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Blockbusters, Nukes, and Drones: trajectories of change over a century[1]

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French translation available

Abstract

Aerial bombardment has undergone many changes in the past century, in its technological characteristics, in the harm it has inflicted on civilians, and in its legal status. The trajectories of development in these three areas are complicated and interrelated. Although the practice of firebombing cities seems part of a distant past, and an evident violation of current legal norms, the continued maintenance of thousands of nuclear weapons makes worse destruction an ever-present possibility. While the increasing accuracy of bombing methods, especially by drones, makes it easier to protect innocents from harm, broad definitions of what constitutes a military target continue to put civilians at risk. Moreover, the ease with which major powers use drones outside of recognized sites of armed conflict makes resort to force more likely.





Giulio Gavotti on a Farman biplane, Rome 1910

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Reaper drone

There are many ways to trace the trajectory of aerial bombardment since 1911, when Lieutenant Giulio Gavotti first tossed a bomb out of his airplane at rebellious Libyan villagers. Technical characteristics that rendered Gavotti's attack ineffectual – lack of accuracy and low explosive yield – saw dramatic improvements over the decades. Starting in 1945, the enormous power of nuclear weapons or "nukes" eclipsed by a million-fold the "blockbuster" bombs that destroyed so many German and Japanese cities and made accuracy in some respects irrelevant.[2] By contrast, the precision of missiles launched from the remotely-piloted aerial vehicles ("drones") of the early 21st century meant that they could destroy their designated targets with relatively small explosive force.

And what about those targets? A second trajectory from Gavotti to today –related to developments in accuracy and yield of weapons – would trace the numbers or proportions of civilians killed, deliberately or unintentionally, by attacks from the air. During World War II strategic bombing of cities killed hundreds of thousands of civilians, culminating in the atomic bombings of Hiroshima and Nagasaki, when tens of thousands were killed by a single bomb dropped on each city. Over the decades since, civilians gradually and with some exceptions came to be considered "collateral damage" rather than deliberate targets. Yet those states maintaining a nuclear arsenal premise its "deterrent" effect on the terrifying prospect of mass killing of civilians. Civilians are not the explicit targets, but the implied targets of nuclear weapons.





Nagasaki, 1945

Since World War II, the ethical and legal norms governing aerial bombardment have evolved, but that trajectory can be understood to have started much earlier, with the emphasis in the medieval Catholic Just War tradition on the principles of distinction (between combatants who could be targeted and civilians who should be protected) and proportionality (that the military benefits of an attack should outweigh the anticipated harm to civilians). From the

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dawn of air power through the firebombings of World War II and the Korean War, that tradition exerted a negligible impact on bombing practices. Jus in bello principles – pertaining to the conduct of war – eventually came to be incorporated formally into the laws of war, known also as International Humanitarian Law (IHL) or the Law of Armed Conflict (LOAC). But the prospective use of nuclear weapons defies those laws, as would the deliberate firebombing of a city today. The possession of nuclear weapons defies at least the spirit of laws that are supposed to protect civilians from disproportionate harm. In recent years an international campaign has arisen to ban nuclear weapons on humanitarian grounds as indiscriminate, much as antipersonnel landmines and cluster munitions (which disperse many small "bomblets") were banned as a result of activist pressures and the efforts of like-minded states.

At the other end of the spectrum of explosive yield and potential for use that discriminates between civilian and military targets lie drones. While allowing for compliance with in bello principle of distinction and proportionality, the easy resort (for the United States, at least) to drone strikes in areas outside recognized armed conflicts raises questions of compliance with ad bellum rules on the use of force, that is when armed force is legally permitted. These legal and ethical norms are the third trajectory of aerial bombardment traced in this paper.

The paper is divided into three sections – on technological change, on harm to civilians, and on legal and ethical norms. Within each section it offers a historical narrative, addressing the changes in each domain from Lieutenant Gavotti's time to ours. Aside from the early examples of Italian bombing, much of the paper focuses on British and especially US practices from the World Wars to the present. This is not mainly a matter of greater availability of source materials; and it is certainly not a normative statement that bombing by English-speaking democracies is somehow worse than the other forms of warfare – let alone deliberate atrocities – carried out by other types of states.[3] Bombing is the focus because it is a topic that lends itself especially well as a subject for legal and ethical analysis related to protection of civilians. Moreover, the laws governing targeting for air warfare are relatively underdeveloped compared to other areas, such as treatment of prisoners of war, and worth further exploration.

