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The Revolution in Military Affairs: A Resource Guide

Bert Chapman

Purdue University, chapmanb@purdue.edu

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INTRODUCTION

War consists of fighting military battles to advance or defend national interests that cannot be advanced or defended through peaceful means. To casual observers and the general public, wars are fought by the Army, Navy, Air Force, and Marines using traditional weapons such as guns, bullets, shells, bombs, tanks, planes, and other familiar ordnance. These weapons are used to inflict maximum pain and suffering on enemy forces in order to compel their surrender.

These operational tactics and the intellectual paradigms underlying them continue to play significant roles in military operational planning and in how the public perceives the conduct of war. Such perceptions, however, provide only a partial description of the numerous theoretical and operational changes that have shaped, are shaping, and are continuing to mold how military forces such as those of the United States and other nations are planning to fight and are actually fighting today's and tomorrow's wars.

For several years, significant changes have been incorporated into military planning, tactics, strategy, and warfare. These changes or transformations have been influenced by the technological and informational revolutions of the twentieth century's closing decades and have produced a phenomenon known as the revolution in military affairs (RMA).

An incisive assessment of RMAs significance was reflected in this appraisal from a recent issue of Parameters U.S. Army War College Quarterly maintaining:

There has been considerable discussion in the last decade of the Revolution in Military Affairs (RMA), one of those turning points in history where new technology and new ideas for its use in warfare have decisively changed the nature of military operations... Although there is ritual acknowledgement that innovation could come from some unexpected direction, most debate centers on the application of information technology to conventional maneuver warfare. By wiring everything and everyone into a high-bandwidth information network, US forces of the future hope to achieve total "information dominance." Each tanker and pilot, and maybe each individual soldier, will know where all his own forces are on the battlefield and where all the enemy forces are, day or night, in all weather. Naval battle groups will work as one integrated "system of systems" spread across a huge expanse of ocean, with an appropriately weaponizable to respond to a threat detected by any sensor on sea, air, or space. Precision weapons will strike deep into any territory, based on excellent intelligence.1

Statutory recognition of these transformations and realization of the need for the U.S. military to adapt to these developments led to congressional passage of the Goldwater-Nichols Department of Defense (DOD) Reorganization Act in 1986. This legislation, named for Sens. Barry Goldwater (R-AZ) and Representative BillNichols (D-AL), introduced numerous reforms to DOD and the armed services that remain in effect today. Key features of Goldwater-Nichols included strengthening the importance of joint military perspective in defense planning instead of looking for the predominant opinion of a single armed services branch, giving military officers greater incentive to serve in joint duty positions, reducing and
streamlining the defense bureaucracy, increasing top military management's attention to for-
multiplying military strategy and contingency planning, and setting priorities among major mili-
tary missions, and enhancing U.S. military warfighting capabilities by strengthening the
authority of unified and specified commanders.2

These reforms influenced the conduct of U.S. military operations during the 1990–1991
Persian Gulf War. The generally successful performance of many U.S. weapons systems, in-
cluding the use of precision-guided munitions, helped lead to a relatively quick and easy in-
ternational coalition victory over Iraqi military forces. The influence of new operational thinking
emphasizing joint command structure and technologically advanced weaponry demonstrated
that the RMA had relevant battlefield applications whose influence was noticed in the U.S.
and internationally.3

This growing evidence of an RMA in U.S. military thinking and strategy continued through-
out the 1990s and the early years of the 21st century. Publications produced by government
agencies, commercial publishers, think tanks, and scholarly journals began debating various
issues relevant to ongoing transformations in military tactics, operations, and strategic plan-
ing. These writings stressed RMA-related topics such as how to organize U.S. military as-
sets in space4 and recognition of the growing importance of computer networks in offensive
and defensive military operations and the ethical quandaries attacks on such entities can
cause for military planners.5

Other subjects receiving analytical scrutiny for their RMA implications include the RMA's ef-
fect on airpower operations,6 the serious nature of strategic and policy choices the RMA is
making the military confront,7 how specific branches of the armed services such as the Navy
have to change institutional modus operandi in order to survive and retain operational effec-
tiveness,8 developing effective governmental policy responses to terrorism in the U.S.,9 the in-
terrelationship between ballistic missile defense and U.S. nuclear weapons policy,10 and the
ability of nations or subnational groups with weaker conventional military power than the U.S.
and successfully launch and sustain asymmetric attacks with the military assets they possess.11

Official military recognition of the RMA has occurred in many documents, including the
1997 edition of DOD's Quadrennial Defense Review, which asserted that U.S. forces needed
to exploit information and other technologies to achieve battlefield dominance according to
plans presented in the Joint Chiefs of Staff's Joint Vision 2010 report.12 The extent to which
the RMA has been integrated into military practice and acculturation is a source of ongoing
debate among military and civilian analysts. An appraisal of the ambivalence felt by many mil-
itary policymakers toward the RMA is reflected in the following observations:

The U.S. armed forces have embraced—at least rhetorically—the need to transform so as to meet
the demands of information age warfare. They have fielded new capabilities, such as stealth and preci-
sion strike, and explored novel approaches to combat, such as network-centric warfare and effects-
based operations. Nevertheless, significant organizational barriers to the adoption of new technology,
discipline, and organizations exist. The services have been particularly reluctant to take measures that
are disruptive of service culture, such as shifting away from traditional platforms and toward new
weapons systems, concepts, and organizations. The Army's attempts to field a medium-weight
ground force, the Navy's development of network-centric warfare, and the Air Force's experience with
unmanned aerial vehicles illustrate such difficulties. In each case, efforts at transformation have faced
opposition from service traditionalists who perceive threats in new ways of war. For the Defense
Department to succeed in transforming the U.S. armed forces, it must both reallocate resources and
nurture new constituencies.13

Discussion and debate over these changes in military theory and practice was primarily of
interest to military planners and interested scholars prior to September 11, 2001. That day's terror-
ist assaults against the U.S. and the ongoing military response of Operation Enduring
Freedom have brutally brought home to the U.S. and the international community the security
dangers of the new century and how such dangers can no longer be viewed as being relevant to
everyday life.

