

FIRST BITES

Notes for a Historiography of Urban Conflict – Part 2 The Urbanistas.

First Bites are, as the name suggests, my early attempts to take my random notes and bring them into some sort of order. I am doing them primarily for myself so as to make it easier to refer to content and see how potential sections and chapters of the PhD might shape up, but I thought that others might find them useful, and I'd welcome any comments.

These ARE NOT draft chapters, they are WORKING NOTES and as such are likely to be full of errors and omissions and half-baked ideas, so I strongly suggest you check sources should you want to quote anything!

My notes for a Historiography of Urban Conflict ended up so big (c.31,500 words!) that I've split it into 2 documents – the first one covers the more historical texts, and this second one covers the current generation of "urbanistas". As with other First Bites this text is not yet full of deep analysis, but more an attempt to understand what has been written and by whom so as to enable the later task of writing a more critical (and shorter) historiography.

Any comments, errors and omissions and clear misunderstandings are welcome. More information on my PhD in Wargaming Urban Conflict is at <http://taunoyen.com/wiki/doku.php?id=phd> and you can contact me at david@burden.name.

The Rise of the Urbanistas

"Urbanistas" is a neologism, largely of endearment, used by those with a professional interest in urban warfare to refer to themselves and other like-minded professionals. Whilst many of the people discussed below were active before the term came into use at the end of the 2010s, and several may reject it as a description of them and their work, it is a useful way to identify the relative explosion in the writing, discussion, study and research of urban warfare that has occurred over the last few decades. Whilst Dewar may have been a bit off the mark when he wrote that, by 1992, "*little of significance has been written on contemporary theory and practice*", he was certainly right that "*military men*" had suddenly rediscovered urban combat (Dewar, 1992).

Urban Warfare: A Practitioners Annotated Bibliography

A very useful annotated bibliography on urban warfare was published by the Australian Army Research Centre (AARC) in 2021 (Knight et al., 2021). Its principal focus is on post 2000 works, although some earlier ones are included. It is a 208-page bibliography and well structured, and typically includes a paragraph on each entry.

Combat in Cities Report

In 1972 the US Army Infantry School at Fort Benning, Georgia published a 3 volume study on urban combat entitled *Combat in Cities* (Combat in Cities, 1972). The purpose of the study was to “*and expand existing combat in cities doctrine by identifying voids and weaknesses for the promulgation of doctrinal changes applicable throughout the spectrum of urban warfare*”. The first part examines US and Soviet urban doctrine and provides an arm by arm and service by service analysis of urban best practice. The second part is essentially a training manual for urban operations with a focus very much on FIBUA. The third part (Volume III) looks at the effectiveness of each urban weapon type in turn and provides numerous detailed historic case-studies of their use. The report has an extensive bibliography, and seems to have informed a *Combat in Built Up Areas Handbook* that was published by the School in 1973.

S.L.A. Marshall

S.L.A. (SLAM) Marshall (1900-77) was an American Brigadier General, military journalist and historian. He was described by John Keegan as “*an american Du Picq*” (Keegan, 1976)(p.72). His most famous work is probably *Men Against Fire: The Problem of Battle Command* which argues that all men are afraid in combat and that typically only 25% fired their weapons (Marshall, 1947). Of more interest to this current study is his 1973 paper *Notes on Urban Warfare* (Marshall, 1973). This 54 page report for the US Army Materiel Systems Analysis Agency, apart from highlighting the (possibly false) lack of historic study of urban warfare aimed to refocus the military on the study of the subject and Marshall saw that “*This report is only a start toward that end and its one object is not to define but to stimulate thought*”. His sees the prevailing view as being that:

“Urban warfare is regarded as an exception, an occasional and unhappy accident, far away from the main stream. War, when properly conducted, according to human superstition, belongs in civilianless open countryside.” (p.54)

The paper covers topics such as the best way (and equipment required) to advance down a street, the use of high-angle mortars in urban canyons, the need for an infantry “projector-type weapon” for direct HE fire, the need for humanitarian support, the use of psychological warfare, the use of non-lethal weapons (especially gas – both CS and LSD!), a focus on immobilising rather than killing tanks, and deception and ruses. Marshall notes that:

The attack on a built-up area, be it hamlet or city-size, is never loosed simply because the object is there. Battle is always destructive and assault on an unarmed people is no more justifiable militarily than legally; in the tactical sense it is more counterproductive than the shootout of an undefended mountainside. Whatever can be contrived without fire is best done that way, whether in enemy country or in traversing a friendly or neutral zone. (p.14)

Marshall also suggests that the term “urban warfare” is probably one that is unacceptable to the (American) populace – with implications of the killing of civilians in cold-blood, and potential media hysteria. Hence he suggests “Operations in Built-Up Areas” (OBUA) as being the preferred term.

As Marshall’s use of the OBUA term suggests, *Notes on Urban Warfare* is primarily a tactical analysis, focussed more on the better execution of street-fighting than of urban conflict – but as such it was in line with the prevailing doctrines of Fighting in Built-Up Areas (FIBUA) in the UK and Military Operations in Urban terrain (MOUT) in the USA. It was arguing for better study, training and equipping for these roles, rather than taking a more operational or strategic consideration of what happens when fighting involves urban spaces – let alone whole cities.

Dzirkals, Kellen and Mendershausen

Dzirkals et al's 1976 DARPA paper on "*Military Operations in Built-Up Areas: Essays on Some Past, Present, and Future Aspects*" (Dzirkals et al., 1976) is the next notable work – its title reflecting Marshalls re-titling of the subject. Its focus was on a recognition that in any war in Western Europe against Russia the USA needed to be ready to fight within the cities but "*present inclinations of European governments are in the direction of avoiding city fighting entirely*". (p.i). The 102 page report consists of 4 essays: one historic looking at the urban battles of Cherbourg, Leningrad, Sevastopol, Cherbourg, Aachen, Berlin and Prague (1968); one examining Soviet urban doctrine in World War 2; one at European preparedness for urban defence; and the final essay looking at practical, non-technology dependent, steps to enhance urban defence. The report was part of a then ongoing DARPA study into Military Operations in Built-Up Area (MOBA).

The third chapter usefully identifies a series of reasons and attitudes from senior European military and related personnel as to why urban warfare would or could be avoided. These included: that urban warfare results in so much destruction it destroys what you are fight for, that losing urban centres won't decide the war, that the enemy will bypass urban centres, that there aren't enough – or the right type of - forces to defend cities, and that there is no appetite for civilian militias to defend their own cities. The study also found no official consideration of the idea of an "open city". Germany seemed the most advanced in urban preparations, having started a study of urban warfare study and the creation of the Bonmland urban training village. The German study had also begun to make use of the concept of Urban Terrain Zones (UTZs) – with 5 types identified (urban core, dense residential, suburban, high-rises and low industrial). In contrast the DARPA study identified that there was "*a lack of U.S. doctrinal material which specifically addresses the special problems which could be encountered in conducting military operations in a city.*" (p.79), and also recognised that expanding the UTZ concept and developing a typology of cities would be useful. The replacement of simpler infantry support weapons which could be useful in an anti-structure role (e.g. light mortars and recoilless rifles) by more advanced but less urbanly useful anti-tank guided weapons (ATGWs) was also noted.

The final chapter is an "*inventory of considerations for the future*". It, controversially, challenged the idea of the importance of cities, particularly in a war where airpower and cross-country mobility (shades of J.F.C. Fuller) might dominate, and also considered whether armies might fight in a more restrained way in cities to avoid their destruction, what the authors term the bypassability and reluctance quotients. At a more tactical level the chapter also considers the future role of snipers, anti-tank fighting, medical services, protection against Fires, psychological warfare, anti-rumour and anti-propaganda operations, and the maintenance of utilities. The chapter also considers whether specialist military units would be more effective at urban defence than local militias – the conclusion being that a combination is probably required – with a resultant impact on Command & Control (C2). The report makes two main conclusions: that urban warfare needs to be properly planned and prepared for, and that the NATO plans for the defence of Europe were likely to channel any Soviet attack into the urban areas, "*making MOBA inevitable, should hostilities occur*" (p.102).

Whereas Marshall's paper was a relatively abstract consideration of urban warfare the Dzirkals report is very much focussed on the challenge then in front of them – defeating a Soviet attack on Western Europe. In recognising that any city fight will involve surrounding suburban and exurban areas, and be shaped by wider political, social and military considerations, the authors were also beginning to lift the focus way from the tactical and more to the operational.

Mahan's *MOU: The Quiet Imperative* (Mahan, 1983), published in an abbreviated form in the *Military Review* in 1984 covers similar ground, also calling for an improvement in urban training facilities, and putting urban combat into the context of NATO's Air-Land Battle strategy and Soviet Operational Manoeuvre Groups (OMGs).

Gregory Ashworth and *War and the City* (1991)

Gregory Ashworth's main research focus was on place marketing/branding and urban tourism. His *War in the City* (Ashworth, 1991) looks at the interlinkages between the defence of a city and the city itself, which Ashworth describes as both "*the urban factor in defence*" and "*an urban defence geography*". The book looks at how the history of warfare has shaped urban environments, particularly through the approaches to fortification, at fortresses and "defence towns". It also

considers the “insurgent city” and how threats from within the city walls have affected city design, and how the introduction of air power and ballistic missiles has further influenced the design and role of the city. Ashworth also considers how redundant defence works are reclaimed by the city, and the role of defence as heritage. In summation, Ashworth finds that *“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”*.

Ralph Peters and Our Soldiers, Their Cities (1996)

Ralph Peters is a former US Army officer, an analyst and writer. His “extraordinarily influential” (Kealy, 2021) article in *Parameters* (the US Army War College Quarterly), entitled *Our Soldiers, Their Cities* (Peters, 1996), opens with *“The future of warfare lies in the streets, sewers, high-rise buildings, industrial parks, and the sprawl of houses, shacks, and shelters that form the broken cities of our world”* and continues by stating that *“in an uncontrollably urbanizing world, we will not be able to avoid urban deployments short of war and even full-scale city combat. Cities always have been centers of gravity, but they are now more magnetic than ever before”*. He also notes that *“We may be entering a new age of siege warfare, but one in which the military techniques would be largely unrecognizable to Mehmet the Conqueror or Vauban”*. The following passage summarises his view as to how different fighting in the city is:

“‘Conventional’ warfare has been horizontal, with an increasing vertical dimension. In fully urbanized terrain, however, warfare becomes profoundly vertical, reaching up into towers of steel and cement, and downward into sewers, subway lines, road tunnels, communications tunnels, and the like. Even with the ‘emptying’ of the modern battlefield, organizational behavior in the field strives for lateral contiguity and organizational integrity. But the broken spatial qualities of urban terrain fragments units and compartmentalizes encounters, engagements, and even battles. The leader’s span of control can easily collapse, and it is very, very hard to gain and maintain an accurate picture of the multidimensional battlefield.

Noncombatants, without the least hostile intent, can overwhelm the force, and there are multiple players beyond the purely military, from criminal gangs to the media, vigilante and paramilitary factions within militaries, and factions within those factions. The enemy knows the terrain better than the visiting army, and it can be debilitatingly difficult to tell friend from foe from the disinterested. Local combat situations can change with bewildering speed. Atrocity is close-up and commonplace, whether intentional or incidental. The stresses on the soldier are incalculable. The urban combat environment is, above all, disintegrative.”

