

FIRST BITES

Notes for a Historiography of Urban Conflict – Part 1 From BCE to 1973 CE.

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 – this first one covering the more historical texts (with a notional breakpoint of around 1973, although some later works are included), and the second cover those of 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.

Introduction

This first draft of a historiography of urban conflict takes a historical evolution approach and is essentially a set of extended notes on the different authors and commentators. Later evolutions of the chapter will make it more analytical.

One aim is to dispel the comments of SLA Marshall in the introduction to his moderately influential *Notes on Urban Warfare* (Marshall, 1973) where he states that:

"We run into a curious void in the literature of warfare. Those practitioners of the art who were also its ablest theorists, scholars and writers dwelt on its varied aspects to the limit of their imaginations. One thing, however, they did not touch upon – combat where life is centered. Run through the list of writers and their works -- Frederick, de Saxe, Clausewitz, Jomini, Kuropatkin, Bernardi, Henderson, Foch, Fuller, Hart, et al. Not one has anything to say about military operations within or against the city. Either the subject was too sticky, too little understood, or it was dismissed as unimportant. Thus there is no foundation from which to build."

There is a long history of writing on in the West on urban warfare, and particularly operations against the city, and it dates back in an almost unbroken line back to the Greeks.

Ancient History

The consideration of urban conflict is one of those (few?) where the very first writing on it established a truth which has (almost) remained the accepted wisdom ever since. It is not known exactly when Sun Tzu lived (and even if he did live as an individual), but possibilities are during the Spring and Autumn period (722-481 BCE) as a general in the service of the King of Wu, and during the Age of Warring States (403-221 BCE) (McNeilly, 2003). Sun Tzu's most famous maxim is *"the worst police of all is to besiege walled cities"* (Tzu, 2002)(p48). This is followed by:

"The rule is, not to besiege cities if it can possibly be avoided.... Therefore the skillful leader subdues the enemies troops without any fighting; he captures their cities without laying siege to them; he overthrows their kingdom without lengthy operations in the field." (Tzu, 2002) p48-9

Sun Tzu describes the extended period of time that a siege will take (6 months or more), and the losses that will result from an impatient storming of the city. There are no other substantial mentions of cities in the book. Sun Tzu is still referenced by contemporary commentators across a wide range of military, political and business issues (McNeilly, 2003), (Hodgins, 2020), the working being seen to suggest the benefits of economic, social and political action as the better alternatives to military action (Coker, 2003). Sun Tzu has much to say about the "skillful commander", but Sun Tzu's approach is one of calculation and caution, and that the skill of being commander is something that can be learned (Milevski, 2019). Sun Tzu has been influential in shaping later thinkers including Lidell-Hart and John Boyd, but the dangers in mis-translation and mis-reading of the text are significant (Yuen, 2014).

It should be noted that although the *Art of War* was written around 200-700 BCE it was unknown in the West until the eighteenth century, and not available in English until the start of the twentieth century.

*"The book was translated into French and published in 1772 (re-published in 1782) by the French Jesuit Jean Joseph Marie Amiot. A partial translation into English was attempted by British officer Everard Ferguson Calthrop in 1905 under the title *The Book of War*. The first annotated English translation was completed and published by Lionel Giles in 1910.....America's conflicts in East and Southeast Asia against Philippine, Imperial China, Japan, North Korea, and North Vietnam brought Sun Tzu to the attention of American military leaders"*

- Wikipedia, https://en.wikipedia.org/wiki/The_Art_of_War

That cities were something special when it came to military operations is shown by the legends that have grown up around their assault. In the Book of Joshua in the Bible the city of Jericho is only destroyed once 7 priests blowing 7 trumpets have marched 7 times around the city on the 7th day. The city of Troy was only taken by the strategem of the Wooden Horse. With both modern scholars have attempted to find more prosaic explanations for the fall of the cities (Trimm, 2012),(Easton, 2010).

Thucydides description of the defence of Plataea against the Spartans (Thucydides et al., 2011) is presented as a simple narrative, and there is no commentary to suggest whether this was an unusual action on the Plataean's part, although many other sieges are described. There is, though, a discussion between Cleon and Diodotus about the right way to come to terms with a city under siege, with Diodotus arguing that the Mitylenians should not be put to death after their capture as otherwise in the future:

“what city, think you, would not prepare better than is now done, and hold out to the last against its besiegers, if it is all one whether it surrender late or soon? And how can it be otherwise than hurtful to us to be put to the expense of a siege, because surrender is out of the question; and if we take the city, to receive a ruined town from which we can no longer draw the revenue which forms our real strength against the enemy?” (Thucydides et al., 2011) Ch IX.

Aeneas Tacticus (the Tacticus being a modern label) wrote his *How to Survive Under Siege* (Aeneas & Whitehead, 2002) around 350BCE. Aeneas was possibly the first Greek author of military technical literature (Dinu, 2017) and the book (just one part of his wider military writings which haven't survived) has been described as “The first comprehensive work on military theory, free of any poetic trapping and oriented directly toward practical applications” (Delbruck, 1990). The book appears to have been written to help others, who perhaps like him, were living in small towns in an era when multiple factions were jostling for power and the influence of Athens and Sparta was weakened (Pretzler, 2017). Aeneas first talks about the importance of defending a city - “*a successful and stout resistance to the enemy will make them dreaded by their foes and more secure from future invasion, while any weakness in meeting the peril will leave them no hope for safety*”. He then goes on to discuss a wide range of considerations in the defence of a city (in reality towns of only a few hundred or thousand people) including: outposts, local knowledge of the ground, stone logistics, traps, countering rams and catapults, mines and countermines, ladders, the use of fire, panic and psychological issues, pre-emptive/spoiling attacks, civil security and passwords. Aeneas's concern is not so much with “big wall” sieges, as with probably more common minor sieges and attacks on towns, without any isolation, and indeed one of his big concerns appears to be countering the taking of the city by treachery (Pretzler, 2017). Aeneas is also concerned with the maintenance of cohesion and shared purpose in defending the city – amongst both the civilian population and the military forces (Schofield, 2023).

The near contemporaneous *Cyropaedia* by Xenophon (Xenophon, 1918) is dismissed by some as a minor later work, but Pease (Pease, 1934) see the *Cyropaedia* as “*a work of unique military importance; it is in fact not only the earliest but the most exhaustive of all ancient military treatises*”. Sieges do not feature significantly in the book, but there is a detailed account of the siege of Babylon. Here Cyrus' army, having drained the river that ran through the city walls and the city itself, marched in along the river-bed and was ready to set fire to any building that the defenders, who were already distracted by a festival, might climb up onto to hurl missiles down at the attackers. (*Xenophon, Cyropaedia, Book 7, Chapter 5, n.d.*).

The *Belopoeica* of Philo of Byzantium (c. 200BCE) provides instructions and commentary on how to build artillery pieces, principally ballistas. *Belopoeica* considers the *technē* (a combination of art, craft, science and knowledge) of the subject, but without any explicit mention of siegecraft (Schiefsky, 2015). However, his *Parasceuastica* deals exclusively with the preparation for sieges and the *Polioretica* with siege-craft itself – although translated copies have not been found for review. Despite his name Philo was mainly active in Alexandria, but writing on the same subject as Heron of Alexandria (who wrote in the First Century AD) who also had a book called *Belopoeica*, and to add to the confusion there was also a Heron of Byzantium writing in the Tenth Century with a book called *Parangelmata Poliorcetica* - see below (Sullivan, 2000),(Schiefsky, 2005).

Asclepiodotus' *Tactics* (c. 100 BCE) (Asclepiodotus, 1977) is a short but illustrated text. Asclepiodotus was writing from a more philosophical point of view than Aeneas since the focus of warfare had moved from Greece to Rome. Who Asclepiodotus was is also in doubt, he appears not to have been a soldier, with one view being that he was merely a scribe and that the *Tactics* were the outline of his master's lecture (Asclepiodotus & Thayer, 2020). In style it seems closer to a drill manual than anything else, although as Oldfather (the translator) notes it “*had lost all contact with the [actual] drill-ground*” and it is “*doubtful if such terms as [Asclepiodotus uses] were known outside the class-rooms of the philosophic strategists*”. Actual tactical insights are limited and there is no mention of sieges or city attacks.

Onasander's *Strategikos* (The General) was written in the first Century AD for the Roman political class and has been seen by some as being similar in scope and approach to the *Art of War* (Smith, 1998). In discussing towns and cities Onasander writes about the importance of taking a city by storm “*even if he is not expecting to seize the towns through treachery*”, how a siege “*demands courage on the part of the soldiers, military science on the part of the general, and equipment of*

machines of war”, the value of night attacks, rotating troops to keep them fresh, and the importance of protecting the besieging army from counter-attack. The use of siege-engines, including rams, towers, ladders and catapults are discussed, with an exhortation to focus efforts in one area whilst maintaining pressure in the others. In a foreshadowing of battles such as Shuhsa (2020), Onasander writes:

“Sometimes those parts of a city that seem precipitous and are fortified by the sheer rocky cliffs, offer the besiegers greater chances for victory than do fortresses erected by human hands, for those places whose fortification relies upon natural strength are wont to be less carefully watched and guarded by soldiers. Then the wise general considers what he must do, and encouraging a few of his bravest soldiers with promise of reward, men who are best able to climb up by using either the natural unevenness of the ground or else ladders, he accomplishes his attempt; for descending stealthily within the walls they break down a postern or open a gate.” (LacusCurtius • Onasander — Strategikos — Chapters 39-42, n.d.)

