



AUSTRALIAN DEFENCE COLLEGE OCCASIONAL SERIES

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CITY WITHOUT JOY: URBAN MILITARY OPERATIONS INTO THE 21ST CENTURY

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MICHAEL EVANS



City Without Joy

Australian Defence College *Occasional Paper No. 2*

**City Without Joy:
Urban Military Operations into the 21st Century**

Michael Evans

Australian Defence College

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Australian Defence College 2007

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COMMANDER'S INTRODUCTION

I am pleased to introduce the second Australian Defence College (ADC) Occasional Paper for 2007. The aim of the Occasional Paper series is to examine areas of the military art that are of contemporary concern to both uniformed professionals and policy makers. Given the ADC's central mission to prepare the minds of military officers for the stern responsibility of command, it is appropriate that we develop a strong research and analysis focus on future operational and strategic challenges.

In this second Occasional Paper, Dr Michael Evans, Fellow at the ADC, explores the complex subject of urban military operations. This is a topic that has, to date, not received sufficient attention in Australian strategic studies and operational research. This publication aims to fill this intellectual void. Since the end of the Cold War, the rise of military operations in cities is surely one of the most striking and challenging trends in international security. As rapid urbanisation continues to occur on a global scale, the role of cities in warfare is likely to increase in the future.

It is important to understand that, in 21st century conditions, urban operations are not simply a land force task. Rather, such operations are increasingly a joint, inter-agency and multinational phenomenon that are undertaken under the constant glare of the mass media. As a result, it is most important that all Services possess a deeper appreciation of the peculiarities involved in urban missions and the special problems that they present to the profession of arms. With these issues in mind, I commend this Occasional Paper to readers as a major contribution to Australia's contemporary military knowledge.

B.R. Dawson, AM, CSC
Brigadier
Acting Commander, Australian Defence College

20 October 2007

FOREWORD

As a young Army officer, focusing on the likelihood of being deployed to Vietnam, Bernard Fall's *Street Without Joy* was probably the first military text that possessed real professional meaning for me. In this timely Occasional Paper, Dr Michael Evans, formerly Head of the Australian Army's Land Warfare Studies Centre and now the Australian Defence College Fellow, gives us an insightful and comprehensive review of urban military operations. He has traced the subject's origins and development to give us an up-to-date operational-strategic analysis of the significance of urban operations into the 21st century. In particular, Dr Evans makes a piercing historical link with Fall's work on rural insurgency in South-East Asia by calling his study *City Without Joy*—a play on Fall's title that captures the complexity and challenges of contemporary military operations in cities.

Dr Evans informs us that, while in the past it was often possible for commanders to bypass pitched combat in cities, that era has now passed. For a variety of demographic and operational reasons, the role of cities in 21st century war has begun to change. I was strongly reminded of this changing reality when in 2004, I assumed the position of Deputy Chief of Operations in the Headquarters, Multi-National Force - Iraq (MNF-I). Faced by the second year of the Iraqi insurgency, we in MNF-I, developed a pro-active 'cities strategy' initiative designed to counter the spread of urban-based insurgency. At times, some 15 major Iraqi cities were designated as part of our city strategy. Yet, we soon discovered the uncomfortable truth that enemy forces are not constrained by their adversary's strategic planning. Insurgents attacked Coalition forces in cities that were not on our list. And, of course, the most violent urban battle of all occurred in Fallujah—a city in the Sunni Triangle—that was not even part of the Coalition's original city strategy.

What this Occasional Paper demonstrates convincingly is that at the tactical level of warfighting there is not much that is new in fighting in cities, but that it remains absolutely necessary for us to continue re-learning old lessons. Again, with respect to learning lessons in war, Iraq is instructive. Prior to the second battle of Fallujah, Coalition planners were given very wise advice on how to fight in cities by US Vietnam veterans who had fought in Hue in 1968 during the Tet Offensive. Indeed, one Fallujah 'after action report' stated that the ebb and flow of the fighting in the city had been almost exactly as the Hue veterans had earlier described.

In my view, fighting in cities has two dimensions. The first dimension is that of generalship and the need to provide an operational-strategic shaping of urban combat. The role of a general is to shape a city fight in a manner that gives soldiers as good a chance as possible of achieving stated objectives. This is demanding in an urban environment because, as Dr Evans points out, command often becomes fragmented, so driving control from the operational to the tactical level. Nonetheless, in Fallujah, we shaped the urban military operational environment for three months by every legal means possible as the city emptied of civilians. By the start of the November 2004 assault, we had produced a shaped battlefield for troops in which the rules of engagement came as close as possible to matching the reality of tactical combat on the ground. To have failed to undertake this operational-strategic preparation and to have sent soldiers into a civilian-populated Fallujah under conditions of all-seeing media scrutiny would have been, in my view, irresponsible generalship. The second battle of Fallujah was successful because of months of shaping, a willingness to learn from experience, and the application of sufficient human and logistical resources.

The second dimension in urban operations is that of skilful soldiering. We ask much of modern soldiers when we expect them to conduct ‘three block war’ phased-style operations involving peace support, humanitarian and warfighting activities. In the second battle of Fallujah, Headquarters MNF-I pulled US Marines and some US Army armoured forces out of three-block operations and, with very little transition time, threw them into the cauldron of a conventional, urban, multi-battalion, multinational divisional assault—an assault complete with joint fires, joint intelligence and joint logistics. The speed and complexity of this kind of joint battle are what modern military operations in cities now mean for uniformed personnel. The modern warfighter is more and more likely to be pitchforked from restrained counter-insurgency operations in a three-block-style environment into full conventional assault operations. In these circumstances, a major challenge is to retain our moral and legal focus when ‘the killing switch’ is flicked and our soldiers are forced to fight in gruelling close combat.

As this fine Occasional Paper demonstrates, fighting in cities is a tough proposition, but it is not an impossible task for modern armed forces. What is required above all else is preparation and forethought. Dr Evans’ comprehensive study represents a valuable and important analysis of an area of the military art that is likely to exercise our minds increasingly in coming years. This is a publication that deserves a wide readership and I commend it to fellow military professionals.

Jim Molan, AO, DSC
Major General
Adviser to the Vice Chief of the Defence Force
Warfighting and Lessons Learned

6 October 2007

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THE AUTHOR

Dr Michael Evans is a Fellow at the Australian Defence College in Canberra. Between 2002 and 2005 he was Head of the Army's 'think tank', the Land Warfare Studies Centre at the Royal Military College, Duntroon. Dr Evans has also served on the staff of Land Headquarters in Sydney (1994–95) and in the Directorate of Army Research and Analysis in Army Headquarters in Canberra (1996–98). Born in Wales, Dr Evans is a graduate in history, politics and war studies of the University of Rhodesia (BA Hons First Class Honours), the University of London (MA War Studies) and the University of Western Australia (PhD). He has been a Sir Alfred Beit Fellow in the Department of War Studies at King's College, University of London and a Visiting Fellow at the University of York in England.

Dr Evans saw military service in Africa as a member of the Rhodesian security forces during the civil war in that country and was later a regular officer in the post-civil war Zimbabwe Army. With the rank of Major, he headed a war studies program and was closely involved with the British Army in the integration of two rival guerrilla armies into a conventional land force. Dr Evans is a Member of the International Institute for Strategic Studies (IISS), serves on the international editorial boards of two leading journals, the *Journal of Strategic Studies* and *Small Wars and Insurgencies* and is the only Australian to be a recipient of the US Naval War College Foundation's prestigious Hugh G. Nott Award for strategic analysis.

Dr Evans' recent publications include chapters on Australian strategy in Emily O. Goldman and Thomas G. Mahnken, (eds), *The Information Revolution in Military Affairs in Asia* (New York, 2004); on military operations in Robert Ayson and Desmond Ball, (eds), *Strategy and Security in the Asia Pacific* (Sydney, 2006); and on alliance security relations in Jeffrey McCausland, Michael Wesley, Douglas Stuart and William Tow, (eds), *The Other Special Relationship: The US and Australia at the Start of the 21st Century* (Carlisle, PA, 2007). His monographs include *The Continental School of Strategy: The Past, Present and Future of Land Power* (Canberra, 2004); *The Tyranny of Dissonance: Australia's Strategic Culture and Way of War, 1901–2005* (Canberra, 2005) and *From the Long Peace to the Long War: Armed Conflict and Military Education and Training in the 21st Century* (Canberra, 2007). His most recent publications are essays on the current Australian strategic debate in the June 2007 edition of the *Australian Journal of International Affairs* and the November 2007 edition of the Kokoda Foundation's journal, *Security Challenges*.

ABBREVIATIONS AND ACRONYMS

ADC	Australian Defence College
ADF	Australian Defence Force
ELF	Enhanced Land Force
EOKA	National Organisation of Cypriot Fighters
FIBUA	fighting in built-up areas
FLN	National Liberation Front (Algeria)
HMMWV	high mobility, multipurpose wheeled vehicles
HNA	Hardened and Networked Army
IATF	Inter-agency Task Force
IED	improvised explosive device
ISR	intelligence, surveillance and reconnaissance
JDAM	joint direct attack munition
MAGTF	Marine Air–Ground Task Force
MEU	Marine Expeditionary Unit
MNF-I	Multi-National Force - Iraq
MOUP	military operations as urban planning
MOUT	military operations on urbanised terrain
NATO	North Atlantic Treaty Organisation
PADS	persistent area denial systems
PLO	Palestine Liberation Organisation
RMA	Revolution in Military Affairs
RPG	rocket-propelled grenade
SMAW	shoulder-launched multi-purpose assault weapon
TOW	tube-launched optically-tracked wire guided missile force
UAV	unmanned aerial vehicle

PREFACE

The Australian Defence Force's *Joint Operations for the 21st Century*, released by the Chief of the Defence Force, Air Chief Marshal Angus Houston in June 2007, identifies one of the main challenges facing the ADF in the new millennium as being that of the impact of a changing global demography.¹ Global demographic change is transforming the developing world from a rural to an urban environment and, bringing with it, a parallel increase in military operations on urbanised terrain. *Joint Operations for the 21st Century* also states that Australian military forces do not operate in a single environment but instead are 'deployed from urban environments to jungles, from deserts to mountains'.²

Yet, while Australians have fought with distinction in the jungles of South-East Asia, in the deserts of North Africa and, more recently, in the mountains of Afghanistan there is little experience of fighting in cities. Unlike its closest allies, the United States and Britain, the Australian military has no real tradition of urban warfare. It is true that Australian troops were effective during the siege of Tobruk in World War II and in urban operations in Baidoa in Somalia in the early 1990s. However, a careful reading of Tobruk and Baidoa reveals that, in both cases, skilful small unit soldiering based on long traditions of patrolling and reconnaissance had as much influence on success as any understanding of the peculiarities of urban terrain.³ Unlike the American military, Australia has no collective experience of urban battles such as Manila, Hue and, more recently, Fallujah. Nor does Australia possess anything like Britain's modern military tradition of counter-insurgency in cities—a tradition that stretches over half a century from Palestine through Cyprus and Aden to Belfast and Basra.

Some Australian military professionals might be tempted to believe that the absence of an urban warfare tradition is all to the good given that this form of fighting is often the worst kind that can confront modern armed forces—swallowing up both troops and logistics—while being notoriously casualty-intensive and difficult to control. Anyone who has either been in, or studied, an urban campaign, will have sympathy for a military philosophy of city avoidance. Unfortunately, in the early 21st century, city avoidance is an unrealistic professional stance given that urbanisation trends are likely to be reflected in the shape of future warfare. This is not to suggest that a type of urban determinism should be allowed to straitjacket Australian ideas on future military operations. Rather, it is an argument for rationally calculating the potential for significant multinational military activity in cities, including littoral cities in the Asia-Pacific, and preparing military forces accordingly. As the Chief of Army, Lieutenant General Peter Leahy, has noted, 'cities are the ultimate in complex terrain'. In his view, it is to the cities where 'the overarching trends in globalisation and demography are taking warfare'.⁴

Effective urban operations require joint intelligence capabilities and joint fires as well as combined arms forces of infantry, armour and engineers. From this perspective, the Hardened and Networked Army (HNA) scheme and the Enhanced Land Force (ELF) initiative—both of which strengthen the ADF's combined arms potential—are overdue reforms in the right direction. However, the Army's Future Land Operating Concept of *Complex Warfighting* has little to say on the problems of joint military operations on urbanised terrain. Moreover, it continues to remain unclear whether the ADF's Future Joint Operating Concept developed around effects-based theory and network-centric warfare can be adapted effectively into a joint warfighting concept for use in cities.⁵ In the future, integration of environmental capabilities will be important if the ADF is to develop its notion of multidimensional manoeuvre into a versatile doctrine for use in both close combat and stand-off precision warfare.

The above uncertainties mean that much more rigorous conceptual and doctrinal work will be required in the ADF over the next decade, particularly in the increasingly overlapping fields of insurgency

and urban operations. The growing interface between insurgents and cities is an important military development since it suggests that the era of the urban guerrilla may, at last, have arrived. After all, from the Somalis through the Chechens in the 1990s to the *mujahidin* in Fallujah in 2004, most forces seeking to fight in cities have been irregulars or militias. The fact that these diverse fighters have caused advanced military forces so much operational difficulty is, by itself, a compelling reason for the serious study of contemporary requirements in urban counter-insurgency operations. As Major General Jim Molan, the current Adviser to the Vice Chief of the Defence Force for Warfighting and Lessons Learned has written, the ADF must avoid the butcher's bill in blood by the rigorous study of joint operations involving sustained close combat. And this is a 'preparation [that] should be as uncompromising as war itself'.⁶

This Occasional Paper is designed to assist Australian military professionals and policy makers to develop a more refined understanding of urban military operations. Its aim is to fill a theoretical vacuum in Australian military knowledge by providing a conceptual synthesis of the modern field of urban warfare, examining the many military complexities involved and identifying a number of future pathways for professional research and analysis. As with any lengthy research project, a series of intellectual debts have accumulated in the preparation of this study. I am grateful to Brigadier Brian Dawson, AM, CSC, Commandant of the Australian Defence Force Academy and currently the Acting Commander of the Australian Defence College, for his warm support for the project. Major General David Morrison, AM, Commander of the Australian Defence College from November 2005 until March 2007 and Colonel Roger Noble, AM, formerly Commanding Officer of the Al Mutthana Task Force in Southern Iraq and currently Director of Studies (Land) in the Australian Command and Staff College, both read early drafts of the manuscript and provided useful comments and insights.