His view is that the US Army was unprepared for such a fight, whilst also noting that the urban fight was likely to remain a manpower intensive one and that the solution was not likely to be in *“glamorous big-ticket systems but great multiples of small durables and disposables whose production would offer less fungible profit margins and whose relatively simple construction would open acquisition to genuinely competitive bidding.”* Peters notes the potential problems from just accidental cuts and broken bones from manoeuvring over rough urban terrain, and the disease problems of operating in sewers. The importance of simple, personal radio communications and of low-level leadership is also noted. Peters also discusses the relative value of artillery (low if trying to avoid significant collateral damage), air power (high, but ignoring the risk from SAMs) and mortars (high, *“given their steep trajectories. More accurate and versatile next-generation mortars could be a very powerful urban warfare tool”*). In terms of the tank, Peters sees *“The bulk of tactical firepower will need to come from large-caliber, protected, direct-fire weapons. This means tanks, or future systems descended from the tank.”* The role of sappers, logistics HUMINT, PSYOPS are also explored. As with many other works cited in this section the paper ends with a call to improve the urban training facilities. What is perhaps surprising is that although the paper is entitled *Our Soldiers, Their Cities*, it has very little to say about the civilian population or the fabric and flows of the city, “their” in this case is very much the enemy, not their inhabitants – which contrasts with the “social urbanistas” considered at the end of this section.

In 2010's *Constant Conflict* Peters possibly begins to reflect this broader perspective when he writes about how "*The urbanization of the global landscape is a greater threat to our operations than any extant or foreseeable military system. We will not deal with wars of Realpolitik, but with conflicts spawned of collective emotions, sub-state interests, and systemic collapse. Hatred, jealousy, and greed—emotions rather than strategy—will set the terms of the struggles.*" (Peters, 2010). Peters also considers that "*we have entered an age of constant conflict. Information is at once our core commodity and the most destabilizing factor of our time*".

Russell Glenn and the RAND Arroyo Center

Russell Glenn authored or contributed to over 20 public reports and papers on urban warfare between 1996 and 2008, mostly as part of his work for RAND's Arroyo centre and their work with the US Marine Corps on urban operations, and continues to write on urban issues. The reports cover a wide range of urban topics including: command and control, combat support, civilian populations, reconnaissance in the city, visualisation, Intelligence Preparation of the Battlefield (IPB), non-lethal weapons, training and deception, as well as more generic urban issues and US issues related to them.

The principal reports of interest to this research are listed in the Bibliography, and just some key works and observations will be covered here. One of earlier reports, *Marching under darkening skies: the American military and the impending urban operations threat* (Glenn, 1998) notes that "*a review of recent history, service literature, doctrine, training results, and technological development regarding the U.S. Army's preparedness for combat in cities excites little confidence*". The paper highlights the importance of combined arms training for armour and air support in the urban operations, and the lack of large MOUT training facilities. Two decades after Marshall and Dzirkals nothing much had changed.

The slightly earlier *Combat in Hell: A Consideration of Constrained Urban Warfare* (Glenn, 1996) looks at the tactical issues of MOUT and provides a good summary of the then current situation, including barrel elevation and depression issues, rules of engagement, the lack of infantry telephones on the outside of the new M1 Abrams tanks, EW and C2 issues, the need to see through walls, drones, the need for direct HE rounds, the wide danger areas of sabot rounds, non-lethal weapons, mouse-holing, subterranean, CS gas and the need for mine protected vehicles.

The City's Many Faces (Glenn et al., 2000) lifts the discussion above that of room-clearing, noting that:

"the military commander must approach MOUT with a philosophy that views the city or urban area as a living entity rather than as a battleground or just a piece of terrain. He must understand that the city is more than a battlefield; it is a home, a place of business, a source of nourishment, a seat of government, as well as a location of religious, cultural, and social significance."

and that:

"the campaign design must ensure that all urban operations are not reduced to tactical fights consisting of block-clearing, house-to-house fighting. If we successfully restore mobility to the urban battlefield and create precise fires of minimal collateral damage, we should be able to selectively execute these operations at critical nodes within a city. As always, the prudent military commander will focus on the enemy, but urban operations provide the added dimensions of protecting and providing for the survival of noncombatants and minimizing damage to the infrastructure upon which they depend for survival. We must not destroy the city in order to save it. We must also not allow the enemy to achieve an asymmetric advantage by choosing to fight in a city and stripping us of our firepower and mobility advantages."

This change in mindset is summed up by the comments that whilst the then current *FM90-10 US Army An Infantryman's Guide To Combat in Built-Up Areas* on was written "*The briefest of glances at the manual will disclose illustrations that feature typical German villages—a scene only slightly*

removed from our World War II experiences.” but that now the US must “develop offensive MOUT doctrine concept that will allow us to progress beyond the ‘rubble and clear’ techniques of the past”. The new version of FM90-10 was intended to take a far more up to date approach, and the evolution of US urban doctrine and the associated manuals will be described in the next chapter.

Street Smart: Intelligence preparation of the battlefield for urban operations (Medby & Glenn, 2002) examines how the US Army’s IPB process needs to be adapted for use in urban areas, highlighting the need to include the civilian population in the analysis, to consider the perception by and sentiment of the population and the need to undertake a fuller urban terrain analysis.

People Make the City (Glenn et al., 2007) further explores the civilian dimension, and as well as commenting on the reality of “Three-Block War” (see later). It also recognises the Understand-Shape-Engage-Consolidate-Transition (USECT) model, which had been introduced in the *September 2002 JP 3-06, Doctrine for Joint Urban Operations*, as the way forward to better manage urban operations. *People Make the City* significantly reflects the emerging US experience in Iraq and as such represents a broadening in scope beyond Large Scale Combat Operations (LSCO) and has more of an asymmetric warfare focus.

In his work Glenn seems to have laid the ground work for much that has followed, and through his reports traces the evolution of US urban doctrine away from one of ‘rubble and clear’ to one which recognises the need to understand all the elements of the urban triad – the people, the complex terrain and the civilian infrastructure and embracing the full USECT process. He clearly identifies the need for improved doctrine (or any doctrine) at levels of urban operations, whilst also continuing to bang the drum for better urban training facilities.

Charles Krulak and the Three Block War, 1997

US Marine Corps General Commandant introduced the concept of the “three block war” in a speech in 1997 (Krulak, 1997), and that of the “strategic corporal” in 1999 (Krulak, 1999). The “three block war” referred to the need for the military to be able to conduct humanitarian assistance, peacekeeping, and mid-intensity warfighting operations within three consecutive blocks of a city – such is the complexity of modern urban operations – particularly within a asymmetric context. The “strategic corporal” focussed on the notion that with modern global media any soldier could suddenly see their actions thrust into the global spotlight with global political consequences, and so they need to be better prepared and trained to make good and independent decisions. There has been some push-back to the idea since – e.g. (Dorn & Varey, 2008) – and even “block-inflation”, but others still see value in the ideas, particularly around junior leader development (Annis, 2020).

Roger Spiller and *Sharp Corners*, 2001

Roger Spiller, George C. Marshall Professor of Military History at Fort Leavenworth, Kansas was directed to author a study on urban operations by the Commanding General, US Army Training and Doctrine Command (TRADOC) in the summer of 1999, just after that start of NATO ground operations in Yugoslavia. The 146 page study was published as *Sharp Corners: Urban Operations at the Century’s End* (Spiller, 2001) and takes a thematic approach. Considering the situation in Kosovo, and potentially beyond, the report states that: “*only one assumption could be made with any sort of confidence; Once ground forces were introduced, a significant part of their duties would be performed, not in the open countryside, but in areas that could to some degree be characterised as urban.... The question naturally arose: to what degree was the US Army prepared for this mission, ill-defined as it was at that particular time*” (p.v). The report had two main goals, “*reviving interest in urban conflict and restoring the subject to the place it deserves in any modern army*” (p.vii) and addressing the asymmetric threat. The report is divided into three parts: understanding urban design, examining the historical context and experience of urban warfare, and finally suggesting “*how we might make a fresh start at understanding a very difficult form of war in the future*” (p.ix). There is a 5 page list of selected urban battles and an 8 page bibliography.

The book does take a relatively strategic view of urban operations and does not get bogged down

in tactical issues. Of note are discussions around the modern siege, the aerial siege, “prestige” objectives, asymmetry, urban campaigns, centres of gravity (particularly the fall of Kuwait and that centres of gravity “*is not something one designates but discovers*” p.106), the employment of friction and invisible, digital city. Spiller notes that (p97-100):

- “Cities are human-built for human-purposes and look and act the way they do because of this;
- Cities are not natural entities, in that they do not arise without human intervention upon a given natural environment;
- There is no ‘Emerald City’. Real cities have never and do not now exist in a vacuum;
- Cities are not inert;
- Movement, compressed in space and time, is a normal state of a city;
- At a certain point in their growth cities pertain a level of complexity that is the product of human and physical synergy;
- The inherent social and material order of a city may be defined as urban cohesion – a counterweight to complexity and as substantial as military cohesion;
- Cities tend to persist;
- Cities are built to operate in peace; and
- A city may be divided into two parts – that which is apparent and that which is not apparent (its cybernetic signature)”.

Spiller concludes that particular analysis by noting that if any of these characteristics are beyond military manipulation then they are little immediate use, but those that are, are militarily relevant.

The study’s findings are presented through an analysis of the implications for DTLOMS (a predecessor of the UK’s DOTMILPF Defence Lines of Development (DLOD) model), looking at the potential impact on doctrine, training, leader development, organisation, materiel and soldiers. The conclusions are summarised in Table 1.1.

Doctrine	Develop “ <i>a new body of professional information and developing new operational level techniques and procedures through an extra iterative process of general officer review boards, Battle Command Exercises and a program designed to develop adequate simulations at higher than tactical level.</i> ” (p.127) Establish a program of basic research and development.
Training	Establish a program of command staff exercises from battalion to divisional level, including on-site Tactical Exercises Without Troops (TEWTS) at major US cities, and capturing of lessons learned. Develop a Battle Command Training Program (BCTP) of exercises for urban operations at the operational level and higher
Leader Development	Initiate a progressive program or urban focussed professional-level education. Establish institutional and unit-level programs to deliver basic education in urban operations, and as an integrated, not separate or one-off activity.
Organisation & Materiel	Establish a moratorium of urban related materiel or organisational change until there is better understanding and control, and direction by TRADOC, informed by a new urban study group.
Soldiers	Establish a task-force to examine the psychological, physical, organisational and material requirements for the individual soldier in urban operations.

Table 1.1: DTLOMS findings in Sharp Corners (Spiller, 2001)

As with Glenn, Spiller reflects the shift that was then underway in US thinking, moving beyond the 'rubble and clear' and tactical focus of Marshall and the other earlier commentators cited and towards a more holistic approach to the city.

Robertson, Yates and Spiller, *Block by Block: The Challenges of Urban Operations* (2003)

Block by Block: The Challenges of Urban Operations (Robertson & Yates, 2003) was produced by the Combat Studies Institute at Fort Leavenworth in response to a request by TRADOC for produce a set on in-depth urban case studies which would be used by all TRADOC schools. The report includes case studies on Stalingrad, Aachen, Manila, Hue, Grozny, Beirut, Sarajevo, Kabul (1979), Panama City, urban terrorism in Argentina, and humanitarian operations in Florida. It also refers readers to Spiller's *Sharp Corners* for a more conceptual look at urban operations, and includes Ralph Peters' *Our Soldiers, Their Cities* as an annex. Louis DiMarco (see below) provides a short history of urban warfare through the ages and Spiller provides an endpiece on *Urban Warfare: Its History and Its Future*, largely drawing out key points from the case studies. He does though comment on how "*the presence of civilians, sometimes in the midst of battle, is one characteristic that makes urban warfare unique among all other forms of war...For an invading army, even the most welcoming population constitutes a kind of resistant medium in which that army must continue to execute its mission.*" (p.445). Spiller further goes on to write that:

"The urban environment, considered in military terms, is a unique environment, both in terms of its essential character and its behaviour. Faced with the complexities of this environment, military analysts have resorted to explaining cities as a system of systems ... The first, most elementary, feature of any urban environment is that it is a place where people have collected more or less permanently. It is therefore to the human qualities of the urban environment the military planner must first look if he hopes to understand how armies can function in such a place.