In what would now be seen as a quite unethical move Onasander also suggests that during a siege women, children and old people are rounded up from the surrounding areas and set into the city in order to more rapidly consume their supplies, whilst not adding to its fighting strength!

Frontinus’ *Strategemata* has had an influence which stretches from its writing around the **last** 1st Century CE to the renaissance and beyond (König, 2017). Frontinus presents strategems – largely through historical examples - divided into those before battle, during battle, and (in Book III) those connected with sieges and the raising of sieges. Frontinus discusses:

- The merits of surprise attacks – both by storm and direction;
- Deception, to hide direction, numbers, luring forces out and for infiltration;
- Treachery, and guarding against it when on the defence;
- Isolation and starvation, including a similar ruse to that of Onasander; and
- Terror.

The *Strategemata*, which was part of a larger military treatise now lost, is seen as a very practical book, such as through its organisation, conciseness and use of examples (Wheeler, 1988).

Polyaenus’ *Strategemata* (Krentz, 1994) from the later 2nd Century, is fundamentally a list of strategems, although anecdotes might be a better descriptor, containing over 800 of them. However, they are organised more by chronology and General than in the practical and concise manner of Frontinus. As such it recounts numerous instances of sieges, and incidents at them, but no analysis or guidance for their re-use. An accessible on-line version is available at <https://www.attalus.org/info/polyaenus.html>.

Vegetius’ *De Re Militari* (also known as *Epitoma rei militaris*) (late 4th century) (Vegetius, 2004) seems to have been one of the most influential early Western texts on warfare, with 200 manuscripts and c.100 vernacular versions being produced in the centuries that followed and becoming “the most widely read western military text until Clausewitz’s *Vom Kriege*” (Wheeler, 2012), and there is a comprehensive review of its impact (Allmand, 2011a). There is an accessible online version at <https://www.roman-britain.co.uk/classical-references/vegetius/>. The maxim “*He who desires peace, let him prepare for war*” (“*Qui desiderat pacem, praeparet bellum*”), first appears in the book’s introduction. Vegetius was believed to have been a high-ranking government official, and whilst the historical accuracy of some of his examples and comments have been questioned and led to some dismissive considerations of the book, it is as a practical study of the art of war, and one more concerned with infantry and defence rather than cavalry and domination that it has had its influence (Goffart, 1977). Vegetius acknowledges the influence of Frontinus in his book. The book’s broader appreciation of warfare (Vegetius was an official not a commander), and the influence of the book over the centuries meant that his “*ideas regarding the place and purpose of the army, the exercise of legitimate force, and the role of the soldier in achieving a peaceful society, were advanced*” (Allmand, 2011b). However, *De Re Militari* has almost nothing to say on the subject of sieges or urban operation, although it frequently talks about fortified cities and fortified camps, the former principally as comparators for the latter. The most relevant maxim is probably the fourth one “*It is much better to overcome the enemy by famine, surprise or terror than by general actions, for in the*

latter instance fortune has often a greater share than valor. Those designs are best which the enemy are entirely ignorant of till the moment of execution. Opportunity in war is often more to be depended on than courage." (Vegetius, 2004).

Apollodorus of Damascus (also known as Apollodorus Mechanicus) was, it is believed, writing in the early 2nd Century and produced a work known as *Poliorketiká*, also called *Siege-matters* (Blyth, 1992). The text was somewhat extended on into the Byzantine era (Wheeler, 2011), with some of the newer material and designs for siege-engines being somewhat fanciful, and so analysis of the text can be problematic (Whitehead, 2008), (Whitehead, 2010). The book includes descriptions of *testudines* ('tortoises') to protect the attackers and variations for attacking walls and for mining, different approaches for attacking brick and stone walls, flamethrowers, different kinds of tower and ladder and even a cherry-picker style observation elevator.

In reviewing many of these works, Hanson (in Philip Sabin's (ed) *The Cambridge History of Greek and Roman Warfare*) notes that the earlier Western texts were very much meant as practical manuals, and, unlike Eastern texts, were not typically bound up in larger volumes on religion or philosophy, or subject to censorship. By the Hellenistic and Roman times Hanson considers that the texts became more academic and theoretical (e.g Asclepiodotus), whilst also aiming to establish some standardization (Hanson, 1920). This whole sequence of works on siegecraft by different authors are known as *poliorcetic* (i.e. sagecraft) texts.

In terms of the commanders and commentators writing less doctrinal works, Ceasar, Livy and Tacitus all have something to say about urban (or at least city) warfare and sieges.

Ceasar (100-44 BCE) describes in his *Gallic War* (Book 7, chapters 63-90) (Caesar, 1966) the laying of the siege at Alesia (52 BCE) as "strenuous", consisting initially of an 18km circumvallation with 23 redoubts, and then later a contravallation when a break-out by Vercingetorix's cavalry increased the chances of a relief force being sent. However such a grand siege was not necessarily typical of Caesar's siegecraft, which more often emphasised blockade and other less aggressive strategies (Campbell, 2019). Indeed Caesar writes "*if immediate danger was not to be dreaded, yet certainly famine, by a protracted siege, was*" (Book 4, Chapter 39),

Livy (59BCE-17CE), in writing a history of Rome, is more concerned with narrative than technical detail (Walsh, 1954) – or possibly even facts (Walsh, 1958). In order to avoid the accounts of sieges becoming boring repetition of technical detail he focuses more on the psychologies of the participants, minimising or even ignoring the technical details of the siege equipment being used – placing himself in contrast to Polybius (*The Histories*, c.140 BCE), who was a primary source for his information (Walsh, 1954).

Tacitus (56-120CE) himself decries that the conflicts covered by his Histories were "*meager and inglorious: indeed peace was unmoved, or only modestly disturbed; the affairs in the city were miserable; and the princeps was uninterested in expanding the empire*" compared to "*the old affairs of the Roman people. With free rein those men recalled great wars, the sieges of cities, routed and captured kings*" – although his positioning and telling of the narrative to fit this agenda should be treated with caution (Levene, 2009),(Joseph, 2011). Tacitus sees the siege craft of the Germanic Batavi as being significantly inferior to that of the Romans, although he does note that they had some aptitude for information control and psychological warfare (Turner, 2016).

The Middle Ages (c.450 – 1500)

Procopius of Caesarea (c.500-c.560) wrote during the reign of Justinian (527-65), his most relevant work to this study being *Bella* (War), published 550-553, although some of his attitudes and intents are hard to establish with certainty (Greatrex, 2014). As with Tacitus and Livy, narrative appears to trump detail and accuracy in some of Procopius' writing, and some of his writing on siege engines is "questionable", but he still provides some useful and lone, accounts of Justinian era siege warfare (Whately, 2019).

Strategikon is attributed to the Byzantine Emperor Mauricius' (539-602) and builds on Vegetius and other sources, as well as being informed by Mauricius's own campaigns, including in the Balkans and Persia (Mauricius et al., 1984). It is a very practical book, meant to be used as a manual by the

average commander and written (in Greek) in an accessible way. Book X is dedicated to sieges and as with previous works talks about using starvation as a preferable weapon to direct attack – “*the general achieves the most who tries to destroy the enemy’s army more by hunger than by force of arms*” (GYFTOPOULOU, 2013). The chapter, which runs to only 6 pages in a 169 page book) includes such advice as: only allowing the enemy to see your best troops, not offering terms at the start which are too onerous in order to encourage surrender, rotating troops through the front-line, using fire, and countering siege towers. *Strategikon* also inspired other Byzantine works such as Leo VI’s *Tactica* (c.905).

The 10th Century saw an increased interest in codifying warfare, probably driven by a growing Arab threat and a switch to offensive rather than defensive actions by the Byzantines (Sullivan, 2000).

Heron of Byzantium (a notional name) wrote in the mid 10th Century and built on the works of Apollodorus, Athenaeus Mechanicus, Heron of Alexandria and others. His *Parangelmata Poliorcetica* is a manual of siege engine construction and the *Geodesia* is a treatise of surveying with a dioptra to help build the engines. The *Parangelmata Poliorcetica* includes all the familiar elements of siege warfare and some interesting observations including: burying jars outside the walls which will take the weight of infantry but not of siege engines (from Philo Mechanicus), inflatable leather ladders (also from Philo Mechanicus), and fire-siphons. Heron’s contribution perhaps is more in his improved (and very readable) presentation, including pictures, and in identifying current innovation in ancient tools and techniques (such as *laisai* – see below), placing them in a more modern context for his readership (Sullivan, 2000).