Particular appreciation goes to Major General Jim Molan, AO, DSC, former Deputy Chief of Operations to General George Casey in Multi-National Headquarters, Iraq during 2004–05. Major General Molan is unique among contemporary Australian generals in that he is the only one to have first-hand experience of modern urban warfare. He generously allowed me to quote from his forthcoming book on his command experience in Iraq—in particular with regard to the planning and execution of operations during the second battle of Fallujah in November 2004. In the United States, my valued friend and colleague, Dr Thomas Mahnken, formerly of the Paul Nitze School of Advanced International Studies at Johns Hopkins University, Washington DC, and now a senior official in the US Defense Department, read the manuscript and made some valuable suggestions to improve it.

Thanks are also due to the Australian Command and Staff College Courses of 2006 and 2007 both of which received presentations from the author on the subject of military operations on urbanised terrain. Composed of many directing staff and students with recent operational experience in East Timor, Iraq and Afghanistan and from a range of different countries, these courses proved to be ideal laboratories for testing theory against practice. There is nothing like a Staff College environment for puncturing any lingering academic vanities derived from what Dr Samuel Johnson once famously called 'the splendours of ornamental erudition'. As always, I owe a great debt of gratitude to the dedicated staff of the Vane Green Library at the Australian Defence College for their patience and efficiency in locating research material. In particular I am grateful to Ms Meegan Ablett, Mrs Beverley Kavanagh, Mrs Alison Jones and Mrs Katya Stankovic for their assistance. Finally, of course, the views expressed in this paper are those of the author.

Michael Evans, Canberra

20 October 2007

ABSTRACT

Since the end of the Cold War, global urbanisation trends and urban military operations in places as diverse as Somalia, Chechnya, the West Bank and Iraq have forced many Western armed forces establishments to devote increasing attention to the military challenges posed by cities. This study examines the growing phenomenon of urban military operations in the 21st century by analysing both the historical and contemporary relationship between the city and warfare. Its aim is to provide military professionals and policy makers with a deeper understanding of the potential of urban areas as future battlespaces.

The paper argues that, in the new millennium, a combination of globalisation, increasing urban demography and the rise of asymmetric military operations, are making urban military operations more common. The above trends are reflected in the professional military debate over preparing for urban military operations between specialists and generalists. The study advocates greater priority being afforded to urban military training but with the caveat that this preparation should continue to occur within a generalist and joint forces framework. The study then proceeds to identify three vital areas of future analysis for the effective conduct of future urban operations. First, improved technology and tactics must be developed to empower joint military operations in cities. Second, a more sophisticated conceptual understanding of urban military operations needs to be fostered at the strategic-operational levels of war. This conceptual understanding needs to comprehend a growing nexus between forms of complex insurgency and urbanisation, while operational design in cities must seek to secure policy objectives through imposing strategic control.

Third, a new approach for operating in cities, based on a concept of ‘military operations as urban planning’ (MOUP) needs to be considered by military professionals and policy makers. By borrowing insights from such subjects as town planning, policing, disaster studies, emergency management and human geography, military planners may be able to improve operational conduct within cities. Increasingly, a pervasive global media presence places a premium on military professionals being able to reconcile perception management with the realities of urban combat. Finally, as war and the city redefine themselves in terms of space, scale, time, mobility and power, the character of the military art will need to be more closely concerned with the physical morphology and social geography of modern cities.

City Without Joy: Urban Military Operations into the 21st Century

Michael Evans

No matter how many valuable functions the city has furthered, it has also served, throughout most of its history, as a container of organized violence and a transmitter of war.

Lewis Mumford, *The City in History* (1961)

Metrostrategy has replaced geostrategy. The site of modern warfare has progressively become the town.

Paul Virilio, *The City of Panic* (2007)

In the Old Testament Book of Joshua, it is recorded that when the Israelites captured the Canaanite city of Jericho, ‘they utterly destroyed all in the city, both men and women, young and old, oxen, sheep, and asses, with the edge of the sword’.¹ This graphic description from the ancient Near East recording the genocide of all living beings in a city is a sombre reminder that urban warfare is a phenomenon that is as old as history. Cities and warfare have always been intimately related and, in the first decade of the 21st century while antiquity’s ‘edge of the sword’ may have been replaced by the kinetic blast from the improvised explosive device (IED), the intensity of violence associated with urban warfare remains constant. As the experience of recent urban operations in Iraq demonstrates, fighting in cities continues to remain one of the most challenging missions facing the world’s advanced professional militaries.

Because cities represent crucibles of human civilisation and social organisation, many military analysts find it disturbing to have to regard them as arenas for armed conflict. ‘The chief function of the city’, observes Lewis Mumford in his masterly 1961 study, *The City in History*, ‘is to turn power into form, energy into culture, dead matter into the living symbols of art, biological reproduction into social creativity’.² Echoing Mumford is Joel Kotkin who, in his 2005 work, *The City: A Global History* upholds the triumph of urban civilisation with the observation that, ‘humankind’s greatest creation has always been its cities’.³ Not surprisingly, there is a natural human tendency for urban communities to recoil in revulsion from images of shattered buildings, lines of displaced civilians and piles of dead amongst mountains of rubble. As the ancient Greek philosopher, Aristotle put it in *The Politics*, cities come into existence in order that men might live securely, but men remain in cities in order to secure the good life.⁴

Consider the contributions to world civilisation from the Athens of Pericles, the Florence of the Medici, the Vienna of Beethoven, and the Paris of Picasso, the Berlin of Brecht and the Detroit of Henry Ford. Consider too, that imperial Rome invented the apartment block and the suburb; that 19th century London introduced policing and sewers to modern life and that Paris gave us the concept of town planning. In the 20th century, New York invented the skyscraper and the subway system and Los Angeles became the first city of the automobile. One of the first great classics of modern cinema was Fritz Lang’s 1927 *Metropolis*, an allegorical film about a futuristic underground city.⁵ The notion

of armed attack in, or on cities, whether Jericho and Babylon in the ancient world or modern New York and Washington on 11 September 2001—strikes at one of humanity’s most ingrained fears. It is the fear that, for all of its achievements, urban civilisation still remains hostage to organised violence and provides no escape from the scourge of war and mass violence. In Thomas Homer-Dixon’s graphic phrase: ‘September 11th [2001] won’t be the last time we walk out of our cities’.⁶

The aim of this study is to provide a perspective on the role of urban military operations in the 21st century by examining the historical and contemporary relationship between the city and warfare. The paper argues that the study of urban warfare—indeed, all aspects of military operations in built-up areas—must become a subject of contemporary war studies. Although there has been an increased interest in urban military operations over the last decade, particularly in the United States, much of the writing on the subject is narrowly tactical and technical in approach and narrative and descriptive in tone. This approach reflects the reality that urban warfare was comparatively rare until the 20th century and, as a result, historians wrote battle studies that were often unrelated to broader operational and strategic concerns. As the American military historian, Roger Spiller, noted in 1999, a theoretical vacuum tends to envelop studies of urban warfare.⁷

In the 21st century, warfare has broken the traditional bounds of symmetry between field armies and has expanded into a multidimensional spectrum of armed conflict. Because this spectrum embraces simultaneously warfighting, peace support and humanitarian operations, any analysis of urban operations must seek to be both theoretical and of applied value. A neglect of theoretical issues, particularly at the operational and strategic levels of war has arguably made much urban battle analysis of limited value to contemporary military professionals.⁸ From the point of view of both policy makers and the profession of arms, what is required is a deeper and more coherent understanding of the potential of cities as future strategic-operational battlespaces. In the decades ahead, it is a melancholy possibility that some cities in the developing world may become contested battlespaces—zones of conflict that will require the integration of the military art with the physical morphology and social geography of modern urban planning.

Six areas are examined. First, the paper seeks to analyse the place of urban operations in the art of war. A snapshot is provided of the relationship between war and the city from ancient siegecraft to the coming of the industrial age in the 19th century. It is argued that military theory has usually treated cities, with their urban terrain and non-combatant populations, as being undesirable areas for armies to conduct warfare. Second, the various characteristics of modern urban warfare are identified by reference to the World Wars and to those military conflicts during the Cold War that possessed a significant urban component. In the third section, a brief survey of urban warfare trends during the four decades of the Cold War is undertaken. This section also includes an examination of the lack of Western professional interest in this class of warfare from the 1950s through to the end of the 1980s. The fourth area of analysis provides an outline of the main reasons for the rise of contemporary urban operations in the last decade of the 20th century and into the new millennium. In particular, the way in which the processes of globalisation, demographic change and the inexorable shift from countryside to city, have gradually forced many Western military establishments to reconsider the role of cities as arenas for future military operations are highlighted. To this end, various examples from contemporary urban operations are analysed in order to highlight the human and technological challenges involved in this type of military activity.

The fifth area of the study analyses the turn of the century debate in military circles over the place of urban operations in the future of armed conflict. Specific attention is paid to the intellectual division

between ‘specialists’ and ‘generalists’ over urban military operations and the study reaffirms the validity of the generalist framework in approaching the field. The final section of the study is devoted to a consideration of the priority that should be afforded future urban military operations. Three intellectual pathways towards a better understanding of urban conflict in the early 21st century are identified and analysed: advances in technology and tactics; the need for an improved appreciation of urban operations at the operational and strategic levels of war; and formulating a broader interdisciplinary field that reflects a concept of ‘military operations as urban planning’ in order to meet changed strategic conditions in the new millennium.

War and the City: The Military Art and Urban Military Operations

Despite the prevalence of siege warfare throughout military history, the specific challenge of fighting in the city has long been neglected by military theorists. In 1991 in an important study of the relationship between war and the city, the geographer, G. J. Ashworth observed, ‘it has generally proved easier to demonstrate that defense has played an important role in many aspects of the city than to show that the city has played a role in military science’.⁹ Ashworth’s observation reflects a reality that, in the professional military canon, the role of cities in warfare has either been ignored or regarded of negligible importance by writers. Historically, there are perhaps four major reasons for the professional military’s neglect of urban warfare: philosophical; demographic; the rule of law and convention; and the problem of tactical control in cities.

The Military’s Philosophical Dislike of Urban Operations

From a philosophical perspective, both Eastern and Western military theorists have long seen urban warfare as a violent and dangerous aberration in military practice and have strongly urged its avoidance. For example the Chinese military theorist, Sun Tzu, observed in *The Art of War*: ‘the worst policy is to attack cities. Attack cities only when there is no alternative’.¹⁰ Similarly, Machiavelli warned in *The Discourses* of 1531 that, if an enemy’s army was routed swiftly in open battle, a kingdom could be won in a day, whereas fighting for a city might prove to be protracted and costly.¹¹ Most professional soldiers have taken the advice of these military philosophers and have tended to view urban operations as an aberration from open warfare in the field.¹² In the words of American defence analyst, John M. Collins, urban combat ‘disrupts unit cohesion, complicates control, blunts offensive momentum, and causes casualties to soar on both sides’.¹³ Thus, it is in the natural rural environment where military professionals feel most comfortable waging war. While different natural environments such as desert, mountain, jungle and plain, might require specific doctrines of warfare, from a strategic perspective they are all alike in that they are usually *static*. Interaction between a rural environment and a soldier is normally limited to engineering tasks such as river crossings that do not change the fundamental character of the landscape. This static situation is, however, not true of the urban environment that is in contrast, dynamic. A complex blend of horizontal, vertical, interior and exterior building forms becomes superimposed upon the landscape’s natural relief. Urban operations take place in man-made constructions in which demography is as important as topography.¹⁴

In the 19th century, one of the few European soldiers to take urban warfare seriously was the French soldier, Marshal Thomas Bugeaud, a veteran of guerrilla warfare in Spain during the Napoleonic era. In 1834, Bugeaud commanded French troops in Paris during the unsuccessful republican insurrection of that year and became interested in military techniques for use against insurgents in cities. In 1836, Bugeaud was appointed by Charles X to complete the conquest of Algeria and he is best known for

his innovative campaign to defeat the Algerian leader, Abd el-Kader. Much less known is Bugeaud's 1847 street-fighting manual entitled, *La Guerre des rues* (The War of the Streets) which drew on tactics developed to overcome Arab resistance in the city of Algiers.¹⁵ In his manual, Bugeaud outlined flexible street tactics of fire and movement designed to allow French columns to penetrate the maze of buildings and narrow alleyways that made up the Algiers Casbah. In prosecuting such operations, much of Arab Algiers was destroyed only to be rebuilt by the Marshal in order to facilitate the easy urban deployment of French troops in case of insurrection in what has been styled 'military operations as urban planning'.¹⁶ In 1848, many of the techniques contained in *La Guerre des rues* were employed by General Eugène Cavaignac to crush the Paris revolutionaries of the June Days—in particular, the coordinated concentration of artillery and infantry to overcome insurgent barricades in narrow streets.¹⁷ Later, in the 1850s, Bugeaud's implicit notion of 'military operations as urban planning', was a major influence on Baron Haussmann, Prefect of the Seine, in his scheme to rebuild Paris into Emperor Napoleon III's 'capital of capitals'. Haussmann transformed Paris from a medieval-style city of narrow, mean streets that favoured insurrection into an industrial-age metropolis based on wide boulevards and avenues—an architecture that facilitated not only aesthetic taste but also social and military order.¹⁸

In the annals of 19th century European military thought, however, Bugeaud's manual on urban military operations was a colonial aberration. Armies continued to concentrate on open warfare in the field. Indeed, in terms of military philosophy, the individuals who gave urban warfare the most attention between 1815 and 1918 were European social revolutionaries who, although they were outside the mainstream of strategic thought, gave much thought to techniques of insurrection. Such figures as the French radical insurrectionist, Auguste Blanqui and the Irish social revolutionary, James Connolly, advocated using cities as the seedbeds of armed revolution and they examined the nexus between insurrectionary technique and street fighting.¹⁹ Blanqui grasped that the modern industrial city that had emerged by the mid-19th century could be used as the 'natural front' for insurgents skilled in street fighting.²⁰ For his part, Connolly compared street warfare to mountain warfare, observing in 1915 that:

A mountainous country has always been held to be difficult for military operations owing to its passes or glens. A city is a huge mass of passes or glens formed by streets and lanes. Every difficulty that exists for the operation of regular troops in mountains is multiplied a hundredfold in a city. And the difficulty of the commissariat, which is likely to be insuperable to an irregular or popular force taking to the mountains, is solved for them by the sympathies of the populace when they take to the streets.²¹

Yet both Blanqui and Connolly overestimated the potential for city warfare as a tool of revolution and underestimated the ability of regular armies to adapt to the task of street fighting in times of crisis. Blanqui's belief in makeshift barricades of paving stones serving as barriers to military mobility in cities failed to appreciate the concentrated power of cannon and fusillade in clearing streets of insurgents. For Blanqui, reality dawned when the June Days insurrection of 1848 and the Paris Commune of 1871 were crushed ruthlessly by French troops. Connolly, meanwhile, was executed by the British authorities in the wake of the failed 1916 Dublin Easter Rising of the Irish Volunteers. The fate of the Parisian insurrectionists and of the Dublin revolutionaries suggested that professional armies were quite capable of managing the challenges of urban insurgency. The supremacy of conventional forces in urban warfare seemed to be underlined again in 1944 when the German *Wehrmacht* ruthlessly crushed the Warsaw Uprising by insurgents of the Polish Home Army.²² Not until the Cold War era of the mid-20th century, when urban guerrilla warfare became

a strategy adopted by national independence movements in Algeria, Cyprus and Ireland, did street insurgency pose a serious operational challenge to Western armies.