*When a military force acts in an urban environment, its essential humanness guarantees that the environment acts in return; that is, the relationship between a force and a city is **dynamic**. The dynamic interaction between cities and the military forces operating in them redefined and reshaped those forces overtime. Because of its dynamic quality, the urban environment works as an important third force, uniquely influencing the behaviour of all sides engaged. This fundamental interaction cannot be ignored by the armies engaged, regardless of how long or how intensive their operations."* (p.446)

John Antal, *City Fights* (2003) and *Forests of Steel* (2007)

Col. John Antal is an ex-US Army tank officer, and prolific author and presenter on military matters. Other than *City Fights* he is probably best known for his three "choose your own adventure" style training books: *Armor Attacks* (1991), *Infantry Combat* (1995) and *Combat Team* (1998).

City Fights (Antal, 2003) is an edited collection of 13 urban case-studies by different authors looking at: Tai-erh-chuang (1938), Stalingrad (1942), Warsaw (1944), Arnhem (1944), Troyes (1944), Budapest (1944-45), Aschaffenburg (1945), Manila (1945), Berlin (1945), Jaffa (1948), Seoul (1950), Hue (1968) and Da Nang-hoi An (1968). There is also a useful chapter on the evolution of US urban combat doctrine which will be considered later in this thesis.

In the preface Antal identifies that the aim of the work is to describe the specific battles and to extract lessons learned. He sees that cities are important in warfare as they underpin the strengths of nations – "*if a state loses its cities, it has lost the war*" (p.iix), and that they are a natural stronghold for the defender, and "*only foolish enemies will come into the open to be destroyed*", and that "*We must expect that intelligent adversaries will attempt to negate the current advantage held by the United States in technological standoff warfare by forcing us to fight in areas where our brilliant*

weapons aren't so smart" (p.xi). he also identifies that "*no silver bullet solutions exist to avoid close combat in the restricted terrain of the urban battlefield. These fights always took time, blood and treasure*" (p.xi).

In the conclusion Antal identifies overall lessons learned around the following:

- General Tactical Lessons
 - The importance of understanding the city;
 - It's infantry intensive
 - The importance of mouse-holing
 - The use of man-portable anti-tank weapons;
 - The use of anti-aircraft weapons in a ground role;
 - The value of snipers.
- Manoeuvre
 - Natural movement avenues, such as road and rail networks;
 - The impact of construction materials;
 - The vertical battle inside building;
 - The importance of the subterranean;
 - Cratering and rubble's effect on movement.
- Combined Arms
 - The combined use of infantry, armour, engineers and fire support;
 - That combined arms integration should be pushed to the lowest level (even to the squad);
- Logistics
 - High ammunition expenditure
 - The need for urban specific stores (e.g. rope, explosives)
 - A general need for increased stores
 - The challenge of individual sustainment, incl. food, water etc
 - Maintaining services to the population;
- Command and Control
 - The challenges of communication in urban areas;
 - The continued usefulness of wireline communications;
 - The need for good junior leaders given the need for local autonomy;
 - The potential to decentralize command;
 - The value of information superiority.

Antal states that "*The most significant conclusion is that there is no standard urban operation. Combat in cities is unique to the opponent, the city, the geography, the campaign, and the political considerations of the conflict. Urban operations are always complex and deadly.*" (p.429). he concludes by saying that:

"The goal of the defender of the city is usually to use the complex urban terrain to negate the synergy of combined arms, bleed the attacker, gain time and force his defeat. The attacker's goal, however, is to ensure that the city's complex topography does not have a decisive influence on the battle" (p.429)

In 2007 Antal produced a follow-up to *City Fights*, entitled *Forests of Steel: Modern City Combat from the War in Vietnam to the Battle for Iraq* (Antal & Gericke, 2007) looking at urban battles from Vietnam onwards. This book was produced for EFW, a subsidiary of Elbit, a major defence contractor based in Israel, and was, one assumes, produced largely as a promotional item. It does however follow a similar format to *City Fight*, being an edited 343pp book with contributions from an array of authors on 12 urban battles. The battles covered are: Hue (1968), Afghanistan (1979-1989), Panama (1989), Khafji (1991), Somalia (1993), Grozny (1995), Bosnia (1997), Afghanistan (2001-2002), Iraq (2003), Baghdad (2004), and Iraq (2006).

The Foreword (by an EFW executive and US Veteran) notes that the 2003 Battle of Baghdad did not materialise (at least initially) as a house-to-house battle as the US armoured thrust and "3rd Generation Warfare" effectively dislocated and disrupted to opposition. However, he also observes

that “*this book does not promote a vision of future land warfare dominated by the application of standoff precision weapons enabled by ‘information superiority’*. Urban terrain substantially negates many of America’s technological advantages and standoff precision is of limited value when the enemy is next door” (p.10). In their preface Antal and Gericke observe how the lack of a major conventional war in Europe after World War 2 meant that Western militaries could “*turn away from urban warfare with little consequence*” (p.12). However, they see “*the urban battlefield is the battlefield of modern combat and not the exception*” (p.13). Unfortunately, other than in the explicit battle accounts the book and its editors do not reflect on any changes (or lack of changes) in US doctrine since *City Fights*, and there is no summative analysis either. Perhaps the closest to a new observation is that in the Foreword and by Grau and Kipp in the first chapter entitled *Urban Warfare: Monumental Headaches and Future War* that the armoured thrust typified by the US taking of Baghdad and the “urban raid” variation practiced by the Russians in Grozny (where the axis of advance is frequently changed to dislocate the enemy) may offer alternatives to more methodical but manpower intensive block-by-block approaches.

In many ways Antal is back to the tactical school, focusing on the detail of the urban battle, but the collected chapters in both on most of the major urban conflicts before 2007 are a very useful introduction to urban battles.

In 2022 Antal wrote *Seven Seconds to Die: A Military Analysis of the Second Nagorno-Karabakh War and the Future of Warfighting* (Antal, 2022) and identifies the city of Susha as the decisive terrain and its capture as being the decisive act of the war. Otherwise the book is focussed on technology, and particularly the use of drones during the war, sensor-effector kill chains, masking and the growing role of AI – all of which are further explored in his more recent book *Next War: Reimagining How We Fight* (Antal, 2023) which does include a chapter on *Preparing for the Next City Fight*.

Richard Norton and *Feral Cities* (2003)

In 2003 Richard Norton (a former US Navy Commander, and a professor at the Naval War College) wrote an influential paper for the Naval War College Review entitled *Feral Cities* (Norton, 2003). Whilst much had been written about failed states, Norton argued that feral cities were likely to be just as common a feature of the future landscape. His definition of a feral city is “*a metropolis with a population of more than a million people in a state the government of which has lost the ability to maintain the rule of law within the city’s boundaries yet remains a functioning actor in the greater international system*”. He notes that “*Feral cities would exert an almost magnetic influence on terrorist organizations. Such megalopolises will provide exceptionally safe havens for armed resistance groups, especially those having cultural affinity with at least one sizable segment of the city’s population*”. Norton describes how feral cities are an international rather than just a domestic issue, as they can act as a breeding ground for pandemics, hot-spots for environmental degradation, and hubs for illicit trade. The paper presents a 3-tier model for studying feral cities which goes from Green for healthy cities, Yellow for marginal cities (e.g. Mexico City) and Red for those going feral (potentially Johannesburg), but notes that these might be applied as a mosaic across the services and geography of the city. From a military point of view feral cities pose significant challenges as their “*very size and densely built-up character make them natural havens for a variety of hostile nonstate actors, ranging from small cells of terrorists to large paramilitary forces and militias*”, and that there is a high likelihood of hostage taking, with little hope of rescue. Norton has regularly expanded on the concept, such as in *Feral Cities: Problems Today, Battlefields Tomorrow?* (Norton, 2010) and has been interviewed by John Spencer on the Urban Warfare Podcast. King (King, 2021) called the original article “*a seminal moment in this catastrophic vision of the urban future*”, and as a prelude to the discussion that followed about the military implications of megacities.

Michael Evans and *City Without Joy* (2007)

City Without Joy: Urban Military Operations Into The 21st Century (M. Evans, 2007) was an Occasional Paper produced by the Australian Defence College (ADC), written by Michael Evans, an ADC Fellow and ex-head of the Australian Army’s Land Warfare Studies Centre – the title echoing Bernard Fall’s 1961 book on rural insurgency – *Street Without Joy* (Fall, 1994). 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”, and indeed that they probably cannot be avoided. Better urban training is seen as essential, but should be done within a generalist framework. The characteristics of urban operations are identified as:

- the advantage of effective firepower;
- the fragmentation of combat;
- the importance of direct-fire weapons;
- the problem of a civilian presence;
- the absorption of manpower;
- the physical and psychological strain;
- the imperative for a combined-arms approach.

Three areas are identified for future study: improved technology and tactics, a “more sophisticated conceptual understanding of urban military operations ...at the strategic-operational levels of war (including the relationship to insurgencies and political policy), and “ a new approach for operating in cities, based on a concept of ‘military operations as urban planning’ (MOUP)” – which brings in ideas from town planning and disaster management. This is possibly one of the first papers to really start to approach the need for a strategic approach to urban conflict within a wider and more rigorous context. King (King, 2021) notes that the final point is well made, although he is unsure as to whether “the armed forces should aspire to becoming genuine urban planners is an open question”.

In *Lethal Genes: The Urban Military Imperative and Western Strategy in the Early Twenty-First Century* (M. Evans, 2009), Evans argues that “while military professionals have sought to improve their understanding of urban military operations in an era of global demographic movement from landscape to cityscape, strategic theory lags behind operational practice. Western strategy currently lacks an effective urban lens with policy-relevant analysis neglected within the strategic studies community” and that “Western strategists must be prepared to conceive of cities in the developing world as sites of armed conflict and to rethink the traditional geography of war, society and governance”.

Louis DiMarco and *Concrete Hell* (2012)

Louis DiMarco’s *Concrete Hell: Urban Warfare from Stalingrad to Iraq* (DiMarco, 2012) is another anthology book of urban battles. DiMarco is an ex-US Army officer and Professor of Military History at the US Army Command and Staff College. The book covers: Stalingrad (1942), Aachen (1944), Inchon and Seoul (1950), Hue (1968), Algiers (1956-57), Northern Ireland (1969-2007), Grozny (1995), Jenin (2002) and Ramadi (2006-07). DiMarco does not offer much in the way of a summative analysis, but, no doubt reflecting the then recent experiences in Iraq and Afghanistan, does note in his conclusion that:

“because the civilian population is integral to the urban environment, urban combat must be closely and effectively coordinated and synchronised with political policy. It will not be possible to execute truly successful urban combat operations unless those operations account for the welfare of the civilian population, and political policy ensures that the needs and grievances of urban residents are adequately satisfied.” (p.215).