The *Praecepta Militaria* of Nikephoros Phokas (c. 965) doesn’t contain a chapter on siegecraft. The *Taktika* of Nikephoros Ouranos (c. 980 – c. 1010) has been described as “*The last of the ‘taktika strategika’ inspired by the revival of military science in tenth-century Byzantium and the last in the long tradition of Greek military writings dating from Antiquity*” and is a “*vast compilation of classical and Byzantine tacticians in 178 chapters that has never been edited in full*” (McGeer, 1991). Ouranos also produced his own *De re militari*. Chapter 65 of *Taktika* deals with siege tactics and much seems to be original work by Ouranos, reflecting his own military experience. It includes similar advice to the *Strategikon* on the offering of terms, cutting off of food supplies to the besieged, methods for assaulting the walls, the use of ditches and caltraps to protect the besiegers camp against sorties and reliefs, the use of improvised shelters called *laisai* to protect those attacking the walls, and the use of tunnels (McGeer, 1991). Ouranos offers a useful summary of siegecraft at the end of the First Millennium CE:

*“The men of old, in their pursuit of siege warfare, constructed many devices such as battering rams, wooden towers, scaling ladders with various features, tortoises, and all kinds of other things which our generation can hardly imagine. It has, however, tried all these devices and found that out of all of them, the most effective way, one the enemy cannot match, is undermining the foundations, all the more so if one does this with careful scrutiny and method, and has the accompanying and extremely helpful protection of the *laisai*. Many and varied are the means which the men of old contrived for conducting siege warfare, but I have set down only the methods that our generation currently employs. The more extraordinary devices of the ancients I have passed over, and let those eager to learn them study the *taktika* and find out all about them.*
(McGeer, 1991).

Beyond Byzantium, as mentioned earlier, a Norwegian text of around 1250, *Konungs skuggsjá* or *The King’s Mirror*, (Larson, 1917) describes how fortifications were to be attacked with trebuchets against the walls and as howitzers against the interior structures, and with battering-rams when that failed, and then a wheeled siege tower failing that.

Charlemagne (748-814) is known to have been familiar with Vegetius’ *De Re Militari* and an annotated copy of *De Re Militari* owned by Petrarch (1304-74) is still in existence (Dahm, 2016).

The Fifteenth Century *Feuerwerkbuch* (aka the Firework Book, possibly written around 1400 or shortly thereafter) by an unknown author has been described as “*by a gunner, for a gunner*” (Müller, 2019)(p.226). It often appears in folios with the Franz Heims’ *Buch von den probierten Künsten*

mentioned earlier. The book describes the construction a *Steinbüsche* ('stone gun') bombard gun to fire stone cannon-balls, the recipe for its gunpowder, and its use – including to fire arrows, grapeshot, hailshot, fire arrows and even tracer! The cannon balls were 30-45cm in diameter and the *Steinbüsche* had a range of 1200-2000m. (Kramer, 2001),(Müller, 2019). Artillery was also clearly seen as a defensive as well as offensive weapon;

“And also consider: when someone has besieged and encircled you, he then rules the field and can do many things, whereby he can defeat you. But if one has equipped oneself with the means described earlier [i.e. the guns, powder and ammunition], one can defend oneself against one's enemies, whatever they may plan, until help arrives or one can oneself lift the siege of one's enemies.” (Kramer, 2001)

Other contemporary works on similar topics include the *Bellifortis* (a more illustrated book, but sharing much text with the *Feuerwerkbuch*), the *Büchsenmeister* Book (again more pictorial) and Bensedans' *Kriegsbuch* (War Book). Together these mark the turn away from more ancient siege-weapons and towards the use of gunpowder and cannons, and the *Feuerwerkbuch* was seen as the leading work on gunpowder for over 150 years.

Early Modern Period (1500-1800)

Although Machiavelli (1469-1527) is best known for *Il Principe* (The Prince - 1532), the book has little to say on sieges and urban warfare. Two observations are *“a ruler who can't take on an enemy in the field but has to withdraw behind his city walls and defend those, is one who will always be in need of outside help”* (Ch.10) and *“The ruler who is more afraid of his people than of foreign enemies must build fortresses; but the ruler who is more afraid of foreign enemies should do without them”* (Ch. 20). In Chapter 10 Machiavelli considers specifically the challenges of well defended and fortified German cities and echoes Sun Tzu in saying that *“attacking a well-defended town and a ruler whose subjects don't hate him is never an easy proposition”, “these towns are so well fortified that everyone realizes what an arduous, wearisome business it would be to attack them. They all have properly sized moats and walls; they have the necessary artillery; they have public warehouses with food, drink and firewood for a year” and “So, a ruler whose city is well fortified and who doesn't inspire hatred among his subjects isn't going to be attacked, and even if he is, his attackers will leave humiliated, because the world is such a changeable place that it's almost impossible to keep an army camped outside a city's walls doing nothing for a whole year... Hence, when you think about it, if the ruler is sensible, it won't be that hard to keep people solid throughout the siege, so long as they have food to eat and weapons to defend themselves.”* (Machiavelli, 2003b).

In *Discourses on Livy* Machiavelli's tellingly warns against *“seeing technology as a military panacea, as a way of freeing warriors from the harsh realities of killing and the dangers of being killed”* (Lynch, 2003).

There is more of interest in Machiavelli's *Dell'arte della Guerra* (Art of War, 1521) (Machiavelli, 2003a). *Dell'arte della Guerra* draws on Frontius, Vegetius, Polybius and other classical sources, and has been accused of being no more than a compilation. Lynch, in his introduction to *Dell'arte della Guerra* notes that Machiavelli was writing so as to give his (i.e. the Florentine) army “relative advantage” over other armies of the time, and he was not trying predict the future evolution of warfare – most notably the use of gunpower which was just about to reach an inflection point. Machiavelli sees that gunpowder cannons had now eclipsed ballistic stone throwers, rams, towers and the like, but still talks about ruses and deceptions, quoting many of the ancient examples. Machiavelli was also active in the design of fortifications, as at Florence – and most of Book VII is given over to fortifications and sieges. He embraced many of the innovations of the day – such as *“double-Pisan ramparts”*, noting that walls should be about 6m deep and *“twisted and full of turns”* so that the enemy could be engaged from the flank as well as the front, and that walls were better than ditches – the latter being better on the inside of walls so the enemy can't fill them - with defending artillery placed behind that, and the interior being relatively open, or clearable, so as to offer clear fields of fire. He also recommends clearing the ground for at least a mile to offer no cover the enemy, and warns against bastions being placed too far outside of the main walls since they become easy prey for the attackers and their loss can demoralise defenders. Machiavelli also notes that *“many times cities are lost through fear alone without any other experience of force”*, and so commanders should *“make all*

of his displays terrible” so that victory in one city can have a domino effect. If a city wall is breached then Machiavelli recommends defenders “*maintain themselves in high places and fight them from the houses and towers*”. Book VII of *Dell'arte della Guerra* is also the source of the maxim “*That which helps the enemy hurts you, and that which helps you hurts the enemy*”.

Zanchi's *Del modo di Fortificar le città* (1554) “*remarks that the invention of [gunpowder] artillery, moreover, necessitated a new system of fortifying cities ... and was the first Italian to write exclusively on it*” (M. J. D. Cockle, 1924).

Justus Lipsius (1547-1606), a Dutch philosopher whose work influenced Maurice of Nassau wrote at least two military works, *De militia romana* and *Polioreticon*, the former drawing heavily on Polybius' *The Histories* but potentially evolving it into a manual for early modern warfare (Landtsheer, 2001). His *Politica* (1589) also spends about a third of its length discussing military matters, and he influenced early discussions and considerations on Just War (Zeitlin, 2021).

The Sixteenth Century reforms that essentially began with Maurice of Nassau (1567-1625) saw smaller, nimbler and more flexible 5-600 men units of pike and musket replace the 3000 strong behemoths of the Spanish *tercio*. However the new formations “*system lacked an effective offensive component and was bound by a conservative strategic outlook focussed more on small encounters and protracted siegecraft than on decisive field battles*” (Riches, 2005). Maurice “*was well aware that the type of warfare which he had to fight, with its emphasis on siege rather than battle, needed conviction, organization, and endurance to sustain*” – the “*guerre aux vaches*” as it was called, and his “*his logistical preparation for siege, whether investment or defence, took on a whole new dimension*” (Haycock, 1996). Maurice fought only 2 field battles but over 30 sieges between 1588 and 1609, but showed how good siege-craft could overcome *trace-italienne* defences.

It was the Swedes under Gustavus Adolphus (1596-1632) who further developed this ‘Military Revolution’ with even shallower units, salvo fire, better pike and musket integration and more aggressive use of cavalry to create “*an entirely new strategic level in large-scale campaigns aimed at producing rather than avoiding decisive battles*”. (Riches, 2005). Gustavus's own War Articles of 1621 (and Maurice's Dutch War Articles of 1590 and the updated Swedish Articles of 1632) talk more about general discipline within an Army, including articles on pillage and plunder (Articles 93,94 and 95) and the protection of hospitals, churches, schools and mills (Article 96,97 and 98). Article 62 refers specifically to urban assault:

“If any occasion be to enter any Castle, Towne or Sconce by assault or breach, he who retires from the place before hee hath been at handy blowes with the enemy, and hath used his sword, so farre as it is possible for him to doe service with it, and before he bee by main strength beaten from it by the enemy, shall be punished as the Court shall censure him” (Adolphus, 1621)

There are also some interesting comments on urban *conflict*, with Article 88 stating:

“No Souldier shall set fire upon any Town or Village in the enemies' Land, without he be commanded by his Captain: neither shall any Captain give any such command unless he hath first received it from us or our Generall: who so doth the contrary, he shall answer it in the Generals Councill of Warre according to the importance of the matter ; and if it be proved to be prejudicial unto us, and advantagious for the enemy he shall suffer death for it” (Adolphus, 1621)

Set against some of this shift towards more mobile and field-battle centric warfare Parker quotes a German military instructor of the Spanish-Dutch War (1621-1648) as writing that nobody “*talks anymore about battles, Indeed, the whole art of war now consists only of cunning attacks and good fortification.*” (Parker, 2013)