In studying what shapes the norms of aerial bombardment, it makes sense to focus on the United States -- the world's preeminent military power and the one most frequently engaged in air warfare -- because its practice has deeply influenced normative change in this domain and we expect that it will continue to do so. Other countries, such as Russia and Israel, have engaged in air campaigns in recent years, and brutal dictators in Libya and Syria have set the normative clock back a century with the punitive bombing of (their own) civilians. But we expect the United States to continue to set the standard for bombing practices and to remain the focus of efforts to change those practices.[4] The paper concludes on a pessimistic note that emphasizes the weak constraints that law still poses to airborne violence to civilians, even after a century of change.

Technological Change

"These are small round bombs - weighing about a kilo-and-a-half each. I put three in the case and another one in the front pocket of my jacket." That was Giulio Gavotti's description, in a letter to his father, of the arsenal for the first recorded bombardment from an airplane. Lieutenant Gavotti piloted the primitive wooden Taube monoplane himself and tossed his bombs – more like small grenades – against "enemy encampments" near the oasis at Ain Zara.[5] In the next decades, the quality, reliability, size, and speed of aircraft would

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increase dramatically along with their ability to carry bombs of greater weight and explosive power.

Lack of accuracy means targeting cities

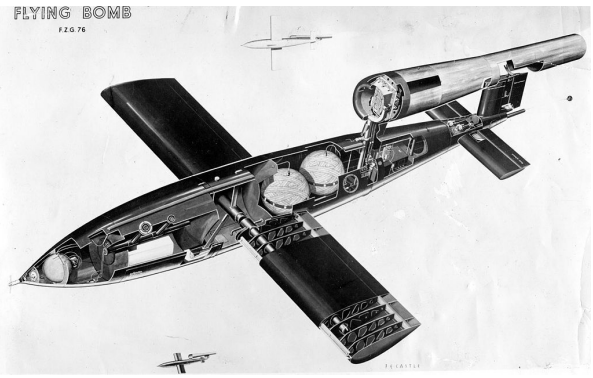
Technical improvements allowed for use of aircraft in tactical roles for close support of ground troops, for air-to-air combat against other planes, and as fighter-interceptors for air defense against bombing raids. But our interest is mainly in strategic bombing against targets in the rear and its effect on civilians. As Richard Overy, a leading historian of air power during World War II, described, "for all the scientific sophistication" and technological developments since the dawn of air power, "long-range bombing in the Second World War was a crude strategy. It was designed to carry large quantities of explosive and incendiary chemical weapons from point A to point B and to drop them, usually from a considerable height and without much accuracy, on the ground below."[6] Sahr Conway-Lanz has pointed out that even if the intentions of the states carrying out such bombing were to target only military objectives, technical limitations would still have resulted in vast civilian casualties.[7] During World War II and the Korean War, and to a considerable degree in South Vietnam, the United States treated the population centers where military targets were located as if they were themselves the military objectives.[8] When targeting, for example, railway facilities and centers for the transport of troops and military equipment, the Allies of World War II deployed the largest-yield weapons their planes could carry and interspersed incendiary weapons to guarantee maximum destruction.[9] The vast destructive power of nuclear weapons furthered the tendency in US strategic air planning to think of targets as cities. In mid-1947, when the United States possessed barely a dozen first-generation atomic bombs and the USSR had none, the military had already identified one hundred "urban industrial concentrations" suitable for atomic bombing.[10]

In the jargon of nuclear strategy, attacking population centers became known as "countervalue" as contrasted to "counterforce" targeting – the latter referring to attacks against the adversary's nuclear forces themselves. Pursuit of counterforce capabilities was aided by the adoption of ballistic missiles to supplement aircraft as the main "delivery vehicles" for nuclear weapons. Modern US and Soviet ballistic missiles were the descendants of the German V-2 rockets that had rained terror upon London, Antwerp, and Liège during World War II. Soviet military intelligence and Red Army troops competed with their US counterparts to find and claim the German rocket manufacturing and testing centers in the wake of Nazi defeat – as memorably depicted in Thomas Pynchon's novel, Gravity's Rainbow.

