ABSTRACT
This paper provides a general picture of historical development, causes, consequences, and urban warfare in International Humanitarian Law. This paper highlights critical areas of urban warfare, urban warfare and the impact on civilians. Customary IHL obligations relating to the conduct of urban warfare, ICRC guidance and its application in urban warfare and doctrines, also a particular focus on the American armed forces and argues that IHL in its current form is unable to guarantee humanitarian conduct of the war in compliance with its principles of proportionality and precaution. A case study of the invasion of Iraq will also be covered in the paper. This paper focuses on the mutually constitutive relationship between urbanization, warfare and military doctrines to highlight the responsibility of occupying forces.

INTRODUCTION
For more than 10 years, pictures of war zones have been more and more characterized by wiped out urban areas and infrastructures, disclosing the ugly truth that cities have become the main concern of war. Whether in East Aleppo, the conflict between the Turkish state and Kurds in the Sur municipality in Diyarbakir during its furthest battles 2016, or the war in the Donbas in Ukraine, urban spaces have been converted into war zones. These pictures “prompt us to think about how organised human violence shape our spaces, practices, and identities.”

The point of departure of this paper is the effect of such developments for the conduct of lawful warfare, leading to the central research question: how can lawful conduct of war be assured in urban centres? What is the nature of the tension between the urbanization of warfare and IHL, as the legal framework for the conduct of the war in order to limit its effects? By tracing the development both from a historical and theoretical perspective, this paper argues that codified IHL is no longer equipped to deal with the challenges that urban warfare poses. Instead, it is necessary to draw upon customary IHL, which emerges from state practice rather than written treaties or conventions and stresses the principle of proportionality. This alternative perspective would allow us to include myriad discourses and analyses from legal, military and urban specialists into account, as each body of literature offers different insights into the complexity of contemporary urban warfare. This paper will develop this argument in three different sections: The literature review will focus on the theoretical framework and historical development of urban warfare showing the mutually constituting relationship between warfare and urbanization, by building on urbanism studies that critically engage with urban space as a historically and politically constructed site. This part will also analyse US military strategies that encompass urban warfare and the war on terror. The second

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1Alvina Hoffmann, The urbanization of warfare: historical development and contemporary challenges, St Antony’s International Review, vol.12, p.176-189, (February 2017).
section will be dedicated to the case of the 2003 US invasion of Iraq, with an analysis of military doctrine and discourse against the backdrop of this transformation of urban space. The last section will highlight challenges that emerge from urban warfare for IHL and advocate for the application of customary IHL in its place.

URBAN WARFARE AND INTERNATIONAL HUMANITARIAN LAW THROUGH HISTORY AND THEORY

Urban centres have come to occupy a central place in the conduct of war since the beginning, affecting military doctrines and thus, outlining new challenges for IHL. In the nineteenth century development of IHL has begun, the fourth Geneva Conventions of 1949 form the core of the law of armed conflict.

Pre-colonial eastern Africa provides an enthralling awareness into the co-constituting relationship between the processes of urbanization and warfare, where “military activity led to the creation of new settlements developed in response to particular circumstances.” According to this argument, it is critical to view warfare and urbanization as historically closely interlinked. With growing urbanization, the conduct of war changed, in turn redefining the course of urbanization. Such a procedure is built-in “depopulation and de-urbanization elsewhere”. In the Twentieth century, communist revolutionary theory engaged critically with the importance of urban centres in guerrilla warfare, with a debate about the relative benefits of first winning the countryside or the urban centre for the revolution to be successfully spread.3

Concerning to US urban warfare, it is considered that the Battle of Mogadishu in 1993 to be a major turning point for American attitude towards urban warfare and thus a revision of military doctrine and laying the groundwork for the 2003 Iraq War was needed.4 This battle is a strong example because it points out the interlinking of three dimensions in urban warfare:

a. Population
b. Terrain, and

At that time improvement of combat efficiency and further development of appropriate military capabilities was needed. By this US military had to face several challenges.5

According to Stephen Graham, processes of urban militarization do not form a simple clean break with the past. Rather, they include modern resolution to long term urban and militaristic transformations.6

As expected, with the ongoing urbanization of spaces, urban militarism has come to control military and security doctrines in which “the key ‘security’ challenges of our age now centre on the

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312 Ong, A, St. Anthony's International Review, UC Berkeley (Nov. 09, 2019).
https://escholarship.org/uc/item/6mx0569p.
everyday sites, spaces and circulation of cities.”