Oman's Introductory Note to Cockle's *English Military Books up to 1642 and of Contemporary Foreign Works* (M. Cockle, 1900) comments on how much English military writing of the 1500s and 1600s owed to continental works and experiences and that “*England was not destined to for many generations to develop and new national system of tactics*” (Oman, 1900). Cockle describes several early continental bibliographies on warfare (from 1637), artillery (from 1697) and fortifications (from 1700), with the first English bibliography not appearing until 1738. It is interesting that the earliest

English book in his Bibliography is by a woman, Christine de Pisan's *L'Art de Chevalerie*, written in 1412, first published in French in 1488, and translated into English from Henry VII's personal copy by Caxton and published in 1489. The book draws on Vegetius' *De Re Militari*. Many of the books in the Bibliography are also English translations of continental and classical works, or heavily draw on them. Notable works related to sieges and fortifications include Whitehorne's *Certain Waies for the ordering of Souldiers in battelray, & setting of battailes* (1562), Digge's unfinished *A Treatise of Fortification of Townes, Forts, and Campes* (c. 1579), Ive's *The Practise of Fortification* (1589), Malthus' *A Treatise Of Artificial Fire-Works* (1629), Marolois' *The Art of Fortification* (1638), Ward's *Anima' Adversions Of Warre* (1639) and Cruso's *Art of Warre* (1639). Several of the books in the Bibliography provide histories and commentaries on the Dutch and Swedish Wars, and the Military Revolution therein – and there were contemporary publications such as *The Swedish Intelligencer* (1632) and the *Swedish Discipline* (a translation of the *Swedish Articles*) to also further educate the English on the changes (Donagan, 1995).

That the siege was not yet dead (at least in the British Isles) is confirmed by the 1st Earl of Orrey, writing in 1677, who describes the wars in Ireland as being fought “*more like foxes than lions, and you will have twenty sieges for one battle*” (Boyle, 1677). Monck, who served on both sides during the Civil Wars noted that:

“Every Commander knoweth that man's flesh is the best Fortification that belongs to a Town; and where a Town is well manned, the best way of taking it is by Starving; and when a Town is weakly manned, the best way of taking it is by Battery and Assaults, or by Approaches, Mining, Battery, and Assaults.” (Monck, 1671)

However, Monck also noted the negative aspects of the siege and the way that it could sap the momentum of the emerging kind of more rapid warfare:

“Long sieges ruine armies; empty the purse, and most commonly it falleth out so, that it hindreth armies from better employments; and after a long siege, though things fall out according to a commanders desire, he will have little reason to brag of his victory, when he vieweth his expences, his time, and his army. The malice of a great army is broken, and the force of it spent in a great siege.” (Monck, 1671), (Ostwald, 2007)

Whilst Vauban (1633-1707) is intimately connected with the fortifications and siege craft of the Seventeenth Century he was not blind to the limitations of fortifications. He recognised that, with time, “*une place devra toujours finir par se rendre*” (“a place will always have to come up eventually”) and that the holding of a place was all about gaining time “*pour rassembler des troupes, manoeuvrer et livrer bataille dans les meilleures conditions*” (“to gather troops, manoeuvre and fight battle in the best conditions”) (Johnston, 2003). However, elsewhere, Vauban re-emphasized the importance of siege craft:

“it may be said that only siegecraft offers the means of conquering and holding territory; a successful battle may leave the victor in control of the countryside for a while, but he still cannot become master of an entire area if he does not take the fortresses” (de Vauban, 1968), (McNaylor, 1996)

Vauban recommended at least 20,000 men to hold even short lines of circumvallation and that, with his methods, whereas previously the attacker should have a force ratio of 10:1 for a siege that could now fall to 7:1 or even 6:1. He also argued for fewer (but no doubt better) fortresses in order to ease the burden on manpower which their garrisons caused (Lynn, 1991).

By 1701 the Duke of Marlborough “*argued winning one battle was more beneficial than taking 12 fortresses*” (Hoof, 2004). However, Marlborough lacked the siege education of many of his contemporaries and left the sieges to his Dutch engineers who followed a traditional “vigorous”

approach rather than Vauban's newer and more "methodical" one (Johnstone, 2018). It has also been noted that Marlborough's big field battle took place away from the more heavily fortified areas, and France's network of Vauban fortifications proved a viable defence against Marlborough – despite his multiple successful sieges, as at Lille (1708). (McNaylor, 1996)

Maurice de Saxe's, who was a French commander in the War of the Austrian Succession and won a notable victory at Fontenoy (1745), published his book *Mes Rêveries (Reveries on the Art of War)* in 1757 (Saxe, 2012). Despite having written it in 13 nights whilst sick with fever it has some useful things to say about sieges and urban fighting. Saxe made his name by taking Prague by storm, with a diversion enabling his small storming force to scale the walls and take the city with little bloodshed, and little looting. In Chapter XIX on Defence of Places Saxe sees fortified cities as hard to defend, particularly from the risk of starvation and suggests that an army might not even besiege a city since they know that they will be unable to hold it and will just march on. Saxe argues instead for fortress strong-points to cover the country, not fortified cities, as they can "*cover a country, oblige the enemy to attack them or march around them, one can retire into them... [and] they protect supplies*". (Ch. XIX). He even advocates the destruction of city walls to prevent any thought of their use for defensive purposes – and is disparaging of the work of Vauban (Ch. XXI). Saxe's view is hence one of a more mobile form of warfare, working from a network of fortress strong-points, and with the fighting well away from the major centres of habitation. This preference for a more mobile type of warfare is also shown in his dislike of lines and entrenchments, and calling on the need for a mobile reserve (Ch. XXV). One the battlefield Saxe prefers redoubts as the basis for operations – a tactical version of his fortress strongpoints (Ch. XXVIII). Saxe also says that he does not favour pitched battles, preferring "*frequent small engagements*", but accepts that pitched battles are appropriate to take advantage of the enemy's mistakes and to crush them – "*war [should] be made without leaving anything to chance*". (Ch. XXXII). He also favours an aggressive pursuit to destroy a beaten enemy, and has no truck with leaving a "bridge of gold" the enemy to escape by. Keagan (Keagan & Wheatcroft, 1976) notes that "*Saxe's greatest influence came after his death, with the publication of his military writings ... he was a great innovator and pioneer*".

John Muller's 1757 *The Attac and Defence of Fortified Places* (sic) (Muller, 2004) draws heavily on Vauban and whilst noting that "*Fortifications are now become almost as numerous as Towns, that it is impossible either to preserve a Country or make a Conquest, without being acquainted with the Art of [siegecraft] Attac and Defence*", also observes that "*since Vauban has invented the Parallels or Places of Arms, and the Ricochet Firing, to which may be added the numerous Artillery with which Armies are now provided, the Art of Attacking is rendered so superior to that of Defending, that those Places which were formerly esteemed impregnable, can scarce stop a victorious Army a Month*".

Daly observes that "*the state of roads, fortresses and engineering corps did not favour highly technical sieges*" in Central and Eastern Europe during the eighteenth century, in contrast to Western Europe, and that "*the slow march of a formal siege did not suit Frederick [the Greats] disposition nor vision of war as one of rapid manoeuvre and field actions*" (Daly, 2022). Daly also quotes several contemporary writers to suggest that the sack which often followed a successful siege during the sixteenth and seventeenth centuries had largely disappeared by the late eighteenth century, possibly due to a combination of increased discipline (as signalled by Gustavus Adolphus' *Swedish Discipline*) and a changing public and political attitude as to what was acceptable. However the Peninsular Wars, just to give one example – and the focus of Daly's book – contained a number of notable sacks.

Other writers of the period were also noting the shift away from sieges to field battles. Jacques-Antoine-Hippolyte, comte de Guibert, in *Essai général de tactique* (1770) dismisses "*fortresses and siege warfare as static, routinised and overly reliant on technology*" (Daly, 2022). Henry Lloyd (one of the few British military intellectuals of the eighteenth century) wrote that "*Sieges are attended with so great expense, and so much loss of time, and men, that they ought never to be taken without the utmost necessity*" (Daly, 2022)

The Nineteenth Century

Napoleon's Maxims (Chandler, 2015) include 7 related to fortifications. Maxim XL, echoing Vauban, states that:

“Fortresses are equally useful in offensive and defensive warfare. It is true, they will not in themselves arrest an army, but they are an excellent means of retarding, embarrassing, weakening and annoying a victorious enemy.”

Maxim XLI describes how an enemy’s field army should be forced back over a natural obstacles and watched by an Army of Observation, and how the (remaining) besieging force should be at least four time stronger than the defenders if needing to send other parts to fight a relief force. Maxim XLII advises against slavishly following maxims (!), mentioning Feuquieres and the importance of sallies to disrupt the enemy. Maxim XLIII talks about the value of Engineers in lines of circumvallation, but how the art of field fortifications *“is even inferior at this day to what it was two thousand years ago”*. Maxim XLIV advises on the protection of magazines and hospitals left without sufficient garrison. Maxims XLV and XLVI recommend that once defences are destroyed the defenders should lay down their arms in order to sue for favourable terms, and for the victor to accept such a capitulation, rather than risk the casualties that would follow from an assault. Chandler notes that *“this sequence of maxims devoted to siege warfare is interesting but at the same time rather suspicious. Napoleon had little time for the delays associated with siege warfare”* -and that, whilst representing best-practice – may have come from a later compiler and are un-Napoleonic. (Chandler, 2015)

Gay de Vernon was a French military officer and wrote *A Treatise on the Science of War and Fortification* (Vernon, 1817), which became a standard text in the military schools of Napoleon’s Army, and was later translated into English for use by the US Army. In introducing fortifications de Vernon writes that *“although offensive war may, strictly speaking, be carried on without the use of fortification.... It is chiefly in defensive war, the conduct of which entirely depends upon this art and its combinations, that the necessity of fortification is most felt; by it, an equilibrium is constantly preserved between the two forces, changes of position do not draw down destruction upon the weaker army, and the campaign is made without the latter being obliged to give battle”* (p.242).

