STRATEGY RESEARCH PROJECT

The views expressed in this paper are those of the author and do not necessarily reflect the views of the Department of Defense or any of its agencies. This document may not be released for open publication until it has been cleared by the appropriate military service or government agency.

MILITARY TRANSFORMATION FOR WARFARE IN THE 21ST CENTURY: BALANCING IMPLICATIONS OF URBAN OPERATIONS AND EMERGING JOINT OPERATIONAL CONCEPTS

BY

LIEUTENANT COLONEL CHARLES L. TAYLOR
United States Army

DISTRIBUTION STATEMENT A:
Approved for Public Release.
Distribution is Unlimited.

USAWC CLASS OF 2002

U.S. ARMY WAR COLLEGE, CARLISLE BARRACKS, PA 17013-5050

20020520 107

USAWC STRATEGY RESEARCH PROJECT

MILITARY TRANSFORMATION FOR WARFARE IN THE 21ST CENTURY:BALANCING IMPLICATIONS OF URBAN OPERATIONS AND EMERGING JOINT OPERATIONAL CONCEPTS

by

LTC Charles L. Taylor
U. S. Army

Dr. David Jablonsky
Project Advisor

The views expressed in this academic research paper are those of the author and do not necessarily reflect the official policy or position of the U.S. Government, the Department of Defense, or any of its agencies.

U.S. Army War College
CARLISLE BARRACKS, PENNSYLVANIA 17013

DISTRIBUTION STATEMENT A:
Approved for public release.
Distribution is unlimited.

ABSTRACT

AUTHOR: LTC Charles L. Taylor

TITLE: Military Transformation for Warfare in the 21st Century: Balancing Implications of Urban Operations and Emerging Joint Operational Concepts

FORMAT: Strategy Research Project

DATE: 09 April 2002 PAGES: 38 CLASSIFICATION: Unclassified

The purpose of this paper is to propose solutions for two major challenges facing not just the Army, but also the military in conducting twenty-first century warfare. The first challenge is to dominate military operations across the spectrum of conflict in complex urban environments against varying adversaries. The second challenge is to define requirements for a joint operational concept that integrates service tactical capabilities and competencies into a fully interoperable joint force.

The challenge of urban warfare currently focuses on a complex, close, ground maneuver tactical fight. The joint operational concept challenge orients on how to integrate long range precision fires with Service tactical capabilities to create a fully interoperable joint force. Current joint operational concepts rely heavily on information for control and surveillance to develop intelligence and employ precision fires while minimizing ground maneuver. The current approaches to solving these challenges pose divergent operational concepts.

Service focus at the tactical fringe of the urban challenge with no consensus on a joint operational concept risks dramatically different evolutionary solutions that intensify the chasm between precision fires and ground maneuver. The potential success in combining and solving these challenges can have even larger affects on full spectrum dominance for JV 2020.

TABLE OF CONTENTS

ABSTRACT iii

PREFACE vii

MILITARY TRANSFORMATION FOR WARFARE IN THE 21ST CENTURY:BALANCING IMPLICATIONS OF URBAN OPERATIONS AND EMERGING JOINT OPERATIONAL CONCEPTS 1

THE STRATEGIC CONTEXT OF THE URBAN AND JOINT OPERATIONAL CONCEPT CHALLENGES 3

THE URBAN CHALLENGE: TRENDS AND THREATS 5

THE JOINT OPERATIONAL CONCEPT CHALLENGE: JOINT TRANSFORMATION SYNCHRONIZATION 9

JOINT URBAN OPERATIONS AND THE JOINT OPERATIONAL CONCEPT: CONNECTING STRATEGIC ENDS, WAYS AND MEANS 13

THE WAY AHEAD: CONNECTING THE CHALLENGES 18

CONCLUSION 21

ENDNOTES 23

BIBLIOGRAPHY 29

PREFACE

I owe a tremendous debt to Dr. David Jablonsky for not only believing in this project, but also for his patience and coaching in developing my thoughts to accomplish this product. Dr Jablonsky's extensive background not only as an historian, but also as a warrior is a powerful combination that helped shape my perspective about strategic leadership. I am also grateful for Dr Williamson "Wick" Murray's support and critical analysis. His perspectives on innovation and strategic context illuminate the foundation for military transformation. I have gained much from the superb dialogue with fellow classmates, which broadened my views and increased my understanding of joint and interagency issues. Finally, I thank my Family for their unending love and support.

MILITARY TRANSFORMATION FOR WARFARE IN THE 21ST CENTURY:BALANCING IMPLICATIONS OF URBAN OPERATIONS AND EMERGING JOINT OPERATIONAL CONCEPTS

> The overarching focus of Joint Vision 2020 is full spectrum dominance – achieved through interdependent application of dominant maneuver, precision engagement, focused logistics, and full dimensional protection. Attaining that goal requires the steady infusion of new technology and modernization...Of greater importance is the development of doctrine and organization, training and education, leaders and people that can effectively take advantage of the technology.[1]

> For the Germans, Stalingrad was the single most traumatic event of the war. Never before had one of their elite armies succumbed in the field. Stalingrad was a mind-paralyzing calamity to a nation that believed it was invincible.[2]

Joint Vision 2020 establishes an objective of dominance across the spectrum of military operations; it is a goal for a new kind of warfighting enabled by information and technology. But as the German Army discovered in Stalingrad during World War II, a dominant force in one form of warfare may not dominate in all environments. Victory or defeat involves the ability to adapt operational and tactical concepts balancing technologies, concepts, and organizations across the spectrum of conflict within the strategic context. For Germany and the German Sixth Army in Stalingrad, the "enemy at the gates" was as much the urban environment and the inability to innovate and adapt, as it was the will and intensity of interests displayed by Russia. The lack of understanding, preparation, and execution for operational level urban warfare proved catastrophic to a German Army oriented on firepower and maneuver in open terrain.

In a similar manner, the joint operational concepts that are emerging today aim to integrate information and application of precision fires and maneuver based on experiences in relatively open terrain against conventional adversaries. Yet every war the U.S. has fought over the past sixty years has involved urban operations to some degree, usually not by choice, but as a result of the adversary's actions or the nature of the mission.[3] Moreover, based on increasing population densities and global urbanization patterns, the United States and its Allies will continue to confront military operations on urban terrain ranging from the potential of regime replacement to increased peacekeeping operations.[4] Without joint operational concepts that address this urban environment, whether operations other than war, small-scale contingencies, or major theater combat operations, it will not be possible for the U.S. to achieve the full spectrum dominance of Joint Vision 2020 for offensive, defensive, stability, and support operations.

The result is a two-fold challenge confronting the U.S. military in the twenty-first century. The first is to field forces capable of domination in complex urban environments against varying adversaries across the entire spectrum of conflict at both the tactical and operational levels of war. The challenge of urban warfare is currently focused on a complex, close ground maneuver tactical level fight. Both the Army and Marine Corps have invested considerable effort to achieve tactical dominance in the urban environment for increased small unit capabilities. Nevertheless, such operations remain costly in terms of ground maneuver force commitment and sustainment in all types of military operations. Moreover, the risks in casualties, both combatant and non-combatant, increase significantly in urban environments.[5] As U.S. operations in Somalia emphasized, the requirement to isolate, seize, and or secure urban areas and non-combatants can be costly. Moreover, the larger the urban environment and forces employed, the more significant the shortfalls that exist to accomplish even operations at the low end of the spectrum.

The second challenge is to develop and define requirements for a joint operational concept that integrates Service tactical capabilities and competencies into a fully interoperable joint force to achieve theater level objectives. Current evolving joint operational concepts rely heavily on information for control and surveillance to develop intelligence and employ precision fires. In particular, the concept of Rapid Decisive Operations with its emphasis on immediate, overwhelming standoff precision fires is emerging as a preferred American way of war. It could become the equivalent of the Army concept of Air-Land Battle for joint integration. Such fires proved effective in shaping the operational level of war in the relatively open terrain of Kuwait, Iraq, and the initial phase of Afghanistan. Unfortunately, the evidence of both Kosovo and the latter phases of Afghanistan suggest that as adversaries use complex terrain, there is a corresponding increase in the complexity of targeting causing decreases in the success of using fires without maneuver. Furthermore, in complex environments like urban terrain, where non-combatants and collateral damage affect rules of engagement, the limitations to joint integration of control, surveillance, and precision fires become more apparent. All this notwithstanding, whatever joint operational concept the services develop, it must define requirements to ensure integration and interoperability for full spectrum dominance. The current approaches to solving these challenges pose divergent concepts concerning twenty-first century warfare.