Increasing accuracy risks nuclear escalation

Improvements upon the primitive inertial guidance of the V-2 rockets allowed for development of modern ballistic missiles whose accuracy made ambitious counterforce strategies at least theoretically possible. In turn, the interest in counterforce helped further technical progress in missile guidance.[11] Advances in guidance systems of ballistic missiles reached the point by the early 1980s that US strategists promised the ability to launch a "disarming first strike" against the Soviet Union, substantially – but, alas, not completely – eliminating its ability to retaliate with a nuclear attack against the United States. As Carol Cohn argues, the adoption of what she calls technostrategic language allowed for a certain psychological distancing for the nuclear strategists. They could focus on technical characteristics of weapons without considering what would be the disastrous consequences for human beings of even their most successful strategic plans.[12]

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V-1 "Flying bomb"

During the 1980s the modern descendants of another Nazi weapon – the V-1 cruise missile – promised a further contribution to accurate, counterforce targeting. Nuclear-armed air-, ground-, and sea-based cruise missiles, deployed in large numbers by the United States, boasted guidance systems based on terrain contour-matching, where the weapon followed a pre-programmed map to its designated target. Modern drones are a further development of cruise-missile technology, with the addition of satellite-based global positioning systems (GPS) and laser guidance for the drone's weapons.

Although the focus of this overview is the history of "strategic" aerial bombardment, observers have long made the point that use of nuclear weapons for "tactical" purposes against military targets on a battlefield – while enormously destructive in itself – risks escalation to largescale nuclear war.[13] For US theorists of "extended nuclear deterrence," concerned to deter a possible Soviet invasion of western Europe, for example, that risk was an inherent component of the policy: the Soviet Union would refrain from attacking Europe with conventional forces for fear of triggering an all-out nuclear war. In other cases, as when the United States contemplated use of tactical nuclear weapons in Vietnam in the 1960s, escalation to worldwide nuclear war was still possible. When analysts working for the US government studied the costs and benefits of US nuclear use there, they did so "under the assumption that the war remains theater-limited and that no strategic exchange occurs."[14] The risks of acting upon that assumption, however, would have been considerable, given that North Vietnam boasted two nuclear-armed allies, the USSR and China.

The appeal of technologically more "usable" nuclear weapons

The lure of tactical nuclear weapons remains strong in some quarters, long after the end of the Cold War, as does the risk of escalation. In 2015, the United States funded a modification and upgrade of its B61 nuclear bomb, intended for deployment with aircraft in five NATO countries. Although according to US nuclear policy, the "Life Extension Programs" for its nuclear arsenal (such Orwellian language has survived the demise of the Cold War) does "not support new military missions or provide for new military capabilities," the new B61-12 evidently violates that policy. The modified weapon incorporates new GPS and other guidance technologies and is "designed to increase accuracy, enabling the military to achieve the same effects as the older bomb, but with lower nuclear yield." The weapon's yield can reportedly vary from 0.3 kilotons or 300 tons (the biggest "blockbuster" bombs of World War II were 6 tons) up to 10 kilotons (just slightly less powerful than the bomb that destroyed Hiroshima). The fact that it is intended for both strategic and non-strategic purposes seems an invitation to escalation, as an adversary will not know which version is employed and might overreact.[15] With lower yields of the nuclear explosives, and the potential to limit radioactive fallout, the new weapons could be seen as more "usable," thereby increasing the risk of escalation to all-out war.[16]

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Flight-test body of B61-12 bomb with engineer

