authority by combatant commanders and other joint force commanders (JFCs) and prescribes joint doctrine for operations, education, and training. It provides military guidance for use by the Armed Forces in preparing their appropriate plans. It is not the intent of this publication to restrict the authority of the JFC from organizing the force and executing the mission in a manner the JFC deems most appropriate to ensure unity of effort in the accomplishment of the

overall objective.

21st Century Prometheus

Guns, Mortars, and Rockets

With many scholars and analysts questioning the relevance of deterrence as a valid strategic concept, this volume moves beyond Cold War nuclear deterrence to show the many ways in which deterrence is applicable to contemporary security. It examines the possibility of applying deterrence theory and practice to space, to cyberspace, and against non-state actors. It also examines the role of nuclear deterrence in the twenty-first century and reaches surprising conclusions.

Targeting: The Challenges of Modern Warfare

To assist the Army in its reorientation toward conventional combat operations, the authors of this report identify capability gaps in the field artillery and actions that the Army should consider taking from today to roughly 2030.

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