The purpose of this paper is first to examine these two challenges, looking for relationships that can illuminate the operational and strategic issues involved in defining requirements for transformation of the military. Secondly, by focusing on solutions to the complex environment of joint urban operations, the paper will provide insights that could help to

enable joint operational concepts to achieve the necessary synergistic organizational and technological means to achieve dominance in all environments. It is essential to remember that the U.S. may not get the war it wants; thus its military must develop new ways and systems to address old challenges. Combining these challenges to develop a balanced joint operational concept of maneuver and fires should provide important opportunities to achieve full spectrum dominant capabilities.

THE STRATEGIC CONTEXT OF THE URBAN AND JOINT OPERATIONAL CONCEPT CHALLENGES

The nature of war in the twenty-first century will not differ greatly from previous centuries. Conflict remains about people: their interests and intentions, will, and means. Clausewitz's depiction of friction and chance interacting within the paradoxical trinity remain relevant in defining virtually all possible strategic contexts. The trinity of the government, the people, and the military influenced by rational, irrational, and non-rational behaviors and tendencies creates a strategic environment that is adaptive, complex, and non-linear.[6] Clausewitz highlighted the importance of the trinitarian concept in understanding the environment of war by adding that "a theory that ignores any one of them or seeks to fix an arbitrary relationship between them would conflict with reality to such an extent that for this reason alone it would be totally useless."[7] The strategic context that confronts the United States shapes and affects the challenges to developing an urban and joint operational concept. Illumination of the key strategic issues that shape the U.S. strategic context provides the basis for understanding the potential effects and risks of the challenges on military transformation.

Three major areas frame the U.S. strategic context. First, the government in the form of the national military strategy defines the scope of strategic ends. Second, the emerging American way of war provides military ways and means. Lastly, the public provides an important context to the strategic culture. The nature of the urban environment dynamically affects these three areas through friction and chance.

The National Military Strategy is placing greater emphasis on broader capabilities in the twenty first century. The 2001 Quadrennial Defense Review has framed the new military strategy; it lists four essential goals that will guide the development, deployment, and use of military forces: "Assuring allies and friends; dissuading future military competition; deterring threats and coercion against U.S. interests; and if deterrence fails, decisively defeating any adversary."[8] Essential to the 2001 Quadrennial Defense Review is a shift from a current threat-based approach to a future capability-based force that could deter and defeat emerging threats. However, with the initiation of the world campaign on terrorism reaching every regional

combatant commander, the ability to balance strategic ends, ways, and means focuses attention not on the future, but on the present to accomplish a broad range of military operations.[9] And yet there is risk inherent in not balancing current capabilities against future requirements. The reality for the U.S. military is that many new capabilities are needed now to defeat the current unconventional adversaries. The ability to "adapt...existing military capabilities to new circumstances, while experimenting with the development of new military capabilities" sets the basis for the new U.S. strategic context.[10]

How the military wages war will also impact on the strategic context. The roots of an American way of war go all the way back to the Revolutionary War, a war waged by attrition out of necessity due to a lack of resources.[11] The Civil War combined the vast resources and technology of the North with a strategy of total war that aimed to destroy the Confederacy. From this conflict emerged an American preference for a strategy of annihilation with the coupling of overwhelming force with the moral will to accomplish unlimited aims (unlimited means plus will).[12] The realities of limited war have only emerged in the aftermath of World War II. The new version of the American way of war has focused on the contention that past wars with unlimited aims were an anomaly based on national and international political realties.[13] Yet, with the end of the Cold War and the success of coalition warfare in the Gulf War, the U.S. has again shifted back to annihilation strategy with a preference, as one analyst has noted, for "the use of overwhelming force to achieve decisive military results without exposing American forces to protracted or indecisive conflict".[14] The result is a military preference for rapid, overwhelming force to accomplish limited political objectives.

Public support has also emerged as a key factor in the new American way of war. Limitations on duration, scope, and attainment of stated limited objectives are crucial to sustaining this support. All this has fueled an evolution towards increased reliance on standoff precision fires. One result has been a public expectations that technology, providing increasingly precise standoff fires, offers a new approach to war and that close combat with ground forces can be minimized or eliminated. Current doctrinal publications coupled with Joint Vision 2020's goal of full spectrum dominance embody this new approach to war with a reliance on force projection, information superiority, and standoff precision fires, while minimizing maneuver forces. Emerging joint operational concepts, in short, orient on the effects of these characteristics accomplished rapidly and decisively.

The nature of the urban environment, on the other hand, affects the strategic context by countering the American preference for rapid, decisive operations. It conjures perceptions of not only protracted conflict and casualties, but also the old American way of war centered on

mass and firepower concepts. The density of noncombatants in urban areas coupled with the complexity of the terrain presents significant challenges to the way America prefers to fight because of the increased risk of casualties and collateral damage with the commitment of ground forces into such an environment. The strategic significance of urban conflict, then, is that it poses a barrier to achieving full spectrum dominance. Since the U.S. National Military Strategy requires such dominance, it is incumbent on the U.S. military to orient transformation initiatives on addressing urban warfare capabilities virtually unchanged from WW II.[15] Initiatives must provide for urban capabilities across the spectrum of operations to ensure developing concepts, doctrine, technologies, and organizations can meet the challenges of even the urban environment.

At issue for the preferred strategy is the reality that neither the political aims nor the adversary may fit this strategy across the spectrum of operations. The strategic culture or confluence of political, social, and military viewpoints and intensity of interests will shape the aims. [16] Adversaries know the preferred American approach to war and are already adapting to use anti-access, area-denial, and complex terrain to shape their strategies.[17] These adversaries can capitalize on time because the longer the conflict, the greater the interplay of friction and chance on the strategic context. From a political perspective, the making of policy at the strategic level should not rest on military preference for a strategy already constrained by military limitations. From a military perspective, therefore, the United States needs to develop and integrate a set of broader capabilities.

The strategic culture inevitably shapes the ends, ways, and means that comprise a national strategy. The military may desire unlimited means for specific limited objectives; but other key factors, both internal to the U.S. and abroad, may expose forces to protracted or indecisive conflicts. The degree of risk in any strategy depends on the balance between the political objective and the means in the form of national elements of power that are available and how they are employed.[18] The basis of the acceptability of risk relates to the intensity of interests as well as the desire to display credible support for assurance, dissuasion, deterrence, and defeat. In terms of the national elements of power, the development of a balanced joint operational concept demands solving the urban challenge that confronts the United States and will shape military transformation in the twenty-first century.

THE URBAN CHALLENGE: TRENDS AND THREATS

Numerous studies since 1994 have highlighted several major points about urban operations: first, urbanization around the world is increasing; second, the likelihood of U.S.

military operations in urban terrain remains high; and third, the U.S. military does not have dominance in the urban environment, particularly in the area of joint command, control, communications, computers and intelligence, surveillance, and reconnaissance.[19] Within the next ten years, 75 percent of the world's population will live in urban areas, creating both geographical and social effects with a significant impact on military operations across the spectrum of conflict.[20] In addition, the U.S. possesses a strategic culture that demands quick, decisive results. From a political standpoint, military leaders advise political leaders that urban operations are costly in terms of friendly and civilian casualties, and inevitably lead to collateral damage. When political leaders visit military urban training exercises and view tactical operations, they see the complexity and dynamics of close combat. Such experience may actually develop negative views about the employment of ground forces in urban warfare. For the public, memories of Somalia provide images of angry crowds of noncombatants, prolonged operations, and casualties. For the military, although there is increasing reliance on deep strike to mitigate requirements for forward basing, the need to control decisive terrain and choke points remains critical to the accomplishment of operational and strategic objectives. This is increasingly important for regime replacement and security of noncombatants. Although joint forces can isolate urban areas, air interdiction alone in complex terrain cannot find, fix, or finish an adversary or secure noncombatants without ground support.[21] The mindset is clear: urban operations are complex and costly in people, material resources, and time, but necessary to support full spectrum military operations.