The Pre-Industrial Demographic Irrelevance of Cities

The second reason for professional military neglect of the urban environment can be traced to the reality that, until the industrial revolution of the mid-19th century, cities represented only a small portion of the world's demography. For example it was only in 1801 that London became the first Western city to reach a population of one million people. As a result, cities could often be bypassed during military operations and often remained of symbolic rather than strategic value. Although cities could occasionally capture the military imagination this situation was usually accomplished through the prism of famous sieges.

The destruction of Carthage by the Romans in 146 BC, the relief of Orleans by Joan of Arc in 1429 and the fall of Constantinople to the Turks in 1453 were all memorable events for their human drama and historical significance. However, beyond the specialised needs of siegecraft there was little reason for military commanders to consider military activity in terms of operations in an urban military theatre. As a result, 'cities were avoided as both poor test beds for the ideas of the [military] theorists and even as improper places for battles to occur'.²³ There is a relative paucity of urban battles as opposed to sieges largely because of the reality of limited urbanisation. In 1851, when Sir Edward Creasy wrote the most famous military bestseller of the 19th century, *The Fifteen Decisive Battles of the World: From Marathon to Waterloo*, it contained only one siege, the defeat of the Athenians at Syracuse in 416 BC.²⁴ A century later Major General J. F. C. Fuller's huge three volume study, *The Decisive Battles of the Western World and their Influence Upon History*, continued to reflect the dominance of open warfare in the military art. Only a few sieges, notably Constantinople in 717–18 and 1453 respectively, Orleans in 1429, Málaga in Spain in 1487 and the battle of Stalingrad in 1942–43 during World War II, were regarded by Fuller as belonging in the category of decisive battles.²⁵

The Rule of Law and Convention

A third reason for the neglect of urban warfare was that, in many European conflicts there was a convention that war represented two types of action: battles and sieges. While field armies conducted both activities, it was open battles offering decision rather than protracted and expensive sieges that were preferred by military professionals. Siege warfare with its specialist requirements for investment and escalation was a laborious task dominated by bombardiers and sappers, not the more glamorous arms of the infantry and cavalry. Following the invention of gunpowder, siege warfare was complemented by a highly specialised science of intricate fortification associated with such figures as the German engraver and theoretical designer, Albrecht Dürer, in the 16th century, and in the 17th century, with the great French military engineer, Sébastien Vauban.²⁶

There were elaborate rules for the conduct of siegecraft and the treatment of cities by armies. In early modern Europe, a combination of ecclesiastical precept, natural and military law, custom and self-interest combined to create a 'contractual etiquette of belligerence' in time of war.²⁷ Exceptions to this etiquette were sometimes made in the case of field armies confronting rebellious cities. Thus, the Spanish storming and sacking of the Dutch religious city of Mechelen in 1572 by the Duke of Alba and Oliver Cromwell's massacre of the inhabitants of the Irish cities of Drogheda and Wexford in 1649–50 were deliberate acts aimed at terrorising and subduing enemy populations.²⁸

However, in the evolution of European military practice, reciprocal restraint became an increasingly important factor in the conduct of war. There was a consensus that, according to the Laws of War, cities were won or forfeited following the results of open warfare and field campaign. In 1589, the legal theorist, Alberico Gentili, succinctly explained European military convention with regard to cities: ‘Cities are sacked when taken; they are not sacked when surrendered’.²⁹ Thus Napoleon occupied Vienna, Berlin and Moscow without opposition after he defeated the Austrian, Prussian and Russian armies in the field in the years between 1805 and 1812. Throughout the 19th century sieges still occurred in Europe, notably at Sebastopol in the Crimean War and at Paris in the Franco–Prussian War. However, in general terms, armies adhered to Gentili’s formula and continued to regard war *in* cities as being outside the parameters of the military art.

The Problem of Tactical Control in Cities

A final reason for the neglect of urban warfare was tactical. Most military commanders recognised that the methods of open linear warfare in the field could not be used successfully in a non-linear urban environment. In the words of the British writer, Michael Dewar:

The urban landscape is unforgiving. There are no folds, there are no patterns, few bushes and little undergrowth into which the soldier can melt when he feels threatened. Fighting in towns requires a degree of commitment, which is not usually required in a rural setting.³⁰

Military commanders have long known that assaulting cities is usually casualty-intensive and, above all, risky in terms of losing their control over their troops during street fighting. For example in 1631, during the Thirty Years War in Europe, Imperial Catholic troops under Count Tilly, went berserk following their assault on the city of Magdeburg, the capital of German Protestantism. Inside the maze-like narrow streets of Magdeburg, tactical formation collapsed and Imperial troops ran amok slaughtering some 20,000 of the city’s 30,000 inhabitants in one of the worst military massacres of the 17th century.³¹ The problem of tactical command and control of armies inside cities was demonstrated again during the 1871 uprising of the Paris Commune. The difficulty in controlling the intensity of feeling in the street fighting between Communard rebels and government forces led to a degree of indiscriminate brutality and physical destruction that had not been witnessed in any of the open battles of the preceding Franco–Prussian War of 1870.³² In Paris, over 20,000 people perished in two weeks of street fighting while the Communards deliberately set fire to the city destroying such great historical landmarks as the Tuileries Palace and the Hôtel de Ville. At the end of May 1871, Europe’s ‘Citadel of Civilization’ was a place of smoking debris that moved the writer, Théophile Gautier, to record that ‘a silence of death reigned over these ruins; in the necropolises of Thebes or in the shafts of the Pyramids it was no more profound’.³³

Characteristics of Modern Urban Warfare

It was the arrival of the industrial revolution during the first half of the 19th century that gradually transformed the role of the city in warfare. The migration of workers from countryside to city, the invention of railways and the development of mass industrial society turned the Western European city into the steam- and coal-driven Coketown so vividly described in the pages of Charles Dickens’ famous novel, *Hard Times*. The new industrial cities—poet William Blake’s compulsive ‘cogs tyrannic’—became the forges of national armies and were introduced to aspects of modern urban warfare in conflicts such as the Franco–Prussian War of 1870–71, the Irish War of Independence and

Civil War from 1916 to 1922 and the Spanish Civil War of 1936–39. Cities such as Paris, Dublin, Madrid, Barcelona and Guernica all suffered at the hands of new industrial weapons systems such as quick-firing artillery, machine guns and, in the case of Guernica, aerial bombardment from the German Condor Legion.³⁴

It was, however, only during World War II, that professional armies were systematically forced to fight battles in, and for, cities. Indeed, it has been estimated that no less than 40 per cent of the fighting in World War II took place in urban areas including some of the most desperate struggles.³⁵ The combination of modern artillery, machine guns, armoured fighting vehicles and aerial bombers used in such epic urban battles as Stalingrad, Warsaw, Berlin and Manila demonstrated the destructive and costly nature of this mode of warfare. By the end of hostilities in 1945, military professionals had identified most of the basic characteristics associated with combat in modern cities. These characteristics remain relevant today over 60 years later and, for this reason, it is important to analyse them. The features of urban warfare are seven in number: the advantage of effective firepower, the fragmentation of combat, the importance of direct-fire weapons, the problem of a civilian presence in cities, the absorption of manpower, the physical–psychological strain on participants and the need for a combined arms military approach.

The Advantage of Effective Firepower in Urban Warfare

Urban operations during World War II demonstrated the advantage of effective firepower when applied to fighting in cities, especially by a defending force. In a city, a defender usually possesses the key advantages of a choice of ground and of converting selected building complexes into fortified positions for the application of firepower. Rubble and barricades, along with underground interior communications based on sewers, subways and basements are key assets to be used by defenders to hinder an attacker's mobility and employment of armoured firepower throughout a city.³⁶

During World War II, Soviet and German forces would often demolish key buildings in cities to block streets in an attempt to channel enemy assaults into prepared killing grounds where lethal firepower could be concentrated. At Stalingrad in 1942–43, Soviet forces sought to channel mass German assaults into 'breakwaters'—canyons of ruins—in which T-34 tanks and anti-tank guns were carefully positioned to wreak execution on the enemy.³⁷ Marshal Vasiliï Chuikov who masterminded the Soviet 62nd Army's defence of Stalingrad and who later led the assault on Berlin in 1945, noted that 'a battle within a city is a battle of firepower'.³⁸

Chuikov was right. The February–March 1945 battle for Manila, in the Philippines, fought between US forces and the Japanese military—the biggest urban battle fought in the Pacific during World War II—was essentially a struggle of firepower attrition. It is worth noting that in the struggle for Manila, most of the Japanese defenders were not professional soldiers, but personnel of the Manila Naval Defence Force with little, or no, experience of urban warfare. Despite their lack of training, Japanese forces were well supplied with artillery and demolition charges and their defence of Manila became centred on the old Spanish Intramuros fortress—a bastion that bristled with automatic cannon, field guns, anti-tank weapons and mortars. In the battle for the city, the sheer weight of Japanese firepower reduced the American advance through the streets to a crawl. In order to progress, the Americans were forced to resort to heavy artillery barrages on city blocks in order to demolish enemy strongpoints. The Japanese defence of Manila again demonstrates how, in an urban combat environment, possession of firepower helps to enhance the capability of defending forces.³⁹

Even light infantry forces, provided they are dug-in, have the potential to bring effective firepower to bear in defending urban areas. Fighting in cities presents a circumstance in which ‘troops that are inferior in equipment, training or morale can be pitted against superior forces on more even terms’.⁴⁰ In his 1958 memoir of the defence of Arnhem by British airborne troops during Operation *Market Garden* in September 1944, Major General R. E. ‘Roy’ Urquhart recalled that, ‘a built-up area is hell for the attacker and an asset for those in defence’.⁴¹ In the battle for Arnhem, Urquhart’s ‘Red Devils’ of the 1st Airborne Division held off repeated assaults by heavier German forces for three days by using grenades, machine guns, shoulder-fired PIAT anti-tank weapons and Gammon bombs. Only the weight of German armour and the direct application of phosphorus and flame weapons combined with indirect fires finally overwhelmed the British defenders.⁴²

The Fragmentation of Combat in Urban Warfare

Unlike operations in open terrain, fighting in cities during World War II caused the rapid dissolution of formation warfare. Between 1939 and 1945, Allied and Axis armies encountered the enduring tactical paradox of modern urban operations—namely that soldiers forced to deploy into sprawling industrial cities find that their military activity is immediately hostage to the spatial restrictions of built-up environments. Soldiers soon discovered that to operate in an urban area is to confront a succession of microenvironments ranging from narrow streets and alleys through corridors and courtyards to rooms and rooftops—all of which combine to effectively compress operational activity. Commanders on both sides in World War II soon discovered that the confined space of streets and buildings in cities did not permit the traditional deployment and manoeuvre of battalions and brigades led by senior officers. Rather, the prime responsibility for combat in an urban area rested with platoon and squad commanders and, as a result, most of the basic small unit tactics of modern urban combat familiar to today’s soldiers were developed between 1939 and 1945.⁴³ In World War II, the outcome of several urban battles in Western Europe—notably Ortona in Italy in 1943 and Groningen in Holland in 1945—rested upon the skilful use of small Anglo-American tactical units composed mainly of infantry and sappers.⁴⁴

In his study of the battle of Stalingrad, the British military historian, Anthony Beevor, found a similar pattern of small unit warfare between German and Soviet forces. He concludes that ‘much of the fighting [at Stalingrad] consisted not of major attacks, but of relentless, lethal little conflicts. The battle was fought by assault squads generally six or eight strong’.⁴⁵ The basis of tactical operations became either the defence, or offensive clearance of, buildings using assault and covering groups. This new type of decentralised, close quarter combat in ruined buildings, cellars and sewers—dubbed *Rattenkrieg* (the war of the rats) by German soldiers—placed a premium on good junior leaders. It was a form of fighting that ‘possessed a savage intimacy which appalled [German] generals, who felt that they were rapidly losing control over events’. The Soviets faced the same dilemma with Chuikov noting that, ‘in street fighting a soldier is on occasion his own general’.⁴⁶

The Importance of Direct-Fire Weapons in Urban Combat

A fundamental feature of fighting in cities revealed during World War II was that urban architecture foreclosed visibility, making weapon ranges shorter and creating restricted fields of fire. Often indirect fire from artillery and aircraft proved ineffective in street fighting while tanks and artillery were sometimes difficult to move through narrow, rubble-filled streets. These restrictive conditions placed a premium on the usefulness of direct-fire weapons carried by infantry squads. Marshal Chuikov argued that the key weapons in urban military operations were sub-machine guns, grenades, sniper

rifles and flame weapons.⁴⁷ When Soviet forces were fighting in the streets of Berlin in 1945 his tactical advice to units was as follows:

You will find yourself in a labyrinth of rooms and corridors all full of danger... Chuck a grenade at every corner. Go forward. Fire bursts of machine-gun fire at any piece of ceiling which still remains. And when you get to the next room chuck in another grenade. Then clean it up with your sub-machine-gun. Never waste a moment.⁴⁸

In Manila in 1945, American forces also relied heavily on close-range weapons to demolish Japanese positions. The most favoured infantry weapons were grenades and flame-throwers that were used to clear rooms or destroy bunkers. In an echo of Chuikov's advice, one history of the battle for Manila records:

One overriding lesson was learned [by American troops] early on – in any attack on a defended building, the key was to go in firing with every weapon available. The alternative was just to stand off and allow the artillery to demolish the structure brick by brick, burying the Japanese in the ruins.⁴⁹