The war zone regarding these developments:

“Battlespace” word was suggested by Stephen Graham. The term is broader than the “battlefield”. By these modern issues of employing military capabilities under the area of law. This also allows for attention to be drawn “on the changing powers of states to attempt the violent reconfiguration, or even, erasure, of cities and urban spaces.” In the 19th and 20th centuries infrastructure, industrialization and urbanization were interlinked. Where the higher focus on infrastructures i.e. telegraph/telephone lines, railways, and road in urban areas turned the city into a military target “precisely because it hosted the technical systems that were necessary for the enemy to continue to wage war.

Historically, with the goal being to cut their supply routes and demoralize the enemy, the central targets were populations as well as logistics chains. Consequently, it is not an effort to target the civilian population, or to break the logistics of the enemy, but the very structure of urban life. It creates a form of dominance over the urban space, a very important psychological consequence of urban warfare.

Following these developments, it is logical that military research highlights on these new realities by developing “a widening range of ‘hard’ and ‘soft’ anti-infrastructure weapons.” Contemporary geopolitical plan is therefore directed towards “the deliberate de-modernization of the entire suite of modern networked infrastructures.” If such plan succeed consequences for urban centres will be disastrous. In the post-cold war myriads of factors that provide to this new state of affairs, Graham suggested. John Warden's ‘strategic ring theory’ of US Air force, which views the enemy as embedded into a system of five rings:

1. The centre,
2. Constituted by the leadership,
3. The organic essentials,
4. The infrastructure- followed by the civilian population and lastly,
5. The military fighting force.

This theory has had a major influence on all major US bombing campaigns since the late 1980s. In the Kosovo War and First Gulf War graphite bombs were used, which ejaculate graphite crystals to comprehensively disable electrical power and distribution stations. This shows strategically targeting the critical infrastructure of the belligerent. After this in Iraq it was impossible to reconstruct Water system.

It is interesting to see how, even though historical connections and

7 Ibid.
developments, military strategists consider urban militarism as a novel form of warfare and suggest new approaches to render it more efficient. This confirms the suggestion that, despite the historical importance of cities and urban infrastructure in warfare, the modern urbanization of warfare has changed in nature. Moreover, the strategic language does not consider the long-term structural transformations that will happen with this form of military urbanism.

IRAQ INVASION AND ITS VARIOUS CHALLENGES FOR INTERNATIONAL HUMANITARIAN LAW

The case of the Iraq invasion will help us understand the difficulties of the application of IHL, as well as the challenges and effects of urban warfare in general. Major Lee Grubbs’ review of the urban warfare doctrine in the context of the Iraq invasion establishes major visions into the redefinition of the U.S Army forces in urban contexts. It is further suggested that the city is intentionally chosen as a battleground by the opponent, where civilians and militants merge and therefore the U.S military should not use irresistible force. Due to such circumstances, even though U.S has extraordinary technological advantages, U.S needs to adopt these new challenges. According to Stephen Graham, it is suggested that, recognizing striking similarities between the Israeli occupation of Palestine and the US invasion of Iraq, terming the engagement in Iraq “Palestinianisation.” In light of this, research advises that the main aim has highly come to occupy a central role in urban warfare. In the context of the Iraq War, “no other weapon or technology has done more to contribute to achieving strategic goals of providing security, protecting populations, establishing stability, and eliminating terrorist threats.”

What relevance does the Iraq case bear on contemporary techniques of warfare?