The result is that potential adversaries may select the urban battle space to counter U.S. technology and approaches to warfare. "If an opponent can force the fight onto complex urban...terrain," one defense analyst has observed, "sensors and weapons accuracy will be degraded, and potential for U.S. casualties will rise. Choosing the right ground may well prove to be the most significant advantage available to an adversary."[22] One important aspect of urban terrain involves enemy political and military techniques in terms of anti-access and area denial. Noncombatants and complex urban terrain around airfields, ports, or centers of command and control often provides adversaries the initiative and the ability to prolong the campaign. Ultimately, potential adversaries face a strategic and pragmatic choice: because of the growing U.S. deep strike capability and continued emphasis on precision fires, "opponents have a growing incentive to avoid massed formations in the open and emphasize dispersed operations. The costs of dispersion in complex terrain are far lower than slaughter in the open by U.S. air and missile strikes".[23]

In the end, the primary strategic problem with the urban environment combines a strategic culture optimized for major combat operations using increased precision fires with the rise of competitors using complex terrain to their advantage. As the force structure continues to orient on capabilities for major theater war between nation states, a likelihood fallacy emerges.[24] The ideal form of major theater war may be the least likely to occur because of U.S. military dominance in terrain suitable for precision engagement and nation state threats.[25] The Gulf War's success has fueled this likelihood fallacy. The emergence of precision fires overshadowed the contribution and necessity of ground maneuver forces, to assure coalition cohesion and create operational and tactical opportunities, by finding fixing, and destroying Iraqi forces and securing/exploiting sensitive sites. It was also a cultural factor in underlining to the World the defeat of Iraqi forces, with the potential for complete destruction. The cautionary strategic dilemma is that rarely will the threat, environment, and scope be in harmony with the new American way of war.

Increasingly, this situation will be the case as competitors perceive the value of using attrition/exhaustion strategies to erode American will and counter rapid, decisive operations and stand off precision effects. To mitigate this possibility , the U.S. military must dominate the urban environment, or at least balance precision fires with close combat precision maneuver without becoming decisively engaged.[26] Strategic credibility depends on operational and tactical capabilities, a fact noted by the Defense Science Board Urban Operations Task Force:

> Our (U.S.) current military capability was developed in large part for a massive, rural war in Central Europe. Since the future looks much different, new capabilities will need to be developed. To do less risks highly visible casualties and corresponding loss of military credibility and National prestige.[27]

Joint Publication 3-0 states that Joint Urban Operations are "joint operations planned and conducted across the range of military operations on, or against objectives on, a topographical complex and its adjacent terrain where manmade construction and the density of noncombatants are the dominant features".[28] The identification of Joint Urban Operations in joint doctrine acknowledges emerging trends and the unique requirements for specialized organizations, training (leader and people), and material in urban environments.

In the wake of the October 1993 Mogadishu battle in which eighteen U.S. soldiers and hundreds of Somali fighters and non-combatants died, serious questions surfaced about U.S. tactical concepts for meeting a wide variety of urban requirements. These questions led to a series of RAND studies in the 1990s that identified the scope and complexity of not only the tactical urban environment, but also the operational level of urban conflict.

The studies concluded that there were limited examples of joint operations in urban environments and virtually no significant interagency coordination for urban operations.[29] Instead, most urban operations resulted from ground-centric Army or Marine Corps tactical approaches. In addition, urban operations require decentralized, smaller, task-organized, combined-arms teams for direct support fires. At the same time, however, the density of friendly, enemy, and noncombatants in urban environments results in joint fire support targeting challenges between operational and tactical level effects. Added to this are dramatic reductions in C4ISR capabilities due to structures and line of sight difficulties. Of particular significance is that in operations aimed on regime replacement, planning and execution for operational level urban operations is complex and dynamic in scope, duration and use of all elements of national power. In numerous case studies, the total character of urban warfare is very different from that envisioned in the new American way of war.[30]

The RAND studies drew their most significant conclusion from the 1999-2000 operational urban experiences of the capable, experienced, and relatively modern Russian force in Chechnya. The Russians returned to Chechnya in 1999 after their disastrous defeat in 1994 with policy and strategy aligned, operational and tactical plans focused, improved training, combined arms synchronization, technology, including unmanned aerial vehicles, precision munitions, and a successful media campaign for public support.[31] However, the key lesson the Russians took away from 1994 proved nearly fatal again: avoid urban close combat. As a consequence, the Russians bypassed towns and used indigenous forces in urban areas to minimize combat by Russian forces. The Russian approach was reliant on surrogate forces and fires to achieve objectives at the operational and tactical level.

If they could not persuade a town's leadership by money or threat of force to succumb, the Russians would attempt to isolate the city, mass fires on "key" targets (local government, power sources), and wait until submission. Some bombardments lasted for weeks, pulverizing towns and causing heavy collateral damage and civilian casualties.[32] Ultimately, commitment of Russian ground forces was necessary to seize, secure, and maintain stability in order to accomplish the strategic mission. The result was protracted operations with heavy Russian and non-combatant casualties and the virtual destruction of every city in Chechnya.

The major lesson from all this for the U.S. is that the new strategic environment may not be in consonance with the American strategic context for the preferred way of war. Full spectrum operations ranging from regime replacement to peace enforcement will require close combat capabilities in complex urban terrain to counter asymmetric threats. How the U.S. military applies or ignores lessons learned for transformation and the development of joint

operational concepts can have profound effects on future capabilities. The capability shortfalls identified by RAND, as well as the Russian lessons from its recent experience at the operational level in urban conflict pose important issues for these emerging concepts. The first lesson is that avoiding close combat may actually prolong the conflict with all the attendant implications for achieving the political ends. There is an essential need to connect the tactical search for urban dominance to new concepts and systems at the operational level.[33] In the urban environment, tactical shortfalls are magnified in a way that creates disproportionate levels of friction and complexity at the operational and strategic levels. A critical goal must focus on how to build on the tactical base by identifying and defining operational level joint requirements that can bridge the current tactical shortfalls with the desired joint operational capabilities.

THE JOINT OPERATIONAL CONCEPT CHALLENGE: JOINT TRANSFORMATION SYNCHRONIZATION

The urban environment provides a pressing and relevant venue for refining not only joint operational concepts, but also the joint information architecture to support employment of joint fire support and maneuver. Developing a new operational framework and applying expanded joint means with interagency elements in urban operations presents an important opportunity for military transformation. The challenge is to link the new American way of war with core Service competencies and emerging technologies to achieve a synergistic joint operational concept. The new joint operational concept must serve as the catalyst to fuse doctrine, technology, and organization development. However, there is no standard definition of an operational concept for either scope or purpose; neither current joint nor service publications address the definition. At the same time, there are innumerable emerging joint and service operational concepts. The Joint Staff J-8 is using the following working definition of an operational concept: "An end-to-end stream of activities that defines how force elements, systems, organizations, and tactics combine to accomplish a military task".[34] This definition defines neither the scope nor purpose of an operational concept. Colonel Douglas Macgregor, on the other hand, has added a key component by defining a joint operational concept as "the integration of service core tactical capabilities on the operational level to achieve unity of purpose and action in the conduct of military operations".[35] From this perspective, the real challenge is to describe how the services can integrate at the operational level to fight and win across the conflict spectrum in order to define the requirements for training, systems, and organizations.

This is easier said than done. The strategic concept that is shaping twenty-first century military operations is Joint Vision 2020. JV 2020 lists four operational concepts: dominant

maneuver, precision fires, focused logistics, and full dimensional protection.[36] The key enablers of information superiority coupled with human and technology innovation form the general framework for achieving full spectrum dominance. However, this is not a operational concept that describes how joint forces will fight, but rather forms a generic framework for desired capabilities. Defining requirements for such a concept largely rests not only on Service capabilities and competencies, but on the need for long-range precision fires as well. The balance between fires, maneuver, and information requirements is significant as the U.S. Army struggles with developing new training, organizations, and systems acquisition to achieve a new objective force. At the core of this struggle are problems associated with the nature of close combat and maneuver, the synchronization of operational joint fires, and the definition of responsibilities and capabilities between the Services.

Such is the case in the development of a joint operational concept for full spectrum dominance as a part of the larger military transformation process. The Joint Staff is developing operational concepts of Rapid Decisive Operations and Effects Based Operations. There is increasing reliance on using precision information and operational fires to paralyze the enemy and achieve endstates with minimum ground maneuver. Moreover, Rapid Decisive Operations for full spectrum operations require a joint network-centric communications architecture to support information dominance across the Services at levels below division, battle groups, squadrons, and Marine Corps expeditionary forces in order to support "plug and play" Joint Task Force organizations. However, there is still no consensus on defining how low the joint communications infrastructure needs to extend, and how the services can integrate and couple joint fires and maneuver.