The Problem of a Civilian Presence in Cities

Unlike open warfare, urban combat in World War II often involved large numbers of non-combatants, so imposing constraints on military action. For example, in the battle of Groningen in the Netherlands on 13–16 May 1945, some 7,000 Canadian troops engaged 6,000 German defenders of the city. The presence of friendly Dutch civilians in a city originally of medieval design meant that Allied commanders ruled out using artillery and air bombardment in favour of conducting house-to-house operations with infantry supported by armour. The Germans demolished key buildings to block streets and channel enemy assaults requiring the Canadian troops to employ mouseholing techniques into adjacent buildings and to use tanks for counter-battery fire. Although the fighting was fierce, when the Germans surrendered only 100 civilians had been killed.⁵⁰

Not all of the civilian populations in contested cities during World War II were as fortunate as that of Groningen. In August 1944, when the Polish Home Army sought to liberate Warsaw from German occupation, the uprising resulted in the devastation of most of the Polish capital and the deaths of almost 200,000 insurgents and civilians. Reichsführer Heinrich Himmler declared that 'Warsaw will be erased' and Ukrainian anti-partisan brigades under German SS command became engaged in 'Dantean scenes of orgy and destruction'.⁵¹ Widespread destruction and large-scale civilian casualties were also features of the battle for Manila in 1945. In the struggle for the Philippines capital, General Douglas MacArthur forbade the use of aerial bombing on a city regarded by many as 'the pearl of the Orient'. In a bid to avoid unnecessary destruction of buildings and the killing of innocent Filipino civilians, MacArthur restricted American forces to the use of artillery and the clearance of the city, building by building, using infantry. MacArthur's rules of engagement were, however, in vain. The 30,000 Japanese defenders reacted to the American advance into Manila with a fanatical defence accompanied by incendiary charges and the massacre of almost 100,000 Filipino civilians.⁵² Major General Robert S. Beightler, commander of the US Army's 37th Infantry Division, viewed the destruction of Manila from his headquarters, observing:

Great sheets of flame swept across the rooftops [of Manila], sometimes spanning several city blocks in their consuming flight. The roar, even at that distance was like a Bessemer converter,

and the earth shook frequently... We saw the awful pyrotechnics of destruction, spreading ever faster to encompass and destroy the most beautiful city in the Far East.⁵³

By the time the Americans liberated Manila, 70 per cent of the city's utilities and most of the residential and business areas had been reduced to ruins. Of Allied cities, only Warsaw suffered more human and physical damage from urban military operations.

The Absorption of Manpower in Urban Warfare

It is an article of faith amongst military professionals that cities swallow armies. In World War II, this article of military faith was reconfirmed. Most armies that engaged in urban warfare between 1942 and 1945 soon discovered that large numbers of troops were required for such operations. In the words of Ashworth, 'the urban environment creates a highly physically structured but fragmented series of compartmentalised battlefields that can absorb large quantities of personnel—which, once committed, will be difficult to extricate, regroup or reinforce'.⁵⁴ Urban terrain restricts military frontage and compels commanders to deploy their manpower in depth because it is often the only way to master the vertical, horizontal and sub-surface morphology of a modern city. These factors were at work in urban battles such as Stalingrad, Berlin and Manila. For example, in Stalingrad in 1942, the Soviet 62nd Army virtually disappeared while fighting in the ruins of the city. The Germans deployed nine divisions in the struggle for Stalingrad and eventually the campaign cost the *Wehrmacht* the loss of the German 6th Army under General von Paulus.⁵⁵

In the Berlin campaign in April 1945, the Soviets mustered 2.5 million troops in three fronts along the Oder River. Later, a million of these soldiers were awarded a Soviet medal for participating in the fighting within the city. Soviet casualties in Berlin amounted to 352,475 of which nearly 80,000 were deaths.⁵⁶ In the Pacific campaign, in February–March 1945 during the assault on Manila, the Americans ringed the city using two divisions: the 37th Infantry Division and the 1st Cavalry Division. For the Americans, the cost of taking Manila was 6,575 casualties including 1,010 killed in action.⁵⁷ Even in smaller city battles, the consumption of military manpower was considerable. At Groningen in the Netherlands in May 1945, 13 Canadian battalions supported by Sherman tanks and armoured cars were deployed in a three day battle against German forces. Every day, however, a rotation of fresh Canadian troops became essential because of the tempo of the urban fighting.⁵⁸

The Physical and Psychological Strain of Urban Warfare

Urban operations during World War II demonstrated that fighting in towns and cities was extremely tiring both physically and mentally. Both the Axis and Allied forces found that urban combat combined military danger with industrial hazards. Fighting in cities came to represent a form of warfare that was multidimensional in character—demanding simultaneous tactical attention at horizontal, vertical and interior and exterior levels—a situation that necessitated constant alertness and frequent regrouping of forces. Close combat, physical discomfort and the isolation of small unit operations contributed to the onset of battle fatigue within hours rather than days.⁵⁹

Physical fatigue was compounded by frequent sensory overload from constant noise, vibration and danger from ricochet, fragment wounds and from the back-blast emanating from weapons fired in confined spaces. Psychological stress came from the perpetual danger of hidden ambushes, sniper fire and from booby traps. As the *Wehrmacht* commander, General Karl Strecker put it at Stalingrad, 'the enemy is invisible. Ambushes out of basements, wall remnants, hidden bunkers and factory ruins

produce heavy casualties among our troops'.⁶⁰ Evidence from urban combat in World War II indicates that it was perhaps the most demanding form of warfare, both physically and psychologically, for Axis and Allied troops. During 1942, doctors treating German soldiers in the 6th Army in Stalingrad found that many of them had the medical problems of old men: changes in bone marrow and loss of fatty tissue leading to a shrinking of the heart. The condition was caused by exhaustion, exposure and, above all, by the constant physical and psychiatric stress of urban combat.⁶¹ 'In its way', writes Beevor, 'the fighting in Stalingrad was even more terrifying than the impersonal slaughter at Verdun [in 1916]'.⁶²

The Imperative for Combined-Arms Approach in Urban Combat

Although urban combat has been described as being 'a peculiarly infantry skill', combined-arms teams are frequently the real key to success in fighting in cities.⁶³ In World War II, the urban environment often placed severe limitations on the use of indirect fire support, placing a premium on firepower, protection, and mobility from combined arms teams of infantry, armour, artillery and engineers. In the urban environment what mattered was protection and firepower—two requirements that were often fulfilled by employing infantry and armour in unison. Operating in isolation both infantry and tanks were vulnerable to entrenched opponents in urban warfare. Infantry tended to lack the weight of firepower and protection while tanks, designed for the open battlefield, often tended to be too heavy with their weapon systems restricted by the confines of city warfare.

In his history of combined arms warfare, the American military historian, Jonathan M. House, notes that in World War II, tanks had to be carefully escorted by infantry to avoid being destroyed by anti-tank guns, while armour was often used as mobile artillery in order to provide direct fire to advancing assault troops.⁶⁴ Thus, in the battle for the town of Ortona in Italy in December 1943, Allied infantry and armour operated together in order to shield their advance until sufficient ground troops were in a position to manoeuvre through the streets under cover of tank guns to overrun German positions. Tanks were used to knock out strongpoints at street level while infantry engaged upper level positions with small arms and mortars. Both the sieges of Stalingrad and Berlin witnessed similar instances of all-arms cooperation. In both battles, German tanks and self-propelled assault guns such as the *Sturmgeschütz* (a 105mm howitzer fitted on a tank chassis) proved important in providing fire support for ground troops.⁶⁵

Another view on the value of combined arms in facilitating success in fighting in cities is offered by Kendall D. Gott. In a study focusing on the role of tanks in urban warfare, Gott notes:

There is one unshakable principle in their [tank] employment in urban terrain. Except in the most extraordinary circumstances, tanks and armored vehicles must be closely supported by sufficient infantry or massed firepower to protect them from a wide variety of hand-held antitank weapons common on the modern battlefield. Vehicles cut off from their infantry support will quickly fall victim to their enemy.⁶⁶

Gott's point is well-illustrated by American tactics during the battle for the German city of Aschaffenburg during March–April 1945.⁶⁷ After an advance by Sherman tanks, unprotected by infantry, met stiff resistance from German troops, the US 7th Army assaulted the city using combined-arms tactics. Once infantry and tanks were deployed together, US forces successfully penetrated the city because the suppressive fire provided by the armour permitted American infantry to manoeuvre through the streets in order to neutralise key enemy positions. At Aschaffenburg, the Germans eventually surrendered after suffering 700 killed or wounded for the loss of 193 Americans. One

author describes the battle for the city of Aschaffenburg as offering key insights into the character of urban combat and as ‘a noteworthy example of how an attacking force can employ combined arms to negate the traditional advantages enjoyed by the defense’.⁶⁸

Urban Operations in the Cold War Era

After the grim experience of urban warfare in World War II, it is not surprising that, during the Cold War era, most of the world’s modern armies rapidly resumed their natural dislike of fighting in cities. Nonetheless, the city fighting between 1939 and 1945 provided advanced armies with a rich laboratory for the development of doctrine. For the next half a century, Western military doctrines of fighting in built-up areas (FIBUA) and military operations on urbanised terrain (MOUT) possessed two main characteristics. First, they drew mainly on World War II lessons learned and second, they tended to be viewed in the context of a North Atlantic Treaty Organisation (NATO)–Warsaw Pact conflict on the European Central Front.⁶⁹

Ironically, however, during the Cold War era, most incidents of urban warfare occurred mainly in the context of insurgency. While most advocates of revolutionary warfare agreed with Fidel Castro’s observation that ‘the city is the graveyard of revolution’, urban areas did become a focus for guerrilla movements in Latin America that embraced the neo-Blanquian ideas of Abraham Guillén and Carlos Marighela.⁷⁰ There was a belief among many Latin American revolutionaries that, because of rapid urbanisation, rural insurgency was becoming ineffective. Walter Laqueur describes the rationale for urban guerrilla activity:

The idea of the countryside ‘encircling’ the cities seemed outdated, however propitious the ‘objective’ revolutionary situation in the villages. ‘Urban guerrilla’ strategy is based on the recognition of the fact that the political–military–economic center of power is in the great conurbations, that it could and should be attacked there, not from the periphery.⁷¹

Yet an urban guerrilla strategy failed over Latin America. Carlos Marighela, author of *The Minimanual of the Urban Guerrilla*, was killed by Brazilian forces in the city of São Paulo in 1969. Other groups, notably the Tupamaros in Uruguay, succeeded only in destroying that country’s democracy before being crushed by a military dictatorship. Like the European insurrectionists before them, the Latin American revolutionaries learned to their cost that soldiers and police were able to master the intricacies of the urban jungle.⁷² However, urban insurgency did prove to be an effective strategy for a number of anti-colonial independence movements. For example, in Palestine during the mid-1940s, the Jewish *Irgun* under Menahem Begin—and its offshoot the Stern Gang—waged an urban guerrilla campaign to end British occupation. In the 1950s, the British and French armies engaged in urban operations in the counter-insurgency campaigns in Cyprus and Algeria. In Cyprus, between 1955 and 1957 the EOKA (National Organisation of Cypriot Fighters) succeeded in pinning down 40,000 British soldiers, many of them in Nicosia. In Algeria, in the famous 1957 Battle of Algiers, French paratroops under General Massu destroyed the Algerian National Liberation Front (FLN) terrorist network within the city but with a ruthlessness that represented an unacceptable political cost to the French Government. In the 1960s, the British faced urban insurgency in Aden and from 1969 onwards became involved in a 30-year campaign against the Provisional Irish Republican Army in the cities of Northern Ireland.⁷³ Urban counter-insurgency operations also became a feature of the intractable Arab–Israeli conflict. In 1982, the Israeli Defence Force besieged Beirut in an attempt to remove guerrillas of the Palestine Liberation Organisation (PLO) from Lebanon. The Israelis

occupied small areas of PLO-held territory employing selective air strikes and artillery barrages along with a range of capabilities adapted for urban operations including Caterpillar D-9 bulldozers and M60 and Merkava tanks.⁷⁴

There were some major exceptions to the low-intensity urban operations of the Cold War era. In 1968 during the Vietnam War, the United States military fought an unexpected and large-scale urban battle in the city of Hue and, in the process, rediscovered the costly nature of urban operations. In the battle for Hue more American Marines were killed on a daily basis than at Okinawa in 1945.⁷⁵ Similarly, in 1973, during the Yom Kippur War, the Israelis fought a tough urban battle in Suez City. Forgetting the lessons of combined arms in World War II, the Israelis deployed armoured forces unsupported by infantry. As a result, they lost a large number of tanks and armoured fighting vehicles to Egyptian troops armed with rocket-propelled grenades and a variety of shoulder-fired missiles. Finally, in the battle of Khorramshahr on the Shatt Al-Arab waterway in 1980 during the Iran–Iraq War, Iraqi forces fought a 25-day battle for the city losing 9,000 troops during their offensive.⁷⁶

In the 1970s, there was little professional interest in urban warfare in the US Army. In 1979, the US Army's Field Manual (FM) 90-10 *Military Operations on Urbanized Terrain (MOUT)* stated 'tactical doctrine stresses that urban combat operations are conducted only when required and that built-up areas are isolated and bypassed rather than risking a costly, time-consuming operation in this difficult environment'.⁷⁷ In the mid-1980s, however, a Defense Science Board Study noted that if the US military continued to neglect the possibility of having to operate in Third World cities, such an approach might amount to 'avoiding intervention' in areas of the world vital to US interests.⁷⁸ In March 1987, perhaps partly in response to this report, the US Army published *Modern Experience in City Combat*.⁷⁹ The latter book, a study of 22 urban battles from Stalingrad in 1942 through Hue in 1968 and Suez City in 1973 to Beirut in 1982, was an attempt by the US Army to update its knowledge of military operations in urban terrain. However, the publication did not detect any clearly emerging new patterns in urban military operations. Rather, it was cautious in approach and traditional in tone, echoing FM 90-10 by recommending that, wherever feasible, American forces avoid fighting in cities. If such avoidance was not possible, then an attacker should encircle and isolate a city. Overall, *Modern Experience in City Combat* reiterated many of the lessons of World War II, including the strength of defensive operations, the importance of direct-fire weapons and the need for combined-arms operations.⁸⁰