Some prominent former US military leaders agree. As General James Cartwright (ret.), former head of the US Strategic Command, put it, "if I can drive down the yield, drive down, therefore, the likelihood of fallout, et cetera, does that make it more usable in the eyes of some — some president or national security decision-making process? And the answer is, it likely could be more usable." General Norman Schwartz, former US Air Force chief of staff, defended the upgraded bomb with short, staccato sentences:"Without a doubt. Improved accuracy and lower yield is a desired military capability. Without a question." In discussion with Hans Kristensen, the general agreed with the critics' claims "that the increased accuracy and lower yield options could make the B61-12 more attractive to use because of reduced collateral damage and radioactive fallout." But he drew the opposite conclusion of the critics. In Kristensen's summary, General Schwartz argued that "usability" itself would make it less likely that the weapons would be used: "the enhanced capabilities would enhance deterrence and make use less likely because adversaries would be more convinced that the United States is willing to use nuclear weapons if necessary."[17] Such arguments were the stock in trade of the quasi-theological nuclear debates of the Cold War, and they do indeed rely on an unverified faith that planning to use nuclear weapons as "credibly" as possible will prevent their use.[18]

In sum, technological advances in accuracy of delivery vehicles and flexibility of explosive yield made possible a range of bombing practices – from the targeted killing of individuals by drones to nuclear "war-fighting" against strategic counterforce targets, which would still cause vast civilian destruction, or against tactical targets, which would risk escalation to global nuclear catastrophe.

Targeting Practices

From "air control" of restive colonial subjects at the dawn of air power to undermining the "will" or "morale" of enemy civilians during both world wars, the major powers attacked population centers with devastating effect on civilian life. During subsequent US wars in Korea and Vietnam, and the Soviet war in Afghanistan, civilians suffered from deliberate attacks against their villages, when the population was judged sympathetic to the guerrilla forces. The air wars in Iraq in 1991 and Serbia in 1999 saw fewer civilians deliberately targeted, but attacks against "dual-use" targets and infrastructure contributed to civilian suffering – as some military leaders intended.[19] The use of "barrel bombs" and chemical weapons by the regime of Bashar al-Assad in Syria, and the indiscriminate bombing by the forces of his Russian ally represent the deliberate punishment of civilians as a war tactic.

In the conflicts waged by the United States under the rubric of the global war on terror, military and political officials formally foreswore the deliberate targeting of civilians, even though many tens of thousands died in Iraq and Afghanistan. Shrouded in secrecy, US policy on drone strikes during Barack Obama's administration came in for criticism for killing civilians, but officials insisted that only

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combatants were targeted. Meanwhile, thousands of nuclear weapons remained in the arsenals of the United States, Russia, Britain, France, China, Israel, Pakistan, India, and North Korea. If ever used, no matter what the targets, civilians would be the primary victims. Thus the trajectory of change in targeting practices cannot be described as smooth or even unidirectional.

Civilian morale as a deliberate target

The era of aerial bombardment began with some ambiguity regarding the intended targets. According to the letter he wrote his father, Gavotti launched his bombs against "enemy encampments" in Libya.[20] We infer that the targets were armed fighters trying to prevent the Italians from taking over control of Libya from the Ottoman Turks, but some sources describe subsequent attacks against "Arab villagers."[21] If it were ever made, the distinction between rebels and the populations which supported them soon began to blur in practice. Consider the British example. During the period 1919-1922 Winston Churchill served as Britain's Secretary of State for War, Secretary of State for Air, and Secretary of State for the Colonies, tasked with enforcing order among people who resisted British rule. One of the tools he advocated was aerial bombardment of tribal areas by poison gas, particularly in Iraq, but also in India and Afghanistan – even when his advisers warned him that it could "kill children and sickly persons." "I am strongly in favour of using poison gas against uncivilised tribes," wrote Churchill to Hugh Trenchard, chief of the Air Staff. In the event, the British used aerial bombardment against many villages in Kurdistan and gas against Iraqi rebels (although not delivered by air) with, in Churchill's words, "excellent moral effect."[22]

Although one often sees a distinction made between the military practices Europeans employed against peoples they considered uncivilized and the ones employed against fellow representatives of civilization, one should not overstate it. During World War I, for example, the use of airplanes for bombing European targets, although limited, was clearly directed at instilling terror in civilian populations, much the same intention as in the colonies. In the wake of that war, the early theorists of air power – most famously Giulio Douhet – explicitly argued for attacking civilian population centers at the outset of a war. Douhet considered such attacks an efficient way to end wars quickly – or, even, as the language of the nuclear age would put it, to deter them by offering the prospect of vast civilian destruction. In the event of war, he preferred to see civilians die suddenly than to sacrifice the country's best – young male soldiers, in his view – in years of relentless trench warfare such as characterized the Great War.