General Sir John Jones, chief staff officer of the Commander Royal Engineers during the Peninsular War wrote an account of the sieges – *Journal of the Sieges in Spain* - and of how such sieges should be conducted. His model was very much that of Vauban with saps and parallels. *The Bombardier and Pocket Gunner* (1813) provides more detail, but the same overall approach (Hughes, 1982). Daly notes that:

“Sieges remain the poor cousin to battle in understandings of Napoleonic warfare. This neglect has largely arisen from the long-established view that sieges, as the classic set piece form of early modern warfare, had become antiquated and obsolete by the end of the eighteenth century. Certainly, by the time of the Revolutionary Wars, battle had well and truly supplanted siege as the central campaign preoccupation of military commanders and warring states. The high point of European siege warfare was roughly between 1680 and 1748, with the epicentre the wars of Louis XIV. From the time of Frederick the Great and the Seven Years War, however, sieges entered a slow decline: new military doctrines of mobility, speed and a cult of the offensive increasingly took hold; and critics pointed to the costs of maintaining fortresses, and to the time constraints, mechanical nature and highly specialised science of siege warfare.²⁵ Then, in the wake of 1789, came mass conscript armies living off the land, and the ideal of decisive battle. All this has led military historians of the Revolutionary-Napoleonic era, apart from specialists on the Peninsular War, to focus on the great battles and campaigns, and for historical surveys of siege warfare, such as Christopher Duffy’s classic study, to trail off at the end of the eighteenth century. Yet, this belies the frequency with which sieges still occurred in the Revolutionary-Napoleonic era, their strategic relevance in numerous campaign theatres, their centrality to combined military-civilian experiences of war, their importance to customary laws of war and their continuing hold on artistic and cultural imaginings of war.”

Scharnhorst’s *Military Field Pocket Book* of 1811 (Scharnhorst, 1811) includes sections on *“To fortify a House , Castle , Church , & c . and of the Defence and Attack of the same”* (§217), *“To put a Churchyard and a Town sur- rounded with a Wall in a state of Defence , and to attack the same.”* (§218) and *“To put a Village in a state of Defence”* (§220), complete with diagrams showing guard-

houses, redoubts and pallisades. Other sections deal with fieldworks, entrenchments and redoubts, including the quote that *"In attacking a town, the infantryman should carry along an axe in case he may have to break down a door"*. There is no mention of fortresses or siegecraft. In many ways the sections read like the ancestors of the World War 2 urban training pamphlets which will be discussed later.

Jomini

Jomini's *Summary of the Art of War* (1838) has several sections which further illustrate the shift from siege warfare to field battles (Jomini, 2004).

Article XXIV is on "The Old System of Wars of Position and the Modern System of Marches". He describes *"the old manner of conducting a methodical war, with armies in tents, with their supplies at hand, engaged in watching each other; one besieging a city, the other covering it; one, perhaps, endeavoring to acquire a small province, the other counteracting its efforts by occupying strong points. Such was war from the Middle Ages to the era of the French Revolution"* and how, beginning in 1793 (but not at the start of the Revolutionary Wars) this changed to the Modern System where *"France threw one million men in fourteen armies upon her enemies. These armies had neither tents, provisions, nor money. On their marches they bivouacked or were quartered in towns; their mobility was increased and became a means of success"*. Jomini considers the new approach a "result of circumstances", when France was "assailed from without and within", rather than being a deliberate evolution of military thought. From 1800 Jomini identifies that Napoleon "adopted bold objective points, which looked to nothing less than the capture or destruction of whole armies". Jomini also notes that a new system which relies on fortresses, reserves, levies and militias will lead to ever larger armies, but which need to achieve quicker victories if the whole landscape is not to be ravaged. He also comments that if society enters a "calmer state", where nations fight for political rather than existential reasons, then we might see a return to smaller (80-100,000 strong) armies, somewhere between those of the new and old orders.

Article XXVI covers *"The Defense of Frontiers by Forts and Intrenched Lines. – Wars of Sieges."* In terms of forts Jomini notes that Napoleon said that *"an army can pass wherever a man can set his foot"*, and so expecting to protect a frontier by a large string of forts is unrealistic, it being better to build fewer works, properly located and with an expectation that they will only delay the enemy and support the operations of your own forces. Jomini considers that *"Large forts, when encompassing populous and commercial cities, are preferable to small ones, - particularly when the assistance of the citizens can be relied on for the defence"* – as at Metz and Lille in the previous century. However he also notes that in the Napoleonic Wars such sites were typically bypassed, although their presence in the rear may have restrained some further operations. Jomini further restates the importance of destroying the enemy – but whilst being aware of the impact of such fortresses *"Doubtless, it will always be of the first importance to destroy and disorganize all the armies of the enemy in the field, and to attain this end it may be allowable to pass the fortresses; but if the success be only partial it will be unwise to push the invasion too far. Here, also, very much depends upon the situation and respective strength of the armies and the spirit of the nations"*.

In terms of sieges Jomini describes how even if a fortress is bypassed it should leave a force to invest or at least watch the place. However, in terms of the siege itself, he then talks about the "ridiculous system" (in men and time) of *"encircling a city by a whole army, which buried itself in lines of circumvallation and contravallation"* and that *"Experience has proved that the best way to cover a siege is to beat and pursue as far as possible the enemy's forces which could interfere"*, citing Napoleon at Mantua as a prime example of the good operations of an army of observation.

Article XXXV *"Of the Attack by Main Force of Fortified Places, Intrenched Camps or Lines. – of Coup de Main in General"* does talk about siege like tactics in terms of escalades and fascines, but the focus is very much on taking by a *coups de main* storm and ideally surprise, rather than in a protracted siege. It also reiterates the decreased importance of fortified places:

"As war is now waged, the capture of a post, however strong, is no longer of the same importance as formerly unless it has a direct influence upon the results of a great strategic operation."

In talking about the Crimean War and events in Sebastopol in the Second Appendix to the later

edition of *Art of War* Jomini notes that:

“The heroic events which have recently occurred near Sebastopol have not produced the slightest change in my opinion. This gigantic contest between two vast intrenched camps, occupied by entire armies and mounting two thousand guns of the largest caliber, is an event without precedent, which will have no equal in the future; for the circumstances which produced it cannot occur again. Moreover, this contest of cannon with ramparts, bearing no resemblance to regular pitched battles fought in the center of a continent, cannot influence in any respect the great combinations of war, nor even the tactics of battles.”

Clausewitz

Chapters 10 and 11 of Book 6 of Clausewitz’s *Vom Kriege* (1832) are dedicated to fortresses (Clausewitz, 2003). In opening Chapter 10, Clausewitz relates that:

“FORMERLY, and up to the time of great standing armies, fortresses, that is castles and fortified towns, were only built for the defence and protection of the inhabitants. The baron, if he saw himself pressed on all sides, took refuge in his castle to gain time and wait a more favourable moment; and towns sought by their walls to keep off the passing hurricane of war. This simplest and most natural object of fortresses did not continue to be the only one; the relation which such a place acquired with regard to the whole country and to troops acting here and there in the country soon gave these fortified points a wider importance, a signification which made itself felt beyond their walls, and contributed essentially to the conquest or occupation of the country, to the successful or unsuccessful issue of the whole contest, and in this manner they even became a means of making war more of a connected whole. Thus fortresses acquired that strategic significance which for a time was regarded as so important that it dictated the leading features of the plans of campaigns, which were more directed to the taking of one or more fortresses than the destruction of the enemy’s army in the field.”

Clausewitz does still see a role for the fortress, including: as a depot, to protect great and wealthy towns, as barriers on lines of communication, as places of refuge and as a shield against aggression. In terms of the second use, Clausewitz notes that it is a “*most natural*” use, and that:

“If there was a country in which not only all great and rich cities, but all populous places as well were fortified, and defended by the inhabitants and the people belonging to the adjacent districts, then by that means the expedition of military operation would be so much reduced, and the people attacked would press with so great a part of their whole weight in the scales, that the talent as well as the force of will of the enemy’s general would sink to nothing.”

Although he goes on to say that he will not consider this use further, preferring to focus on their direct military application to support an active (i.e. field) army. With Chapter 10 having considered why fortresses can be useful Chapter 11 then goes on to consider where they should be located, whether they should only be on the frontier or spread throughout the country (he argues for the latter), whether they should be distributed uniformly or in groups (he again argues for the latter), and how geography should affect the placement.