Ultimately, urban combat had little impact upon Western military doctrine which, in the 1980s, adopted the principles of manoeuvre warfare as symbolised by the US Army's theory of Air–Land Battle. For example, although the 1989 US invasion of Panama City to remove the Noriega regime was largely an urban operation, it was conceived in terms of an air–sea *coup de main* employing overwhelming numbers, firepower and mobility. When the Gulf War occurred in 1990–91, the swift high-technology air–land victory of the Coalition forces over the Iraqis reinforced the professional military's preference for open and mobile warfare employing the latest technology.⁸¹ Following the success of the First Gulf War, much of Western military thinking became dominated by the American theory of the Revolution in Military Affairs (RMA) based on precision air power, rapid dominance operations and ISR (intelligence, surveillance and reconnaissance) technologies and networks.⁸²

Global Urbanisation: Features of Contemporary Urban Military Operations

Despite the focus of the Pentagon on major theatre warfare in the 1990s, warfighting in the post-Cold War era reflected not symmetrical conflict but the rise of asymmetrical operations. The US

experience in Somalia, the Russian experience in Chechnya and the Palestinian *intifada* against Israel in the 1990s suggested that one of the major features of asymmetrical operations was a revival of urban warfare by insurgents, tribal militias, warlords and diverse non-state organisations.⁸³

The increased trend towards urban warfare has come about largely because globalisation and demographic growth are transforming the developing world from a rural to an urban environment. As early as 1961, Lewis Mumford foresaw an era in which the city would be transformed into a 'post-historic' megalopolis and become a universal form. Agricultural areas, he suggested, were destined to become 'isolated green islands, slowly disappearing under a sea of asphalt, concrete, brick and stone'.⁸⁴ Four decades later, Mumford's vision is being vindicated with the rise of the 'invisible city' defined by information networks and cybernetic signatures based on the provision of services and financial goods. One recent study notes that 'cities of the twenty-first century will be the dominant habitat for humankind... Cities are now the great concentrators of natural capital consumption'.⁸⁵ The rise of the networked global megalopolis also reflects what anthropologist Robert McC. Adams calls the 'awesome technological destruction of distance' occurring in the new millennium.⁸⁶

In 2000, the world's population passed six billion and of this number, 46 per cent were located in cities. Demographers estimate that, by 2015, the global population will be 7.2 billion. By 2025, some 60 per cent of the world's population—or five billion people—will probably live in cities. Ninety-five per cent of this population growth is occurring in the developing world and almost all of it is likely to be in cities. In 1970, in the Asia-Pacific region, there were only eight cities with populations in excess of five million. At the beginning of the 21st century there were 30 including Calcutta, Jakarta, Karachi, Beijing and Tokyo.⁸⁷ These trends have obvious implications for the theory and practice of warfare in the 21st century. In the new millennium, war and cities appear to be redefining themselves in terms of space, scale, time, mobility and power because of globalisation and the diffusion of technology. As one observer puts it:

Warfare, like everything else, is being *urbanized*. The great geopolitical contests of cultural change, ethnic conflict, and diasporic social mixing; of economic re-regulation and liberalization; of militarization, informatization, resource exploitation, and ecological change are, to a growing extent, boiling down to often violent conflicts in the key strategic sites of our age: contemporary cities.⁸⁸

If cities are becoming the crucibles for future warfare then the West has one obvious strategic weakness: demography. While the developing world burgeons with people, much of the West's demography—with the exception of the United States—is seemingly in long-term decline. By 2015 it is estimated that urban dwellers in developing nations will outnumber those in developed countries by three to one. If the developing world represents an explosion of youth, the developed world increasingly represents the phenomenon of the ageing society. As a result, the militaries of the advanced world increasingly rely on technology to compensate for their growing shortages of military manpower.⁸⁹

The transformation of the world from a rural towards a predominantly urban environment over the past half century has persuaded a number of Western policy analysts and military theorists that cities may well become the main battlegrounds of the 21st century. For example, the US scholar, Richard J. Norton, has pondered the possible security implications of the rise of the 'feral city'—a phenomenon defined as a megalopolis suffering from an urban hypertrophy that renders it at once 'savage, toxic and ungovernable'.⁹⁰ The British defence analyst, Alice Hills, has speculated that just as the Cold War placed security studies at the centre of the intellectual and political challenges confronting the West,

so the problem of urbanisation may result in ‘urban operations shaping many of the critical security issues of the twenty-first century’.⁹¹ Other analysts have been more direct and prescriptive in their writings. In 1996, the military theorist, Ralph Peters, argued:

The future of warfare lies in the streets, sewers, high-rise buildings, industrial parks, and sprawls of houses, shacks, and shelters that form the broken cities of our world. We will fight elsewhere, but not so often, rarely as reluctantly, and never so brutally. Our recent military history is punctuated with city names ... but these encounters have been but a prologue, with the drama still to come.⁹²

In 1997, the policy analyst, William G. Rosenau, pointed to the demanding nature of city fighting as ‘primordial combat ... distinct from the elegant maneuver warfare that characterized the US conduct of the [1991] Gulf War’.⁹³ Rosenau went on to warn that America’s technological advantage in warfare was likely to be negated in urban warfare. He highlighted many of the lessons of World War II including the strength of the defensive, the importance of small unit operations, the need for armoured forces, the utility of direct-fire weapons, the high consumption of infantry manpower and the requirement for population control measures using realistic rules of engagement.⁹⁴ Writing in 1999, Professor Roger Spiller of the US Army’s Combat Studies Institute, predicted that warfare might be in the process of turning a ‘sharp corner’. He wrote:

In future, professional soldiers the world over will be more likely to find themselves operating – and sometimes fighting – in cities than in any other environment. The three wars fought by the United States since 1945 are the last gasps of a dying military tradition in which immense armies maneuver against one another over vast, unencumbering landscapes.⁹⁵

A similar view was expressed by a recently retired US Army Chief of Staff. In October 2001, General Gordon A. Sullivan, then President of the Association of the US Army, argued that the age of *levée en masse* and industrial-age armies was waning. ‘In the past half-century’, he observed, ‘the classic military conflict of armies maneuvering in the field has been replaced by conflicts that center on, rather than avoid, heavily populated areas’.⁹⁶

Rapid urban demographic growth in the developing world has been accompanied by technological developments that have seen a proliferation of cheap weaponry and equipment that favours combat in towns and cities—including assault rifles, rocket-propelled grenades (RPGs), shoulder-fired missiles, Internet communication, global positioning systems, cellular phones and commercial scanners.⁹⁷ In the first half of the 1990s, several modern armies experienced the first bitter taste of urban combat in the information age. In Mogadishu in 1993, in the famous ‘Black Hawk Down’ incident, an American Ranger task force of 145 personnel without the protection of armoured vehicles suffered 91 casualties including 18 dead at the hands of Somali militia—an overall casualty rate of 60 per cent. The Americans discovered to their cost that a light-infantry force mounted in HMMWV (high mobility, multipurpose wheeled vehicles, called ‘Humvees’) without armoured support was highly vulnerable in urban environments while attack helicopters such as the AH-1 Cobras could be easily targeted by enemy RPGs during close combat.⁹⁸

In Chechnya, between December 1994 and February 1995, the Russians suffered an even bigger reverse in the city of Grozny at the hands of Chechen secessionists in an operation that has been described as ‘the definitive example of a poorly executed armored assault into a large urban area’.⁹⁹ A Russian task force of 6,000 soldiers mounted in T-80 tanks and BTR-80 armoured personnel carriers,

but without dismounted infantry support, became immobilised and trapped in the streets of Grozny by nimble Chechen fighters using machine guns and RPGs. Russian tanks were unable to elevate their guns high enough to engage targets on the rooftops or depress them low enough to destroy Chechen positions in basement bunkers. The result was a military catastrophe. The Russian Maikop Brigade alone suffered 800 troop casualties alongside the loss of 20 of its 26 tanks and 102 of its 120 infantry fighting vehicles. Overall in the 1994–95 Russian offensive into Grozny, 1,376 soldiers were killed and 200 tanks and armoured vehicles were destroyed by enemy fire. When the Russian military eventually took Grozny in 2000, it did so by resorting to the primitive method of levelling much of the city with artillery barrages, air strikes and by using a range of fuel–air explosive weapons.¹⁰⁰

In the Middle East, the Israeli experience on the West Bank during the Palestinian *intifada* also illustrated both the rise of, and military complexity of, urban operations in places such as Jenin and Ramallah against the Palestinians. In operations in Jenin in April 2002, the Israelis mixed information-age battlespace preparation by state of the art reconnaissance drones and UAVs with industrial-age techniques of mouseholing through walls to avoid enfiladed streets. Caterpillar D9 armoured bulldozers complete with ‘mine plows’ were employed to clear away fortified buildings, IEDs and booby trap nests thus allowing tank–infantry squads to manoeuvre through streets more easily. Despite the application of new technology systems, operations in Jenin and Ramallah still required the kind of small unit tactics and combined arms organisation that would have been familiar to veterans of World War II city fights.¹⁰¹

Operations in Mogadishu, Grozny and in the ongoing Israeli–Palestine confrontation demonstrated how diverse irregulars and militia fighters could use the urban environment in order to inflict reverses upon high-technology conventional military establishments. As a result, from the late 1990s onwards, the US military sought to improve its capacity to operate in cities, especially in full-spectrum operations covering humanitarian missions, peace enforcement and urban combat. Significant theoretical analyses were completed by RAND Corporation scholars focusing on the technical and tactical peculiarities involved in conducting military operations inside cities. These studies reiterated many of the lessons of World War II such as the strength of the defensive, the importance of firepower in urban operations, the fragmentation of combat and the limitations on indirect fires.¹⁰² One 1998 publication found that there were widespread concerns in the US military that ‘current doctrine recommends avoidance of urban operations when demographic trends make avoidance an unlikely alternative’.¹⁰³

The individual American Services then began to revise their approach to the conduct of urban warfare. Taking its cue from one of its Commandants, General Charles C. Krulak, who in 1998 stated that ‘the future [of war] may well not be “Son of Desert Storm”, but rather “Stepchild of Somalia and Chechnya”’, the US Marine Corps produced a new doctrine pamphlet entitled, *Military Operations on Urbanized Terrain* and began experimentation programs such as *Urban Warrior* and *Project Metropolis*.¹⁰⁴ For its part, the US Army published *An Infantryman’s Guide to Combat in Built-up Areas* in 1993, and between 2001 and 2003, three more field manuals followed dealing with key aspects of urban operations.¹⁰⁵ These Marine Corps and Army doctrinal publications tried to take into account the heterogeneity of urban cityscapes alongside their topographical complexity, man-made construction and human geography.¹⁰⁶ This multidimensional approach was highlighted in September 2002 in US *Joint Doctrine for Urban Operations*. The latter publication defined joint urban operations as interactive military activities requiring careful shaping by military forces since they were undertaken against objectives in which ‘man-made construction and density of noncombatants are the dominant features’.¹⁰⁷

The United States was not alone in its focus on urban military operations. In 2002, NATO's Research and Technology Organisation prepared a working group report for member armies on the subject that examined trends out to the year 2020.¹⁰⁸ The report mirrored many of the conclusions reached in American studies of urban military operations and, in particular, highlighted the complex interaction of man-made physical structures, urban infrastructures and non-combatant populations. The NATO analysis warned that 'today's urban environment represents the centres of industry, commerce and social activities and, because of the size and presence of different groups within it, is the probable area where tensions and perhaps conflicts are most likely to arise in the future'.¹⁰⁹ In 2004, in another study concentrating on the application of urban combat advanced training technology, NATO's Research and Technology Organisation recommended improved interoperability amongst NATO militaries in order to facilitate more efficiency in joint and coalition operations in cities.¹¹⁰

The War in Iraq and Urban Operations: The Case of the Second Battle of Fallujah

Despite positive US Marine Corps and Army attempts to modernise doctrine, training, equipment and organisation for urban operations, the post-2003 insurgency in Iraq has demonstrated the daunting challenges presented by military activity in cities. Since late 2003, US-led operations in cities such as Mosul, Ramadi, Najaf, Samarra and, especially, Fallujah, have shown how the urban environment can test even the most powerful military in the world.¹¹¹

In 2004, some 5,600 insurgents were identified as operating in the Fallujah–Ramadi corridor west of Baghdad with about 3,000 located in Fallujah, 'the city of mosques'. The city had become 'the bright ember in the ash pit of the insurgency'—the centre of gravity for Abu Musab al-Zarqawi's foreign *mujahidin* and assorted Sunni fighters—who together had assembled a staggering 629 arms caches throughout Fallujah.¹¹² In the bid to quell the Fallujah insurgency, US forces became engaged in the most intensive urban combat since the days of the Vietnam War. The first battle for Fallujah, Operation *Valiant Response* occurred in April 2004 and saw the most extensive use of tank–infantry integration in military operations on urban terrain since the struggle for Hue City in 1968. Although *Valiant Response* was inconclusive with US forces refraining from penetrating the centre of Fallujah, a major lesson of the operation was that armour and ground troops needed to coordinate their actions to achieve military effectiveness. As one participant put it, 'mutual support was vital to the survival of both tanks and infantry. Tanks protect the infantry and the infantry protects the tanks'.¹¹³

By the time the second battle of Fallujah, code-named Operation *al-Fajr* (Dawn) occurred in November 2004, most of the 300,000 Iraqi civilians had fled the city. An assault force of 6,000 US Marines and soldiers supported by 2,000 Iraqi troops including a commando battalion divided the city into north and south axes and created six areas of responsibility. In contrast to Hue, the Marines in Fallujah could see the enemy through the deployment of *Pioneer* unmanned aerial vehicles (UAVs) and other surveillance techniques and could engage in 24 hour targeting against surface targets as a prelude to physical assault. As a result, US forces 'owned the rooftops' and located and targeted over 300 insurgent defensive positions. In addition, 33 of the city's 72 mosques were identified as having been converted into defensive strongholds by the insurgents. Before and during the US-led assault, enemy nodes inside Fallujah were subjected to a joint bombardment consisting of 2,000 artillery and mortar rounds and ten tons of aerial precision weapons, including joint direct attack munitions (JDAMs).¹¹⁴

However, indirect fires and aerial precision attack could not eliminate an enemy that employed an effective subterranean defence system based on trenches, tunnels and bunkers, and direct ground

assault became necessary. During the assault into Fallujah, the US-led task force was forced to thread its way through a network of buildings, burnt-out vehicles and mosques that insurgents and foreign *mujahidin* had transformed into a defensive maze complete with multiple ambush points, booby traps and IEDs.¹¹⁵ According to the commanding officer of the 7th Marine Regiment, Colonel Craig Tucker, during Operation *al-Fajr*, the fighting in Fallujah was a classic example of the assault force having to master the geometry of fire and movement. The advance into the city involved ‘360 degree combat’ in which ‘angles were critical’. Much of the fighting took place in alleys, rooms and corridors in sudden encounters in which the volume of fire was enormous. The ferocity of the fighting in Fallujah can be gauged by the fact that of the city’s 39,000 buildings, some 18,000 were damaged in the fighting. During the Coalition’s break-in to the city, most of the combat took on the character of conventional firefights with insurgent elements resorting to irregular tactics during the clear-out phase of the assault. Overall, for the US-led assault force, the integrated use of firepower, combined arms and the role of squad leaders became absolutely vital to tactical success.¹¹⁶