Deliberating targeting civilians to undermine their morale and support for war played a central role in the thinking of other air power theorists, such as Trenchard in Britain and Billy Mitchell of the USA. There were, however, dissenters, who favored focusing on strictly military targets to affect the course of the battle. Scholars have recently called attention, for example, to "Douhet's antagonist," Amedeo Mecozzi.[23] His debate with Douhet over the proper role of air power has been likened to the contemporary US one between Mitchell and William Sherman, who, in his 1926 treatise, Air Warfare, found it "particularly abhorrent to contemplate the waging of war on unarmed civilians of all ages and sexes."[24] Nevertheless, it was the Italians, following Douhet's logic, who were among the first to employ terror bombing against a European city, when Italian air forces joined the Germans in destroying Guernica in April 1937 in support of Francisco Franco's troops during the Spanish Civil War. Less than a year later Italian dictator Benito Mussolini ordered an attack against Barcelona, clearly intending to terrorize civilians. As Overy explains:

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The bombing of Barcelona from 16 to 18 March 1938 followed Mussolini's direct order from Rome to bomb 'the demographic centre' of the city.' The future chief of staff of the Italian Air Force, General Francesco Pricolo, wrote in 1938 that 'the effective arm of the air fleet is terror.' Like Douhet, Pricolo was attracted to the 'decisive power' of an air force to secure victory.[25]

Although the attack against Guernica is better known, owing to Pablo Picasso's powerful depiction, the Italian raid on Barcelona was designed to produce comparable effects – the deliberate killing of hundreds of civilians.

During World War II, air power certainly served direct military purposes, as the Allies first achieved air superiority against the Germans in North Africa and then were able to use aircraft for close support of ground troops.[26] But both British and US air commanders – and too often their political superiors – imagined that they could deal their enemies a "knock-out blow" with air power alone. The consequences for civilians in Germany and Japan were devastating. The toll in Europe of civilians killed by aerial attack numbered some 600,000; in Japan perhaps 500,000, with over 100,000 killed in a single night raid on Tokyo on 9-10 March 1945.[27] With the end of the war, the US Strategic Bombing Survey demonstrated that what Robert Pape has called a strategy of punishment directed mainly at civilians yielded little positive impact on military victory and was often counterproductive.[28] Yet the advent of high-yield nuclear weapons revived hopes among air-power enthusiasts that bombing could win wars quickly, if not deter them altogether.



This map of Japan shows the principal industrial cities which were burned out by B-29 incendiary attacks. Figures indicate what percent of the city was destroyed. For comparison, each city is paired with U.S. city of approximately the same size.

The continuing attraction of punishing civilians

Nuclear war aside, in the United States two trends militated against military strategies focused on direct destruction of civilian objectives that had characterized World War II and the Korean War. No longer operating in a context of "total war," where the entire society was mobilized to fight, postwar US leaders rarely sought to apportion guilt to ordinary citizens of the opposing belligerent for their leaders' actions. The revenge motive that so often inspired Churchill's support for bombing German cities played little role in the calculations of US leaders in their wars of the second half of the 20th century – not least because US adversaries were typically too far away or weak to carry out attacks that would inspire revenge.[29]

Still US Air Force officials often appear congenitally unable to resist the temptation to embrace punitive bombing strategies. Even if they foreswear direct attacks against the population, they consider it important that the military effects of bombing make civilians' lives difficult. The views of Major General (ret.) Charles Dunlap, former deputy advocate general of the US Air Force, are not uncommon: "Experience shows that the erosion

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of the 'will' of an adversary through the indirect effects of aerial bombardment on civilians is a key element of victory in modern war."[30]