It is acknowledged that the creation of new threats like cyber warfare due to increased technological sophistication and it becomes contemporary challenges to IHL. Adding to this jurisdiction in cyberspace is not so clear. As suggested by the ICRC report from October 2015, urban warfare has immediate effects. the transformation and destruction of urban space leave the population behind with long-lasting and deep structural changes. The highlighted point from the Iraq invasion, especially on the crucial importance of concrete as a weapon of war, is likely to inform future conflicts.

Consequently, as this section attempted to show, the Iraq invasion proposes appealing perception into the central challenges of urban warfare, both for the occupying power and civilian population. The military discourse on the run-up to the invasion was at very first doubted with the difficult navigation of the urban space by the soldiers and pointed to a lack of specialized technology to meet strategic goals within an increasingly difficult urban environment. However, it overlooked the structural transformations for the civilian population.

CUSTOMARY INTERNATIONAL HUMANITARIAN LAW
OBLIGATIONS RELATING TO THE CONDUCT OF URBAN WARFARE

According to the estimates made in the Geneva Declaration’s report *Global Burden of Armed Violence*, in the period 2005–2007 civilian deaths in armed conflicts far exceeded combatant fatality rates, and three-quarters of all direct conflict deaths that occurred during that period were concentrated in ten conflict-affected countries, including Iraq, Afghanistan, Sri Lanka, India, Somalia, and Pakistan. The report also found that the significant increase in the global number of direct conflict deaths witnessed during that period was primarily due to the armed conflicts in these countries, and it is noteworthy that most of the major conflicts referred to in the report involved states, including the United States of America and Israel, that are not signatories to either Protocol I or Protocol II. In addition to the reports and studies cited above, this report further demonstrates the importance of customary IHL. In comparison with civilians caught up in armed conflicts classified as non-international, Protocol I provides civilians caught up in international armed conflicts with a broader and more detailed framework of humanitarian protection, which is arguably better suited to regulating urban armed conflicts than Protocol II and common Article 3 because it includes rules on, inter alia, distinction, proportionality, and precautionary measures. Be that as it may, it is suggested that reliable evaluations of the precise dynamics of armed conflict can only be made from the vantage point of hindsight.

In view of the enduring humanitarian quandary of classification lagging behind the actual situation, the inherent substantive limitations of Protocol II and common Article 3, the non-applicability of treaty-based IHL to a range of contemporary asymmetric conflicts, and the grave risks posed by insufficiently regulated urban conflict, application of the ‘corpus of customary international law’ relating to precautions in attack, proportionality, and humanitarian assistance is warranted whenever there is a resort to armed force between States or protracted armed violence between governmental authorities and organized armed groups or between such groups within a State.

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18 Protocol I, above note 21, Art. 48, 51(1)–(5), 52, and 57.


thus avoids any substantive gaps in humanitarian protection that may precede a reliable evaluation and concomitant application of treaty-based IHL, especially where there is likely to be disagreement, doubt, or divergence as to the precise legal character of the hostilities in question inter and intra parties to a conflict.\textsuperscript{22} As discussed above, this is especially so in relation to situations such as proxy wars and ‘low-intensity conflicts’ whose precise character can be hard to gauge as events unfold on the ground.\textsuperscript{23}

The advantage of applying the body of customary IHL when such uncertainty prevails is that it avoids parties to a conflict under-classifying a situation and subsequently being found to have violated a particular legal framework applied by a court of law on an ex post facto basis.\textsuperscript{24} Furthermore, it is in the strategic interests of parties to an armed conflict (major military powers in particular) to incorporate customary obligations into their military doctrine and practice when using military force in urban areas, as this can enhance the utility of force in contemporary asymmetric armed conflicts.\textsuperscript{25}