More generally, in Book 4, Chapter 8, Clausewitz identifies that the action most important in overthrowing an enemy are the:

1. *“Destruction of his army, if it is at all significant*
2. *Seizure of his capital if it is not only the center of administration but also that of social, professional, and political activity*
3. *Delivery of an effective blow against his principal ally if that ally is more powerful than he.”*

Reflecting the broader thesis of the book that “war is nothing but the continuation of policy with other means”, this second action highlights the interrelationship between the civil fabric and infrastructure and the achievement of the war aims – placing cities (and civilians) front and centre of future conflicts. Chapter 8 also argues for a more mobile form of war, challenging the “so-called *methodical offensive war*” with its conquest of fortresses and the building new fortifications, and preferring for fortifications to be screened and the advance continued if the risks allow (as also with Jomini), and stating that “*The fortification of towns and positions is not the work of the army, and therefore no ground for any delay*”. In Chapter 1, Book 3 Clausewitz further states that:

“The possession of provinces, cities, fortresses, roads, bridges, munitions dumps, etc., may be the immediate object of an engagement, but can never be the final one. Such acquisitions should always be regarded merely as means of gaining greater superiority, so that in the end we are able to offer an engagement to the enemy when he is in no position to accept it.” (Clausewitz et al., 1989)

Daly notes that:

“Carl von Clausewitz was no champion of siege warfare, deriding its mechanistic and geometrical form and seeing the seizure of fortresses as a relic of the past, at best a 'necessary evil' with very limited strategic value. Unlike siege warfare, it was in the tactical realm of the field and battle, where 'everything is more mobile, and psychological forces, individual differences, and chance play a more influential role'. In a Clausewitzian conception of war, the siege was not a true test of the higher moral and intellectual dimensions of war; a stage not worthy of romantic genius 'which rises above all rules'. (Daly, 2022)

Moltke

In *Operationsplan – Kriegsobjekt und Operationsobjekt* (1871-81) (Moltke, 1993), Moltke further develops Clausewitz’s ideas of the centrality of the capital, and a country’s resources, stating:

“One must distinguish between the object of the war and the object of the operation of the attack. The former is not the army, but the land mass and the capital of the enemy, and within them the resources and the political power of the state. It comprises what we desire to hold or that for which we will subsequently trade. The object of an operation is the hostile army insofar as it defends the object of the war”

In *Bedeutung der Festungen für die Kriegführung* (1861-62), Moltke echoes the views of Jomini and Clausewitz regarding the relative utility of fortresses:

“I hold the decided opinion that the military strength of our state would be diminished rather than increased by enlarging or increasing the number of our fortresses, not to mention the costs involved. The army in the field is the weight that is placed on the scales of political conflict. It, above all else, decides the outcome of war...Fortresses must support, not devour, that army.”

In *Untitled* (1871a), Moltke distinguishes between a place’s role as a fortress and as a capital – “*The fact that the fall of Paris decided the war was due less to the capitulation of the fortresses than to the subjugation of the capital*”, and in *Untitled* (1871b) discusses a possible role for smaller forts in the protection of the railroads that proved so vital in the Prussian wars, but concludes that generally the number required and their ease of capture makes such an approach worthless except at major hubs and rivers.

Interestingly, Moltke's 1869 *Instructions for Large Unit Commanders* contain no explicit instructions regarding fighting in and around urban areas beyond a comment that "*Villages and patches of forest will frequently change hands repeatedly in lengthy combat. This is because the range of modern weapons allows the attacker to concentrate an overpowering fire*".

Du Picq

Ardant Du Picq was a French army officer who was killed in 1870 during the Franco-Prussian war. He left many notes and writings which were used to posthumously published *Etudes sur le combat (Battle Studies)* in 1902 (Picq, 2009). Du Picq was a proponent of the importance of "moral force" in warfare, noting that "*Nothing can wisely be prescribed in any army... without exact knowledge of the fundamental instrument, man, and his state of mind, his morale, at the instant of combat.*" (Picq, 2009). Unfortunately it has nothing to say on cities or urban beyond an enigmatic "*What is our method for occupying a fortified work, or a line? We have none! Why not adopt that of Marshal Saxe? Ask several generals how they would do it. They will not know.*" (Picq, 2009).

North America

American generals and strategists of the nineteenth century were just as influenced by de Vernon, Clausewitz, Jomini and Moltke as their European counterparts, although many of the learnings were too late to influence the Civil War (Hagerman, 1992). Dennis Hart Mahan spent time in France after West Point and before joining the faculty at West Point, being appointed professor in 1832. He made field fortifications a central part of the teachings at West Point, seeing their use as a way of offsetting the larger militia component of the American army, his publications including a *Treatise on Field Fortification* (1836) (Mahan, 1856) and *Summary on the Cause of Permanent Fortifications and of the Attack and Defense of Permanent Works* (1850) and *Permanent Fortifications* (1863) (Mahan, 1887). Mahan applies the term "fortress" to a fortified town, other permanent works being forts, and distinguishes between sieges (a term largely missing from Jomini, Clausewitz et al), and blockades. The books are almost Vauban like in their technical detail on the design of fortifications and return to then recently outmoded concepts such as circumvallation and contravallation. *Permanent Fortification* argued to extend the idea of field fortifications to the defence of US cities – since permanent fortifications would be impracticable, and, unlike Moltke, he could see the spectre of the trench warfare outside of Sebastopol returning. *Permanent Fortification* also includes detailed instructions for "open fortifications", including loop-holes in walls – although in the context of isolated field works; the use of water and inundation as an active means of defence; a discussion as to the attitudes in Europe to the (re)fortification of cities, and a concise history since antiquity of fortification building!

James St Clair Morton, a civil and military engineer, wrote a *Memoir on the Dangers and Defenses of New York City* (Morton, 1858) and a *Memoir on American Fortification* (Morton, 1859), both adopted by the US Army and which again emphasised the idea of field fortifications to offset skilled soldiers and budget, and that the "*impact of increased firepower on the principles of fortification would allow fewer troops to man more extended temporary works*" (Hagerman, 1992). The former book concerns itself mainly with protecting New York City from a littoral attack by Britain or France, includes a history of littoral urban assaults, and argues for a 14 ½ mile defensive line on Long Island, comprising 17 permanent redoubts and "*the spaces between these to be closed, when the occasion arises, by earthwork entrenchments*", with this configuration being the best when the city is defended by a citizen, rather than permanent and professional, soldiery. A force of 65,000 was to be raised when required for its defence. For interest, the line is effectively from the eastern end of the Verrazano-Narrows Bridge to the JFK International Airport and then across Long Island to La Guardia airport! In *American Fortification* Morton reiterates and more broadly applies the model presented in *New York City*, provides an analysis of the 1859 Second Italian War of Independence (particularly the Battle of Solferino and drawing parallels between the position of Venice and new York), and discusses the use of the newly invented torpedoes for coastal defence.

Of the commanders during the Civil War General William T. Sherman:

“became one of the first of the modern generals to revert to the idea of the use of military force against the civilian population of the enemy. While this represents only a part of the present concept of total war, its significance lies in Sherman's demonstration of the effectiveness of a plan of action which would destroy the enemy's economic system and terrify and demoralize the civilian population. By paralyzing the enemy's economy he destroyed its ability to supply its armies; and by despoiling and scattering the families of the soldiers in the opposing army, he undermined the morale of the military forces of the Confederacy”. (Walters, 1948)

In his order of 24th September 1862 to the 46th Ohio Volunteers, Sherman, developing his strategy of total war, instructs, *“you will find no one at [the town of] Randolph, in which case you will destroy the place, leaving one house to mark the place”*. (Walters, 1948)(p.462), and faced with attacks on his boats around Union occupied Confederate Memphis he ordered that 10 Confederate families be evicted from Memphis for every future attack. In due course *“the capital cities of Mississippi [Jackson] and South Carolina [Columbia] would be reduced to ashes to punish those states .. [and]... the whole city of Atlanta was to be arbitrarily depopulated without regard to the harshness involved.”* (Walters, 1948)(p.467). Sherman summed up his approach in one letter *“we will remove and destroy every obstacle, if need be, take every life, every acre of land, every particle of property, every thing that to us seems proper; that we will not cease till the end is attained”* (Walters, 1948)(p.470). However, he also realised that cities needed to be managed as part of any transition and in Memphis:

“... he set out at once to bring Memphis back to life. In his view, a dead and hostile captured city would eventually become a serious drain on the Union forces. He, therefore, ordered all the stores opened and churches, schools, theaters, and places of amusement and recreation to be re-established. He even organized a program to aid the poor and destitute. Because the city was a Union base of operations, Sherman put his men to work on fortifications.” (Vetter & Edmund, 1992)

Vetter and Edmund further note that:

“... by 1864 the strategy had changed. Realization had finally come that victory could not be achieved by a grand Napoleonic defeat of the enemy on a specific battlefield. Victory would come only through conquest. At last, the strategy Sherman had been recommending from the start of the war was accepted by his three superiors. So, with approval, Sherman designed his campaign to destroy Atlanta and march through Georgia to Savannah ” ...breaking roads and doing irreparable damage,”²¹ and thence proceed northward through the Carolinas carrying destruction in his path.” (Vetter & Edmund, 1992)(p.224).