Consider the Kosovo War. When the North Atlantic Treaty Organization launched its first war ever in March 1999 against Serbia over that country's treatment of ethnic Albanians in the province of Kosovo, its strategy was to bomb Serbia to induce its leader Slobodan Milošević to withdraw his forces. The campaign would be "zero-casualty" for the NATO side. Not so for Serbia. In the negotiations that preceded the war, US Air Force Lieutenant General Michael Short was brought in to issue an ultimatum to the Serbian team. According to what he later claimed in an interview, he told his counterparts,

you can't imagine what it's going to be like. The speed and the violence and the lethality and the destruction that is going to occur is beyond anything that you can imagine. If, indeed, you're not going to accept my terms, we need to break this meeting right now. I suggest you go outside, get in your car and ride around the city of Belgrade. Remember it the way it is today. If you force me to go to war against you, Belgrade will never look that way again -- never in your lifetime, or your children's lifetime. Belgrade and your country will be destroyed if you force me to go to war.[31]

This was no bluff. Short preferred bombing Belgrade to directly attacking the Serbian Third Army in Kosovo, and his staff had identified several hundred targets, including bridges, the electrical grid, and a television and radio station. When General Wesley Clark, the supreme allied commander, asked what Short would recommend if Milošević responded to NATO's war by accelerating "ethnic cleansing" of Albanians (as he did), he replied, "I'm going to go after the leadership in Belgrade." Short later recalled "General Clark nodding, and there was general acceptance that that was the right answer."[32]

Later, in the wake of the ostensibly accidental targeting of the Chinese embassy, when Short was obliged to explain to the press his rationale for bombing Belgrade, he said, directing his comments to "the influential citizens of Belgrade,"

if you wake up in the morning and you have no power to your house and no gas to your stove and the bridge you take to work is down and will be lying in the Danube for the next 20 years, I think you begin to ask, "Hey, Slobo, what's this all about? How much more of this do we have to withstand?" And at some point, you make the transition from applauding Serb machismo against the world to thinking what your country is going to look like if this continues.[33]

Short seemed unaware that Belgrade had been the site of months of extensive mass protests against the Milošević dictatorship, to no effect, and that the NATO bombing had hit some of the most anti-Milošević areas of Serbia, such as Nis and Novi Sad, depriving them of electricity and killing many civilians.



NATO bombing of Serbia, 1999

In subsequent US wars, according to Neta Crawford, the United States made deliberate efforts to avoid civilian casualties by

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institutionalizing practices to prevent excess harm. Yet in the dozen years of "post-9/11" wars covered in her study, she tallies more than twenty thousand civilian deaths that she characterizes as "systemic" and foreseeable.[34] The aerial attacks, siege, and invasion of Fallujah in November 2004, carried out in retaliation for the killing of US private security contractors, were particularly destructive of civilian life and property -- not least because the focus of the initial assault was the Fallujah General Hospital. [35] According to one US Marine participant, the rules of engagement were based on the "assumption that everyone in the city was hostile."[36]

Relative to the conventional military practices of the wars in Iraq and Afghanistan, civilian harm from drone attacks has been considerably less. But as US President Barack Obama has acknowledged, "much of the criticism about drone strikes — both here at home and abroad — understandably centers on reports of civilian casualties,"with US government estimates far lower than anyone else's. As far as intentions are concerned, the President insisted that the targets are never civilians, but "terrorists who pose a continuing and imminent threat to the American people." [37] Evaluating that claim depends a good deal on definitional issues – who qualifies, or fails to qualify, as a civilian, a topic taken up in the next section -- as well as what constitutes "imminent."

The impossibility of nuclear deterrence without civilian harm

Nuclear weapons have not killed anyone – civilian or military - in war since 1945, although the deaths attributable to uranium mining, weapons manufacture, and nuclear tests and accidents are considerable.[38] Moreover, the hair-raising close calls from nuclear accidents and nuclear brinkmanship during Cold War crises make non-use seem more a matter of good luck than good judgment or management.[39] Regarding the potential harm they pose to civilians, if used in war, one can point to at least one hopeful change that attended the end of the Cold War and the US-Soviet nuclear arms race – much lower numbers of weapons, thanks to the treaties signed by the United States and Russia. Unfortunately, however, given the unpredictable climatic effects of a nuclear war, the consequences of firestorms that widespread detonations of nuclear warheads in urban areas would cause, and the worldwide dispersal of toxic radiation, there are surely still enough weapons to merit concern about the risk of destroying life on the planet.[40] Other changes, advocated and anticipated, such as taking nuclear-armed ballistic missiles off of high alert, have not come to pass. Hair-trigger alerts make the prospect of inadvertent war more likely, but speak only indirectly to questions of civilian harm. Ironically, proposals for gradually reducing the level of US nuclear weapons down to a "minimum deterrent" implicitly or explicitly depend on making sure that the remaining weapons can kill "enough" civilians – the source of the weapons' purported deterrent effect, after all. Low numbers of nuclear weapons all targeted against an enemy's ships at sea or missile silos in an isolated desert, for example, would presumably not deter as much.[41]