These security dangers were described by Deputy Secretary of Defense Paul Wolfowitz in
testimony before the Senate Armed Services Committee on October 4, 2001 on the Bush
The Revolution in Military Affairs: A Resource Guide

Administration’s just-released Quadrennial Defense Review. Woffowitz described the September 11 attacks as a precursor of future military threats to the U.S. possessing the following characteristics:

- A future where new enemies visit violence on us in startling ways;
- A future in which our cities are among the battlefields and our people are among the targets;
- A future in which more and more adversaries will possess the capability to bring war to the American homeland;
- A future where old methods of deterrence are no longer sufficient—and new strategies and capabilities are needed to ensure peace and security.14

Woffowitz went on to contend that the September 11 attacks leave U.S. military forces with two missions: breaking the terrorist networks and states responsible for those attacks and their ability to threaten the U.S. with violence and transforming U.S. forces to defend the U.S. and its allies against the diverse and dangerous security threats it will deal with for the foreseeable future.15 Characteristics of the emerging international security environment, in Woffowitz’s assessment, include the return of surprise as a military weapon, recognition that the continental U.S. is no longer invulnerable to military assault, that U.S. adversaries have changed and possess divergent motivations and capabilities undergirding their hostility, that these hostile forces have the same objectives as past U.S. enemies such as targeting the military to use critical weapon systems to force the U.S. out of critical world regions in order to impose their will on their own countries and neighboring countries, and that instead of delaying challenging U.S. military strength they will use asymmetric capabilities such as weapons of mass destruction and advanced conventional military weapons such as advanced sea mines and anti-ship cruise missiles to achieve their objectives.16

Effectively responding to these threats, according to Woffowitz and the Quadrennial Defense Review, will involve establishing homeland defense as a top DOD priority, contending with asymmetric threats, assuring allies of the U.S.17 reliability and ability to fulfill security commitments, and decisively defeating adversaries if deterrence fails. Where U.S. military force operational capabilities are concerned, the Bush Administration believes that a transformed U.S. military must:

- Protect critical bases of operations (U.S. homeland, forces abroad, allies, and friends) and defeat NBC (Nuclear, Biological, & Chemical) weapons and means of delivery;
- Project and sustain U.S. forces in distant “access-denial” environments;
- Assurance information systems in the face of attack and conduct effective information operations;
- Provide persistent surveillance, tracking and rapid engagement with high-volume precision strike, through a combination of complementary air and ground capabilities, against critical mobile and fixed targets at various ranges, and in all weather and terrain;
- Enhance the capability and survivability of space systems and supporting infrastructure; and
- Leverage information technology and innovative concepts to develop effective joint operational capabilities.18

Besides material contained in the Quadrennial Defense Review, the September 11 attacks have brought the issue of homeland security, an important component of RMA literature, to the forefront of U.S. national security policymaking. In response to the terrorist attacks, President George W. Bush issued Executive Order 13228 on October 8, 2001 establishing an Office of Homeland Security and Homeland Security Council. Bush designated former Pennsylvania Governor Tom Ridge to head the Office of Homeland Security whose institutional purpose was directed to ‘Develop and coordinate the implementation of a comprehensive national strategy to secure the United States from terrorist threats or attacks.”19

Additional evidence of how homeland security and new asymmetric military threats mentioned in RMA literature are becoming part of U.S. national security policy is further demonstrated by two presidential orders issued during November 2001. On November 5, President
Rush issued Executive Order 13224 creating a Presidential Task Force on Citizen Preparedness in the War on Terrorism. Composed of the heads of executive branch offices such as the Office of the Vice President, Office of Homeland Security, and the Department of Justice, this task force is charged with identifying, reviewing, and recommending appropriate means for the American public to prepare their homes, neighborhoods, workplaces, and other locales for the potential consequences of terrorist attacks within the U.S. and volunteer to assist state and local public health and safety officials in responding to possible terrorist attacks. Another demonstration of how the September 11 attacks have transformed the U.S. national security environment is demonstrated by a military order issued by the President on November 13. Reflecting the tense national security situation and the transformed legal environment in light of ongoing military operations, this order gives the U.S. military the right to establish military courts to try foreigners suspected of supporting the Al Qaeda terrorist network in facilitating the September 11 attacks. The September 11 attacks and the ongoing military response of Operation Enduring Freedom have brought home to Americans the international community the transformed nature of contemporary warfare. It is no longer possible for the citizens of the U.S. or any nation to assume that geographic distance makes them immune to random terrorist acts or military violence. The increasing use of asymmetric warfare by terrorist or national military is likely to continue in the years and decades ahead as they seek to promote their political/military objectives in ways that compensate for their inferior conventional military assets when compared to nations such as the U.S.

RMA-related literature and analysis can help interested individuals and organizations gain a better understanding of current and ongoing trends in conventional and unconventional military activities. The September 11 attacks have removed discussions about future military policy and operations from the realm of speculative theorizing to vital national importance. This literature covers topics as diverse as the use of unmanned aerial vehicles (UAVs), ballistic missile defense, developing responses to weapons of mass destruction (WMDs) such as nuclear, biological, and chemical weapons, military use of space, the security of computer networks and information systems, developing more mobile military forces, devising effective responses to terrorist threats and actions, the performance of individual military weapons systems, homeland security, the growing frequency and importance of urban military operations, and a wide proliferation of topics that impact national security. Those producing RMA literature include military journals such as Aerospace Power, Joint Force Quarterly, Military Review, Naval War College Review, and Parameters: U.S. Army War College Quarterly; Government agencies such as the Defense Department, congressional oversight committees, General Accounting Office, National Defense University, the U.S. Army War College's Strategic Studies Institute, the U.S. Air Force Academy's Institute for National Security Studies, and others participate in RMA debate while shaping its direction.

Other participants in the debate include public policy think tanks such as the Center for Strategic and Budgetary Assessments, Center for Strategic and International Studies, Heritage Foundation, Institute for Defense Analyses, Institute for Foreign Policy Analyses, and Rand Corporation. Academia research centers such as the Massachusetts Institute of Technology's Security Studies Program and the Fletcher Center for Science and International Affairs at Harvard University's John F. Kennedy School of Government are also important producers of RMA information and analysis. Scholarly journals such as Comparative Strategy, International Security, Ohio, and Strategic Review also help shape RMA discussion and debate.

Participants in RMA forums adhere to a variety of viewpoints on issues such as whether an RMA is actually underway, the degree to which the U.S. military should adapt to RMA developments, appropriate military spending expenditures, or whether particular weapon systems or strategies are in the U.S.'s national interest. These discussions and debates have been given renewed impetus by the September 11 attacks, Operation Enduring Freedom, and heightened public interest in and awareness of national security issues.

RMA materials annotated here were predominantly produced by U.S. authors and provide various American perspectives on RMA developments from approximately 1995 to
BOOKS


This collection of essays stresses different themes as the nature of military conflict during the infosphere stage. The knowledge has assumed the central position in military operations (p. xx). In Athens Camp is broken into five thematic sections: the revolution in military affairs, information warfare/so called information warfare, and technology. Each of these sections contains an analysis of derangements and emerging threats in military affairs as society becomes more dependent on information technology.