The Early Twentieth Century (1900-1920)

Marshal Ferdinand Foch (1851-1929) wrote about the importance of thought, will, decisive attack and offensive action. Foch, perhaps ironically, seems to advocate the importance of the large, decisive field battle *“a war which does away with all systems founded on positive quantities; ground, position, armament, supply; a war which consigns to the background the possession of territory, the capture of towns, the conquest and occupation of strong positions ... modern war can only consider those arguments which lead to the destruction of that army: namely battle, overthrow by force.”* (Foch, 1921)(Chapter 2). In contrast, and speaking in a more prescient context of trenches and fortifications, Jan (or Ivan?) Bloch (1836-1902), a Polish private individual with a keen interest in warfare in the industrial age, saw that *“The war of the future will be a war of sieges and entrenched positions”* (Bloch & Stead, 1900). Similar to Sherman, Bloch saw future war as *“truly a total one ... It involved the entire economic and social system”* (Motta, 1995), and his analysis of the economic and trade impact of war seems to also presage future discussions on flows, albeit at a country rather than city level. In *The Future of War in its Technical, Economic, and Political*

Relations (Bloch, 1899) Bloch discusses fortresses (rather than purely civilian cities) at some length in Chapter 1 noting that “*the nature of the future war will be influenced by fortresses to an extent hitherto unknown*” – particularly due to their size (of garrison) and their role as railway transportation hubs. He reports that “*At the present day there is a conviction widely spread among military engineers and artillerymen that, in view of the perfection of modern artillery, fortresses will not be subjected to siege, but will be attacked with open force*”, but seems unconvinced by this and concludes that “*The war of the future, whatever may be said, will be a struggle for fortified positions, and for that reason it must be prolonged.*”

The Early Era of Mechanised Warfare

J.F.C. Fuller

Much of the focus of the writing of J.F.C. Fuller (1898-1966) is on the tank and armoured operations. He sees the tank, accompanied by the “cross-country lorry” as enabling the “dispensing of roads” (Fuller, 1923), (Fuller, 1928). Fuller does not seem to write much on issues around urban fighting and the role of cities – his vision of cross-country, road-free armoured actions enabling them to be bypassed. In *On Future Warfare* (Fuller, 1928), on one of the few sections explicitly on urban, Fuller writes in a section headed “Tactics in Towns and Villages”:

“Towns and villages held by an enemy form bad tank objectives, but if held by our own troops they frequently form good tank areas. When a town or village has to be held, its outskirts should be picketed by infantry and field artillery, and tanks should be held in reserve, preferably in a central position, or, if the town is large, in three main groups—one central and one on each flank. If this is done, the central group can be used for street clearing operations, and the flanking groups for open action against the flanks of the enemy. It may sometimes be found effective to group the tractor-mounted guns outside the town and on its flanks so as to protect the line of retreat.”

Perhaps this statement, together with the fact that the first annotated translation of Sun Tzu’s *Art of War* (by Lionel Giles in 1910) had only recently appeared with its exhortation that “*the worst policy of all is to besiege walled cities*”, helped to establish the trope that urban combat was something to be avoided at all costs. Brian Holden Reid, a biographer of Fuller’s, notes though that:

“Fuller had not thought out the implications that fighting in urbanized areas would have for mechanized operations. He had pointed out that towns and villages were highly unsuitable for mechanized warfare but had complacently concluded that speed alone would be sufficient to neutralize them, leaving the infantry to mop up behind. This was a prime miscalculation. Faced by a determined opponent, urban areas proved a deadly brake on an army’s freedom of maneuver. Fighting in these areas forced the tank to return to the role of an infantry support weapon. At Stalingrad the most effective weapons in street fighting were the machine gun and hand grenade. Similarly, in Italy, street fighting revealed the tank’s limitations” (Reid, 1998).

In the same book Fuller notes that “*It may be said without exaggeration that in the first hour of the battle of Cambrai an entire epoch of field engineering vanished in thin air.*” – as the first tanks charged straight through the German wire and trenches.

At a more strategic level, in *The Foundations of the Science of War* (Fuller, 1926), Fuller notes that there are 3 causes of war – ethical (ethnic), economic and military (security). He also identifies that “the decisive point of attack is the will of the enemy commander” and that:

“As no army for long can endure unless its system of maintenance remains intact, the

strategical objective is the rear of the enemy's army, his supply depôts, communications, and railheads, etc. If these are threatened, then, in place of carrying out his plan, the enemy's commander will be compelled to abandon it and fight for their security, and, until he has secured them, his plan will remain in abeyance.” (p.155).

Reid notes that *“It is important to emphasise, therefore, that in much of Fuller's technical military writing, he is really more interested in improving methods of fighting than in strategy. Here is a major difference between Fuller and Liddell Hart”* and that Fuller thought that armies should:

“seek to fight decisive battles, then these would either be won on the margins of territory (as to some extent was the case during the Battle of France in 1940, though, of course, the Dutch did not take the same view), and cities and installations would remain unscathed; or should these be attacked, as from the air, that the aerial assault would be so overwhelming that the enemy would soon surrender. This was possible, but not inevitable, for warfare cannot be divorced from the irrational, the emotions engendered by conflict and ideological nastiness” (Reid, 1995).

B. H. Liddell Hart

B. H. Liddell Hart (1895-1970) is most closely associated with the idea of the “indirect approach” – a *“distinct vision for how war should be fought – a vision that rejects the importance of battle and rather focuses on achieving victory with minimal bloodshed”* (Potter, 2016). In his book *Strategy* (Liddell Hart, 1991), Liddell Hart describes dislocation and the indirect approach in terms of the commander’s responsibility:

“to seek [victory] under the most advantageous circumstance in order to produce the most profitable result. Hence his true aim is not so much to seek battle as to seek a strategic situation so advantageous that if it does not of itself produce the decision, its continuation by a battle is sure to achieve this. In other words, dislocation is the aim of strategy; its sequel may be either the enemy’s dissolution or his easier disruption in battle”.

This is a theme which will be further explored as I extend my working paper on *Urban Battles That Weren’t* (Burden, 2022).

Whilst *Strategy* does not explicitly deal with urban issues, in his historical analyses Liddell Hart does note that the German attacks on both Moscow and Stalingrad were the result of obsession, and that Patton *“Patton became drawn into a direct approach to Metz, and then into a protracted close-quarter battle for that famous fortress-city, to the forfeit of the prospects of a bypassing manoeuvre.”*

The Cold War

In *The Face of Battle* (Keegan, 1976), Keegan notes that it is a *“perfectly tenable view that much of the fighting of the 1st and 2nd World Wars was not ‘battle’ as that concept has generally been understood, but ‘siege’, something much more limited and concrete in its aims and almost always much more protracted in its conduct”*. However, that seems to be the only reference to cities or urban fighting in the book, including its closing chapter on ‘The Future of Battle’. Historical siege warfare is discussed in his *A History of Warfare* (Keegan, 1994), which considers the veracity of contemporary historical representations of siegeworks and engines, notes the early use of starvation and deception, and describes the Vauban era changes of bastion forts and the use of saps and parallels. In *The Iraq War* Keegan sees the British Army at being better than the Americans in counter-insurgency due to their patience, experiences in Northern Ireland and even the long experience of Empire (Keegan, 2005).

John Boyd (1927-1997) will be further discussed when looking at manoeuvrist doctrine, but Boyd:

“recognized the fundamentally destructive nature of maneuver conflict, and he understood the futility of trying to win over a population by smashing everything around it. One could not secure the support of one’s own people or win over adversaries exclusively through devastation and ruin. There had to be something more on the table, something positive and constructive to ‘pump up’ friendly resolve, drain the adversary’s resolve, and attract the uncommitted to one’s cause.”
(Brown, 2018)(p.113) referencing (Boyd, 2007)

In *Patterns of Conflict* (Boyd, 2007) notes that *“city fighting is tough”*, and the importance of understanding enemy culture and that Eastern historic commanders were closer to Sun Tsu’s ideas in attempting to shatter adversary prior to the battle, whilst Westerner commanders seemed to just focussed on winning the battle (Part 3).

The works of Dupuy and Rowland will both be considered in more detail when developing the models for urban combat that underlie an urban wargame. Dupuy does not dedicate a chapter in *Understanding War* (Dupuy, 1987) to urban, and urban factors, beyond possibly being classed as “difficult terrain” do not seem to be present in the equation or discussion of the Quantified Judgement Model (QJM). His equation for an Operational Lethality Index (OIL) also does not include a class for Anti-Structure weapons, and any urban effects appear to be subsumed within the the weapon variable (V_w) and the environment and operational variable (V_i).

Rowland in *Stress of Battle* (Rowland, 2006) does provide explicit coverage of how urban operations may effect combat efficiency and casualty rates, providing an analysis of both the 1982 Ex KINGS RIDE series of urban combat trials and of historic urban engagements (from both WW2 and Burma), including the effect of rubble. Not more than 10% of battalion level infantry operations in North West Europe in 1944-45 took place in predominantly urban areas (Rowland, 2006).

A 1992 image-led, large format book, *War in the Streets: The Story of Urban Combat from Calais to Khafji* (Dewar, 1992) identified that *“urban combat is becoming increasingly relevant to modern warfare. Vast sums of money are being invested by NATO armies in building urban combat training facilities...Why have military men suddenly rediscovered urban combat?”* and notes that *“little of significance has been written on contemporary theory and practice”*. The book cites the rise in tensions in largely urbanised Central and Eastern Europe and the Balkans, and the then recent urban combat in Khafji when the Iraqis attacked into Saudi Arabia prior to the Allied recapture of Kuwait in the First Gulf War as potentially driving the change. Whilst the book is rooted in Fight in a Built-Up Area (FIBUA) doctrine and a largely BAOR era setting it does highlight the need for combined arms operations, the problems of targeting, that engagements are likely to be at close quarters, that communications will be problematic, and that the presence of civilians will complicate military operations. The book also provides a case history based on the British experience in Northern Ireland, and in looking to the then future identifies precision weapons, powerful “bunker-buster” infantry support weapons as being key military developments, and the building of more substantial buildings and of wider thoroughfares as having a potential impact on the urban combats of the future.