A combination of tanks, infantry fighting vehicles, infantry weapons and TOW (tube-launched optically-tracked wire guided) and Javelin missiles was used to punch into enemy positions. In *No True Glory*, Bing West provides a graphic description of contemporary urban combat in Fallujah:

On the rooftops the [American] snipers were shooting at the insurgents flushed [out] by the tanks while SMAW [shoulder-launched multi-purpose assault weapon] gunners systematically destroyed the houses designated by the squads. It was exhausting, dangerous work clearing [Phase Line] Henry, walking down narrow, dust-clogged alleys behind the growling tanks, barely able to hear the shouts of the fire team and squad leaders, hurling grenades in windows, slapping C-4 [explosive] to door fronts, ducking from the blast, waiting for the dust to clear a bit, then bursting in, a stack of four or six Marines with rifles and pistols, firing and blasting from room to room.¹¹⁷

During the battle, careful fatigue management became an important issue due to the gruelling nature of the street fighting and the danger involved in clearing, or demolishing, enemy-held buildings.¹¹⁸ Controlling fatigue among squad leaders was a particular command problem since small unit leaders, if killed or wounded, could not be replaced easily. The demanding nature of the urban combat was demonstrated when, in one instance, a Marine company took 16 hours to capture the Muhammadia mosque. Constant sniping by marksmen in minarets was also a major problem necessitating in some cases a Harrier jet strike using 500 pound bombs against the minaret structures.¹¹⁹ Operation *al-Fajr* showed once again the casualty-intensive nature of urban operations. The US lost 51 killed and 425 personnel seriously wounded—an eight per cent casualty rate—while between 1,200 and 2,175 insurgents were estimated killed.¹²⁰ It is important to note that these casualties occurred in a city largely empty of civilian non-combatants. Had the insurgents exploited elements of the civilian population as a ‘demographic battlespace’ vulnerable to instant media images, then operations would have been greatly complicated for the attacking force and casualties probably even higher.¹²¹ As will be seen later in this study, in modern military operations the images relayed by the global media represent a severe challenge of perception-management for both uniformed professionals and their political masters.

All the old lessons of urban warfare were reaffirmed in Fallujah. The application of combined arms tactics, effective firepower and good logistics management proved fundamental to success. Major General Jim Molan, the Australian soldier who served as Deputy Chief of Staff for Operations in Coalition Headquarters has observed, ‘the infantry/tank teams ... were the backbone of the fighting in

Fallujah and the major reason for success. The enemy had no answer for the winning combination of tanks and infantry in the urban environment'.¹²² Forward-positioned M1 Abrams tanks and Bradley infantry fighting vehicles covered by dismounted infantry broke up layers of IEDs and booby traps. Armour helped to flush out insurgents by mowing down the walls of enemy-held buildings, so allowing infantry squads to target and kill their *mujahidin* opponents. Rear tanks were often used in a direct fire artillery role since their guns could shoot higher than that of armour deployed forward.¹²³

In Fallujah, munitions expenditure can only be described as astonishing and the operation vindicates Marshal Chuikov's view that urban battles are indeed battles of firepower. There were 540 air strikes into the city and 14,000 artillery and mortar shells were expended along with 2,500 tank main gun rounds. In terms of infantry munitions, up to 300 per cent more rounds were expended than anticipated during the original mission planning by American logisticians. This expenditure of munitions included 112 per cent more .50 calibre ammunition and 166 per cent more fragmentation grenades.¹²⁴ Given such demands, the information-age Wal-Mart model of 'pull' and 'just-in-time' logistics adopted by the US Marine Corps in the 1990s proved inadequate. As a result, the Marines reverted to the traditional 'push' form of logistics in the form of an 'iron mountain' of equipment and munitions.¹²⁵ In terms of tactics and logistics the struggle for Fallujah was, in many respects, an old-fashioned urban battle of fire and movement with strong echoes of the past. In his study of Fallujah, Major General Molan notes:

What is common knowledge about urban warfare was again proved to be true—never make an uncovered move. If you are putting a squad or platoon into a house, you may need to cover the assaulting platoon's move to the house, its assembly before the entry and its operations once it goes into the house.¹²⁶

Indeed, putting political context, technology and rules of engagement aside, the anatomy of operations in Fallujah in November 2004 would have been easily recognisable to the GIs of the industrial age who cleared the streets of Manila in 1945 and to those who fought in Hue City in 1968. As West puts it, 'Marines in Fallujah attacked room by room, as they had done in Hue City, Vietnam, thirty-six years earlier'.¹²⁷

The Debate on Contemporary Urban Military Operations

Urban military operations—particularly those involving counter-insurgency—remain contentious in the 21st century because they usually require close combat, are casualty-intensive and diminish many of the high-technology advantages that Western forces possess. In the wake of such battles as Fallujah during the Iraq War, some US analysts regard urban operations as antithetical to the American way of war. For example, the historian, Anthony James Joes argues that, because American strategic culture is dominated by a form of open mass warfare and by principles of direct assault, it is not easy for US forces to adapt to urban warfare conditions. He observes 'American combat proclivities are not promising foundations for urban counterinsurgency, at least not for one waged by a media-dominated democracy'.¹²⁸ As a result, Joes recommends that the US 'adopt a settled policy against committing US forces to counterinsurgency operations in cities'.¹²⁹

Unfortunately, as Hills points out 'the choice of whether to become involved in cities may not be the West's to make'.¹³⁰ Simple avoidance of city warfare may not be possible, particularly since Western technological advantage appears to be driving adversaries into complex environments such as cities.

Thus, the question facing many advanced defence establishments in the early 21st century is not the luxury of abstention, but the challenge of developing a coherent strategic-operational approach to military action on urban terrain. The major problem of urban warfare appears to be conceptual rather than technological with uniformed professionals and defence analysts divided into two schools of thought on the subject: a specialist school and a generalist school. Advocates who argue for a specialist approach to urban operations usually focus on the unique character of the urban environment, while those who continue to adhere to a generalist approach tend to emphasise the traditional importance of military role over environment.¹³¹

The Specialist Approach to Urban Operations

Military analysts who favour a specialist approach to urban operations argue that, in 21st century conditions of globalisation, warfare is shifting from landscape to cityscape. It is a shift that is seen as being as dramatic as the transition from close-order fighting in the 19th century to open-order fighting in the 20th century. In the words of RAND analyst Russell Glenn, a noted American authority on urban combat, 21st century armies must in consequence learn ‘to treat urban operations as a rule not an exception’.¹³² Kelly P. Houlgate argues that specialisation for urban operations should not be equated with a loss of basic military skills in other areas. He suggests that describing urban operations as ‘specialized’ is misleading and ‘akin to calling mechanized operations specialized’. Moreover, becoming skilled in urban combined operations has the effect of magnifying military skills in other terrain—even if such skills become of secondary value.¹³³ Similarly, the American military theorist, Robert R. Leonhard, argues that ‘urban warfare is the fight of the future’ and is a form of combat that needs to be fully embraced.¹³⁴ Leonhard writes:

We must ... embrace the city fight as our optimum scenario and cultivate the art and science of information siege tactics. Just as the [US] Army learned to own the night instead of fearing it, so also must we own the city. Tomorrow’s objective is not the top of a hill; it lies in the middle of a city block, surrounded by noncombatants.¹³⁵

Leonhard goes on to suggest that US forces lack dynamic doctrine for fighting in cities and remain in thrall to ‘a myth-based dogma built upon avoidance, flavored with a few ideas about how to clear rooms with machine guns’.¹³⁶ Moreover, neither Stalingrad nor Grozny represent useful models of analysis for developing future modes of urban warfare. Rather, the problems that US forces encountered in Mogadishu in 1993 are more likely to be typical of 21st century city operations.¹³⁷

According to Leonhard, future US force structure needs to be optimised for the city rather than the countryside. Indeed, in terms of doctrine, open warfare should be relegated to the status of an appendix. He further advocates the creation of specialised Inter-agency Task Forces (IATFs) for rapid transition to full-spectrum operations in order to replace military Joint Task Forces. He believes that an IATF should be based on either a medium-weight mechanised Marine Expeditionary Unit (MEU) or an Army brigade, but with the addition of embedded teams of non-military specialists. The latter might include representatives from the State Department, the Central Intelligence Agency and other departments such as the Federal Bureau of Investigation, the Treasury and Health. Finally, Leonhard recommends that assault tactics in urban operations should be avoided by US forces in favour of what he terms ‘information age siege operations’ using robotic surveillance techniques, precision fires and non-lethal devices such as CS gas and acoustic and microwave systems.¹³⁸

It is worth noting that the views of Leonhard are supported by the French military theorist, Georges-Henri Bricet des Vallons. Drawing on the work of the French cultural theorist, Paul Virilio, des Vallons

argues that specialisation in urban operations merely reflects the reality that strategic globalisation has become a vector in the creation of ‘metropolitical warfare’ as a new blend of advanced combat.¹³⁹ Des Vallons goes on to write:

‘Metropolitical’ warfare i.e. centred on a built-up area, is based on the idea of maximal integration of battle parameters in a constantly updated information continuum (network-centric warfare) inspired by a continual search for effectiveness and hence operational and psychological efficiency (effects-based strategy).¹⁴⁰

The Generalist Approach to Urban Operations

The kind of optimised urban warfare or ‘metropolitical’ force structure advocated by Leonhard and des Vallons is rejected by generalist theorists. A useful summary of a generalist view of urban operations is provided by the US Air Force’s Colonel Robert Owen. He warns against accepting the determinism of close combat in what he calls ‘the barbarian megalopolis’ as an unquestioned form of military logic. Indeed, the rise of the ‘barbarian megalopolis’ may well be a scenario that owes more to Hollywood’s *Blade Runner* and *Robocop* than to serious strategic analysis.¹⁴¹ ‘Put concisely’, Owen writes, ‘the combined body of literature and experimentation is overstating the strategic importance of urban warfare ... even as it understates the operational alternatives available to achieve objectives and desired effects’.¹⁴² He goes on to point out that the real problem in urban operations for advanced militaries is not that of force structure optimisation, but rather the reality of a disparity between the *capabilities* of insurgents and non-state actors and the *will* of professional militaries. The great paradox is that ‘the groups most willing to fight in cities will have the least capabilities to do so, while the ones most able to fight large-scale urban battles will be least willing to do so’. From this perspective, an urban battle such as that fought by US forces in Mogadishu, is indicative only of the state of US political will at a particular juncture; it is not evidence of the arrival of a new strategic paradigm.¹⁴³

For Owen, the idea of urban operations as the predominant form of combat in the new century is a proposition that bears ‘skeptical and realist re-examination’. As a general rule, American ground forces should not be exposed to ‘the bloodletting of direct reduction’ in urban operations without first exploring all other operational alternatives from strategic isolation to economic blockade.¹⁴⁴ Military capabilities need to be versatile and flexible, encompassing the use of joint long-range precision fires on critical enemy nodes to participation in selective air–ground assaults into cities.¹⁴⁵ In the generalist view, as promoted by Owen, urban operations represent one mode of warfare across a spectrum of armed conflict that encompasses the conventional and the unconventional and the kinetic and the non-kinetic.

Prioritisation and the Continuing Validity of the Generalist Framework

In the debate on urban operations, there is merit in the views of both advocates of optimisation such as Leonhard and of generalists such as Owen. Many defence analysts would agree with Leonhard’s call for a greater inter-agency approach and with Owen’s highlighting of the problem of a disparity between Western capabilities and will in urban operations. Moreover, most uniformed professionals would not dissent from the idea that, in the future, advanced military forces need to develop better tactical methods and technologies in order to ‘own the city’. However, caution is required when it comes to consideration of the key issue of optimising entire military force structures for the single mission of urban operations. It is simply too early to embrace such a radical solution. Under the

impact of globalisation, the shift from a predominantly rural to urban world has been rapid and the strategic implications of this transformation are not yet fully understood by Western defence establishments.

As any Western veteran of contemporary warfare in the mountains and plains of Afghanistan can attest, in terms of combat operations, the West has not yet transitioned from landscape to cityscape. Indeed, much more research and analysis into contemporary strategic trends is necessary before advanced armies can accept the proposition that city combat has replaced field combat. As Hills has convincingly argued, there is no urban operations *paradigm*, only an urban operations *hypothesis*.¹⁴⁶ The distinction is a critical one. While global trends suggest that urban operations are likely to become much more common in the future, a default optimisation of entire military force structures for the urban environment constitutes a bold and unjustified conceptual leap into a one-dimensional strategic future. Indeed, if the early 21st century has taught the West any strategic lesson it is that armed forces establishments should expect the unexpected and, under these circumstances, a premium must be placed upon developing a flexible and adaptable force structure capable of operating across the entire spectrum of conflict in any complex environment—from jungle and mountain to town and city. Ultimately the use of military force must serve the ends of politics not the needs of environments. Thus, professional militaries in liberal democracies must offer their governments a range of ‘high–low’ options ranging from the catastrophic through the conventional to the unconventional.¹⁴⁷ There must be a capacity to confront military crisis on the Korean Peninsula or in Iran to operating in urban or rural counter-insurgency roles in Iraq and Afghanistan through to the demands of peace operations in regions as diverse as the Balkans, East Timor and parts of Africa.

For the foreseeable future, a generalist view of urban operations remains more realistic given the uncertainty and fluidity of the new politico–strategic environment. The traditional operational emphasis that focuses on the *role* performed by troops not the *environment* inhabited by them remains valid in the new century. Consequently, military force structures should not be optimised for urban operations. Instead, within a general purpose framework, armies need to prioritise aspects of their training, doctrine and equipment towards meeting the likelihood of more common urban military challenges over the next two decades. In short, greater prioritisation of resources in terms of meeting urban military challenges is justified; optimisation of force structures is not.