The revolution in military affairs section wades through the changing and characteristics of an information-based revolution in military affairs. Chapters on cyberpace security research and development, protecting military systems, and operations of information warfare highlight the inestimable military value of the scheme. Characteristics of the societal perspectives section examine transnational criminal organizations and their impact on international security, technological responses to terrorism, and the use of the network by Mexico's separatist Zapatista movement to promote its collectives. The concluding emerging paradigms section focuses on the potential conflict, and concludes speculations on preparing for information warfare.

The authors argue that "nopolitics" as an approach to international affairs helps to understand the modern international order. The authors argue that "nopolitics" as a concept is not just about states, institutions, values, laws, and ethics in international political process. They believe that this theoretical construct is influenced by the internet and mass media, and policies relevant to international behavior are influenced by the changes in international order.

The authors also address the shift in how nopolitics inwards the future direction of information strategy, which they believe is the area of political and military strategy must shift from war¬like to information and communication strategy. They believe that information and communication strategy and cooperation must work together to create a global information network.

The authors, one a Clinton administration secretary of defense, the other a preventive defense and Clinton administration defense advisor, present ideas for the proper course of U.S. defense policy. They

focus on the concept of preventive war, which, in their view, is structured around trying to prevent national security crises by taking preventive action to end the con¬flicts between the United States and other countries and with the national security policymakers in those countries.

Preventive Defense presents case studies of various defense policy programs and initiatives. Carter and Perry participated in during their Defense Department tenure. They focus on the importance of the prevention of confrontations between NATO and Russia, the nuclear program, the prevention of nuclear weapons in the former Soviet Union, dealing with Iran, managing international terrorism, and trying to prevent North Korea from developing nuclear weapons. They conclude with preventive defenses against catastrophic terrorism attacks, and shaping a homeland defense force.

The Dynamics of Military Revolution, 1300-2050. Max-Neef Grieg and William S. Murray. New York: Cambridge University Press, 2001. ISBN: 0-521-80797-X. 218 pp. This collection of essays provides historical perspective on the dynamics of military revolutions from the medieval period to the present. Issues addresses include the rise of industrial revolutions in warfare, the role of political, economic, and social changes in the evolution of military technology, and the role of military technology in the evolution of military power. The authors analyze the role of military technology in the development of military power and the impact of military technology on the evolution of military strategy.

A conclusion suggests that how these past RMAs may influence and determine contemporary and future RMA trends and developments.
and air forces (p. vi). Their military operations on urban terrain (MOUT) show the need for U.S. armed forces to update their doctrinal materials on engaging in urban combat campaigns as outlined by Glenn. Making urban combat (MOUT) easier to engage in urban areas of diverse size and character, including MOUT tactics, is developing new technologies, and providing for complete implementation of selected combat training center MOUT facilities (pp. 21–23).


Study examining the challenges facing U.S. policy-makers when constructing solutions requiring the use of military forces in urban environments. Linking at the period covering from 2000 to 2025, it notes that current and near-term future urban combat operations are likely to increase the following characteristics: intelligence, surveillance, and reconnaissance; monitoring and attack doctrine; network-centric operations, non-combatant control, or suppression of enemy air defense. Continuing the Trajan Horizon Project proposals for dealing with these challenges in urban combat operations and believes that U.S. armed forces to successfully conduct urban operations with minimal associated loss of life (p. 2).


Hendy's book emphasizes the importance of being ready for both R&D and RM&E that other analysts may carry out. Topics analyzed here are the RM&E processes and observables in a variety of systems, that collection
and assessment are required in this process, that depending likely on experts should be avoided in assessing potential PMA risks, but it is essential to establish collaborative and effective interaction among organizations.

The final section of Part I describes future transformations in amphibious warfare as a means of achieving future amphibious warfare. This section concludes by emphasizing the need for further research and development of amphibious warfare concepts.


The chapter discussing Base Force shows the requirements for building and maintaining the force and provides an assessment as to its feasibility. Subsequent chapters provide various assessments for the Base Force and Quadrennial Defense Review.

Overall, the contributions on the strengths and weaknesses of each of the forces and strategies discussed are balanced and provide a comprehensive view of the U.S. military and its strategic planning.


E. V. Larson and Peters provide an overview of issues raised by the need to understand and assess Homeland Security and how the U.S. should respond to it. They propose the time frame of Homeland Security. They describe the impact of the War on Homeland Security and the importance of the role of the military in the War on Terror.

Homeland Security and the implications of all military activities are articulated for providing against, or managing the consequences of attacks on American soil, including on the Continental U.S., [C]US] and U.S. territories and possessions, as well as on the U.S. military and its deployment, its responsibilities, and deploying forces (p. 266).

Following an introduction, the chapter provides a comprehensive overview of the constitutional, legal, and administrative aspects of Homeland Security, including the various frameworks for homeland security, and the role of the American police in addressing the issues.

The chapter concludes with an analysis of the future of Homeland Security, including the implications of the War on Terror and the role of the military in the War on Terror.
A suitable military force such as the U.S. requires large and ongoing expenditures to retain its operational effectiveness and meet the responsibilities assigned to it. This work looks at defense policy choices facing Henry George W. Bush Administration and was written before the September 11, 2001 terrorist attacks.

Following an introductory chapter, O'Hanlon looks at building a strong U.S. military and overcoming oversubscription. He also discusses the Clinton Administration policy of the U.S. being able to fight two major regional conflicts simultaneously. Later chapters address issues involved in modernizing the U.S. military to meet emerging security threats, homeland defense, building a limited national missile defense and cutting nuclear forces, and helping Taiwan defeat a Chinese blockade. A summary and conclusions complete the assessment.


O'Hanlon argues that high technology becomes the defining characteristic of American warfare during the second half of the twentieth century and that this technological emphasis continues into the new century and millennium (p. 1). He discusses the RMA and how it is shaping American military staffs, defense acquisition decisions. Later chapters discuss the roles being played by sensors, computers, communications, vehicles, ships, and aircraft on U.S. defense policies. He also provides high-level RMA theory and the effect they are having on U.S. security policies. His concluding chapters provide what he regards as desirable characteristics for a U.S. defense modernization strategy that can ensure the assessment's effect on U.S. military policy.


U.S. military operations in the Middle East such as Operation Desert Storm continue to provide evidence of the non-stop war zone that is warfighting and ongoing activities in Operation Enduring Freedom have also again made military force the predominant aspect of the world's reality. O'Malley looks at the im- plications of this U.S. warfighting dependence on access to Middle Eastern airfields as well as the military opera- tions in that region.