\begin{itemize}
\item \textsuperscript{22}ICTY, The Prosecutor v. Bosqkoski, Case No. IT-04-82-T, Judgment (Trial Chamber II), 10 July 2008, para. 245.
\item \textsuperscript{23} Robin Geiss, ‘Armed violence in fragile states: low-intensity conflicts, spillover conflicts, and sporadic law enforcement operations by third parties’, in International Review of the Red Cross, Vol. 91, No. 873, March 2009, p. 136
\item \textsuperscript{24} Andrew J. Carswell, \textit{Classifying the conflict: a soldier’s dilemma}, in International Review of the Red Cross, Vol. 91, No. 873, p. 154–159, (March 2009).
\item \textsuperscript{26} For example, the ban on regarding a city as a single military objective, as cited in Article 51 of Additional Protocol I to the 1949 Geneva Conventions.
\item \textsuperscript{27} ICRC, \textit{International Humanitarian Law and the challenges of contemporary armed conflicts}, Geneva, p. 41 (2011).
\item \textsuperscript{28} Additional Protocol I A.51, Geneva Conventions (1949).
\end{itemize}
launched in densely populated areas. NGO Article 36 has modeled the impact of certain types of mortar widely used in Syria and Iraq. Their impact area – the zone where the explosives are likely to fall – can often be several hundred meters across. This level of precision now seems incompatible with the principle of distinction, and morally unacceptable when these weapons are used in densely populated areas.

The use of explosive weapons in populated areas also challenges their respect for the principle of proportionality. This principle forbids attacks whose expected damage would be excessive when compared to the military advantage gained. Even though the binding force of the principle of proportionality is now well established, its interpretation in urban areas raises certain issues. When weighing military advantage against expected collateral damage, should the belligerents consider just the direct and immediate consequences of the attack (the number of dead or wounded) or all the expected effects, including indirect and non-immediate effects?

A detailed legal analysis reveals a growing consensus about the obligation to consider all the “foreseeable effects” of an attack, be they immediate or indirect. Naturally, it would be a fiction to think that all the consequences of an attack could be foreseen. However armed forces can implement a certain number of best practices.

Firstly, the principle of precaution requires them to gather the maximum possible amount of information to assess the effects of an attack (plans, areas of vulnerability, etc.). This assessment is facilitated by technological developments and also by the generation of empirical data regarding the use of certain weapons, available in Open Source. In this respect, certain civil society actors have gathered data about urban conflicts to model the consequences of armed violence on civilian buildings and to present this information to belligerents. Lastly, some military experts recommend, for example, that urban specialists be included in the military staff to facilitate the assessment of collateral damage.

There is no doubt that the use of explosive weapons in an urban environment is difficult to reconcile with IHL compliance, especially when these weapons are particularly inaccurate, as confirmed by the ICRC which calls upon belligerents to avoid using them: “Due to the significant likelihood of indiscriminate effects and despite the absence of an express legal prohibition for specific types of weapons, the ICRC considers that explosive weapons with a wide

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29 Areas of harm: Understanding explosive weapons with wide area effects, A.36 & PAX (2016).
30 Additional Protocol I A. 51§5 (b), Geneva Conventions of (1949).
34 John Spencer, The army needs an urban warfare school and it needs it soon, Modern War Institute (2017).
impact area should be avoided in densely populated areas.\textsuperscript{35}

**URBAN WARFARE: A HUMANITARIAN CHALLENGE**

The *principle of proportionality* is defined in paragraph 2(a)(iii) of Article 57 of AP I.\textsuperscript{36} For the safety and protection of the civilians it should be ensured that damages caused by warfare will be reduced to some extent. IHL is not prohibiting collateral damage but it can be minimized by IHL. Here challenge for IHL is to decide the cause of indirect collateral damage which is not easy to determine. There are practical limitations of implementations in urban areas. As all the information should be available when it is required.\textsuperscript{37} Another issue to be addressed is whether proportionality should be assessed for a single strike or for a series of strikes or even the entire military campaign.\textsuperscript{38}

The latest data gathered, albeit patchy, suggests that urban warfare currently affects over 50 million civilians worldwide\textsuperscript{39} and kills on average eight times more than a conflict in a rural environment.\textsuperscript{40} The complex nature of urban sites is a major challenge for military and humanitarian aid operations given the population density and the fact that civilians and combatants intermingle. Joshua Baker, producer and director of the film Battle for Mosul\textsuperscript{41} relate the following account: “One commander told me that the fighting was so close that he could be in the kitchen of one apartment and be exchanging fire with an enemy in the sitting room whilst there were civilians on the floor above.”\textsuperscript{42}

Another major humanitarian challenge is the damage caused by the use of means and methods of warfare that were designed for use in open battlefields. These include the use of explosive weapons in densely populated areas; these are often indiscriminate in that they have a wide “impact area” due to their relatively inaccurate delivery system, their explosive power or the number of sub-munitions they contain. The ICRC, many non-governmental organisations (NGOs)\textsuperscript{43} and even states\textsuperscript{44}

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\textsuperscript{35}ICRC, *International Humanitarian Law…*, op. cit., p.42.