David Kilcullen and *Out of the Mountains* (2013)

David Kilcullen was the senior counterinsurgency advisor to General Petraeus in Iraq and to the NATO Security Assistance Force in Afghanistan. He tellingly starts *Out Of The Mountains* (D. Kilcullen, 2013) with the statement that:

“I called this book Out of the Mountains, but I might just as easily have called it Back to the Future, since the issues are examined here - centred on conflict in the urbanised, networked littorals of an increasingly crowded planet - were already well understood by the end of the last century.” (p.vii)

The switch away from the littoral, and even for a while from urban, was due to the operations in Afghanistan, and later Iraq – two essentially landlocked countries – and Kilcullen’s plea at the end of the book is for the military who have been off fighting rural wars to re-engage with the, probably inevitable, return to urban, and urban littoral, conflict.

A key element of *Out Of The Mountains* is the discussion of the concept of “urban metabolism”, drawing on the work of Abel Wolman’s *The Metabolism of Cities* (Wolman, 1965), and researchers such as Stephen Graham and Saskia Sassen who will be discussed here later. Working out from an earlier analysis of insurgencies as biological systems – discussed in his *Countering Global Insurgency* (D. J. Kilcullen, 2008) – the new idea is that the city is a system, with inflows and outflow and transforming processes, as shown in Figure 1, and that in dealing with an urban insurgency, and potentially any urban conflict, we need to understand how that city as a system operates in order to both have the desired effect on the adversary but also to minimise any unnecessary adverse effects on the population itself.

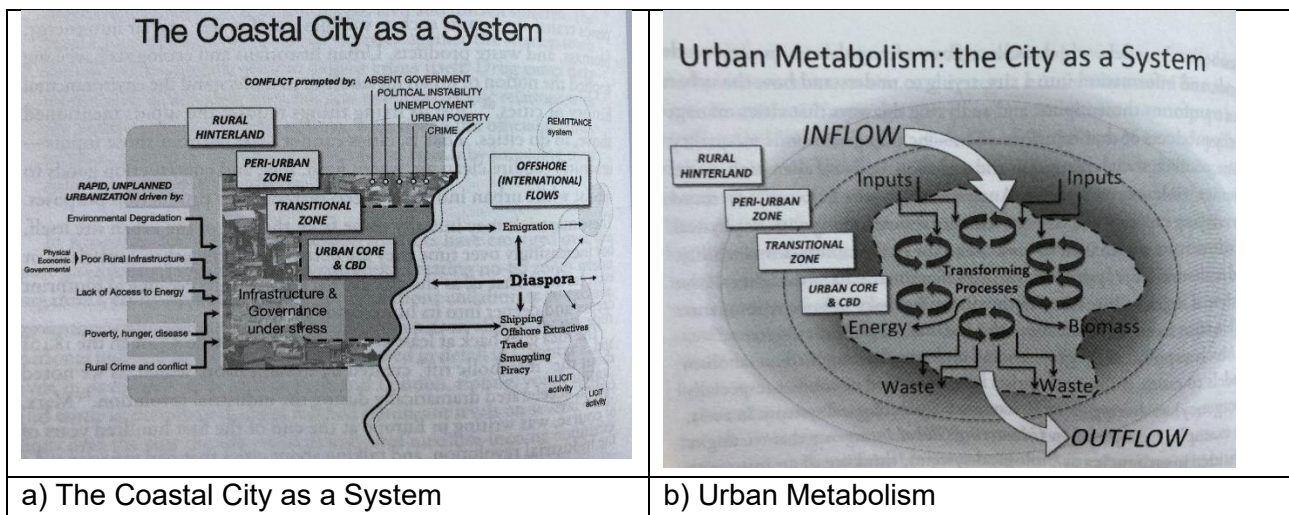


Figure 1: The City as a System

Alec Wahlman and *Storming the City* (2015)

Storming the City (Wahlman, 2015) is another urban battle anthology. Alec Wahlman was an analyst at the Institute for Defense Analyses, working for the US DOD, and *Storming the City* is his principal publication. The book covers the battles of Aachen (1944), Manila (1945), Seoul (1950) and Hue (1968), as well as having chapters that look at urban warfare in American military thought before Aachen and after World War 2 (the latter including a useful analysis of doctrinal publications which will be considered later). The battle case-studies are broken down into sections looking at the following characteristics of urban warfare: command, control and communications; intelligence and reconnaissance; firepower and survivability; mobility and counter mobility; logistics; and dealing with the population.

Identifying the trends in urban warfare as being “*the increasing importance of cities, the advances in military technology, and the constraints urban terrain [rather than population interestingly] places on military operations*”(p.6), Wahlman then sets out three questions for his study to answer: “*When the need arose to fight in urban terrain in the mid-twentieth century, how effective were US forces, why, and how did that performance change from world war 2 to Vietnam*” (p.6). The short-answer he says is that the US was effective, and that it was effective due to transferable competence (from

non-urban training and doctrine, and particularly in terms of small-unit leadership, firepower and logistics, combined arms, and AFVs well suited to urban combat) and battlefield adaption (just-in-time innovation and flexibility in the face of novel demands and environments). Wahlman also identifies that there was a steady decline in tactical performance over the four battles examined, particularly when rated against each of the characteristics, and noting that “*there does not appear to have been any strong desire to redeploy those with urban warfare experience to major urban battles after World War 2. This may be another indicator of Marine Corps and U.S. Army apathy toward urban warfare, or at least a sense that it did not require significant special expertise or preparation*” (p.126).

Wahlman importantly highlights two myths which are undermined by the US performance in these battles. First, that the attacker needs a large force relative to the defender (in excess of 3:1), noting that at Aachen the US were *outnumbered* 3:1 and at Manila only had a 1.5:1 advantage. The impact of urban is seeing as slowing the tempo and forcing the attacker to balance tempo choices with civilian and collateral damage. Second, that urban should be seen as an infantry fight, when all the battles were significant combined arms operations. The fallacy of the Great Equaliser argument is also explored in Winton’s PhD thesis (Winton, 2019), and elsewhere, and will be further discussed in later chapters of this thesis.

Storming the City is very much focussed on the tactical battle, but with a good consideration of the impact on the civilian population and infrastructure. Its structured approach, as befits an analyst, also makes it a potentially more useful comparative study than some of the other anthologies, although only covering 4 (US) battles and the view of one author.

David Dilegge, the *Urban Operations Journal* (2000) and *Blood and Concrete* (2019)

David Dilegge has been described as “*the grandfather of urban warfare studies*” (Altman, 2020). A former USMC officer who became a civilian analyst and consultant Dilegge set up what became the *Urban Operations Journal* as essentially an early wiki in 1998, with both public and official—use-only versions. The Journal was rebranded as the *Small Wars Journal* in 2005, and continue to this day as a highly respected source of writing about military matters (R. Evans, 2014). Dilegge died in 2020.

Blood and Concrete (Dilegge, 2019) was published in 2019 and is an anthology of 49 papers from the *Urban Operations Journal* and the *Small Wars Journal* on urban warfare topics. It includes writing from Kilcullen, Glenn, Spencer, John P. Sullivan, Adam Elkus, Elizabeth Bartels and Geoff Demarest. Topic covered include: Mumabi, terrorism and public disorder (10 papers), Mogadishu, mega cities (13 papers) and narco-cities, simulation and training, and the impact of cyber and smart cities (5 papers). It also includes one paper (by Michael Peck) reviewing the *Operation Whirlwind* game by Brian Train – one of the few urban (or even any) wargame reviews in the academic literature. The collection has been described as “*somewhat miscellaneous and uneven*” (Hills, 2020), whilst others see that it provides “*useful counsel*” – if liable to becoming outdated (Burgoyne, 2023)

In the Introduction Dilegge and his co-editors note that “*understanding urban areas demand study and research of the urban domain, and this understanding demands the development of intelligent frameworks open brackets that integrates geospatial concepts and human dimensions of terrain. Closed brackets for conducting the entire range of urban operations*” (p.xlvii). The Introduction also identifies 5 thematic elements whose future need can be informed by the readings in the book: urban warfare schools and training centres, the need for a dedicated Urban Warfare Army branch (and associated publications), the need for (and composition of) Urban Warfare kits, the need for dedicated Urban Warfare units, and human-machine teaming and force structures.

It is impossible to summarise such a varied book here, but relevant chapters will be referred to throughout this thesis at the appropriate points. It should be noted though that several of the key papers in the book are about improving the approaches to the Intelligence Preparation of the Battlefield (IPB) and developing frameworks and theories for urban strategy and operations. This operational level is where the book is focussed, rather than the tactical or potentially even the strategic.

Douglas Winton, *Is Urban Combat the Great Equalizer?* (2019)

Douglas Winton's 2019 PhD dissertation looked at whether urban combat is "the Great Equalizer" as it is often claimed – i.e. that the urban environment negates any technical superiority that the attack might have (Winton, 2019). Winton was a serving US Army artillery and staff officer, is now a professor at the National Defense University and has also served on the staff at the Army War College. The dissertation provides a history of the "great equalizer" concept, tracing the phrase back to a 1992 study on Leningrad, Stalingrad, and Manila. Winton then looks at three paired battle studies, each pair based on the same location, in order to best identify which factors are having the most influence on the outcome. The locations and battles are Grozny in 1994/1995 and 1999/2000, Fallujah I and II (2004) and Gaza in 2009 and 2014. Winton's conclusion from his analysis is that *"although urban terrain provides substantial advantages to determined defending forces, it does not and cannot by itself degrade the effectiveness of technologically-based forces to such an extent that they fight as equal combatants"* and that as a result *"Western militaries should make substantial investments in developing the technologies, organizations, and doctrine that will enable their forces to leverage their asymmetric technological advantages and prevail in future urban combat"* (Winton, 2019). King is very positive about the thesis in his major 2021 work (King, 2021).

The *British Army Review Special Report – Urban Operations* (2019)

In 2019 the *British Army Review* published a 2 volume Special Report on Urban Operations (BAR Special Report - Urban Operations, 2019), drawing together articles on the topic from previous issues of the *British Army Review* over at least the past 20 years. The Foreword to the report, written by a member of the UK's Land Warfare Centre, observes that:

"At first glance, this anthology of BAR articles, the first of two volumes focussing on urban operations, may give veteran readers a feeling of having seen it all before. After all, throughout all our careers, the urban operations drum has been beaten with metronomic regularity. We all know that most of the world's population lives in urban areas, that the urban environment has provided some of the greatest challenges in contemporary conflicts, that our potential enemies are likely to use urban terrain to negate some of our technological overmatch and, therefore, that urban operations are increasingly likely to feature in any future British Army deployment. It's just that there always seems to be something more important that needs to be done before we properly grasp the urban operations nettle" (BAR Special Report - Urban Operations, 2019).

Whilst also commenting that *"the British Army has developed some excellent tactical urban doctrine and training and has operated successfully in many urban environments across the globe"* despite the Army tending *"to lack focus on unit and formation level Combined Arms manoeuvre in the urban environment, and our urban TTPs are limited in coherence and scope"*. Some of the more UK specific activity identified will be considered when looking at the evolution of UK doctrine, but the report includes a range of article on historical and contemporary urban issues by authors such as Alice Hills, Jim Storr and Anthony King (see all below), case studies on the Lebanon (2006), Fallujah II, Aleppo, the Eastern Front (1945), Trieste (1945) and Rees (1945). Whilst many of the articles are concerned with FIBUA and the more tactical aspects of urban warfare, a few look at the broader picture (notably Hills and Barley). Given the relative age of some of the articles this was very much a report that was consolidating existing knowledge and viewpoints rather than laying out the sort of new agenda addressed by some of the other urbanistas already discussed.