At the same time, Service transformation efforts are moving in accordance with tactical concepts within the broad strategic vector of JV 2020. For Army Transformation, Major General James Dubik summarized the challenge in the following terms: "We know we will not get it precisely right. But our job is to not get it so wrong that we hamstring the next generation of leaders. We have to get it right enough, so in 2015, when the nation asks the Army to do something, it is flexible enough to accomplish any potential mission".[37] A joint operational approach to get JV 2020 "right" hinges not on service transformation, but on the development of, and service orientation toward, a joint operational concept that addressees and overcomes old challenges.

Developing balanced capabilities to address and improve strategic, operational, and tactical weaknesses in urban environments presents opportunities for such an orientation. Both the Air Force and the Navy have a stake in what the Army and Marine Corps require at the

tactical level, because integration of fires through a common communications architecture supports precision fires at the theater-operational level. Moreover, a strategy that fuses service efforts to shape a new joint operational concept balancing precision fires and maneuver in close combat urban operations will support U.S. political and military flexibility. Joint transformation, in short, must be more than the sum of the service transformation processes. There must be a top down joint operational concept that defines overarching requirements for the services to train, equip, and organize.

Innovation is the key to the success of this complex endeavor, as it was in the military transformations that occurred in most of the great powers between the First and Second World Wars. Bold changes marked that period ranging from armored warfare and carrier based aviation to amphibious warfare. All resulted from an overarching operational concept. In this context military innovation "is more than the incorporation of equipment and technical change into current doctrine, practices, and tactics. Innovation in tactics and operational concepts can prove as important on the battlefield as changes in equipment."[38] Success in innovation during the interwar years involved two major influences.[39] The first, specificity in the operational concept, relates to the scope of the problem and the commitment of the institution to solving the problem. For major innovation, the scope extends to national strategic problems. The second element of innovative success deals with how the military culture adapts. A baseline definition of military culture involves the intellectual, professional, and traditional values of the officer corps. The military culture determines the assessment of the environment and how solutions are derived under civilian control.[40] An expansion on this definition leads to subcultures within the military that relate to service, branch, and even niches within branches that affect views on roles, missions, and operational concepts to solve challenges. An example of the impact of military culture is the transformation of the German Army after World War I, which through changes in leader training, equipment, concepts, and technology transformed the strategic context of maneuver warfare. The cultural commitment to change coupled with strategic interests requiring change is a powerful combination.

Urgency and necessity also influence innovation. The services have historically transformed out of necessity to survive, lessons-learned from failure or relevance to face new threats, but always shaped by the strategic context. But lessons from the interwar years also bring a distinct warning about ignoring asymmetric capabilities. The lack of innovation in submarine warfare for offensive exploitation or defensive counter-measures by the U.S., Great Britain, and Germany after World War I created costly lessons relearned during World War II. The confusion of submarine polices coupled with the absence of coherent concepts concerning

operational employment created a strategic context that minimized or ignored both the potential capability and threat posed by submarines.[41] In the end, submarine warfare, both offensively and defensively, was guided by urgency and necessity regardless of the attempts to operationally constrain or politically restrain their employment.

On a more modern note, all of the concepts of innovation were demonstrated at the service level by the evolution of AirLand Battle. The Soviet Union posed a focused national threat creating urgency for the United States military to innovate based on a receptive military culture. How the Army, in turn, initiated approaches to defining the external environment captured the scope of evolving operational concepts. To begin with, the impact of fighting in Vietnam coupled with a dominant conventional Soviet threat shaped the strategic context of the Army in the seventies. By 1982, after significant debate and analysis, a fundamental definition of AirLand Battle had emerged, one that emphasized initiative and attacks on key debilitating nodes across the depth of the battlefield.[42] At the same time, the Army culture also was open to change. The result was the evolution of a new Army, ranging from new uniforms to virtually every major weapon system. Most important, the new concept caused a top to bottom revitalization of the Army's educational system, creation of unit combat training centers, and programs to inculcate the new doctrine at every level. In the 1986 Army Field Manual 100-5, Operations, Airland Battle defined the Army's approach to generating and applying combat power at the operational and tactical levels of war. The key to this success was that AirLand Battle served as the capstone operational concept to generate changes in organization, weapons system research/ development/selection, and training.[43]

Defining an integrating capstone joint operational concept could provide the same effect for the joint operations that AirLand Battle served for the Army. It must be specific and build on a broad foundation of military culture, if new ways are to be developed for combining core tactical capabilities to achieve operational effects. With numerous operational concepts in the current environment, the joint force commander is faced with the daunting challenge to integrate and synchronize air, land, sea, space, and special forces literally "on the fly". The result is usually a broad service-oriented division of the battlespace in developing of the campaign plan. To develop a joint operational concept that drives the warfight and the requirement process, one must address the issue from a joint warfighting perspective.

In this regard, one way of addressing the challenges of information fusion, precision fires and maneuver at the operational level in emerging joint operational concepts is to focus on capabilities in the joint urban environment. Dominance in this environment can be a basis to focus service efforts on achieving a better balance between precision fires and maneuver. The

key is to provide each service with a stake in achieving that balance. For example, how the Army shapes joint transformation rests not on service dominance in the complex urban areas and terrain, but rather on illumination of the joint operational level challenges to support anti-access and area denial operations in order to refine emerging joint operational concepts like Rapid Decisive Operations.

Innovation and integration in the essential areas of doctrine, organization, training, and technologies must start with a new joint operational concept. But this concept needs focus. Shifting the urban environment challenge from the tactical level to the joint operational level can provide focus to the essential areas in the services in order to define and develop the capabilities required to achieve decisive operations by fusing joint information, precision fires, and ground maneuver. In addition, joint urban operations present significant opportunities for applying focus to emerging joint concepts, combining new means with new systems.

JOINT URBAN OPERATIONS AND THE JOINT OPERATIONAL CONCEPT: CONNECTING STRATEGIC ENDS, WAYS AND MEANS

An innovative joint operational concept could be the catalyst for military transformation, fusing service initiatives. Since the Department of Defense focus has shifted from threat- based to capability-based, urban operations can help shape the new operational framework. Yet, the challenges of both the urban and joint operational concept are being addressed separately and at different levels. The origins of this dysfunctional approach begin with the current Department of Defense policy on joint urban operations.

The current Department of Defense policy on urban operations has evolved over the past five years and focuses on improving service and joint urban warfighting capabilities. Three main strategic documents form the basis for this policy. The Fiscal Year 01 Defense Authorization Act directed the Secretary of Defense "to designate an appropriate executive agent with the authority to develop and coordinate a master plan for a Department of Defense wide strategy, with milestones, for improving service and joint capabilities to conduct military operations in urban environments".[44] The Defense Planning Guidance 2000 directed the Chairman of the Joint Chiefs of Staff and the Assistant Secretary of Defense (Science and Technology) to "develop a road map that integrates all Department activities relating to Military Operations on Urban Terrain."[45] Finally, the Quadrennial Defense Review 2001 report orients on developing a capability-based force to address a broad range of challenges. It emphasizes that threat-based geographic focus cannot address the probability of intervention in "distant regions where urban environments... present major operational challenges".[46]

Although the Department of Defense policy on urban operations recognizes the need for improved capabilities, there is considerable debate about the level of effort and strategy required to achieve joint urban improvements. The key aspects in the debate focus on the likelihood, scope, and intensity of U.S. forces operating in urban environments. To begin with, the Department of Defense desired endstate of "improving service and joint capabilities in the urban environment" poses significant issues in terms of defining measures of effectiveness.[47] And while a Government Accounting Office Review in February 2000 praised service level initiatives, it also stressed the lack of joint urban concept of operations development, experimentation, and interoperability.[48] In addition, the Office of the Secretary of Defense Urban Working Group identified numerous policy issues for coordination among intra-service, inter-service, and even inter-agency elements.[49] A primary concern for the Department of Defense is that there is no overarching joint operational concept or joint command, control, communications, computers, intelligence, surveillance, and reconnaissance architecture that defines an end-to-end combination of actions and information flow for *how* joint force elements, systems, organizations, and tactics integrate to achieve dominance in urban environments.