An initial chapter covers aircraft operational li- mitions in airfield basing requiring an inventory of strategic airports and analysis of access security threats to U.S. aircraft. The second chapter looks at the nature and geographic distribu- tion of Middle East airfields while providing in-depth analysis of these facilities. Chapter 3 looks at air- fields in the Black and Caspian Sea regions with attention given to availability, rapid deployment, or weaning on potential sites for U.S. force deployment. A fourth and concluding chapter discusses the implications of U.S. forces having access to such airports and mentions that alternative methods may still be available or essential to U.S. military planners.

Appendices provide additional information on Middle Eastern, Black Sea, and Caspian Sea area conflicts.


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Thierry Gongora and Habitat Voor Reekhoff, eds. Contributions in Military Studies No. 197. Westport, CT: Greenwood Press, 2000, 234 pp. ISBN: 0-313-31037-6. Review compiles a compilation of essays derived from an October 3-4, 1997 conference sponsored at Catholic's Aula-Universitat by the Institute de Re- \nceptions des hautes études internationales. Topics addressed by conference participants concern trends in RMA studies. Specific issues covered in- clude an overview of this subject, a historian's per- \npective on "revolution" and "revolutions in military affairs," the nature of information war- \nfare, emerging technologies and military affairs, and a French perspective on the U.S. RMA. Addi- \ntional essays cover possible Russian RMA de- \nvelopments, Chinese RMA trends, French per- \nSpectives on this subject, how the RMA will af- \nfect national military force projection, and the im- \pact of the RMA on military industrial production with particular emphasis on the impact of agile \nmanufacturing.  

This work discusses ways to ameliorate the damage to the world's information infrastructure from at- \nacks by cyber criminals and terrorists. Chapter contents include a review of international legal ini- \tatives to combat cyber crime, examples of attempts to civil aviation, analyzing the constitutional, legal, eco- \nomic, and ethical concepts on using technol- \nogy to control such crime, and discussing pos- \sible ways of achieving desired information security objectives through expanded international cooperation.  

This book examines the U.S. military's increasing \nly involved in military operations other \nthat war (MOOTW), such as peace operations in \n Afghanistan and Iraq. This study looks at how the U.S. Air Force (USAF) may participate in such MOOTW activities, any scope or impact to central areas such as: humanitarian relief, arms control, military support of civil authorities, and evacuations.  

The book contains a proposal of USAF in- \nvolvement in the Central Region or in the future \noperations on Air Force combat readiness, predicting the scope of future U.S. involvement in MOOTW. and enhancing Air Force MOOTW capabilities. Appen- dies list USAF MOOTW operations from 1916 to 1996, and at home and in the selected MOOTW operations, and flight hours for selected operations since 1988 and 1995.  

This work focuses on the current status of military competition in near-earth and possible de- 
velopments in that field for the next quarter-cen- 
tury. An executive summary mentions that the U.S. is the premier user of space for military purposes at the beginning of the 21st century, that the U.S. is far superior to other nations in its ability to milita- 
ry exploit space, that the U.S. has only partially ex- plotted space's potential for military force enhancement, and that it will be harder for the U.S. to sustain its current military advantages in space in the years to come.  

Watts' overview addresses ways of thinking about near-earth space's military value, current U.S. advantages in military uses of space, and trends he sees in military-space related developments. Such trends include increasing commer- 

cialization; growth in space surveillance and the use of geodetic data, and the increasing use of space for orbital power generation and military weapons deployment. Watts also examines public policy and national security choices that may re- 
sult from the increasing weaponization of space.  

Appendices examines space's military geogra- 
phy, characteristics of selected U.S. government satellites, current or projected commercial space communication projects, current commercial launch costs, and current or in-development reusable launch vehicles.  

This work focuses on the near-transparent missile de- 

defense systems would have on strategic stability be- 	 tween current nuclear weapons powers. An opening chapter examines ballistic missile proliferation and includes assessments of the threat this proliferation creates to countries with limited missile defense capabilities and possible countermeasures that might be taken to counter the threat. The second chapter of this book discusses the current U.S. national missile defense plan being proposed, pointing out current and potential mis- 

sues with such a system and the extent of its utility. 

The chapter concludes with a chapter on the impact of future strategic forces and the future of missile war.  

U.S. GOVERNMENT DOCUMENTS  


Treatise focusing on the growing importance of in- 
formation warfare and the need for militaries to de-
velop effective responses to this phenomenon.

Defensive Information Warfare believes that the best way to respond to this form of warfare is by developing "defenses in depth" in a manner similar to the way the human body resists disease. Alberts provides an overview of information warfare defense and examines ways to respond to information attacks against critical military systems.

David L. Alberts. The Unintended Consequences of Information Age Technologies. Washington, DC: National Defense University Press, 1996, 242 pp. ISBN: 0-931204-76-7. This work analyzes the difficulties facing the military in achieving the challenges of technological transformation wrought by the RMA, describes the impact of information technology on the individual warfighter and the overall increase in available information, and examines ways to respond to information attacks against critical military systems.

Concerns and remedies about this new battlefield environment, including the vulnerability of equipment to enemy attack, are also mentioned along with strategies for using new measures and technologies. The authors provide a detailed overview of the issues involved in the emerging battlefield environment.

Jeffrey K. Beineke. Constrained, Restrained, and the Role of Military Power in the 21st Century. Colorado: US Air Force Institute for National Security Studies, Air University, 2001. InSSy Occasional Paper 38. 94 pp. ISBN: 0-9710900-1-7. The Internet offers a wide range of electronic resources, including the US Department of Defense's Defense Technical Information Center, which contains information on a variety of topics, including military technology, strategy, and policy. The center provides access to over 3 million documents, including technical reports, journals, and other materials. It also offers services such as search and retrieval, as well as access to other government and private databases.

Jeffrey K. Beineke. Terrorism and the Military's Role in Domestic Crisis Management. Background and Issues for Congress. Washington, DC: Library of Congress, Congressional Research Service, 2001. 23 pp. The Internet offers a wide range of electronic resources, including the US Department of Defense's Defense Technical Information Center, which contains information on a variety of topics, including military technology, strategy, and policy. The center provides access to over 3 million documents, including technical reports, journals, and other materials. It also offers services such as search and retrieval, as well as access to other government and private databases.
domestic incursion. Concluding sections scrup- lously review policy issues for congressional con- sideration, such as developing a national strategy for combating terrorism, employing the entire range of the Defense Department's operational capabilities in such endeavours, possible new mil- itary structures for fighting terrorism, and con- gressional oversight of new federal supervising agencies.