David Betz and Hugo Stanford-Tuck, *The City is Neutral* (2019)

Also in 2019, David Betz and Hugo Stanford-Tuck wrote an influential article entitled *The City is Neutral: On Urban Warfare in the 21st Century* for the Texas National Security Review (Betz & Stanford-Tuck, 2019). In the article Betz (an academic at KCL) and Stanford-Tuck (a British Army infantry officer) examine “*Stalingraditis’ and Other Urban Legends*” – particularly those identified in Anthony Beevor’s analysis of Stalingrad – and refute them in turn:

- First, that “commanders lose control of the battle more rapidly”;
- Second, “that cities are imbued with a symbolic resonance that makes them dangerous objectives for politicians” and suck in “more resources to them than their strategic value merits”
- Third, the “defender usually determines the tactics in cities — a key advantage, and one that normally accrues to irregular more so than regular forces”.
- Fourth, “fighting in cities consumes far more troops than planners usually imagine while the urban environment diminishes the advantages of superior conventional weaponry, mobility, and training”.

Betz and Tuck obviously concur with Winton that urban is not “great equalizer”. In analysing the situation and how to address it they conclude that:

“What is required to realize this [to overcome urban challenges and exploit urban opportunities] is twofold: first, training facilities that are big enough for large combined-arms units with supporting logistic, medical, and intelligence elements, and realistic enough to approximate real-world battle conditions; and second, a mindset among those training soldiers in urban warfare that tells soldiers they can adapt to and thrive in this environment as well as in any other.”

The new mindset, and urban concept of operations, has echoes of Marighella and they base around the idea of “the strongest gang”:

“What is needed is a substantial shift in thinking from extant, industrial-era, positive-control oriented approaches, to one in which the regular force is simply the strongest gang in a given area. The key to fighting in the morass of the urban environment is not necessarily using divisional-level maneuvering to shatter an enemy general’s plan, but successfully overwhelming the adversary’s cognitive abilities at the team and individual level — all in an effort to achieve a given policy aim. The army fighting in this context should seek to create a thousand small outflanking maneuvers together to generate the conditions to destroy their enemy’s ability to put together a response.”

And in terms of technology their view is that:

“technology should be an enabler of the strongest gang theory — allowing dispersed operations of the sort idealized above. In practice, technology is too often an impediment when it is employed to reinforce a top-down, positive-control oriented command model that squelches small unit initiative. Technology is important, but it can become a problem when you let it drive the cart, as it were”.

John Spencer (see below) wrote a riposte to the article in 2020 entitled *The City Is Not Neutral: Why Urban Warfare Is So Hard* (Spencer, 2020a). Spencer sees Betz and Stanford-Tuck confusing counter-insurgency operations and more deliberate urban assaults against a peer opponent, and argues that both understanding the environment and how to operate in it are harder in the urban. “*The very introduction of military forces into a city changes it.... This effect of warfare on the urban environment—its people, terrain, infrastructure—also has no parallel, in scope or magnitude, in any other environment*”. In particular Spencer sees that “*Urban means high concentrations of people and people in the middle of warfare do not influence both sides equally—thus they are not ‘neutral.’*”, and that sufficient evacuation of the civilian population is rarely achieved. The lack of coverage in the original articles for International Humanitarian Law and the strictures it places on militaries and the

effect that they have on operations in densely populated urban environments is also identified. Spencer also notes that the very fabric of the city – is something which delivers more benefits to the defender than the attacker in terms of concealment and protection – heightened by the ready-made defensive forms of tunnels and basements. Spencer also quotes the “precision paradox” as calling into question their assertion that the destructive firepower of conventional artillery may be reduced by the emergence of precision weapons. Spencer argues that battles such as Aachen were not examples of smaller forces winning over larger ones (once the isolation and support elements are taken into account). He also has concerns that the “strongest gang” model might “*evolve into unethical, unjust, and immoral practices*”, and that it reflects an attempt to generalise TTPs developed for special forces in close combat “*despite evidence from major urban battles—historical and modern—like Aachen, Seoul, Hue City, Fallujah, Sadr City, Mosul, and Marawi, which show that entering and clearing a room is not the tactic that leads to success. Rather, what is required is the integration of combined arms, specific urban tactics to kill enemy forces in fortified structures, urban-specific tools, and innovation of small units.*” In contrast to Betz and Stanford-Tuck, and Winton, Spencer concludes that “*Defending from urban terrain does negate the advantages of a technologically and militarily superior attacker. And urban attacks do require more troops than attacks in all other terrain*”.

Charles Knight, *The Marawi Crisis: Urban Conflict and Information Operations* (2019)

Charles Knight is an ex-British Army officer, currently a reservist with the Australian Army, and an academic with a focus on urban operations. In *The Marawi crisis: Urban conflict and information operations* (Knight & Theodorakis, 2019) Knight observes how “*the increasing urbanisation of global populations, combined with proliferating information technologies, means there’s a need to be prepared both for military operations in urban environments and for a widening of what policy/decision-makers consider to be ‘the battlefield’ to include the narrative space.*” (p.4). The report “*examines both the capability aspects of kinetic hard power and the lessons from soft-power IOs, and how they intertwine in the urban environment*” (p.4) and recommends that militaries “*consider approaches that will enable or encourage civilians in urban conflict areas to evacuate as well as develop means of fighting with reduced casualties*” and look at greater use of unmanned systems to reduce own casualties. In terms of Information Operations the study considers that:

- Marawi demonstrates “*the most important elements in a successful soft-power campaign are credibility and legitimacy beyond mere persuasion - moral authority can arise only when there’s no gap between rhetoric and action*”;
- “*In urban operations, the narratives surrounding the conduct of operations aren’t just a supporting element but are equally as important as—if not more important than—the military objective. Effective use of soft power plays a crucial part in achieving a favourable political outcome*”;
- “*The moral dimension matters. Responding to the sociopolitical and emotional realities of the target audiences is crucial. Political victory can be brought about only by avoiding dissonance between military/government effects and narratives. Legitimacy requires a close match between words and deeds*”; and
- “*There’s a need for cultural intelligence as a future capability: IO shouldn’t be regarded as a technical exercise but a human one, premised on a thorough understanding of the causes and drivers of political violence. This includes a focus on values and ethical stances, and how they’re constructed on the ground.*” (p.5).

In an earlier call for a professional debate within the Australian Army about urban warfare Knight identified that “*The most pressing challenge is perhaps unprecedented geo-political sensitivity to suffering own and inflicting civilian casualties: exacerbated in an interconnected world where media effects operate in real time*” (Knight, 2018).

Knight’s 2017 presentation on The Urban Challenge (Knight, 2017) looked at exploring some innovative solutions to urban warfare problems based around a construct of 3 different dichotomies: enhanced soldier function vs protected inhabited platforms, dispersed value vs concentration, and

2D vs 3D. The eight resulting areas for potential innovations were characterised as:

- Person-power: better equipment for individual warfighters;
- Toughbots: greater use of UGVs;
- Panzer-bobcat: crewed 1-2 man microAFVs to enhance safety in urban environments;
- Hobart's engines: more use of specialised engineering AFVs;
- Street Icarus: individual warfighter flying vehicles or capabilities;
- Dread drones: armed drones, especially for fighting inside buildings;
- Supersurface skippers: the ability for individuals or platforms to move up walls and over roofs and buildings; and
- Urbanairmech: flying, crewed, armoured vehicles

Knight mentions that the ideas were to be tested in a series of wargames.

In 2020's *Rethinking Urban War for an Army in Motion: Introducing the Challenge* (Knight, 2020), Knight supports Spencer's challenge to the "optimistic" paper by Betz and Stanford-Tuck and notes that:

"Recent urban battles have demonstrated that determined defenders can inflict such high casualty levels that attacking forces cannot progress without heavy reliance on artillery and air power. The result is extensive destruction and civilian casualties, creating a moral dilemma of weighing the value of soldiers' lives against civilian ones. The problem is not just tactical and moral. Domestic and international outrage at civilian suffering can create geo-strategic political consequences .. [which] ... constrain the military options"

In considering how an army can operate in the urban environment whilst reducing damage and civilian harm Knight notes the use of "*large calibre (290mm) demolition guns*" and flamethrowers towards the end of WW2, and that, given the use of flamethrowers is beyond the pale for most western armies (as not actually prohibited by International Humanitarian Law) such weapons offer a moral challenge and they "*significantly reduced both destruction and casualties of all kinds*". Knight considers whether "*nonlethal riot control using microwaves or ultrasound*" might be relevant, as well as the use of UGVs, smoke, and specialist engineering vehicles.

Knight's 2021 paper on *The realities of war: recognising and planning for the decisive role of media on the urban battlefield* (Knight & Ji, 2021) considers "*how media messaging might indirectly influence military urban operations, especially by shaping popular and political demand for more aggressive or less aggressive actions than optimum military practice*". It notes that whilst domestic audiences are broadly supportive of the military during war, urban wars, where destruction of property and loss of life are far more concentrated are more of an unknown and may be subject to more simplistic moral judgments, and that "*If the military fights in cities without establishing both media understanding of urban war and processes to influence the public narrative, the consequence may be problematic policy direction*".

Writing about the 2022 war in the Ukraine for the Economist (Knight, 2022), Knight again championed the use of UGVs, as well as the use of smoke to improve concealment (with suitable masks for friendly forces to operate relatively unhindered in the smoke).

Knight was also responsible for the creation of *Urban Warfare: A Practitioners Annotated Bibliography* (Knight et al., 2021) mentioned at the beginning of this section.

John Spencer and the Urban Warfare Institute

John Spencer served as an infantry officer in the US Army and participated in the Battle of Sadr City in 2008. John is the chair of urban warfare studies at the Modern War Institute, codirector of the Urban Warfare Project, and host of the Urban Warfare Project Podcast. He has written extensively on urban warfare both on the Urban Warfare Projects blog (<https://mwi.westpoint.edu/urban-warfare-project/>) and in the media (see <https://www.johnspenceronline.com/publications>). The Urban Warfare

Project Podcast has been running since 2019 and has amassed over 94 episodes (most interviews with experts, and including some re-broadcasts). The episodes cover case studies (Sadr City, Fallujah, Ramadi, Marawi, Ortona, Gaza, Shusha, Mumbai, Jenin, Ukraine, Suez City), interviews with several of the authors mentioned here (including David Kilcullen, Charles Knight, Anthony King, Louis DiMarco, Douglas Winton), and discussions on key urban topics including protecting civilians, megacities, subterranean, breaching, feral cities, smart cities, urban training centres, and whether urban is the great equaliser. Fifteen of the podcasts (including most of the case studies) were published as *Understanding Urban Warfare* (Collins & Spencer, 2022). Alongside colleague, and Canadian urban warfare expert, Jayson Geroux, John has produced online Case Studies (<https://mwi.westpoint.edu/urban-warfare-project/urban-warfare-project-case-studies/>) on the battles of: Stalingrad, Mosul, Hue, Suez City, Ortona, and Fallujah I and II.

In 2022 in response to the Russian invasion of Ukraine Spencer created *The Mini-Manual For The Urban Defender* (Spencer, 2022) which was made available for free on-line and translated into multiple languages. This is a very practical and illustrated manual designed to help ordinary Ukrainians prepare for the defence of their towns and cities and includes information on using the AK47 and RPG7, preparing Molotov cocktails, the construction of barriers, roadblocks and strongpoints, the use of rubble, and how best to engage a tank. His *Spencer's Standing Orders (for the Urban Defender)*, and much of the rest of the content, would not have been out of place in Marighella's *Minimanual of the Urban Guerrilla*, from which it no doubt draws inspiration.

The Mini-Manual's *8 Rules of Attacking a City* usefully summarise much of Spencer's analysis of urban warfare and are reproduced in Figure 2.