\textsuperscript{36}AP I, Art. 57(2)(a)(iii): “refrain from deciding to launch any attack which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated”.


\textsuperscript{41}ICRC, “I saw…”, op. cit., p.31.


\textsuperscript{43}The International Network on Explosive Weapons coalition comprises over thirty NGOs including Human Rights Watch, Humanity & Inclusion, Oxfam, Save the Children, and Article 36.

jointly condemn these practices, the use of which is steadily rising and which cause major damage among civilian populations. The NGO coalition, Action on Armed Violence (AOAV), which documents such use, claims that their deployment in an urban area kills on average twenty-eight people (90% of whom are civilians) compared with just three in a non-populated area.\textsuperscript{45}

In addition to the direct damage caused by an explosion, explosive weapons can give rise to a myriad of indirect effects, “domino effects”, which affect the population’s essential infrastructure. An attack on an arms depot, for example, could damage a nearby electrical transformer leading to power cuts which would cause problems for a hospital or a sanitation system, thus creating risks for the wounded and ideal conditions for the emergence of water-borne diseases. These consequences are more severe in an urban environment where the population is more dependent on essential services and the networks are highly interconnected, increasing the risk of malfunction or stoppage when one component part is affected by conflict. The closure of several parts of an infrastructure can,\textsuperscript{46} affect thousands of people at the same time.

To deal these contemporary challenges, we propose two courses of action, one based on an interpretation of certain aspects of international humanitarian law (IHL), and another one based on adapting the actions of humanitarian aid organisations. Adding to this there must be frequent changes in Law and its practice, loopholes should be clear as early as possible.\textsuperscript{47}

\textbf{CONCLUSION}

In conclusion, this paper has argued that codified IHL is no longer equipped to face the challenges of urban warfare. As the first section has analyzed through the lens of a critical urbanist approach, the historically co-constitutive relationship between warfare and urbanization renders the lawful conduct of war in contemporary settings difficult, both for civilians whose protection can no longer be ensured, as well as for soldiers on the ground who have to navigate through this urban space. This section further showed how the constitutive nature of warfare on urban environments is generally neglected in military strategies. Targeting critical infrastructures has become central to urban warfare, which at times can be subject to individual interpretation. According to this logic, electrical power and distribution stations can be defined as dual-use infrastructure, which deeply affects the urban structure and the lives of civilians. The Iraq invasion in 2003, which exemplified the challenges outlined above. It shed light on the techniques of the US military that were applied in order to create securitized military zones, which allowed for complete domination of the urban zones by the occupying power. Such operations are oftentimes legitimized by discourses of security, which expose the loopholes of IHL by exploiting ambiguous definitions. This in turn means that the central principles of IHL, proportionality and distinction between civilians and combatants, can no longer be

\textsuperscript{46}ICRC, \textit{Urban Services}.
upheld. Therefore, in light of these discussions, this paper argues in favour of customary IHL, which emerges from state practice, to provide the legal framework for the conduct of war. Customary IHL can close the loopholes in IHL that might render targeting dual-use infrastructure lawful, by emphasizing precaution and proportionality through compliance with all feasible means to determine whether a target is a military. This can also prohibit increasingly sophisticated weaponry which could cause indiscriminate attacks.

Moreover, this paper suggests that in customary IHL the mutual relationship between urbanization and warfare becomes more explicit, which in turn can have an impact on military doctrines to promote a better understanding of the structural transformation of urban space through war. In consequence, only customary IHL through its focus on state practice can meet contemporary challenges of lawful warfare.

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