Defining the information architecture is just one example of how service requirements in urban environments can meld into joint imperatives. The need to illuminate various service requirements and integration of command, control, communications, and computers with intelligence, surveillance, and reconnaissance systems in the joint urban environment is essential to understanding the performance parameters for a truly joint command, control, communications, computers, intelligence, surveillance, and reconnaissance operational architecture. The implications of solving real time control and surveillance challenges in the complex urban environment as opposed to open terrain provide the framework for balancing joint precision fires and maneuver in any environment. Without a defined joint command, control, communications, computers, intelligence, surveillance, and reconnaissance architecture, the services are developing and implementing "stove-piped" tactical transformation plans based on core capabilities, while failing to expand joint interoperability or have joint mission requirements for the Joint Requirements Oversight Council to evaluate for validation and recommendation. Despite the Department of Defense concern in this matter, it is the lack of a Department of Defense defined endstate for joint urban operations improvement that has severely hampered service unity of effort.

The J-8 Dominant Maneuver Joint Warfighting Capability Assessment team has the responsibility to build the road map for the Department of Defense urban policy and reports to the Joint Requirements Oversight Council. In addition, J-8 is developing the emerging joint

operational concept, while the Joint Requirements Oversight Council approves priorities, assigns responsibilities, and measures progress.[50] The latest update of this organization's charter empowers it to develop and validate joint operational concepts and architectures at the front end of the Joint Requirements Process. The charter further incorporates Joint Forces Command experimentation efforts into the Joint Requirements Oversight Council process. The new authorization also shifts the focus of the Joint Warfighting Capability Assessment teams to the broad based joint requirements of Joint Vision 2020. In particular, it requires the J-8 assessment teams to develop and monitor a mix of evolving joint and service concepts and technologies to improve joint urban capabilities.[51] The challenges of identifying numerous systems, combinations of systems, and other enablers in a synchronized way to improve joint urban capabilities will be significant without in-depth operational level joint experimentation. Already, the Joint Warfighting Capability Assessment teams have conducted numerous studies, assessments, and experiments to define Joint Vision 2020 joint mission areas without achieving service consensus.

This lack of operational concept consensus has serious implications. The Joint Warfighting Capability Assessment teams have proposed several narrow operational concepts varying from general mission areas (e.g., Deep Strike) to specific tasks (e.g., Attack Operations Against Critical Mobile Targets) relating to combatant commanders' integrated priority lists. For example, the Dominant Maneuver Joint Warfighting Capability Assessment team is now working on the concept of "Rapid Decisive Operations". But the "Rapid Decisive Operations" concept is still an emerging joint operational concept and has not been accepted by the services. At the same time, with no overarching joint command, control, communications, computers, intelligence, surveillance, and reconnaissance architecture, the services are procuring a variety of systems with various levels of interoperability. In all this, the impact of an overarching joint operational concept on the service acquisition plans would be enormous. Identification of key performance parameters for an enabling joint command, control, communications, computers, intelligence, surveillance, and reconnaissance architecture, and other Acquisition Category I systems to focus the Joint Requirements Process must shape service transformation plans. But the absence of an accepted joint operational concept is affecting the Joint Requirements Oversight Council's ability to validate service operational requirements documents and link them to combatant commander requirements in the midst of many service visions. Finally, there remains the daunting challenge to focus and synchronize joint experimentation.

The means of achieving an improved tactical urban endstate currently hinge on service investments in time and money. Applications of evolving joint urban operational doctrine using

simulations are intended to evaluate emerging concepts of operations and identify requirements for Joint Requirements Oversight Council investment approval. The challenge is that no military operations on urban terrain simulations exist at the operational level; in fact, few urban simulations are available above the tactical battalion level.[52] In addition, the next Congressionally mandated exercise, Joint Experiment Millennium Challenge 02, will take place in the open desert terrain of the National Training Center, which has no sizable site for even battalion level urban operations.[53] The combination of service transformation efforts, the Millennium Challenge joint experimentation process, and the lack of operational level urban simulations ensure that developing requirements for a joint force to dominate an enemy in an urban environment will be a challenge.

The risks of continuing the Department of Defense's current urban policy with such strategic ends, ways, and means imbalances are fourfold. First, without a defined endstate for urban capability improvement, no unity of effort among the services and government agencies can occur. Second, the current concept of building an urban road map lacks the integration of broader joint and interagency linkages to joint experimentation—all necessary for a full dimensional approach. Third, many current requirements focus on ground forces at the tactical level. This limits development of a joint operational concept and identification of joint requirements. Finally, because of differing service visions, even if breakthrough technologies are identified, funding may not be available for incorporation into the joint transformation process. In any event, urban combat initiatives over the past five years have only identified requirements on the margins of the problem. The overall result of these strategic imbalances is that there has been minimal increase in joint operational level capabilities for decisive operations above a city block, let alone a small town or major city.

The Russian solution in Chechnya of avoiding the close fight and of relying on fires to wage siege warfare is a prime example of the cost to be paid in the urban environment for strategic, operational, and tactical imbalances. By not developing different ways to approach close combat in urban areas, the Russians had to revert to World War II techniques of systematic destruction of the city, all of which produced lasting socio-military problems in the region. Emerging evidence from Afghanistan is demonstrating similar shortfalls in urban and complex terrain that have strategic and operational implications. What is clear is that the combination of precision fires with ground force pressure is highly effective. The reality of the nature of the war in Afghanistan is that the closer the fighting to the cities, the more requirements increase for close combat forces to isolate, seize and secure as well as gain intelligence and ensure destruction of the enemy.

The Afghan War has also demonstrated again that the United States cannot always depend on coalition partners for the close fight. In other words, what would have been the American option had the coalition been unwilling or unable to seize the cities occupied by the Taliban and al Qaeda? Moreover, the dependence on local allies meant that U.S. forces did not achieve, for the most part, the key objective of isolating and seizing enemy leaders during the "decisive" phase of the operation, primarily because of the lack of ground force pressure and the lack of a command, control, communications, computers, intelligence, surveillance, and reconnaissance architecture that could focus at the urban or complex terrain level. The resulting prolonged operations to search for and attack dispersed al Qaeda cells in remote villages and complex terrain is increasing force numbers and casualties. Finally, there is the challenge of control, since the actions of coalition forces may affect policy and strategy. For example, public opinion and therefore policy support may not remain intact if coalition fighters systematically destroy cities or kill combatants and non-combatants.

As these recent examples demonstrate, continuing to use only incremental, evolutionary, and tactical approaches to solving the challenges of urban combat will not achieve operational dominance in that environment. If a joint operational concept is to emerge, as Douglas Macgregor has pointed out in a larger context, there has to be "the integration of service core capabilities on the operational level to achieve unity of purpose and action in the conduct of military operations".[54] The joint requirements for command, control, communications, computers, intelligence, surveillance, and reconnaissance interoperability between the services will not be achieved with a bottom up approach. The lessons learned from previous Army and Marine Corps experiments and combat experience demonstrate the need for joint operational concepts to refine new ways as well as new systems. The lessons from Chechnya and Afghanistan only reinforce these points. Using current and emerging service tactical approaches with technology to resolve shortfalls in the close combat urban environment will not take fully into account joint operational capabilities and thereby will not identify new requirements for the joint force.

There is, in short, little joint momentum for urban operations because they are not considered at the operational level, or even beyond the tactical level of brigade operations. There is equally little momentum by the services for a joint operational concept because of a general over-reliance, fueled by the new American way of war, on technology and long range fires while minimizing the importance and interdependence of joint fires with maneuver.

THE WAY AHEAD: CONNECTING THE CHALLENGES

The fusing of joint urban operations into a joint operational concept concerns not just Army but joint transformation. The Navy, for instance, may require the seizure of choke points for littoral entry or sustainment operations. This central mission for the Marine Corps illuminates the need for joint close combat capabilities since urban centers dominate most ports and airfields throughout the world. Furthermore, Air Force and even Special Operations Command require access and forward basing, necessitating seizure or security of operating bases in or near major urban environments to accomplish full spectrum operations.