8 Rules of Attacking a City

There are rules that restrain a military force attacking a city. A smart defender plans to maximize and use each rule against the attacker. The rules are:

- 1. The urban defender has the advantage.** It takes much more force to attack and defeat an enemy that is in an established and properly constructed defense than one in the open.
- 2. The urban terrain reduces the attacker's advantages in intelligence, surveillance, and reconnaissance, the utility of aerial assets, and the attacker's ability to engage at distance.**
- 3. The defender can see and engage the attacker, because the attacker has limited cover and concealment.** The biggest tactical advantage for the defending force is that it can remain hidden inside and under buildings.
- 4. Buildings serve as fortified bunkers that must be negotiated.** Cities are full of structures that are ideal for military defense purposes. Large government, office, or industrial buildings are often made of thick, steel-reinforced concrete that make them nearly impervious to many military weapons.
- 5. Attackers must use explosive force to penetrate buildings.** The primary current methods of attacking an urban fortification are to either destroy it or prepare the building with explosive munitions and then send infantry in to enter and clear the entire building if necessary.
- 6. The defender maintains relative freedom of maneuver within the urban terrain.** They can prepare the terrain to facilitate their movement to wherever the battle requires. They can connect battle positions with routes through and under buildings. They can construct obstacles to lure attackers unknowingly into elaborate ambushes because of the limited main avenues of approach in many dense urban environments.
- 7. The underground serves as the defender's refuge.** Defenders can use existing tunnels or dig their own to connect fighting positions, hide from detection, and provide cover from aerial strikes, and even employ them offensively as tunnel bombs against a stationary military forces.
- 8. Neither the attacker nor the defender can concentrate their forces against the other.** A defense established in dense urban terrain constrains both the rapid movement and the ability to concentrate formations against decisive points.

Figure 2: 8 Rules for Attacking a City (Spencer, 2022).

The *Mini-manual* also identifies 3 phases of an attack on a city:

- Bombing of known enemy positions – so best to hide underground;
- Bombing of all urban structures to deny their use and hopefully encourage surrender; and
- Indirect and direct fires as the enemy attempts the break-in.

Probably based on his experiences in Sadr City, Spencer is an ardent proponent of concrete in urban warfare, used for barriers, walls and guard towers and providing soldiers with the “*freedom of maneuver in urban environments*” (Spencer, 2016). His view that the city is not neutral” is summarised by his paper on *The City Is Not Neutral: Why Urban Warfare Is So Hard* (Spencer, 2020). In *Every City is Different. That’s why a One-Size-Fits-All Approach to Urban Operations Won’t Work* (Amble & Spencer, 2019), Spencer argues that the US Army needs to consider how it would operate in a range of proto-typical cities in order to understand the varied nature of cities – and the impact of that on any urban operations. The cities highlighted were Caracas, Mexico City, Sanaa, Karachi, Lagos, Manila, Taipei, Warsaw, Riga, Vilnius, Suez City, Mogadishu, São Paulo and Rio de Janeiro.

In *The Eight Rules of Urban Warfare and Why We Must Work To Change Them* (Spencer, 2021) Spencer looks at some of the limitations of conventional approaches to urban warfare and how they should be overcome. Many of these feed into the “great equalizer” debate, and also the urban myths discussed at the end of this chapter:

- *The urban defender has the advantage* – something he sees as having ebbed and flowed across history, but something which is currently true unless tactics or technology can obviate the advantage;
- *Urban terrain reduces the attacker’s advantages in intelligence, surveillance, and reconnaissance, the utility of aerial assets, and the attacker’s ability to engage at distance* – an aspect of the great equaliser and highlighting the importance of concealment;
- *The defender can see and engage the attacker coming, because the attacker has limited cover and concealment* – something which could be eroded through UxVs and “through the wall” ISR and mouseholing (and subterranean and supersurface movement), and which is also countered in part by darkness and fog and by better protection for infantry;
- *Buildings serve as fortified bunkers that must be negotiated* – storming is costly and mini-sieges time-consuming, is there a way to better isolate a strongpoint – even sealing the enemy within it;
- *Attackers must use explosive force to penetrate buildings* – Spencer highlights the “*precision paradox*” (Fox, 2018), and the need for the infantry to have powerful direct fire HE weapons;
- *The defender maintains relative freedom of maneuver within the urban terrain* – the role of concrete and other measures to change city flows and defender movement is suggested;
- *The underground serves as the defender’s refugee* – subterranean is seen as a defender’s benefit rather than an attacker’s opportunity. Even rapid tunnelling machines are discussed.
- *Neither the attacker nor the defender can concentrate their forces against the other* – decentralised and swarming tactics, as seen in Grozny and Mogadishu, augmented by UxVs are suggested as a way of maintaining initiative.

In the conclusion Spencer says that “*we are playing the wrong game*”, that western militaries view everything through a manoeuvre warfare lens, whilst the urban fight is more a positional one, a modern siege, and that tactics should be adjusted to adapt, and that if “*the rules of urban warfare could be changed, if militaries overcame the disadvantages of attacking an urban defense and took advantages away from the defenders, warfare would move out of the cities as adversaries learned*

it was a quick way to be rapidly defeated”.

In considering the lessons from the war in the Ukraine, Spencer identifies 4 major lessons (Collins & Spencer, John, 2023):

- In war, cities are important—even the ones with no military value;
- The foundational task of urban warfare is not clearing [buildings] – “*The more crucial tasks in these battles were placing either the defender or attacker at a disadvantage through fire and maneuver*”;
- In cities, armies must be able to defend and attack—and switch between the two rapidly;
- An army that cannot execute combined arms maneuver will suffer.

Four Transformational Steps the US Army Should Take to Get Serious About Urban Operations (Spencer, 2020b) identifies that in order to properly address urban operations the US Army needs to: create an Urban Operations Command (akin to its cyber information and special forces commands), create an urban operations research organisation, create an urban operations combat training centre suitable for brigade level, multi-day exercises, and to create an urban warfare school – all very reminiscent of Spiller and *Sharp Corners* nearly twenty years before. Following this theme, and as a final perspective onto Spencer’s thoughts, three times so far he has presented his Christmas Wish list for urban warfare. The items on the list were:

- **2020:** City watchers, warfare watchers, OSINF on steroids, assistant leaders at every level to manage the tech, bodycams on every soldier/vehicle, remote/persistent on-call mentors, tear-gas, flamethrowers, winches on all vehicles, lightweight persistent smoke generators, dismounted remote firing stations and urban training battle effects.
- **2021** (with Jayson Geroux and Stuart Lyle, Dstl’s urban expert): fully resourced urban warfare training centre (JS), bespoke compulsory urban courses at all levels (SL), funding before-during-after a conflict for urban (JG), robotic smoke emitters (JS), more urban research (SL), enough consumables (JG), leaders with an urban focus at 4* or congressional level (JS), better equipped light forces (SL), time to learn (generalists not specialists) (JG), APS against infantry AT (JS), teargas (JS), flamethrowers (JS), city watchers (JS), improved cognitive capability and assistants(JS), time for proper IPB/IPOE (JG) and resources and educations (JG).
- **2023** (again with Jayson Geroux and Stuart Lyle from Dstl): urban as business-as-usual (SL), properly funded and supported Urban Ops Planners Course (JS), more higher level urban ops courses globally (JG), a NATO Urban Ops Centre of Excellence (SL), cheap expendable drones to squad level (JS), better subterranean training areas (JG), factor urban requirements into all design and procurement (SL), heavy-duty remote capable armoured bulldozers (JS) and better urban representation in professional reading and PME (JG).

Anthony King and *Urban Warfare in the Twenty-First Century*, 2021

Anthony King is the Chair of War Studies at University of Warwick. *Urban Warfare in the Twenty-First Century* (King, 2021) is possibly the most influential book on urban warfare published in the last few decades. King describes the book as being about “*a sociology of urban warfare; it is an attempt to show how the changing size and density of military forces and cities, as social groups, have reconfigured the urban battle in the 21st century*” (p.ix) and cites Emile Durkhiem as a major influence on it.

The first chapter looks at the Battle of Mosul (2016), and the history of urban settlement. It identifies two broad schools of thought on urban warfare – one looking at the novelty and transformation of recent urban operations (typified by Norton and his feral cities), the other that it is business as usual (typified by Betz and Stanford-Tuck, and Alice Hills). King’s conclusion is a middle ground, that “*urban combat may not be entirely new, but urban warfare today certainly has a distinctive anatomy*” (p.15). King sees urban battles as being about three fundamental elements: cities, weaponry and forces. Given the size of modern cities King discusses battles for cities as taking

place inside the cities themselves, a series of localised micro-sieges.

Chapter 2 examines the definitions and demographics of what it means to be urban. This touches on issues of megacities and of the “great equaliser”. King also looks at the changing size of armies, and quoting Duffy looks at how cities (at least as fortresses) declined in importance as army sizes grew and were better able to bypass and operate without them. On this basis he sees the urban centric wars of recent decades as being a symptom of the smaller army sizes – rather than of demographics and asymmetry. Only with large armies can each side maintain a “front” – perhaps as we are seeing emerging in the Ukraine.

Chapter 3 discusses the urban guerilla, with reference to Kilcullen and Marighella. Chapter 4 looks at the global city, global urbanisation, the city as a system (including Evans and Military Operations as Urban Planning), and urban sociology. Chapter 5 looks at the physical manifestation of urban conflict – from *trace italienne* to John Spencer’s concrete Jersey, Alaska and Colorado barriers, linking to the earlier point about walls and micro-sieges now being inside the city, not around it. Chapter 6 examines the role of airpower, and particularly the dense airspace of fast-jets, helicopters and UAVs above a modern city fight.

Chapter 7 considers the use of Fires, and of firepower down to the lowest level. King sees that:

“precisely because close combatants are more heavily armed, it means that urban operations have become more challenging. A self reinforcing cycle is evident. At every level, the urban battle of the 21st century have become more intense. More or more firepower is being used in ever contracting areas. The increasing firepower has contributed to the deceleration of urban operations; It has encouraged forces to slow their attacks and engage in positional warfare.”
(p.140)

King sees little evidence that precision fires have made urban warfare less brutal and more surgical. However he does see that *“coordinated firepower from both air and artillery is condensed onto specific locations within urban areas. The targets are in the city”*. He also comments that even the *“Russians no longer use firepower as they did in Grozny; in Ukraine and Syria. They have sought to strike identified targets ... The result is that from the perspective of fires, the urban battle has changed. It no longer consists of broad swathes of blind destruction, sweeping across entire cities; it is no longer a conflagration. Rather, infernos have erupted in particular neighbourhoods.”* – although in Gaza and even Mariupol those neighbourhood now look quite sizeable and towns such as Bakhmut and Avdiivka were more or less obliterated by fires. King sees that given this localised fight and destruction *“For the soldiers and civilians operating in the streets, the wider typography of urban battle has been irrelevant”* (p.141).