The issues is homeland security at a strategic issue with the parameters of military policy relating to U.S. military to be able to fight two major theatre wars simultaneously (p. 1). He goes on to examine the new threat environment form- ing the U.S. by the mugging danger of inter- national terrorist and their organizations such as Osama bin Laden and al-Qaeda, the problem of nuclear, chemical, and biological weapons proliferation, and the increased vulnera- bility of U.S. information systems to cyber attacks. He goes on to describe how an army homeland defense strategic governance plan would need to incorporate areas such as land defense, re- sponding to chemical, biological, radiological, and nuclear high-yield explosive incidents, national mis- sile defense, combating terrorism, critical infra- structure protection, information operations, and providing military assistance to civil authorities. Other monograph content includes options for de- veloping a homeland security force and the U.S. weaknesses of this proposed force on overall U.S. national security interests.


This work is motivated by concern over a gap be- tween the U.S. to date on the European allies and RMA matters. The authors believe that the growing mil- itary technological superiority level by the U.S. over- lines NATO allies is not in the east interest of either plans. Mind the Gaps at this RMA gap and promote various solutions.

Specific recommendations include making U.S. and NATO building a RMA company, investing in improving the RMA readiness of European military forces, and creating a European RMA projection force. Aspirational coverage focuses on enhanced integration of transatlantic military systems, im- proving the European defense systems market, and enhancing appropriate NATO force, information en- terprises, military services, and NATO achieving this augmented level of transatlantic RMA application.


Hinebro defines cyberwarfare as relating to at- tempts to defend or attack information and com- puter networks, and can include demoting computer systems for challenge, theft, revenge, stealing information, causing embarrassment, ex- holding money, or damaging part of a given infra- structure such as an agency system (p. 1). He begins by describing risks of computer "hacking" and their consequences at Air Force's Information Systems: "In the Year of the "Dig- iligent Recover" - a battle against various U.S. com- puter networks, and the February 1998 "Solar Sourse" patches against Defense Department (DOD) computers.

Hinebro also examines U.S. uses on the cyber- warfare threat and policy responses to it including military doctrinal statements and executive orders as relevant congressional legislation passed during the 106th Congress during 1999-2000. Addi- tional coverage is given to how to protect countries as Russian, the People's Republic of China, and Germany view cyber warfare along with the sec- tions in this area on non-state international political actors such as Osaama bin Laden and other terror- ist groups including AlQaeda, Hamas, and the Irish Republican Army.

Issues for congressional consideration are dis- cussed and an appendix defining relevant terms including information warfare, special information operations, information assurance, and computer network attack is also included.


Monograph looks at the various steps of the power can play in urban military operations and presents recommendations for enhancing the opening of the operational environment in order to engage in combat. Includes a discussion of a vehicle for urban warfare and urban operations, and the use of force by the forces in urban operations, and the signification of air operations in such operations.

Concluding recommendations include not un- dertaking provocative denouncing in such op- erations which may make effective use of counter U.S. sensors and weapons, assuming superior intelligence about enemy capabilities in order to ordering enemy forces, and the need to work with the various urban authorities by the forces.

This version makes available various per- speciess on how the information age is affecting urban military and counterterrorism and still de- fending. Broken up into distinct fields, information Age anthologies work defies treatments as the in-
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formation and communication revolution and busi-
ness, commerce, and services in its first two parts. Parts three and four covering government and the military and international affairs, are of the greatest relevance to RMA students and scholars. These parts have essays covering topics such as freedom and censorship in the emerging elec-
tronic environment; the role of cyberpower in mil-
itary operations, the role of Congress; information technology and the fear of information warfare; and international affairs, and information age warfare. Additional subjects addressed in this section in-
clude how telecommunications is changing the ge-
ographic transmission of knowledge, technological change and the emerging international order, the importance of connecting developing countries to the information revolution, and the multiple im-
pacts of information technology on interventional actors and global political, economic, and strategic systems.

031-X. Internet Access: www.army.mil/usas-

This volume of essays begins by discussing how the U.S. military is looking for ways to seize information superiority and gain decisive advantage over its opponents, its dependence on infor-
tmation technology also creates vulnerabilities that opponents can exploit (p. vi). Essays explore the role information strategy and management can play in military operations and are derived from a December 1999 conference cosponsored by the Army War College and the University of Pitts-
burgh's Matthew B. Ridgway Center for Interna-
tional Security Studies.

Topics address the importance of information and decision making in conducting military operations, the need for institutional adaptability and flexibility, and the impact of technology on military opera-
tions. Other issues covered include security threats, the role of information in strategic planning and theater, and the impact of information on security policy. Joan Johnson-Freese, The Visibility of U.S. Anti-Satel-
ite (ADS) Technology: Moving Toward Space Control. Colorado Springs, CO: US Army Institute for Na-

This volume is the first in a monographic ser-
ies to examine space policy issues and explain Air Force efforts to integrate air and space power into the aerospace force. It looks at U.S. policy and international treaty implementation of anti-
satellite weapons (ASATs), within the context of increasing U.S. commercial and military reliance on space and organizational politics surrounding the ASAT system and deployment.

These key essays within this paper include in-
clude the evolution of U.S. ASAT policy during the 1960's and 1970's; the 1967, in the 1972 Anti-Ballistic Missile (ABM) Treaty between the U.S. and the former Soviet Union, and technologi-
cal changes during the 1980's and 1990's that in-
creased U.S. military reliance on space assets and called into question the principles underlying the U.S. ABM Treaty. Concluding sections look at areas such as force application, force enhancement, and space control policies that will influence the formulation and development of future U.S. space doctrine. Examples of such areas include, but are not limited to, ASAT systems, ASAT weapons, ASAT missile defense, force pro-
jecting, principles of coupled strategic war, and the architectural assessment, navigation, environmental monitoring, protecting U.S. and allied systems, and battle management, and negotiating space systems and services hostile to U.S. national se-
curity interests.

Robbin F. Laird and Holger H. Mey. The Revolution in Mil-
itary Affairs: Allied Perspectives. Washington, DC: Na-
www.ndu.edu/nda/mcna/5001000/5001060.html. This work looks at new technology is transforming international society as well as the U.S. and for-
eign military. It begins by looking at the U.S. strategic threat during the 20th cen-
tury and provides a baseline of the American approach to the RMA as well as a similar exami-
nation of how the U.S. Asian allies are confronting with the RMA. The principal section of this study explores how the U.S. European allies are con-
tending with the RMA. This section begins by looking at European-wide aspects of the RMA such as the challenge of developing common Eu-
ropean military standards.