From these requirements flow the manifold advantages of using joint urban operations as the linchpin to develop the overarching joint operational concept. First, defining an overarching joint operational concept using complex urban terrain would bring together the joint implementation master plan and service transformation plans for requirements and experimentation with the Congressionally mandated urban roadmap. In particular, defining levels of interoperability and responsibilities for procuring a joint command, control, communications, computers, intelligence, surveillance, and reconnaissance architecture would synchronize service efforts to create a common relevant operational picture needed for battlespace dominance in any environment. This architecture, in short, could provide a common picture in complex urban environments that will enable a similar focus for joint requirements in other areas. Secondly, if the joint operational concept and joint command, control, communications, computers, intelligence, surveillance, and reconnaissance architecture remain ill-defined or focused on open terrain, the services will develop concepts and forces that divide battlespace rather than integrate joint capabilities in all environments. With a joint operational concept and joint command, control, communications, computers, intelligence, surveillance, and reconnaissance architecture, experiment assessment can focus jointly on validating overarching system of systems capabilities and requirements. Without a joint operational concept and joint command, control, communications, computers, intelligence, surveillance, and reconnaissance architecture, the current joint experimentation plan will continue to deal with a mix of near term combatant commander-integrated priority list tasks and long term partial operational concepts. The result will leave numerous requirements and concomitant capability gaps that no single service can address. Finally, with no joint operational concept and joint command, control, communications, computers, intelligence, surveillance, and reconnaissance architecture to assess joint requirements, the Joint Requirements Oversight Council can only analyze service procurement as parts of a puzzle that may combine as a joint force without achieving full synergy. In terms of resource efficiency, the joint operational concept and joint command,

control, communications, computers, intelligence, surveillance, and reconnaissance architecture can focus service procurement efforts to achieve unity of effort for JV 2020.

For any approach using joint urban operations to succeed, the Department of Defense Urban Working Group must first establish a definition orienting on joint force operational level MOUT improvement relating to lethality, collateral damage, and survivability. Next, the selection of a designated lead must include the authority and responsibility to develop and link joint urban requirements and a joint operational concept to overall service transformation plans and joint experimentation. Currently, the Army and Marine Corps have been de-facto co-leads in developing initial urban tactical requirements; but they lack the funding, authority, and responsibility for joint operational requirements or integration. Unlike the current system, the DOD lead must have the responsibility to work with the Joint Requirements Oversight Council to pursue required technologies regardless of which service provides the capability, particularly in the area of command, control, communications, computers, intelligence, surveillance, and reconnaissance. Finally, the J-8 and Department of Defense Urban Working Group must continue to coordinate with all Department of Defense and inter-agency elements to exploit joint urban capability improvements.

From the Department of Defense perspective, it is also important to exploit the Congressionally mandated Joint Field Experiment "Millennium Challenge" for Fiscal Year 02 by designating Joint Forces Command to create a Standing Joint Task Force with emerging service transformation units to drive capability-focused joint requirements.[55] Synchronization of the Department of Defense Urban Operations Road Map with the "Millennium Challenge" experiments will align the resourcing and requirements processes. At the same time, exploiting these joint experiments in the urban environment can serve as a measure of effectiveness for the emerging joint operational concepts that establish the framework for Joint Vision 2020. Integrating the joint command, control, communications, computers, intelligence, surveillance, and reconnaissance operational architecture into complex urban terrain will enable new approaches with both unmanned air and ground systems employed by lower levels. The capabilities for precision fires coupled with ground maneuver can also be synchronized with logistics and force protection within the joint operational concept.

In all these efforts, the responsibility for balancing operational precision fires and maneuver coordination between the services should continue to rest with the Joint Staff and Joint Forces Command. Both organizations are working to define the specifics of a new joint operational concept with enabling joint command, control, communications, computers, intelligence, surveillance, and reconnaissance architecture. Focusing these initial efforts on the

close combat joint urban environment will provide critical analysis of the current command, control, communications, computers, intelligence, surveillance, and reconnaissance system to help define required capabilities. At the same time, developing a joint synchronized urban road map will integrate service joint experimentation, and shape individual service transformation procurement through the Joint Requirements Oversight Council based on capability requirements. This approach would not only address disconnects in the strategy to achieve the Department of Defense urban policy objectives, but would also establish the key performance parameters and requirements for the most difficult environment that potential adversaries can exploit.

By focusing efforts on the urban environment from a joint perspective, joint planners can develop lessons learned to influence all elements of the force to develop new operational frameworks for organizing, equipping, and training. The J-8 can then work with the services to develop a capstone joint operational concept document with the greatest potential to create a Department of Defense policy with a joint vision based on sufficient authority and means to integrate the efforts under Joint Forces Command into the "Millennium Challenge" joint experiments. In this manner, synchronization between joint and service experiments can be defined for long range planning and resourcing.

The key to this process would be to focus on evolution of joint force capabilities to achieve full spectrum dominance and synchronization within the Joint Requirements Process. Joint Forces Command must synchronize the development of the joint operational concept and joint architecture through experimentation with Service transformation plans, initially focusing on joint warfighting requirements in complex urban environments. In this regard, building on the tactical requirements defined by the initial urban advanced concepts technology demonstrations conducted by the Army and Marine Corps provides crucial input for any joint operational concept as well as an interoperable joint command, control, communications, computers, intelligence, surveillance, and reconnaissance operational architecture. The assessment of required operational level capabilities should then be compared to current doctrine, organization, training, materiel, leader development, personnel, and facilities followed by appropriate recommended changes submitted to the Joint Requirements Oversight Council. The Joint Requirements Oversight Council validation must include service procurement responsibilities for the joint command, control, communications, computers, intelligence, surveillance, and reconnaissance architecture as well as any new systems to support the joint operational concept. The J-8 could then integrate the joint operational concept and joint command, control, communications, computers, intelligence, surveillance, and reconnaissance

architecture into a Joint Vision 2020 implementation master plan as the principal means to synchronize service transformation initiatives and the Joint Requirements Oversight Council determination of near and long-range joint requirements to support combatant commanders. Finally, the Joint Requirements Oversight Council will prioritize and recommend to the Defense Acquisition Board the necessary systems and system of systems for procurement based on the joint operational concept and joint experimentation.

From the service perspective, this process will offer significant opportunities to develop dominant joint capabilities in the urban environment. To begin with, both the Army and the Marine Corps have benefited from tactical level urban experimentation. By shifting to the operational level, the services can refine and develop requirements for synchronizing multiple air assets and maneuver options to achieve isolation, seizure, and security of urban areas. As the services identify requirements, new ways and systems can shape development of the Army Interim Brigade Combat Team and Marine Corps expeditionary forces and refine the joint strike fighter and naval surface fires. The key is unity of effort with the other services--absolutely crucial for identifying both a joint operational concept and interdependent requirements. Understanding the synergy of joint integration and interdependence is the foundation for developing a joint force. The lessons learned from developing the required joint technologies and concepts for dominating the complex environment of urban operations can be applied to dominate both asymmetrical as well as symmetrical threats across the spectrum of conflict. In identifying the current urban challenge approach, a new strategy option emerges to accomplish the Department of Defense desired objectives for increased urban capabilities, increased joint interoperability, and in turn significantly increased capabilities for full spectrum dominance. Identifying linkages to Department of Defense policy for these challenges provides the strategic issues and choices for Army transformation and Joint Vision 2020 to align ends, ways, and means to achieve full spectrum dominance.

CONCLUSION

Winston Churchill once noted of the outbreak of WW I that "the terrible 'ifs' accumulate."[56] This is no less true when examining the potential role that urban operations might play in the formulation of a new, effective joint operational concept for full spectrum dominance. If the Department of Defense aims to improve joint urban operational capabilities, it needs a new strategy. If transformation plans of the services are to create synergistic joint operational level capabilities, then they require a new joint operational concept to guide their efforts. The use of the complex physical and social environment of urban operations could provide an essential

litmus test for emerging joint concepts to balance information, fires, and maneuver to address the complex and dynamic nature of war.

America's strategic culture is shaping an evolving American way of war centered on overwhelming force used to achieve decisive and rapid results across the operational spectrum. At the same time, however, the U.S. military lacks this ability in urban environments across that spectrum, primarily because the nature of urban warfare mitigates the effectiveness of long-range precision fires and intensifies the difficulties of ground maneuver. The most probable result in such an environment is a protracted strategy of exhaustion that is unacceptable to the American public and thus to American policy makers. Moreover, the very nature of this problem virtually ensures that adversaries in the future will attempt to use urban environments to limit United States political and military options.