Chapter 8 discusses swarms – more human than machine, and includes concepts such as fractal manoeuvre, mouse-holing (walking through walls), room-clearing and CQB. However, King is unsure as to whether these manoeuvre related developments are typical of modern urban warfare, rather seeing the *“basic reality of urban warfare in this century has not been rapid manoeuvre, but, On the contrary, slow attrition. Rather than liquefying and accelerating, urban warfare has calculated and slowed in the last two decades”* (p.157). The potential reasons for this deceleration King identifies as: more complex city topography (in 3 dimensions), more lethal weaponry (as described above) and a more cautious approach driven by concerns for high casualty levels. Sounding a warning against swarming and other “sexy” manoeuvres, King says that *“confronting A determined, well equipped urban enemy like this, swarm tactics have become wholly impracticable; They have only exposed the attackers. In cities, swarms are vulnerable to being surrounded, cut off and defeated in detail, as well as being struck by their own supporting fires, and being impossible to support logistically”* (p.161). King also notes that in *“the heavy urban battle of the 21st century, subtle manoeuvres of this type [door stacks and other CQB tactics] have become irrelevant and sometimes impossible”* (p.161). King declares that *“in urban warfare, manoeuvre is dead and positional warfare – the siege - has returned”* (p.162). The chapter concludes with a discussion on the importance of the tank in this revived form of urban warfare, of its role in providing direct fire support, and that *“tanks have proved essential for the siege conditions of contemporary urban warfare because they fulfil four vital functions: mass, protection, firepower and mobility. As force numbers have shrunk, tanks have mitigated the reduction in mass.”* (p.164). King sees that *“tanks have become the*

contemporary siege engine dedicated to the slow, close work of breaching and destroying fortifications, and suppressing enemy fighters so that strong points can be seized by infantry. The urban battle has concentrated into a localised war of position” (p.166).

Chapter 9 considers the role of partners and coalitions and how the negotiations required in such partnerships further contributes to deceleration of the urban battle, “*partner forces have become an increasingly necessary part of the urban battle. They have reaffirmed its evolution towards slower, more localised sieges” (p.181).* Chapter 10 looks at the role of information, rumour and narrative in the urban fight. King sees that “*a sociological understanding of information operations, is immediately relevant to the question of urban warfare. As forces decline and cities become larger, more heterogeneous and interconnected, information operations have certainly become more important” (p.189)* and that “*messaging has concentrated on selected groups inside the city itself, while other narratives have addressed the global diaspora. Information operations are as much a part of the inner urban siege of the 20th century as the concrete walls and firepower that have defined it.” (p.197)*

Chapter 10 summarises the main arguments of the book.

“In either case [Stalingrad and counter-insurgencies], the field was the dominant theatre of operations then. In this century, by contrast, combatants have converged on each other inside cities themselves. The battles have taken place within cities, coalescing into a series of inner urban micro sieges. Why has the urban battle condensed into these signature localised sieges? 3 interrelated reasons explained this urban migration. And have been repeatedly stressed throughout this book. First, cities have grown so big that it is difficult for forces to avoid them, Especially since they are political, economic and social hubs. Second, weapons are more accurate; as the field has become more lethal, state and non state forces have sought refuge in cities. Search, Military forces are smaller. Consequently, standing armies can no longer envelop or inundate cities. Today, urban battles no longer encompass the whole city. Combatants have, therefore, converged onto specific locales inside the city. ... Battles have, therefore localised into a series of intense interior engagement. Once inside cities, forces have fought for decisive neighbourhoods, blocks, specific buildings and structures... [The battle] has decelerated into punctuated siege operations.... A war of position has replaced a war of movement.” (p.203)

King also notes that whilst on the one hand the battle has localised within the city, it has also globalised, “*urban warfare has developed a definable anatomy in recent decades. It has localised and globalised; Battles have imploded and exploded; They have condensed onto specific urban district, while also simultaneously extrapolating outwards” (p.205).*

Looking to the near future King ends by looking at three future challenges: megacities, robotics and nuclear war. In terms of the megacity King sees interstate warfare in such a setting as unlikely, but the need to conduct a counter insurgency campaign in one as more likely. Robotics King sees as just an extension of current trends, and unlikely to be around in enough mass to change the slow and deliberate urban sieges that he has described. As to nuclear King considers that conventional bombing, or more likely missile attacks, on major cities are more likely than nuclear attacks.

The Wavell Room (an informal UK military thinktank) reviewed the book positively, a “*must read*” and a “*rounded and encompassing look at modern urban warfare*”, although noting that it does not “*discuss human terrain in cities at the level to which one could claim it an academic discussion of the non-military aspects of urban warfare.*” (Cameron, 2021). Boff (Boff, 2022) is also positive, praising King’s ability to “*make the reader think of things in an invigorating fresh light*” and to “*offer original ways of thinking about old tropes.*” Moelker (Moelker, 2022) also identifies that the book is light on the human aspects of war, something Moelker sees as better covered by Kaldor and Sassen’s *Cities at War* (Kaldor & Sassen, 2020), and that the two books taken together represent recommended “*twin readings*” on modern urban warfare. Which neatly brings us to...

The Social Urbanistas

As mentioned by Moelker, there are two perspectives that one can take on urban warfare – that

of the military and that of the civilians. All of the previous commentators have taken a primarily military view (although Ashworth takes almost a physical city view). This final group of writers very much take the civilian view.

Alice Hills and *Future War in Cities: Rethinking a Liberal Dilemma* (2004)

Alice Hills is an academic specialising in policing, particularly in Africa, and has also taught urban operations, post-conflict operations and police-military relations at the UK Joint Services Command and Staff College. She is best known for her seminal work *Future war in cities: Rethinking a liberal dilemma* (Hills, 2004). *Future war in cities* aims to “develop understanding of the nature of military force in an era of urbanisation, globalisation, transnational terrorism, new power conflicts and expeditionary warfare” (p.xv) and to explore “the re-emergence and transformation of urban operations in the context of contemporary security” (p.5), rather than from a historical or military perspective. Hills notes that the “inherent military logic” of urban operations “challenges the West’s faith in technology’s transformational potential and has the capacity to undermine its currently preferred way of waging war” (p.xv). Hills’ view is that “there is very little about urban operations that is new” (p.5) and that “city fighting remains essentially unchanged at this level of intensity, regardless of whether conventional or irregular forces are involved” (p.153). She also claims (when written) that “There are no reliable or coherent theories of urban operations” (p. 36), and “that what doctrine there is focuses strongly on tactical issues relevant to fighting on urban terrain, and most of that is extrapolated from conventional manoeuvrist doctrine. Very little doctrine exists that engages with the broader, and in Hills’ view more pressing, strategic problems posed by urban operations. Part of the problem, Hills argues, is that doctrine is by its very nature reactive and formal. She is therefore pessimistic about the possibility of innovative doctrine emerging that will successfully address the critical problem of ‘balancing tolerable levels of casualties and collateral damage with military success’(p.57-8)” (Baker, 2006)

Hills identifies 4 fundamental reasons why urban operations are different:

- Physical terrain;
- The intellectual and professional limitations of approaches designed for open areas;
- The presence of non-combatants; and
- The pre-modern nature of urban fighting.

She also identifies a number of other factors (from Baker):

- Cities carry particular political significance;
- Urban areas are heavily populated, multiplying the potential for ‘collateral damage’;
- Issues of humanitarian aid and development are tied in with urban conflict in a uniquely close and complex manner;
- Urban environments favour asymmetrical opponents;
- Standoff-range combat is technically and morally difficult, increasing the need for close or dismounted combat, which is invariably attritional and results in higher levels of casualties;
- Logistics becomes both more difficult and more important in urban conflict, particularly in the light of the increased humanitarian demands placed on liberal participants in said conflicts;
- Local social, cultural, economic and demographic conditions are significantly more important factors in urban conflict than in other types of operations.

Concerning civilian harm, Hills says “Indeed, it is arguable that a tolerance of civilian casualties characterises contemporary liberalism. Western militaries may be more vulnerable to public criticism during operations than are irregular forces or troops belonging to repressive regimes, but sustained public concern over rising civilian casualty figures is rare. Further, short-term tactical advantage

usually lies with the side having least regard for casualties" (p.12) – a tolerance which is possibly being tested in Gaza as I write (Apr 23 – just after the World Food Kitchen attack).

In terms of modern technology (again from a 2003 perspective) Hills finds that *"There is as yet not evidence that technology has or can cause a fundamental shift in the nature or conduct of urban operations"* (p.84)

Hills looks at the impacts of war and the destructiveness of urban operations through 3 prototypical engagements – peace-keeping (e.g. NI and the Balkans), peace-enforcement (Somalia), and large scale combat operations (Grozny, Afghanistan and Iraq).

In considering the issues of reconstruction Hills identifies the dilemma that *"Urban war traditionally destroys cities, yet it seems likely that military control of a city during policing, enforcement and post-conflict scenarios is easier if electricity, water and sewerage systems work; if public-health concerns are lower; if logistics are easier; and if populations are generally more compliant"* (p.199). Hills considers non-lethal weapons (NLWs) as a way of reducing collateral damage but observes that *"NLWs appear to offer a middle ground as far as control is concerned, yet it seems unlikely that they will offer significant tactical or operational advantages in the near future, and their use will not necessarily make operations easier or less destructive; they may merely make the infliction of pain more compatible with liberal consciences"* (p.213).

In reviewing *Future War in Cities* Deane-Peter Baker (a fellow at KCL and collaborator with David Kilcullen) highlights how Hills as identified the liberal dilemmas that urban war produces:

".. urban operations are intractable. This is because urban warfare is inherently brutal, and presents a range of analytic, strategic, and moral challenges to which current thinking seems to offer no solution. How, for example, can liberal nations come to terms with the fact that the most effective weapons (such as flamethrowers or their contemporary equivalents, thermobaric munitions) and tactics (such as levelling buildings with artillery or bombs in order to neutralise snipers) for urban combat run contrary to central liberal moral commitments? How will liberal nations cope with the reality that urban operations seem inescapably to involve high casualty levels?" (Baker, 2006)

However, Baker does see that *"The implications of Hills' work are less straightforwardly obvious, in part because her topic of analysis is less easily reigned in, but also because, for all its merits, her study lacks Biddle's [Military Power: Explaining Victory and Defeat in Modern Battle] laudable clarity and sharply defined structure."*, although accepting that *"The 'liberal dilemma' that is at the heart of Hills' analysis is precisely what makes such [urban] operations so vexing in our contemporary context."* Baker also takes issue with Hills' pessimistic view that a new ethical framework for urban warfare will be hard to find, and that *"notions as civil society and human rights"* are irrelevant in wartime. Baker goes as far as to call this a *"remarkably narrow and misguided view"*, being one that derives from Hills' belief that civil society itself *"is not targetable"* by the military – something which the growth in social media and information operations may well have changed, further challenging Hill's view. Baker concludes that *"this is exactly where concepts as human rights and civil society come into play, for in humanitarian interventions they define just what success is. They define what the 'stakes' are. And they therefore must of necessity play a central role in defining the warfighter's art"*.

Evan's *Cities Without Joy* (M. Evans, 2007) discussed above is also essentially a review and response to *Future War in Cities*. Evans sees the book a *"timely and impressive"* and developing the argument that *"if Western militaries wish to succeed in urban warfare, they must develop a more operational–strategic approach to the subject—one that seeks to recognise the human environment of cities and its critical interaction with armies"*, and that *"The most valuable theme of her study concerns the West's need to place urban operations in a proper analytical context and to use interdisciplinary research from military history, security studies, development studies and disaster studies to complement doctrine and to shape new operational concepts."* Evans emphasises the Hills' message that *"Because urban warfare is often pre-modern in its character, it forces liberal democracies to confront their own value systems. The moral challenge of engaging in a form of war that may lead to the death of noncombatants and the destruction of vital infrastructure is compounded by the West's lack of a theoretical strategic framework for operating in cities."*

In the slightly earlier (and more available) article *Military Operations in Cities* (Hills, 2003) summarises some of the main themes of *Future of War in Cities*, writing that urban operations warrant a central analytical role and are a critical security issue since “*not only will operations in cities be increasingly difficult to avoid. Thought that their inherent military logic has the potential to undermine the West's faith in technology's transformation and potential, and thus its preferred way of war. Urban operations also have the potential to challenge liberal values and norms in a way that other operations do not*”. Hills discusses a “coherent set of variables”, relationships and logic (or grammar) of urban operations to improve the understanding of urban operations, including:

- “*Cities often require a range of operations to be performed, sequentially or simultaneously, during a single mission. A premium is placed on the military skills.*”
- *City terrain magnifies and intensifies every problem and vulnerability.*
- *Belligerent target civilians. This is either because they are being used as Shields by the enemy, or because of ill discipline, the desire for retribution or punishment, Deterrence, as a means to a political or tactical end, or because control is a central element in a war fighting strategy.*”

Hills also notes that “*What is known is that cities negate many of the advantages of sophisticated technology*”. The situation is summarised as:

“between the technical possibilities, the West's preference for technocratic forms of war, public expectations regarding minimal casualties and low collateral damage, and the realities of operations is the result.”