Historically, all of the armies successful in urban warfare have been general purpose forces with a high degree of skill or experience in small unit tactics and combined arms operations.¹⁴⁸ This was true in Algiers in 1957, in Hue in 1968 and in Fallujah in 2004. Both the French *paras* who crushed the FLN in the 1957 battle of Algiers and the US Marines at Hue were veterans of warfare in the jungles of South-East Asia. Many US troops in Fallujah were veterans of the desert *blitzkrieg* of Operation *Iraqi Freedom* in 2003. Finally, it is important to note that the British Army spent three decades in the cities of Northern Ireland using general purpose forces. The high level of street skills developed by the British Army ‘reflected its culture of generalist professionalism rather than specialised training; expert soldiering covering most eventualities was the key’.¹⁴⁹ Soldierly skills remain vital and we are reminded by the words of one writer that, ‘urban, after all, is a kind of terrain, not a type of operation’.¹⁵⁰

Into the Future: Prioritisation and its Pathways

Continuing to situate urban warfare within a generalist military framework does not absolve professional armies from giving greater priority to the particular needs of this form of military

activity. Nor should a generalist approach prevent a degree of specialist research that is derived from non-military disciplines concerned with various aspects of urban management and planning. If, as seems likely, urban military operations are becoming more common then they must become a more integrated component of modern operational-strategic analysis. As Richard H. Shultz and Andrea J. Dew have argued, one of the areas of complex terrain into which transnational armed groups, insurgents and militias are expanding are the cities. They note that the ‘new area of urban operations has repercussions for policy makers in considering how and where to deploy forces and how to plan urban battles’.¹⁵¹

From a theoretical standpoint, subjects such as urban history, town planning, military history, sociology, insurgency, law enforcement, anthropology and media studies may offer useful insights into the context and likely shape of future urban conflicts. There are three particular areas of analysis that need to be developed in the future. The first is the need to continue to develop technology and tactics for the efficient prosecution of urban tactics. The second involves trying to develop a cogent theory of urban warfare at the strategic-operational levels of war. The third concerns a requirement to synthesise all divergent research on urban studies in order to strengthen the design of the military art in city operations. All must be conducted in concert.

Developing Technology and Tactics

While technology is not a silver bullet in urban operations it remains a key force multiplier that empowers urban military tactics. Some analysts have argued that high-technology weapons will, in the future, fundamentally alter the character of urban warfighting.¹⁵² This view may be exaggerated for, as one US Marine Corps writer has observed, the US does not yet dominate the urban environment technologically. He notes, ‘if we have learned anything in a decade of urban experimentation and combat development, it is that this environment is much more technologically challenging than the air, the sea, or open ground combat’.¹⁵³ The ubiquitous and three decade old RPG, ‘the poor man’s cruise missile’, still remains among the most deadly weapons in the arsenal of urban warfare—a constant threat to thinly-armoured wheeled vehicles in cities and to helicopters.

Nonetheless, it is likely that advances in robotics, digitisation and nanotechnology—alongside new weapons equipped with fibre-optics, laser range finders and air-bursting munitions, hand-held UAVS, stronger body armour and improved breaching equipment—may significantly improve Western urban warfighting tactics. Persistent area denial systems (PADS) that employ robotic sensors may become useful for the physical security of small units.¹⁵⁴ In the future, it is likely that armies will become more skilled in using high-velocity weapons platforms in confined spaces and, in doing so, will reduce the draining effects of engine heat and concussion from back-blast. RAND Corporation studies suggest that the Objective Individual Combat Weapon and Objective Crew Served Weapon systems that have been designed to replace the US military’s M-16 rifle and M-60 machine gun in 2008 will be better suited for urban operations.¹⁵⁵

Most analysts agree that armour, especially tanks, will retain an important role in close combat in future urban operations. Hills writes ‘armor will probably continue to play a significant role in the coming years, especially when special assault teams are used; it can successfully breach concrete and steel structures for infantry when forming part of a combined arms team’.¹⁵⁶ In a similar vein, Bruce I. Gudmundsson points out that, while post-Cold War armoured design has moved away from the all-purpose tank towards a more diverse range of tracked and wheeled capabilities, heavy tanks such as the American Abrams, the German Leopard II and the British Challenger are useful assets

in close combat. As Gudmundsson puts it, ‘the lessons learned in the Chechen Wars as well as the Israeli experience in the Occupied Territories, suggests that there is a role for heavy tanks in close combat’.¹⁵⁷

However, armoured forces must always be used intelligently in urban operations as part of a combined arms team that carefully blends firepower with infantry manoeuvre. It must always be remembered that tanks—designed as they are for open-warfare—have many technical limitations when operating in close combat in confined areas. In urban combat, tank guns have often been found to have limited elevation and depression and are vulnerable if not accompanied by infantry. If deployed on their own, tanks are likely to suffer the fate of the Israelis in Suez City in 1973 and of the Russians in Grozny in 1995—namely to become stranded leviathans. In urban warfare, tanks must have infantry screens if they are to remain mobile; they must also be supported by skilled engineers who can clear away debris and rubble and eliminate mines and explosives. In Kendall Gott’s cautionary words, ‘if stationary even the most capable tank becomes a pillbox with limited angles of fire in narrow streets and alleys’.¹⁵⁸ In the future, many tanks are likely to be fitted with more powerful close-combat weapons systems and robotics that enhance their role in combined arms urban operations.¹⁵⁹ Over the next decade, force protection measures such as equipping main battle tanks with panoramic optics, better mast sensors, hull cameras, electrical turret machine guns and remote controlled .50 calibre counter-sniping weapons are likely to become more widespread. Such measures will improve armoured forces’ effectiveness on urban terrain and give greater protection to accompanying infantry squads.¹⁶⁰

Another, more controversial weapons system that has the potential to make a considerable difference in future urban combat conditions are light and disposable thermobaric, or fuel–air explosive weapons. For example, the Russian *Shmel* and *Mukha* portable thermobaric weapons proved particularly useful in devastating urban strongpoints in Grozny. Indeed, some munitions specialists estimate that the *Shmel*, a shoulder-fired incendiary rocket launcher with a fuel–air explosive warhead, had the same searing effect as a 152mm artillery shell when used against Chechen positions.¹⁶¹ Reflecting on US operations in Fallujah, Colonel Craig Tucker has noted that possession of thermobaric weapons at the platoon level would be invaluable in ‘taking down’ fortified and heavily-defended buildings.¹⁶²

Relatively low-tech munitions may be of as much use as high-tech systems. Arms such as automatic shotguns, recoilless rifles, flechettes (shells of steel darts) and cluster bombs are highly useful in urban operations and are likely to become widespread.¹⁶³ Some analysts also see a potential for non-lethal weapons systems as an ‘element of moral power’. Non-lethal systems such as long-range acoustics and advanced directed energy devices may hold promise in clearing buildings in which enemy fighters might be mingled with civilian non-combatants.¹⁶⁴

In most circumstances, however, technology is only as good as the military tactics that employ it. Few areas of warfare demand as much tactical skill in soldiering as the forbidding realm of urban operations. Unlike conventional warfare in the field, modern fighting in cities is a war of operational compression, microenvironments, and command decentralisation in which effective small unit leadership is essential to success. A single apartment block may contain a hundred microenvironments in a maze of rooms, corridors and stairwells placing a premium on the skills of dismounted infantry. Fighting in such an environment represents intensive close-quarter battle. As a result, soldiers must be highly trained in order to manage rapid tactical transitions—from compressed fighting in narrow corridors through to the expansion of combat on wider rooftops.¹⁶⁵ In short, while new technology is likely to be vital in future urban operations, to be truly effective it must be skillfully combined with modern tactical doctrine.

Developing Operational-Strategic Techniques for the Conduct of Urban Operations

In many respects, the proper conduct of urban operations by professional armies conforms to what the American defence analyst, Stephen Biddle, has defined as the ‘modern system’ of force employment. As Biddle puts it:

The modern system is a tightly interrelated complex of cover, concealment, dispersion, suppression, small unit independent maneuver, and combined arms at the tactical level, and depth, reserves, and differential concentration at the operational level of war.¹⁶⁶

Yet urban operations as a manifestation of Biddle’s ‘modern-system attack’ remain outside the mainstream of contemporary military theory which is largely high-tech in focus and designed for forces in open terrain. The Revolution in Military Affairs (RMA) debate that dominated the decade between the end of the Gulf War in 1991 and the fall of the Twin Towers in 2001 tended to focus on the microelectronic ‘precision revolution’ in the form of such capabilities as stand-off missile strike, networked warfare and smaller ground forces—all of which have limited application in the realm of urban warfare where continuity with the past is stronger than discontinuity with the future.¹⁶⁷ Much is known about the tactics of urban warfare from military history but little is understood about modern cities in terms of their strategic-operational potential. The Israeli analyst, Dov Tamari, has argued that Western military theory lacks a coherent theoretical framework in which to situate urban military operations. As he puts it, in terms of military theory, ‘our interpretive conceptual systems are still rooted in the realm of high-intensity conflicts’.¹⁶⁸ Tamari believes that a reliance on the tactical–technical field of knowledge in urban warfare is an inadequate guide to 21st century planners and policy makers. The need is for the development of new concepts in the operational-strategic field.¹⁶⁹

In this regard, one area that clearly requires further conceptual investigation is the growing nexus between insurgency and urbanisation as a strategic trend. Most of those who have embraced urban warfare over the past 15 years have been insurgents and militias—notably Somalis, Chechens, Palestinians and, more recently, assorted Sunni *jihadi* fighters in Iraq. This trend raises the question as to whether, after the false start of the 1960s, the character of insurgency is beginning to follow the people into the cities and transforming itself from a largely rural into a predominantly urban phenomenon. In the field of strategic studies there has been limited analysis of the critical interaction between migration and urbanisation in the development of insurgency in cities.¹⁷⁰ Many observers have long believed that the term ‘urban guerrilla warfare’ is either a contradiction in terms or, at best, can only be pursued with success in states where central political authority has corroded to the extent that the movement of armed bands within cities is possible. For example, in 1976, Walter Laqueur in his magisterial survey of guerrillas in history thought that the drift from rural into urban guerrilla warfare was symptomatic of the parallel decline of the rural guerrilla’s traditional foes—colonialism and liberal democracy. He concluded, ‘at present the age of the guerrilla is drawing to a close. The retreat into urban terror, noisy but politically ineffective is not a new departure but, on the contrary, the end of an era’.¹⁷¹

Yet, given globalisation, the phenomenon of failed states, burgeoning population growth in the developing world and increasing numbers of urban insurgents, there is a need to re-examine Laqueur’s ecology of irregular warfare. As one leading historian of insurgency, Ian Beckett, points out, while opinions continue to differ on the effectiveness of insurgents in urban space, demographic realities are likely to ensure the prominence of urban action in the future.¹⁷² Other writers have highlighted the changing character of insurgency under the impact of global information networks and easier access

to cheap weapons technologies. David J. Kilcullen, Robert M. Cassidy, and Frank G. Hoffman have written of transnational radical Islam's 'revolution in global insurgency' and its pursuit of 'complex irregular insurgency'—both of which are viewed as posing serious challenges to Western societies.¹⁷³ Although Kilcullen, Cassidy and Hoffman do not focus specifically on urban insurgency, evidence suggests that we may have embarked upon a new period in irregular warfare in which traditional areas of operations are expanding from the rural to the urban, from the national to the transnational and from the local to the global. In this process, the cities of the developing world clearly have increasing potential to become one of the new 'demographic battlespaces' of the 21st century.¹⁷⁴

The implications of the above trends suggest that future urban operations—particularly those that possess a counter-insurgency flavour—will require an innovative blend of traditional MOUT doctrine combined with a range of internal security measures derived from peace support and stability operations. In future urban battlespaces, skills in civil–military cooperation and psychological operations may become as important as warfighting expertise. A military understanding of the social dynamics of armed conflict in a time of demographic change must be complemented by carefully situating doctrine development in the context of human and cultural geography and taking account of multinational and inter-agency realities. Moreover, doctrine development must cater for the reality of simultaneous transitional operations within confined urban areas rather than remaining fixed on industrial-age sequential operations shaped by the experience of open warfare.¹⁷⁵

And yet one of the major intellectual problems in trying to develop operational-strategic theory for urban warfare is the reality that so many of the case studies appear to be *sui generis*, with continuities *only* evident at the tactical level of war. The truth is, most urban operations are frequently different in terms of their size, demographic composition, cultural character and physical layout. The major problem facing operational and strategic thinkers, then, is one of coherently synthesising the sheer variance and divergence of urban environments. As a result, it needs to be accepted by military analysts that any attempt to formulate theory for urban military operations is always likely to contain a significant tension between context and reality.¹⁷⁶ The dilemma is that, without recourse to the rigour of operational-strategic theorising, the military professional lacks an intellectual reference point for analysis above the tactical level of war and thus remains in the words of US strategist, Admiral J. C. Wylie, 'the prisoner of raw data'.¹⁷⁷

While there may be no single, coherent operational-strategic blueprint for urban operations, the main features of cities that affect military operations can be clearly identified and isolated in what Alice Hills calls 'a strategic grammar of urban warfare'.¹⁷⁸ It is this grammar that some US military theorists such as Robert H. Scales, Robert C. Owen and Lieutenant General Paul van Riper have attempted to convert into logic through pioneering theoretical discussions at the operational and strategic levels of war. Scales, who headed the *Army After Next* Project at the US Army War College in the 1990s, has argued that 'military leaders who believe that future warfare will not encompass this unpleasant environment are deluding themselves'.¹⁷⁹ Echoing some of the ideas of Basil Liddell Hart, Scales has investigated the operational potential for an 'indirect approach' to city warfare based on information-age sieges, selective strikes and the seizure of decisive points.¹⁸⁰ Conscious of the human costs involved in urban missions, he suggests that investing an enemy city and establishing a loose cordon around it may be preferable to the bloodletting of penetration and direct assault. Through high-altitude UAVs, an attacking force might use precision munitions against point targets so depleting a surrounded city's resources and wearing down an enemy's will. Moreover, special operations forces might be used as a barometer to measure the intensity of the combat environment.¹⁸¹ For Scales, in future operations in cities, US policy makers need to increase the fighting power of dismounted infantry

and provide a volume of fire support that meets four criteria: precision, discrimination, proximity and latency. Moreover, defence planners must be constantly aware that ‘America’s treasure house of close-combat soldiers is only marginally larger than the New York City Police Department’.¹⁸²

For his part, Robert C. Owen has sought to identify strategic parallels between urban operations and archipelagic warfare. In this vein, he suggests that from an operational-strategic perspective there may be considerable value in viewing urban areas as being akin to fortified islands in rural seas, with large cities being the conceptual equivalent of archipelagos. As a result, it may be profitable for policy makers and military professionals to focus their studies not on Stalingrad or Berlin but to seek analogies with General Douglas MacArthur’s World War II ‘island-hopping’ campaign in the South-West Pacific. MacArthur’s strategic methods against Japanese-held islands were varied and embraced operational-level manoeuvre, selective air-ground assault, aerial bombardment, investment and neutralisation. If cities in developing countries do become the deadly new demographic battlespaces of the 21st century, then there is an interesting case to be made for investigating how they can be strategically contained or isolated as ‘urban archipelagos’ in a depleted rural landscape.¹⁸³

Finally, Paul van Riper, writing in 1997 as Commanding General of the US Marine Corps Combat Development Command has attempted to apply operational manoeuvre warfare principles to urban military operations.¹⁸⁴ His vision has been one in which ‘a MAGTF (Marine Air–Ground Task Force) conducting future MOUT will move like a chameleon effortlessly altering its characteristics to blend with the operational situation’.¹⁸⁵ Van Riper goes on state:

In the attack, instead of grinding their way from house to house, Marines will deftly maneuver through built-up areas, using new and unorthodox mobility techniques to avoid the surface and exploit gaps. They will bypass and isolate the enemy’s centers of resistance, striking killing blows against those enemy units, positions, or facilities upon which his force depends.¹⁸⁶

To achieve this ‘chameleon manoeuvre’ effect, a city’s infrastructure needs to be exploited at the operational level of war. In a city, if an enemy’s centre of gravity and critical vulnerabilities can be identified then it may be possible to isolate strongpoints and to drive adversaries into selected killing zones. Concepts such as ‘multispectral mobility’ (the capability to move combat power rapidly through three-dimensional urban terrain) and ‘measured firepower’ (integrating fire and movement within given rules of engagement) have been advanced to facilitate the swarming of US Marines in order to seal off enemy positions.¹⁸⁷ The US Marine Corps approach to urban operations, as outlined by van Riper, remains the most imaginative to have emerged from the US armed services to date.