The status quo is not the solution. Service focus at the tactical fringe of the urban challenge risks dramatically different evolutionary solutions that intensify the chasm between precision fires and ground maneuver. These approaches limit joint, interagency, and multinational integration. On the other hand, by changing the context for urban operations to a joint operational perspective, future training, organization, and technology development will be able to exploit joint precision fires using maneuver to seize positional advantage. The resultant success in the most difficult of all combat environments can have even larger consequences. For by making urban combat the cornerstone of the joint operational concept and by integrating joint urban operations into the joint experimentation process, the Joint Chiefs of Staff will be able to shape service transformation plans in the overall joint image of that process.

Maturing the emerging joint operational concept and command, control, communications, computers, intelligence, surveillance, and reconnaissance architecture required for full spectrum dominance in urban operations is the *sine qua non* for achieving the Joint Vision 2020 goal of operating decisively in any environment. The key ingredients for innovation are present in the military culture. The time is now for a joint operational concept to drive doctrine, organizations, training, and material and thus ultimately the joint requirements process in order to ensure that the United States can rapidly and decisively defeat any enemy, regardless of the environment.

WORD COUNT=9401

ENDNOTES

[1] Chairman, Joint Chiefs of Staff, Joint Vision 2020, (Washington, D.C.: U.S. Government Printing Office, June 2000), 3.

[2] William Craig, Enemy At The Gates: The Battle for Stalingrad, (New York: Bantam Publishing, 1973), xv.

[3] For example, Manila (1945), Seoul (1951), Saigon and Hue (1968), Panama (1989), Mogadishu (1993). Lessons about both U.S. as well as the experiences of other countries can be found in Michael Dewar, War in the Streets: The Story of Urban Combat from Calais to Kafji, (Newton Abbot, UK: David and Charles, 1992). MOUT has been a concern for the U.S. military since World War II. Doctrine of avoidance permeates military manuals (FM 100-5, 1976) through the 1980's largely because of the complexity and large troop requirements for deliberate systematic clearing of urban areas and a focus on open maneuver warfare against the former Soviet Union.

[4] Max Neiman, "Urban Operations: Social Meaning, the Urban Built Form, and Economic Function", 139, and Barry R. Posen, "Urban Operations: Tactical Realities and Strategic Ambiguities",157, in Soldiers in Cities: Military Operations On Urban Terrain, ed. by Michael C. Desch (Carlisle, Pennsylvania: Strategic Studies Institute, 2001).

[5] The corresponding friendly and non-combatant casualty figures from historical examples can be found in Russell Glenn, *Denying the Widow Maker*, (Santa Monica, CA: RAND, 1998), 6.

[6] Carl von Clausewitz, On War, ed. and trans. by Michael Howard and Peter Paret (New Jersey: Princeton University Press, 1976) 89, 75-119. See also Alan Beyerchen "Clausewitz, Non-linearity, and the Unpredictability of War," International Security, Winter 1992/1993, 69-70.

[7] Ibid., 89.

[8] Department of Defense, Quadrennial Defense Review (hereafter QDR 2001), (Washington, D.C.: Government Publishing Office. 2001), 11.

[9] Arthur F. Lykke, Jr., "Toward an Understanding of Military Strategy", Arthur F. Lykke, Jr., ed, Military Strategy: Theory and Application (Carlisle Barracks, Pennsylvania: U.S. Army War College, 1989), 3-8. The Army War College uses a base definition of strategy as ends plus ways plus means.

[10] Ibid., iv.

[11] There is much discussion about an American way of war. Hans Delbruck defines two types of strategy: annihilation and attrition. See Gordon A. Craig, "Delbruck: The Military Historian," in Edward Mead Earle, ed., Makers of Modern Strategy: Military Thought from Machiavelli to Hitler (New York: Atheneum, 1966), 272-275. Russell Weigley used this theory to expand on the American way of war with a preference towards annihilation with unlimited means. See Russell F. Weigley, The American Way of War, A History of the United States Military Strategy and Policy, (Bloomington: Indiana University Press, 1973), xxii.

[12] Russell F. Weigley, The American Way of War, A History of the United States Military Strategy and Policy, (Indiana: Indiana University Press, 1973), xxii.

[13] The lessons from Vietnam and Lebanon led to the "Weinberger-Powell Doctrine" for guides to use of force. The basic premise of overwhelming force coupled with identification of national interests and public support to achieve limited objectives was applied to Panama and the 1990 Gulf War.

[14] F. G. Hoffman, Decisive Force: The New American Way of War, (Westport, Conn: Preager Publishers, 1996), 99.

[15]Russell W. Glenn, *Corralling the Trojan Horse: A Proposal for Improving U.S. Urban Operations Preparedness in the Period 2000-2025*, (Santa Monica, CA: RAND, 2001), 1.

[16] Hoffman, 2

[17] Sam J. Tangredi, "The Future Security Environment, 2001-2025: Toward a Consensus View", in Michele A. Flournoy, ed, QDR 2001: Strategy-Driven Choices For America's Security, (Washington, D.C.: National Defense University Press, 2001), 56-59.

[18] Lykke, 3-8

[19] Anatol Lieven, "Nasty Little Wars", National Interest, , No 62, (Winter 2000/2001), 65-76; and Glenn, vii.

[20] Michael C. Desch, "Why MOUT Now?" in Michael C. Desch, ed., Soldiers in Cities: Military Operations on Urban Terrain, (Carlisle, Pennsylvania: Strategic Studies Institute, 2001), 4-5.

[21] Ibid., p.16, and Gerald Yonas and Timothy Moy, "Emerging Technologies and Military Operations In Urban Terrain" in Ibid, 131-132.

[22] Kenneth F. McKenzie, Jr., "The Rise of Asymmetric Threats: Priorities for Defense Planning", in Flourney, 88.

[23] Stephen Biddle, "Balancing Deep Strike and Close Combat Capability", (Carlisle, Pennsylvania, unpublished paper), 1.

[24] See Robert W. Komer, "Future of U.S. Conventional Forces: A Coalition Approach," in John Glenn, Barry E. Carter, Robert Komer, eds., *Rethinking Defenses and Conventional Forces* (Washington, DC: Center for National Policy, 1983), 45.

[25] Tangredi, 47.

[26] The ability to dominate complex terrain, like urban environments, balances the use of precision fires with precision maneuver. See Robert H. Scales, Jr., America's Army in Transition: Preparing for War in the Precision Age, (Carlisle, Pennsylvania:, U.S. Army War College, Army Issue Paper No. 3, 1999), 27.

[27] Defense Science Board, Report of the Defense Science Board Task Force on Military Operations in Built Up Areas (MOBA), 1993, 9.

[28] Chairman, Joint Chiefs of Staff, Joint Publication 3-0, II-22-23.

[29] The RAND Arroyo Center, in support of the Army, provides some of the most prolific researchers on doctrine, organization, training, and technology advancements to improve urban capabilities. See Russell W. Glenn's: "*Marching Under Darkening Skies*", (Santa Monica, California: RAND, 1998); *"Denying the Widow Maker*", (Santa Monica, California: RAND, 1998); and "*The City's Many Faces*", (Santa Monica, California: RAND, 2000). See also Michael C. Desch. The research is based on lessons learned, current urban operations capability, and the trends illuminating the likelihood of future urban conflict. In numerous case studies ranging from unlimited aims and means operations in World War II (Stalingrad and Berlin), through the post World War II environment of limited aims and means operations (Hue: 1968; U.S. Marines in Lebanon: 1982-84; Panama: 1989; Somalia: 1993; and Russia's Chechen Wars: 1994-1999) the themes of operational and strategic balancing of ends, ways, were found to be as important as the tactical requirements.

[30] Barry R. Posen, "Urban Operations: Tactical Realties and Strategic Ambiguities", in Desch, 157.

[31] Olga Oliker, Russia's Chechen Wars 1994-2000: Lessons from Urban Combat, (Santa Monica, CA: RAND, 2001), 84-85.

[32] Ibid., 85.

[33] Glenn,1-5.

[34]J-8, The Joint Staff, "Dominant Maneuver Operational Concept", Briefing for the Joint Requirements Oversight Council, 2001.

[35] Douglas A. Macgregor, Resurrecting Transformation for the Post-Industrial Era, (Washington, D.C.: Center for Technology and National Security Policy, National Defense University, 2001), 8.

[36]Joint Vision 2020 , 20.

[37] James Dubik, "IBCT at Fort Lewis", Military Review, Vol. LXXX, NO. 5 (September – October 2000), 18.