Specific case studies of how France and Ger-
many are dealing with the RMA are also pre-
vented. These studies also address political and security issues. If the RMA remains a threat, military experts call for a national, non-defensive orientation to a more Euro-centric strategy: the con-
text of the European Union the military strategy is to develop a European Union (EU) military force, which with the added EU and other European military forces, detach from the U.S.

text/.

MacManwaring's treatise opens by mentioning that twenty years after the Cold War, countries face small or asymmetrical wars such as guerilla operations, in-
surgencies, internal wars, or other small-scale contingencies (SSCs) (p. vii). He believes such conflicts are likely to be the norm for future military operations and believes the U.S. must adapt to this reality when considering future military activities. Following his introduction to the RMA, MacManwaring addresses various issues he believes U.S. policy-
makers and military commanders must address and analyze prior to entering military forces into such conflicts. He believes it is important for the
U.S. to understand the strategic environment it is getting involved in, understand the enemy were fighting, and know precisely the paramount importance of retaining moral legitimacy in any conflict. U.S. forces enter into, recognizing the need to "lay the course" in such conflicts owing to their unrelenting concern for avoiding being seen as fighting for the forces you are fighting, the importance of intelli- gence and internal war proficency in fighting these atypical wars, and working effectively with the potential allies in such conflicts.

Internal Wars is illustrated with examples of suc- cessful and unsuccessful demonstrations of these issues from historical conflicts such as the Viet- nam War, El Salvador's civil war during the 1980s, Greece’s struggle against communist insurgents in the late 1940s, and the ongoing Russian-Chechn- yan conflict.


His initial chapter examines U.S. military strat- egy the the Bush Administration's focus on concepts such as "base force," the Clinton Adminis- tration's "Rustam-Up Review" policy statement, and the draft report of the 1997 QDR. The second chapter looks at how the four core issues listed in existing review must be addressed in the next QDR. Examples also include alternative strategies for forward strategies, preventive defense, and strategic reconsideration. A concluding chapter explores how the U.S. can adapt to emerging international strategic develop- ments such as the Sept. 11 attack and how it can be incorporated into the next QDR.


The authors define strategic asymmetry as "the use of some sort of leverage to gain an advan- tage over an adversary" (p. 1). Their study of this concept discusses how U.S. military strategy is be- coming more about looking at how U.S. strategic military strengths such as superior fire- power and weaknesses such as heavy depen- dence on information technology may affect future U.S. military operations.

Metz and Johnson describe how U.S. military opponents may seek to pit their strengths and U.S. strategic weaknesses and possible ways for the U.S. to respond to these asymmetric attacks. They emphasize that strategic asymmetry can be positive or negative, have short-term or long-term consequences, be low and high risk, and have non-military and military purposes. The authors believe that the U.S. cultural emphasis on individual initiative makes it susceptible for its military forces to effectively respond to asymmetric war- fares.


This handbook combines existing Army battlefield doctrine with night-fighting tactics and procedures currently being used by light infantry squad leaders and platoons. The opening chapter pro- vides an overview of night fighting at the small unit level and introduces chapter content. Focus drills featuring exercises such as conducting pat- rolls, reacting to contact and ambush, searching and clearing a building, and conducting an initial breach of a mined wire obstacles. The third and final chapter provides coverage of current night-fighting equipment capabilities, in- cluding the ground command's infrared pointer, a Phoenix beacon, and night vision goggles.

21st-century warfare, and how the U.S. Army has learned to fight limited wars from Korea to Kosovo. Subsequent chapters address size and shaping U.S. military forces in a fiscally constrained environment, the need for enhanced maneuver capability in a new age of warfare, intermingling military art, science, and technology until 2020, how U.S. forces can avoid the pitfalls of future urban warfare, trust not technology sustained military coalitions, and the assertion that the U.S. cannot "go it alone in future military operations.


Contains papers presented at a September 1997 Naval War College conference on U.S. national sea power strategy for the 21st century and what the Navy's role should be in this strategy. Papers are divided into three topical areas: forces driving the emerging security environment and their policy implications, strategic concepts and coercive operations, and naval concepts and policies. Synthetics topics addressed within these parameters include how the U.S. should cope with growing Islamic assertiveness, leveraging strategic assets to enhance international security, the importance of selective engagement in anti-missile missile national security interests, the role of naval diplomacy in the 21st century, and how naval force structure should influence American grand strategy during the upcoming century.


Provides a one-volume introduction to and overview of strategy and force planning as part of Naval War College curriculum. It consists of: strategic thinking, war college strategies, and current and former governmental priorities. The volume is divided into three sections: strategic horizons, strategic thinking and conceptual frameworks, perspectives on international relations, national interests and grand strategies, economic strategies, diplomatic strategies, political aspects, military strategy and force planning, and perspectives on the future.

Examples of essays written within these areas include "Defending the Homefront: Strategic Concepts and Strategy, reasons for the endurance or collapse of diplomatic alliances, the origins and future of nuclear-weapon warfare, change in the nature of warfare, future war, and exploiting knowledge based warfare, and perspectives on military efforts in the future. Each essay begins with an abstract and a section of questions about its content for compilation editors.


This anthology of writings addresses operational and organizational factors in understanding U.S. government responses to terrorist threats. A foreword looks at possible characteristics of 21st-century terrorism. The two divisions of this work examine the nature of the terrorist threat, preventing, preparing, and deterring terrorism, and responding to anti-terrorist forces. Issues addressed within these sections include looking at terrorism as a military strategic issue, whether weapons of mass destruction (WMD) terrorism is "real" or reality, domestic preparedness, and counterintelligence, the role of intelligence, the military's response to WMD terrorism, international incident response, and a possible U.S. terrorism response agenda.


This brief essay stresses the growing importance and pitfalls of information technology on military operations. Thomas opens by referring to how misinformation technology by the USSR led to the accidental shooting down of a civilian Iranian airplane in 1988. He mentions how technology in military affairs is becoming less depen dent on human guidance and intervention and how the US could have negative military and other impacts. Discussion of the dangers that can occur with socially uncontrolled or damaged software in a military operation is presented along with the author's belief that there is a need for a new science of military software.

Such a science, the author's view, could serve to redefine the inhouse defense and develop an information warfare strategy. Thomas also recommends the development of the National Information Infrastructure in order to prevent potentially catastrophic underperformance of military software. Information warfare strategy between these nations.