Yet, as the second battle of Fallujah demonstrates, indirect approaches and concepts such as ‘chameleon manoeuvre’ and ‘multispectral mobility’ on the three-dimensional terrain of cities continue to remain operationally challenging. In Fallujah, some Marine assault squads were only able to move a hundred metres per day with the loss of experienced small unit leaders to fatigue or wounds becoming a major operational weakness.¹⁸⁸ In military terms, an effective solution to conducting urban warfare is likely to require careful and adaptable systemic operational and strategic design based on a blend of general principles and specific characteristics. Warfighting and stabilisation tactics alongside technological capacities and operational doctrine need to be located within a conceptual framework that treats cities as demographic battlespaces located in complex, man-made terrain. It needs to be remembered that, in future urban operations, the main military task may be one of counter-insurgency and civil affairs in which the vital aim will be to try to separate enemy forces from the general population. Such operations are likely to place a great deal of emphasis upon techniques of isolation and the avoidance of infrastructural damage.¹⁸⁹

Above all, when concerned with cities, strategy must seek to link policy objectives with operational means in a pattern of control and not concern itself with an over-concentration on destructive kinetic battles. Control on the ground is the key in urban operations and, to this end, the focus must remain fixed on the application of discriminate force across the spectrum of conflict in order to advance political objectives. The application of discriminate force requires a joint urban operations philosophy for the 21st century that reflects a ‘full-spectrum approach’ to operations involving a continuum of combat, humanitarian operations and peacekeeping. Indeed, as two veterans of Iraq have suggested ‘we should consider paraphrasing Clausewitz: full-spectrum operations are the continuation of major combat operations by other means’.¹⁹⁰ In an era when transitional operations or ‘three block war’ has emerged in cities across Iraq, an understanding of the complex transitions that may occur between warfighting and stability operations is important in the way a joint urban battlespace is shaped and prepared.¹⁹¹ In the future, then, if ‘feral cities’ are to become planned battlespaces subject to operational control, military professionals and policy makers will have to develop an adaptable capacity for advanced urban analysis. Such an approach may well benefit from the increased post-9/11 focus amongst Western democracies on homeland security—a focus that is primarily an urban phenomenon. Future operational design for the urban battlespace is likely to be complex and demanding work that will involve ‘the integration of strategic concepts, doctrine, operational needs, technological advances, system design, and the appropriate organization of command, control, training, and education’.¹⁹²

‘Military Operations as Urban Planning’: Developing a Multi-Disciplinary Approach to Operations in Cities

In 1989, G. J. Ashworth in his book *War and the City*, warned that all purely warlike preparations for urban operations will be of no avail if military practitioners do not perform what he regarded as their key task: namely to isolate those characteristics of cities that vitally shape operations in that environment. Such characteristics then need to be related to the military art, to strategy and to political considerations and their effectiveness as variables carefully assessed.¹⁹³

Ashworth’s warning highlights one of the major weaknesses in the contemporary study of urban warfare—namely that the subject is often regarded as belonging to the traditional field of narrative military history and not to an analytical and inter-disciplinary form of modern war studies. While campaign histories yield useful raw data and much material for case studies they seldom provide the kind of geostrategic context that may be of contemporary value to military planners and policy makers.¹⁹⁴ As Max Neiman has argued, urban terrain’s unique demographic and topographical interaction creates three variables which are likely to affect any urban military operation: the city as a living *social organism*; the city as *human-made physical form*; and the city as an *economic system*.¹⁹⁵ In many respects, the military planner faces most of the same problems as the urban policy maker and, in this sense, they may well be an emerging need for a ‘metrostrategy’. For example, both professions must think in terms of securing infrastructure, maintaining public order, ensuring disease control, and protecting critical services such as electricity and water. Indeed, viewed from a modern perspective of ‘military operations as urban planning’ or MOUP, the conceptual challenge facing professional militaries in cities is as much one of emergency management as it is of operational strategy.¹⁹⁶

By employing a MOUP formulation, urban military operations can be situated within a broader intellectual context allowing defence analysts to consider a range of insights drawn from areas of non-military research such as urban, cultural and human geography, town planning, policing and disaster management. These disciplines have much to teach military professionals about the management of cities, especially under emergency conditions.¹⁹⁷ Improved military knowledge of

the potential range of social, cultural, demographic and material structures in an urban battlespace is likely to influence the way military commanders shape their ideas about operational planning and force employment. For example, understanding variations in architectural design and building materials may help a commander to determine the likely impact of enemy fires on building structures and types of concrete and masonry. Similarly, demographic composition and density of population may determine the progress of unit manoeuvre through specific neighbourhoods. Moreover, studying urban operations in an interdisciplinary manner may help to reveal conceptual linkages between the strategic, operational and tactical levels of war in cities. In the words of Hills:

Developing a [Western] strategic understanding of urban operations ... requires the reconciliation of contradictory and stressful relations, such as those existing between the security imperatives of coercion, warfighting and destruction on the one hand, and humanitarian relief, globalisation and technological development on the other. And it needs the imagination to look beyond current scenarios and interests.¹⁹⁸

Since modern urban operations now represent a multidimensional ‘demographic battlespace’, nearly every mission conducted by Western forces is almost certain to be governed by a combination of international law, cultural norms, restrictive rules of engagement and, above all, by the perceptions and images relayed by the global media. Here context and reality have great potential to collide. There is a critical interface between military professionals, non-combatants and media representatives in urban operations. Such an interface places a premium upon commanders communicating a sense of cultural awareness, knowledge of human geography and an appreciation of perception management. In urban operations, the military ideal should be to make anthropology the handmaiden of armaments and the all-seeing camera the ally of discriminate combat. Yet such an approach may be difficult to implement in practice because it may prove sometimes impossible to reconcile the tactical immediacy and sheer velocity of urban combat with a positive media narrative of events.

A good example of the above dilemma can be found in the second battle of Fallujah in November 2004. During the battle, as a US Marine squad entered a house, a *jihadi* suicide bomber in a chest rig ran towards the Americans until, cut down by fire, he dropped and blew himself up. Later, the same Marine squad then entered a mosque being used as a fort by the enemy. On entry, one Marine reflexively shot and killed a wounded insurgent feigning death. The scene was filmed by a television journalist and was shown around the world with the Arabic *Al Jazeera* network showing it every hour. The incident coincided with the brutal execution of the English-born Iraqi humanitarian, Margaret Hassan, by Abu Musab al-Zarqawi, an event also captured on video but not shown on the *Al Jazeera* network.¹⁹⁹ The mosque incident demonstrates the double difficulty of explaining operational context and of managing public perception in the primordial arena of urban combat. Mistakes are almost certain in such an environment and should be accepted and any error admitted publicly and transparently by military commanders and their public affairs officers as soon as good judgment permits. In the future, the issue of perception management is likely to be of paramount concern in designing operations in cities where non-combatants and camera crews are common. Referring to operations in Iraq, Robert Kaplan reminds us:

Because the battles in a counterinsurgency are small-scale and often clandestine, the story line is rarely obvious. It [interpretation] becomes a matter of perceptions, and victory is awarded to those who weave the most compelling narrative. Truly, in the world of post-modern, 21st century conflict, civilian and military public-affairs officers must become warfighters by another name. They must control and anticipate a whole new storm system represented by global media, media which often exposes embarrassing facts out of historical or philosophical context.²⁰⁰

The reality of the strategic corporal may still be debated in Western militaries; but there is no doubt that the age of the strategic cameraman has arrived. There can be little respite from the complex interface of humanity and technology—symbolised in the collision of Rupert Smith’s ‘war amongst the people’ with the instant electronic image emanating from satellite television.²⁰¹ For this reason, although many of the problems in urban operations stubbornly reside at the tactical level of war, they are informed by subjects outside of the military art—notably cultural awareness, human geography and media relations—and, in consequence, require careful management at the operational-strategic levels of war. These subjects need to be woven into a modern war studies approach to the phenomenon of military activity in cities.

Conclusion

In 1961, Bernard Fall published his famous book on rural insurgency in Indo–China entitled, *Street Without Joy*.²⁰² Fall’s study took its title from the infamous coastal highway that French soldiers dreaded travelling because of the frequency of Viet Minh ambushes. Ironically, in 1967, while on patrol with US Marines along the same highway, Fall himself was killed by a Viet Cong landmine. Over 40 years later, Western soldiers are now confronted by the rise of urban insurgency and with it, the prospect of confronting the city without joy. The city without joy, in the form of urban conflict, stretches across the centuries from the collapse of the walls of Jericho in the Old Testament to recent fighting in the streets of Fallujah. Yet, with the exception of siegecraft, urban warfare has never been central to the military art. Few military analysts would disagree with the view expressed by J. Bowyer Bell:

In general, the course of modern warfare has indicated that, just as in Sun Tzu’s time, attacks on cities are best avoided. A dedicated and determined population, militia or professional, properly motivated and inured to suffering, hedgehogged into the rubble of a modern city, is one of the most formidable opponents imaginable.²⁰³

Unfortunately, given 21st century demographic trends, a strategy of avoidance may not always be possible in the future. What Lewis Mumford once called the ‘lethal genes’ of war, have replicated in the urban areas of the developing world over the past 15 years and show no signs of decreasing.²⁰⁴ There are strategic implications arising from the spread of these ‘lethal genes’ that challenge the West at three points of weakness: available numbers of infantry; public will to endure in city operations where casualty figures are mediated by instant electronic image; and reconciling the often elemental violence of urban warfare with liberal democratic values and legal norms. In a real sense, the retreat by some of the West’s enemies into the city is an attempt to draw a superior opponent into a complex terrain of microenvironments where operational compression and the presence of non-combatants negate both the West’s technological power and its organisational command and control advantages.

For the above reasons, in an age of global media, the field of urban warfare cannot be consigned to the realm of tactics. While optimising military force structures for urban operations is currently unjustified, greater priority must be assigned by advanced militaries to meeting the demands of this class of warfare within a generalist, but joint operations, framework. Frequently, a patient counter-insurgency focus may be required calling for non-kinetic means such as civil affairs and stability operations to be applied to the task of pacifying city populations. Arguably for Western militaries, the most serious weakness in dealing with a likely increase in urban missions is the conceptual challenge involved in developing a coherent theoretical framework for strategic-operational roles

and requirements that enhances control over the dynamic character of the urban environment. Adoption of a greater inter-disciplinary war studies perspective that embraces a joint and inter-agency philosophical variant of Bugeaud's 'military operations as urban planning'—in other words, a more inclusive MOUP concept as opposed to a narrower MOUT concept—represents one avenue of inquiry that demonstrates promise. In the future, operational solutions are required that seek to ameliorate the all-out grind of direct 'modern-system attack' into cities in favour of a blend of control strategies that play to the West's superior technological and organisational advantages.

On present strategic trends, the anatomy of 21st century urban operations are unlikely to resemble the climactic industrial-age battles of Stalingrad and Manila. Rather, most future urban operations are likely to be against assorted irregular forces or paramilitaries and militias networked in cellular structures and armed with an array of lethal weapons. In an age of interconnectedness and instant media images, urban military missions are likely to remain daunting and will need to be waged as far as possible with the beam of a laser rather than the edge of a sword. Legal restraints and rules of engagement that attempt to avoid unnecessary civilian deaths are almost certain to shape Western attitudes towards the conduct of future urban operations. There can be no escaping the reality that fighting in cities is operationally challenging, highly destructive and casualty intensive. What Carl von Clausewitz once called 'the climate of war' composed of 'danger, exertion, uncertainty, and chance' is manifest in modern urban military operations.²⁰⁵

In the early 21st century, Western militaries need to be imaginative in their approach to prosecuting joint military operations within cities and a mixture of flexible indirect and direct operational techniques needs to be developed to meet a range of potential contingencies. This operational mixture should tailor joint ends, ways and means embracing, where feasible, pacification and area control, investment by electronic surveillance and economic blockade; the use of special force operations and aerial precision stand-off strike; and, if and when required, the use of direct combined arms assault. Future missions on urban terrain are also likely to require a significant inter-agency task force approach at the operational-strategic levels of war that includes civilian specialists such as lawyers, health and aid workers and police, as well as uniformed warfighters.

Finally, theorists of urban operations must always remember that ultimately it is uniformed professionals who have to conduct operations within cities. Theory, therefore, must assist practice and constantly seek to adjust the context of the urban environment to the reality of military operations. Ultimately, all those concerned with the improvement of the art of war owe a moral obligation to military practitioners to provide them with innovative techniques and technologies in order to master the modern megalopolis of the 21st century. If there is failure in this vital endeavour then soldiers may be condemned not only to the city without joy but to the fate of the necropolis—the city of the dead.

NOTES

Preface

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City Without Joy

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