[38] Williamson Murray and Allan R. Millett, eds., Military Innovation in the Interwar Period, (New York: Cambridge University Press, 1996), 306.

[39] Ibid., 311.

[40] Samuel Huntington, The Soldier and the State, The Theory and Politics of Civil-Military Relations (Cambridge, MA:1957), 59, 85-89.

[41] Holger H. Herwig, "Innovation Ignored: The Submarine Problem", in Murray and Millett, 261. The American, British, and German naval establishments were firm in the belief that

submarines could not be decisive for sea control or denial. By ignoring the problem, over 1.5 million tons of shipping was lost off the U.S. coast in 1942. The Battle of the Atlantic raged well into the summer of 1943 when operational concepts coupled with technical and tactical procedures defeated the German U-Boat campaign. On the other hand, Japan never disrupted the U.S. submarine campaign, which was initiated out of necessity and ultimately accounted for the complete disruption of Japanese supply lines.

[42] David A. Fastabend, "That Elusive Operational Concept", Army, Vol. 51, NO. 6 (Association of the U.S. Army, 2001), 37. See also Jeffrey J. Becker, "Operational Concept Found: Rapid Decisive Operations As a Joint Operational Concept", Army, Vol. 52, NO. 2 (Association of the U.S. Army, 2002), 49-57.

[43] For a review of the impact of AirLand Battle on the evolution of Army operations see Fredrick M. Franks, "Full Dimensional Operations: A Doctrine for an Era of Change", Military Review, Vol. LXXIII, NO. 12, (Jan-Dec 1993), 5. See also Don A. Starry, "A Perspective on American Military Thought", Military Review, Vol. LXIX, NO. 7, (Jul 1989), 3.

[44] Defense Authorization Act, U.S. Code, Vol 106-398, secs, 113 (2001).

[45] Office of the Secretary of Defense, Defense Planning Guidance, Fiscal Year 2000-2005 (Washington, D.C.: U.S. Government Printing Office, 2000), 86.

[46] QDR 2001, 6.

[47] Defense Authorization Act, Sec. 113.

[48] U.S. Government Accounting Office, "Military Operations: Status of DOD's Efforts to Develop Future Warfighting Capability" in Report to the Chairman, Committee on Armed Forces, U.S. Senate, (Washington, D.C., 1999).

[49] Office of the Secretary of Defense, Urban Working Group Meeting, May 2001. Notes and summary.

[50] The Joint Staff, J-8, Dominant Maneuver Joint Warfighting Capability Assessment (DM JWCA), "Joint Urban Operations Assessment Phase II Decision Brief", 2000, slide 15. The JROC is the primary means to assist the CJCS identify and assess joint requirements and acquisition programs to meet existing and future capabilities to support CINC/Combatant Commanders. The JWCA Teams are the primary source for conducting analysis for the JROC.

[51]Chairman, Joint Chiefs of Staff, Chairman of the Joint Chiefs of Staff Instruction 5123.01: Charter of the Joint Requirements Oversight Council, (Washington, D.C.: U.S. Government Printing Office, March 2001), 2.

[52] Dismounted Battlespace Battle Lab, MOUT ACTD Briefing, Fort Benning, GA, 1999.

[53] John W. Hendrix, "Warfighting Readiness Is the Highest Priority", Army Green Book, Vol. 51, no. 10, (Association of the U.S. Army, October 2001), 64.

[54] Macgregor, 8.

[55] Defense Authorization Act, 2001,Sec. 213. Although a SJTF is discussed in the QDR 2001 report, synchronizing both the DPG directive of a Joint Urban Operations roadmap with the Millennium Challenge joint experiment roadmap is not discussed. See QDR 2001, 34.

[56]Winston S. Churchill, The World Crisis: 1911-1914, (New York: Charles Scribner's Sons, 1928), 274.

BIBLIOGRAPHY

Biddle, Stephen. "Balancing Deep Strike and Close Combat Capability". Carlisle, Pennsylvania, unpublished paper, 2001.

Clausewitz, Carl von. On War, ed. and trans. by Michael Howard and Peter Paret. New Jersey: Princeton University Press, 1976.

Craig, William. Enemy At The Gates: The Battle for Stalingrad. New York: Bantam Publishing, 1973.

Department of Defense. Chairman, Joint Chiefs of Staff. Chairman of the Joint Chiefs of Staff Instruction 5123.01: Charter of the Joint Requirements Oversight Council. Washington, D.C.: U.S. Government Printing Office, 2001.

Department of Defense. Chairman, Joint Chiefs of Staff. Joint Vision 2020. Washington, D.C.: U.S. Government Printing Office, June 2000.

Department of Defense. Defense Science Board. Report of the Defense Science Board Task Force on Military Operations in Built Up Areas (MOBA). Washington, D.C.: U.S. Government Printing Office, 1993.

Department of Defense. Office of the Secretary of Defense, Defense Planning Guidance, Fiscal Year 2000-2005. Washington, D.C.: U.S. Government Printing Office, 2000.

Department of Defense. Office of the Secretary of Defense, Quadrennial Defense Review Report. Washington, D.C.: U.S. Government Printing Office, 2001.

Desch, Michael C., ed. Soldiers in Cities: Military Operations on Urban Terrain. Pennsylvania: Strategic Studies Institute, 2001.

Dewar, Michael. War in the Streets: The Story of Urban Combat from Calais to Kafji. Newton Abbot, UK: David and Charles, 1992.

Dubik, James. "IBCT at Fort Lewis", Military Review, Vol. 80, September –October 2000.

Earle, Edward M., ed. Makers of Modern Strategy: Military Thought from Machiavelli to Hitler. New York: Atheneum, 1966.

English, John A. A Perspective On Infantry. New York: Preager Publishers, 1981.

Flourney, Michele A. ed. QDR 2001: Strategy-Driven Choices for America's Security. Washington, D.C.: National Defense University Press, 2001.

Glenn, John, Barry E. Carter, Robert Komer, eds. Rethinking Defenses and Conventional Forces . Washington, DC: Center for National Policy, 1983.

Glenn, Russell W. Corralling the Trojan Horse: A Proposal for Improving U.S. Urban Operations Preparedness in the Period 2000-2025. Santa Monica, CA: RAND, 2001.

Glenn, Russell W. Denying the Widow Maker. Santa Monica, California: RAND, 1998.

Glenn, Russell W. Marching Under Darkening Skies. Santa Monica, California: RAND, 1998.

Glenn, Russell W. The City's Many Faces. Santa Monica, California: RAND, 2000.

Gray, Colin S. Modern Strategy. New York: Oxford Press, 1999.

Hendrix, John W. "Warfighting Readiness Is the Highest Priority", Army Green Book, Vol. 51, no. 10, October 2001.

Hoffman, F. G. Decisive Force: The New American Way of War. Westport, Connecticut: Preager Publishers, 1996.

Huntington, Samuel. The Soldier and the State, The Theory and Politics of Civil-Military Relations. Cambridge, MA: Harvard University Press,1957.

Lieven, Anatol. "Nasty Little Wars", National Interest. No 62, Winter 2000/2001.

Lykke, Arthur F. Jr., ed. Military Strategy: Theory and Application. Carlisle, Pennsylvania: U.S. Army War College, 1989.

Macgregor, Douglas A. Resurrecting Transformation for the Post-Industrial Era. Washington, D.C.: National Defense University, 2001.

Murray, Williamson and Allan R. Millett, eds. Military Innovation in the Interwar Period. New York: Cambridge University Press, 1996.

Oliker, Olga. Russia's Chechen Wars 1994-2000: Lessons from Urban Combat. Santa Monica, CA: RAND, 2001.

Peters, Ralph. "Our Soldiers, Their Cities," Parameters, Vol. 26, No. 1, Spring 1996.

Scales, Robert H. Jr. America's Army in Transition: Preparing for War in the Precision Age. Pennsylvania: U.S. Army War College, Army Issue Paper No. 3, 1999.

United States. Defense Authorization Act, U.S. Code, Vol 106-398, secs, 113. Washington, D.C.: U.S. Government Printing Office, 2001.

United States. Government Accounting Office. "Military Operations: Status of DOD's Efforts to Develop Future Warfighting Capability" in Report to the Chairman, Committee on Armed Forces, U.S. Senate. Washington, D.C.: U.S. Government Printing Office, 1999.

Weigley, Russell F. The American Way of War, A History of the United States Military Strategy and Policy. Bloomington: Indiana University Press, 1973.