This study provides a critical review of the concept of Army thinking on the RMA. It begins by observing how the Korean Gulf War had a significant impact on military thinking concerning the technological power and relative power in the 21st century. Further analysis mentions how the RMA is being driven by a shift from Industrial Age to Information Age technology, the end of the Cold War, and defense budgeting strategies as well as by changes in technological concepts, tactics, and military organizational structures (p. 2). The thesis of the book is that the Army is transforming from a force capable of stopping a Soviet invasion of Europe to an information Age force whose strength is power projection. He emphasizes that the Army must be successful in a battlefield maneuver and adapting to the emerging digital battlefield. He also stresses the historical
and countermeasures of these systems are actively sought by policymakers.
Executive Director, Merc Rossberg, and Center for Strategic and International Studies staff emeriti.


For the Department of Defense, the issues are complex and multifaceted, requiring careful consideration. The Department must ensure that its policies and programs are aligned with the overall national security strategy and that it is effectively addressing the threats and challenges it faces. This requires a comprehensive approach that takes into account the military, diplomatic, and economic dimensions of national security.

This document focuses on the multiple roles played by information operations in U.S. national security and the need for measures to be taken to improve the security of military information operations. The report offers a comprehensive analysis of the current state of information operations and provides recommendations for future actions.

The report concludes with a number of recommendations for improving the effectiveness of information operations within the Department of Defense. These recommendations include:

- Developing a comprehensive strategy for information operations that addresses both offensive and defensive capabilities.
- Increasing investment in research and development to improve the capabilities of information systems.
- Strengthening partnerships with other governments and international organizations to share best practices and resources.
- Enhancing coordination with other departments and agencies to ensure a unified approach to information operations.

Overall, the report highlights the importance of information operations in the national security strategy and the need for continued investment and innovation to ensure that the Department of Defense is effectively prepared to address the challenges of the 21st century.


The report presents the findings of the National Defense Authorization Act for Fiscal Year 2009, which authorizes funds for the Department of Defense and other federal agencies.

This report is a comprehensive analysis of the Department of Defense's budget, programs, and policies for the fiscal year 2009. It provides detailed information on the department's mission, programs, and financial data, and is an important resource for policymakers, the military, and the public.

The report includes the following sections:

- An overview of the Department of Defense and its role in national security
- Detailed budgets for each of the military services and other federal agencies
- Analysis of significant issues, including defense policy, acquisitions, and international cooperation
- Financial data and management information

Overall, the report provides a comprehensive picture of the Department of Defense's activities and financial status for the fiscal year 2009, and is an important resource for understanding the department's role in national security.


This report presents the findings of the Department of Defense's Information Operations Program, which is responsible for the development and implementation of information operations policies, programs, and strategies.

The report includes the following sections:

- An overview of the Department of Defense's information operations program
- Analysis of the current state of information operations
- Recommendations for future actions
- Case studies and examples of successful information operations

Overall, the report provides a comprehensive analysis of the Department of Defense's information operations program and offers recommendations for improving its effectiveness.


This report presents the findings of the National Security Strategy of the United States of America, which is a comprehensive document outlining the United States' approach to national security.

The report includes the following sections:

- An overview of the United States' national security strategy
- Analysis of the current threats and challenges facing the United States
- Recommendations for future actions
- Case studies and examples of successful strategies

Overall, the report provides a comprehensive analysis of the United States' national security strategy and offers recommendations for addressing the challenges facing the country.
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daring nuclear threats, space operations, and mastering U.S. information superiority are emphasized. The report also looks at the necessary capabilities of conventional, nuclear, and missile forces to meet that year's security challenges. A final section focuses on the need for U.S. military forces and their support infrastructure to transition their operations in large as diverse as their intelligence, operations, and information management.


The first section describes the current operational capabilities and potential threats facing the U.S. military in the new millennium. The report then discusses the past decade's military operations and the lessons learned from them. The next section outlines the challenges facing the U.S. military in the 21st century, including the need for a military that is capable of fighting on multiple fronts simultaneously. The report concludes with an analysis of the U.S. military's role in the new millennium and the challenges it faces in preparing for future conflicts.


The Quadrennial Defense Review (QDR) is a comprehensive examination of the U.S. military's strategic posture and capabilities. The QDR report is released every four years to assess the nation's security environment, and to identify the defense posture necessary to meet future threats.

The QDR report provides a comprehensive review of the U.S. military's strategy, forces, and capabilities. It also identifies the key strategic challenges facing the U.S. military and outlines the necessary steps to address them.

The report highlights the need for a multi-domain approach to national security, emphasizing the importance of combining traditional military capabilities with cyber, space, and intelligence, surveillance, and reconnaissance (ISR) capabilities.

The QDR report also identifies the need for a more agile and flexible military force, capable of rapid deployment and response to a wide range of threats.

The report includes a detailed analysis of the need for a modernized, flexible, and adaptable military force that can adapt to a rapidly changing security environment.

The QDR report has been widely praised for its comprehensive approach to national security and its emphasis on the need for a multi-domain approach to defense.

The report is a key component of the U.S. military's efforts to maintain a robust and effective defense posture.
The role of space in a U.S. national security policy has increased significantly in recent years, leading to calls that a new branch of the armed services be created that would function in space on accelerating Air Force, Army, and Navy. Whittington provides historical perspective on this debate with reference made to an independent air force in military airpower advocates between 1920 and 1940. He then looks at the arguments presented by airpower and space force advocates in four areas—leadership, doctrine, technology, and funding—and how historic arguments in these areas as applied to creation of an independent air force are now being used to advocate creation of a space-based military force. The absence of a current advocate for space forces comparable to Billy Mitchell's airship as an airpower advocate during the 1900s and 1930s is mentioned as something which is further growth of U.S. military space force. 

Whittington also argues that today's doctrine needs to become a distinct school of philosophy and separate from existing Air Force strategic doctrine. He mentions that information technology and space force capabilities have assumed precedence over development of space-based kinetic or direct-attack weapons as national space policy. As a result, he recommends that congressional criticism of the F-22 fighter raised over the potential for space systems' capabilities to be built into a service still committed to traditional instead of emerging weapons systems.

INTERNET RESOURCES

This publication is concerned with promoting public awareness of the new and different national security challenges facing the U.S. in the 21st century. Their site provides a wide variety of information on homeland security including the Journal of Homeland Security, a weekly newsletter, current homeland security news, legislative updates on homeland security developments, links to relevant federal government systems, a virtual library, information on educational programs in homeland
security, and links to relevant national security pol-
icy readings.