Her (now almost anti-climactically) key findings are that “*cities will become a potentially critical area in the future battlespace*” and that “*tactics and strategy need to be rebalanced; Tactical accomplishments cannot ensure political success*”.

Even earlier, in *Deconstructing Cities: Military Operations in the Urban Era* (Hills, 2002), Hills explores this need for a rebalance between the tactical and “*the problems and opportunities cities present. Yet urban operations invariably contain a strong political element. The point is basic but deserves restating: cities are more than the sum of their parts and tactical operations may have a strategic impact for which we are unprepared*”, although Krulak’s “strategic corporal” is not mentioned – although the three-block war is later referenced. Hills argues for cities as “strategic sites” and that “*Many political objectives cannot be achieved without controlling certain cities for various periods of time*”, but notes that “*concentrating on the tactical issues runs the risk of becoming blinkered. It neglects the fact that most conflict termination requires political rather than military solutions. It ignores the reality that the current contests of globalization, cultural diversification, liberalization, and ecological change are reflected in cities.*”. Hills also declares that “*Cities are not, in any case, neutral environments. They can act as catalysts through which existing conflict is exacerbated or ameliorated because they introduce “a set of characteristics – proximate ethnic neighbourhoods, territoriality, economic interdependency, symbolism, and centrality – not present to such an extent on wider geographic scales*” and that “*Cities are also political organisms*”.

Hills identifies 4 factors that suggest that adversaries are (then) developing innovative, alternative theories of urban warfare:

- The move away from the “decisive battle” and almost towards mob warfare;
- The exploitation of cultural and strategic, rather than military, significance;
- Cities representing an “entrance point” to a wider political problem; and
- The tension between the importance (and independence) of a city and the national government that in theory controls it.

Hills also considers three factors that complicate any political dimension to the urban fight:

- How political authority is reconfigured – and the presence of strong, non-state actors;
- The lack of understanding of the cities as systems model; and
- The control of civilians.

However, Hills warns that “*Any list of the most significant factors affecting operations in the coming decades is to some extent arbitrary*” and that “*The only thing that can be said with assurance about the future is that it will differ from the present.*” She concludes with “*We should pay more attention to developing strategies for military operations in cities, as opposed to tactics for urban terrain generally, because such operations can easily generate unforeseen consequences and contradictions that could endanger our own ideological interests*”.

Stephen Graham and *Cities Under Siege: The New Military Urbanism* (2011)

Stephen Graham is an academic focussing on cities and society. His *Cities Under Siege, The New Military Urbanism* (Graham, 2011) sets out to show how “*resurgent imperialism and colonial geographies characteristic of the contemporary era umbilically connect cities within [developed world] metropolitan cores and colonial peripheries... new military urbanism*” (p. xxvii). Such military urbanism is manifest through elements such as: “*a multiplication and militarization of borders, an increased collaboration between police and military, a creep in function between neoliberal and security infrastructure, and a tendency to conflate internal urban minorities with external enemies*” (Giglioli, 2012) and increased surveillance and even “*the spread of large militaristic SUVs*” (on which there is a whole chapter).

Graham writes that “*Fundamental to the new military urbanism is the paradigmatic shift that renders cities' communal and private spaces, as well as their infrastructure - along with their civilian populations - a source of targets and threats. This is manifest in the widespread use of war as the dominant metaphor in describing the perpetual and boundless condition of urban societies - at war against drugs, against crime, against terror, against insecurity itself*” (p.xiii). He identifies the 5 key features of the new urbanism as being:

- Urbanising (and militarising and globalising) security;
- The feedback from actions and approaches in the “colonial peripheries” back into the home cities of Western nations (Foucault’s “boomerang”);
- The surveillant economy;
- The targeting of urban infrastructure (directly or indirectly) as a way of waging (urban) war; and
- The appropriation of civilian technology, memes and culture to achieve its ends.

Graham also discusses the evolving concept of “urbicide” (which may be highly relevant to the Israel's actions in Gaza in 2024, and the concurrent expansion of Israeli settlements on the West Bank):

“political violence intentionally designed to erase or 'kill' cities, urbicide can involve the ethno-nationalist targeting of spaces of cosmopolitan mixing (as in the Balkans in the 1990s); the systematic devastation of the means of living a modern urban life (as with the de-electrification of Iraq in 1991, the siege of Gaza in 2006-8, or the attack on Lebanon in 2006); or the direct erasure of demonized people and places declared to be unmodern, barbarian, unclean, pathological, or sub-human (as with Robert Mugabe's bulldozing of hundreds of thousands of shanty dwellings on the edge of Harare in 2005)”.

Graham also discusses the rising use of drones and robotics, the use of computer games in soldier recruitment and training, and the growing “*shadow global system of military urban simulations*” in the form of urban training centres (he estimates between 80 and 100 globally). Of particular interest is the chapter on “Switching Cities Off”, where “*The potential for catastrophic violence against cities and urban life proceeds in tandem with the shift of urban life towards ever*

greater reliance on modern urban infrastructures - highways, subways, computer networks, water and sanitation systems, electricity grids, air transport. These systems may be easily assaulted and turned into agents of instantaneous terror, or debilitating disruption, or even de-modernization” (p.264). Graham reproduces a useful table of reverberating effects from disrupting power grids Figure 3, taken from a 2000 US report on *Lights Out and Gridlock: The Impact of Urban Infrastructure Disruptions on Military Operations and Non-Combatants* (Patterson, 2000).

First order effects	Second order effects	Third order effects
No light after dark or in building interiors	Erosion of command and control capabilities	Greater logistics complexity
No refrigeration	Increased requirement for power generating equipment	Decreased mobility
Some stoves / ovens non operable	Increased requirement for night vision devices	Decreased situational awareness
Inoperable hospital electronic equipment	Increased reliance on battery-powered items for news, broadcasts, etc.	Rising disease rates
No electronic access to bank accounts / money	Shortage of clean water for drinking, cleaning and preparing food	Rising rates of malnutrition
Disruption in some transportation and communication services	Hygiene problems	Increased numbers of non-combatants required assistance
Disruption to water supply; treatment facilities and sanitation	Inability to operate and process some foods	Difficulty in communicating with non-combatants

Figure 3: Patterson's analysis of the first-second-and third- order 'ripple' effects of US forces

In reviewing the book Giglioli sees it based “around one main argument: experiments in urban warfare in cities of the global south have led to the increasing militarization of North American and European cities” (Giglioli, 2012). She identifies a few minor failings in the work, including insufficient study of counter-geographies and of taking a rather removed, bird’s-eye view of cities rather than considering the lived experience of their inhabitants, but otherwise sees it as providing an excellent introduction to the work in this area. Müller sees the “New Military Urbanism” as “discourse, doctrine and reality all at once”, and Graham’s work as whilst well-researched, but has similar concerns to Giglioli that Graham focuses too much on “contemporary hegemonic powers” as agents of change, but not enough on counter-geographies (such as artists and political activists) and that “the densely written book turns into an encyclopaedia of militarization tactics but tells relatively little about social effects in– as Graham explains in the beginning – an evermore polarized world”.

Saskia Sassen and *Cities at War* (2020)

Saskia Sassen is a sociologist focussing on globalisation. She is best known for *The Global City* (Sassen, 2001). As well as discussing how global multinationals increasingly operated independent of geography and developed service economies based out of multiple global cities Sassen also identified that “The growth of networked cross-border dynamics among global cities includes a broad range of domains: political, cultural, social, and criminal. There are cross-border transactions among immigrant communities and communities of origin, and a greater intensity in the use of these networks once they become established, including for economic activities” (Sassen, 2005). This has helped to highlight the importance of considering the varied flows in and out of a city when considering the potential planning for, and impact of, military operations in larger cities.

Cities at War (Kaldor & Sassen, 2020) is a collection of 8 chapters by various authors on the insecurity of cities – specifically as a result of war. The book is “interested in the granular character of contemporary insecurity and the ways in which the two city itself, in effect, ‘talks back’... Our approach brings with it a recognition that women and children are also key actors in these wars- they are not just victims”. Citing the example of a small diary operating in Damascus during the height of

the Syrian Civil War, what they refer to as a “yoghurt run”, Kaldor and Sassen:

“use the idea of the yoghurt run as a metaphor to capture the presence of urban capabilities - the mutuality that underpins densely populated urban conurbations and that inherently provides a counter, however slight, to forcible fragmentation and closure, and to the dynamic of insecurity based upon perpetual exclusions. A central argument in this book is that recognising such urban capabilities - even where we can least expect them to be present - is one key to understanding cities facing war or profound insecurity. One important implication is a better understanding of how inhabitants can maximise whatever pertinent yoghurt runs are present in their city.” (p.1-2)

Kaldor and Sassen see “new wars” as being better described as a culture or ecosystem rather than a political contest, and the behaviours exemplified by the “yoghurt run” as a “*mode of tactical urbanism: Tactical because it has to adjust to conditions that vary continuously from day-to-day, and in the most extreme situations, often even hour by hour.*” (p.229).

Other Writers

Other modern writers and commentators of note with an interest in urban warfare include:

- Academics Jenna Allen and Deane-Peter Baker writing on the ethical issues of urban warfare, and how wargaming can help explore them, in *Can the Robots Save the City*, in part of an edited collection on *The Ethics of Urban Warfare* (Stanar & Tonn, 2022);
- Sahr Muhammedally of the Center for Civilians in Conflict (CIVIC), who has written a *Primer On Civilian Harm Mitigation In Urban Operations* (Muhammedally, 2022), as well as being a presenter on the 40th Infantry Division’s Urban Operations Planner Course, and interviewee on John Spencer’s Urban Warfare podcast; and
- Academic Daphne Richemond-Barak, author of *Underground Warfare* (Richemond-Barak, 2017), and creator of the International Working Group on Subterranean Warfare (<https://www.runi.ac.il/en/research-institutes/government/subtwg/>).

Urban Myths or Urban Realities

In working through the works that constitute this historiography, and in more general discussions with those with an interest in urban warfare and urban wargaming it has become evident that there are a number of features of urban warfare which are, to some extent, still contested – being seen by some as “urban myths” and others as “urban realities”. It is beyond the scope of this chapter to examine these, and the arguments and writers for and against each, but this will be dealt with both in a later chapter and probably a standalone article. These areas of contention include:

- The continuing validity or usefulness of the general maxim of “don’t attack the city”;
- Whether urban really is different;
- Whether the city is neutral;
- The need for the attacker to significantly outnumber the defender for a successful attack into an urban environment;
- Whether urban is “the great leveller” – reducing both the numeric and technical advantages of an attacker;
- Whether the attacker is likely to suffer the greater losses; and
- More tactical concerns such as whether ammunition expenditure is higher in the urban and movement is slower in the urban.

Perhaps a key test of an urban wargame is the extent to which the urban wargame is neutral, and

whether any biases in its design that reflect these urban myths/urban realities are surfaced and understood.

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