Figure 1: "A staff officer plans the techniques of urban warfare for the future using a model as an aid" (Dewar, 1992)

The Urban Guerilla

Carlos Marighella (1911-1969) was a Communist Brazilian revolutionary. When he was expelled from the Moscow following Brazilian Communist party in 1967 he formed his own extremist organization – the Ala Marighella (Marighella Wing), later renamed the National Liberation Action (ALN). Marighella "organized a loose coalition of urban terror groups" and wrote *The Minimanual of the Urban Guerrilla* (Marighella, 1969) which "became the operational handbook for these groups" (Mallin, 1971). Marighella was killed in a police trap in Sao Paulo on 4 November 1969.

In the *Minimanual of the Urban Guerrilla*, Marighella draws a distinction between urban outlaws and urban guerillas, saying that:

"The urban guerrilla, however, differs radically from the outlaw. The outlaw benefits personally from the action, and attacks indiscriminately without distinguishing between the exploited and the exploiters, which is why there are so many ordinary men and women among his victims. The urban guerrilla follows a political goal and only attacks the government, the big capitalists, and the foreign imperialists, particularly North Americans."

He further notes that "the principal task of the urban guerrilla is to distract, to wear out, to demoralize the militarists, the military dictatorship and its repressive forces, and also to attack and destroy the wealth and property of the North Americans, the foreign managers, and the Brazilian upper class", and that the urban guerilla is "not afraid of dismantling and destroying the present Brazilian economic, political, and social system, for his aim is to help the rural guerrilla and to collaborate in the creation of a totally new and revolutionary social and political structure, with the armed people in power."

Marighella says that the urban guerilla needs to be mobile, flexible and to show initiative, that they most know how to live unnoticed amongst the people. In terms of weaponry Marighella sees the light

machine gun (i.e. the AK47) as the basic weapon as it is efficient and easy to use, and that long-barrelled firearms are more problematic in an urban space. The usefulness of shotguns in the urban environment is noted, as are more logistical concerns such as the advantage of having every guerilla using the same calibre of weapon, and the importance of conserving ammunition! He sees the *firing group* of 4-5 guerillas as being the basic tactical unit, typically operating as a *firing team* with one other group and 1-2 people to co-ordinate. There are even mnemonics of which even a regular army manual would be proud such as CCEM for regular army logistics (food, fuel, equipment, ammunition – in Portuguese), and MDAME for guerilla logistics (mechanisation, money, arms, ammunition, explosives).

In terms of tactics the Minimanual describes 5 basic components:

- the specific characteristics of the situation;
- the requisites that match these characteristics, requisites represented by a series of initial advantages without which the urban guerrilla cannot achieve his objectives;
- the objectives in the actions initiated the urban guerrilla;
- the types and characteristic modes of action for the urban guerrilla;
- the urban guerrilla's methods of carrying out his specific actions.

In addition, the urban guerilla technique is described as being: aggressive, of attack and retreat in order to preserve forces, and having the aim of wearing out the opposition and enabling the growth of rural guerilla warfare which *“is destined to play the decisive role in the revolutionary war.”*

Marighella sees the initial advantages of the urban guerilla, despite his initial numerical inferiority, as coming from:

- surprise;
- better knowledge of the terrain (including the subterranean);
- greater mobility and speed (enabled by short encounters by small groups);
- better information and intelligence;
- being inspirationally decisive such that *“on the other side the enemy is stunned and incapable of responding.”*

As well as having echoes of Boyd style manoeuvrist warfare and dislocation it is also worth considering these views when looking later at the debate about the city as the “great equaliser” – Marighella sees any rebalance in forces as coming from these factors, rather than specifically from any technology imbalance (albeit writing in the 1960s) or inherent feature of the urban.

In addition to detailing more conventional guerilla activities such as ambushes, bank raids, hijackings, sabotage and kidnappings, Marighella also describes the importance of *“armed propaganda”*, having a clandestine press to get the message out (now replaced by social media), and conducting a *“war of nerves or psychological warfare”*, which he sees as *“an aggressive technique, based on the direct or indirect use of mass means of communication and news transmitted orally in order to demoralize the government”*. With immediate relevance to the modern age of disinformation Marighella details that *“The object of the war of nerves is to misinform, spreading lies among the authorities, in which everyone can participate, thus creating an air of nervousness, discredit, insecurity, uncertainty, and concern on the part of the government.”*

Mallin notes that *“The Minimanual was written specifically for Brazil, but its contents are clearly applicable elsewhere as well. It provides precise instructions on the conduct of various types of urban warfare, including terrorism, of which Marighella says, ‘Terrorism is an arm the revolutionary can never relinquish’”* (Mallin, 1971)

Other Post-War Political and Military Thinkers

Of the more contemporary military and political science thinkers:

- Huba Wass de Czege (an architect of the AirLand Battle concept) and Richard Hart Sinnreich are both former US Army officers. In *Conceptual Foundations of a Transformed U.S. Army* (De Czege & Sinnreich, 2002) they write that “Large urban complexes present a unique challenge. From an operational standpoint, the longer their clearing can safely be deferred, the better. Even in the best of circumstances, clearing them will be difficult and time-consuming, and the likelihood of collateral civil damage makes the process politically sensitive. On the other hand, cities are vital national resources, and their prompt liberation or seizure easily can become a political imperative. Moreover, to the extent they provide sanctuary for vital war-supporting systems from long-range missiles to command-and-control, clearing them may become a military as well as a political necessity. Where such clearing is required for any reason, the central operational challenge will be to prevent it from distorting the overall pattern of the campaign, consuming resources whose diversion from other operational priorities ... whenever possible, the clearing requirement should be treated as an independent operational task, assigned to forces designated, prepared and resourced specifically for the clearing mission under separate command-and-control.” (p.15).
- Martin van Creveld has written some good histories of the evolution of warfare, covering sieges in particular in *Technology and War* (Creveld, 2010), and no doubt has comments on more contemporary urban issues I’ve yet to track down (!);
- In 1994’s *The Coming Anarchy* (Kaplan, 2014) Robert Kaplan sees the lawless cities of Sierra Leone as giving “an eerie taste of what American cities might be like in the future”, and sees in the expansion of the cities (driven by rural peasants and by refugees) and the conditions in many of them the foundations of we now might term feral cities.
- Philip Cerny, in writing about globalisation talks about a potential future where “the world will be a neofeudal one, in which overlapping and democratically unaccountable private regimes, regional arrangements, transnational market structures, “global cities,” nongovernmental organizations (NGOs), quasi-autonomous NGOs, and international quasi-autonomous NGOs, with rump governments—the extreme form of the residual state” (Cerny, 1995), one which the global order is “a multilayered, multinodal anarchy, in which actors act to generate patterns of order not simply within the institutions of the state but more often outside those institutions on a number of diverse and variegated levels and networks both old and new”, where city-states “provide public goods, security and welfare” and where “it has become increasingly clear to military strategists that the old models of engagement have ceased to be of relevance, with urban and guerrilla warfare leading to a reinvention of the use of force.” (Cerny & Prichard, 2017)
- David Ronfeldt and John Arquilla have written extensively on the coming of cyberwar in *Cyberwar is Coming!* (Arquilla & Ronfeldt, 1993) and the advent of netwar in *The Advent of Netwar* (Arquilla & Ronfeldt, 1996), seeing cyberwar as being military focussed whilst netwar is about “irregular modes of conflict, including terror, crime, and militant social activism” (Arquilla & Ronfeldt, 2001). As well as looking at netwar within the context of rural and urban guerillas in Mexico they also note how: “Some urban gangs, rural militia organizations, and militant single-issue groups in the United States are also developing netwar-like attributes. The netwar spectrum also includes a new generation of revolutionaries, radicals, and activists who are just beginning to create information-age ideologies, in which identities and loyalties may shift from the nation-state to the transnational level of “global civil society.” New kinds of actors, such as anarchistic and nihilistic leagues of computer-hacking “cyboteurs,” may also partake of netwar. Many if not most netwar actors will be nonstate, even stateless. Some may be agents of a state, but others may try to turn states into their agents.” (Ronfeldt et al., 1999)
- Mats Berdal focusses on what comes after the wars, looking at the consolidation and stabilisation process that comes after wars (Berdal, 2017) and noting that whilst a “preoccupation on the part of senior Western policymakers with fragile states and cities is growing” the evidence suggests that “the number and severity of armed conflicts around the world appears to be in decline” (Berdal & Wennmann, 2013).

- Mary Kaldor writes about “old wars” and “new wars”, seeing “new wars” as being “*the wars of the era of globalisation. Typically, they take place in areas where authoritarian states have been greatly weakened as a consequence of opening up to the rest of the world. In such contexts, the distinction between state and non-state, public and private, external and internal, economic and political, and even war and peace are breaking down. Moreover the break down of these binary distinctions is both a cause and a consequence of violence*” (Kaldor, 2013). New wars differ from old war in terms of their actors, goals, methods and forms of finance, and the defining feature of new wars is how they “*tend to spread and to persist or recur as each side gains in political or economic ways from violence itself rather than ‘winning’*”. This is a view echoed by David Keen in his book *Useful Enemies: When waging wars is more important than winning them* (Keen, 2012). Kaldor’s work with Saskia Sassen will be further considered later in the next section.

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