The October 2001 anthrax occurrences in various U.S. locales has stirred significant public rele- near the effects it can have on civil society (p. 4). This report asserts that public- health surveillance for emerging diseases and bio-
terrorism preparedness are key to reducing the threat of biological terrorism, preparing for such terrorism, and the relationship between national security and public health.

Chyba discusses how emerging infectious dis-
esases such as HIV/AIDS, mad cow disease, and the Ebola virus can have national security implica-
tions for the nations in which they emerge. He mentions how biological weapons can require hours, days, or even weeks of incubation before they produce fatalities, unlike nuclear or chemical weapons (p. 7). Federal, state, and local national disease surveillance programs are described as

Commonwealth Institute. Project on Defense Alterna-
tives. The RMA Debate. Cambridge, MA: Commonwealth Institute. This public policy research organization provides a wide range of information on various public policy areas relevant to security issues. Its RMA page features links to numerous resources. Topics covered on this page include reports of RMA conferences; presentations of RMA studies; and articles on defense budget issues, military technology, and international security. An additional section focuses on the RMA debate and provides links to articles and discussions on the topic. This page offers a comprehensive overview of the RMA debate, including its historical context and key issues.

Anthony H. Cordesman. Controlling America: Asym-

The 2001 anthrax attacks were a major public health event, but it is important to remember that the U.S. has seen similar threats in the past. This study examines how biological weapons might be used in terrorist or other asymmetric attacks and provides recommendations for how to respond. It discusses the potential threat posed by such weapons and provides guidance to help in the development of appropriate strategies for responding to such threats.
American military forces toward new capabilities needed to deal with post-Cold War security threats. Its site presents guides on various weapons systems and pictures of those systems, information on domestic and foreign U.S. military facilities, and its Public Eye campaign focuses on using high-resolution satellite imagery to combat weapons of mass destruction proliferation. Site contents also include satellite photos of Afghanistan and news reports on Operation Enduring Freedom.

Institute for Defense Analyses, Alexandria, VA. <www.ida.org>

This organization provides analysis of various operational issues for the Department of Defense. Its site is broken up into different program categories describing the nature of threats they produce and covering WM-related issues such as smaller, more agile, and mobile contingencies, joint space control capabilities, civil-military emergency planning, and finding better ways to fight in urban areas. Examples of areas accessible through their Website include: Network-Centric Warfare: Its Origins and Future, Results from Real-Time Simulation Experiment of an Integrated Concept for UAV/ Directed Fire Weapons Systems, Limits of Performance for Distributed Robotic Combat Vehicles, and Detection of Biological Warfare Agents.

Institute for Foreign Policy Analysis, Washington, DC. <www.ifpa.org>

This independent and nonprofit organization specializes in providing research and strategic planning for foreign policy, government-industry relations, national security, and political economics. Its site contains the complete text of some reports and excerpts from others. WM-related resources they have produced or provided links to on their Website include: Strategic Paragons 2025, Defense Trends and Security Planning: Perspectives in Key Regional Theaters, Homeland Defense and Consequences Management, Strategic Frameworks: An Enabling Environment for Cooperative Joint Effectiveness across the Spectrum, The Strategic Effectiveness of National Security Strategy in the Twenty-First Century, and CVV: A Smart Carbon Neutral..

Johns Hopkins University, Schools of Medicine and Public Health, Center for Civilian Biodefense Studies, <www.hopkins-biodefense.org>

This site provides information on possible responses to biological weapons attacks from a public health standpoint. Site contents include frequently asked questions (FAQs) for the general public, fact sheets on biological agents such as anthrax, biological warfare, and tularemia, and journal of the American Medical Association (JAMA) consensuses on biological agents.

Site contents also include information on lessons learned from the "Dare Winter" bioterrorism exercise held at Maryland's Andrews Air Force Base on June 22-23, 2001, and the testimony of Center for Civilian Biodefense Studies experts at congressional hearings covering topics such as the threat of bioterrorism, spread of infectious diseases, and the Federal Emergency Management Agency's (FEMA) role in managing bioterrorist attacks and accompanying public health concerns.


This working paper argues that the U.S. has a global security strategy designed to enlarge its part of the world in a way that can be influenced or weakened by military forces rather than by diplomacy or trade. The paper's primary focus is examining how nuclear weapons strategy is a part of the U.S. overall strategy of enlarging its military sphere of influence.

The U.S. Enlargement Strategy begins by focusing on overall U.S. strategic objectives including expanding the NATO alliance without conditions or restrictions, an East Asian strategy challenging China's national security, and continuing improvement in U.S. military forces. The paper then discusses the interaction of offensive projection forces. May proposes that the national security strategy of the U.S. be changed to one of the U.S. military strategy, the purported impact of U.S. policies on arms control prolifacations, and the need to link U.S. enlargement strategy international crisis stability.

Concluding sections of the paper focus on whether alternatives exist to the U.S. enlargement strategy. The idea of limiting U.S. military expenditure would reduce the arms control powers and augment relative U.S. military power, and that the technological master demonstrated by the U.S. during the Persian Gulf War will make future wars more destructive.


Contains the summary of a session sponsored by the Massachusetts Institute of Technology's Security Studies Program on urban warfare. Topics covered include: Hanscom Air Force Base in Bedford, MA. Press presents the sessions that discuss the various city theatre, and the three key issues. These are whether urban operations are inevitable and the potential costs for preparing for such operations, the feasibility of governing an urban environment, and whether the U.S. can achieve its foreign policy goals without deploying its military in urban centers. Press believes that it is analytically useful to divide urban operations into three categories: combat operations, raids, and sustained urban combat. He focuses on the characteristics of these categories are likely to increase in frequency: as the world's population becomes more urbanized. The combat difficulties faced by Russian troops in Grozny, Chechnya are discussed, along with analysis of how urban operations reduce the effectiveness of U.S. military advantages such as long-range weapons and command, control, communication, and intelligence. Press concludes that sections of the report concern possible U.S. responses to participating in piloting opera- tions, and sustains the need for additional research risk involved with each of these areas. Ways of
The conclusion asserts that individual nations and subnational forces will make better use of this technology than large, cumbersome international bureaucracies such as the United Nations because it will enhance their competitive advantage over potential adversaries.


This technical paper develops a probabilistic model for determining the number of ballistic missile defense interceptors to meet a definite defense objective given the defense system's technical performance. Issues addressed in this paper include target kill probability, countermeasures, the missile-attacking power, and the satelitic missile defense scheme. Defense required to meet system performance criteria, and how the attacking power might deal with layers of ballistic missile defenses. Possible implications of this model for national and theater missile defense are also presented.