Changing Legal and Ethical Norms

The third trajectory of aerial bombardment to trace, in addition to technology and the extent to which civilians are targeted, relates to the legal and ethical norms governing the practice. Even more so than in the other two areas, the word "trajectory" – to the extent it implies a predictable or smooth course – is a misnomer. The jus in bello principles of distinction and proportionality which the Just War tradition provided to govern treatment of civilians during armed conflict waxed and waned in their importance as guides to bombing practices from Gavotti's time to the present.

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No simple story fits the developments. We might consider World War II and the Korean War as a nadir, with no legal or moral foundation for sparing civilians from aerial attack and no intention to do so on the part of the belligerents. And we might recognize gradual improvements in the legal restraints, and states' growing recognition thereafter of their obligations to avoid civilian harm. Yet we still see US Air Force officials, such as Generals Dunlap and Short, justifying pressure on civilians as a desirable side benefit of attacking certain types of broadly defined military objectives. Is there a legal basis for their reasoning? Clearly we are still faced with the reality of nuclear weapons. To the extent that they produce a deterrent effect, it is premised on fear of mass slaughter of innocents. Can such weapons possibly be legal?

Drones complicate this picture in several ways. Their increased accuracy has theoretically made conformity with in bello principles more feasible, but disagreements are rife about what – or really who – constitutes a legitimate target. Meanwhile the relative ease of drone attacks, which the United States conducts far from sites of recognized armed conflict, has weakened compliance with ad bellum norms governing the use of force. It is simply too easy for the US to engage in armed conflict.

Early efforts at legal restraints on bombing

At the dawn of air power it is fair to say that the legal landscape was quite barren. The Hague Convention, adopted in 1899 and revised in 1907, prohibited "attack or bombardment of towns, villages, habitations or buildings which are not defended" (Article 25) and required the attackers to warn the relevant authorities on the other side in advance (Article 26) and to take all necessary steps "to spare as far as possible edifices devoted to religion, art, science, and charity, hospitals, and places where the sick and wounded are collected, provided they are not used at the same time for military purposes" (Article 27). These prohibitions applied only to the signatories of the conventions in their interactions with each other, not in their colonial territories or elsewhere.[42] Moreover, the criterion that a population center be undefended in order to be spared bombardment left a rather large loophole, as the presence of any troops or military facilities might disqualify it, as could, arguably, its location in the rear of a belligerent state as the armed forces were fighting on the front lines.

The closest states came in the interwar period to regulating air warfare came in 1923 at The Hague, where articles of a draft treaty were worked out, but never approved. Reviewing the key elements demonstrates just how far the practices of World War II violated them, but also how much they resemble current legal norms and customary rules.

- Aerial bombardment for the purpose of terrorizing the civilian population, of destroying or damaging private property not of a military character, or of injuring non-combatants is prohibited. (Article 22)
- Aerial bombardment is legitimate only when directed at a military objective, that is to say, an object of which the destruction or injury would constitute a distinct military advantage to the belligerent. (Article 24-1)
- Such bombardment is legitimate only when directed exclusively at the following objectives: military forces; military works; military establishments or depots; factories constituting important and well-known centres engaged in the manufacture of arms, ammunition, or distinctively military supplies; lines of communication or transportation used for military purposes. (Article 24-2)
- The bombardment of cities, towns, villages, dwellings, or buildings not in

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> the immediate neighborhood of the operations of land forces is prohibited. (Article 24-3)

The next attempt at governing aerial bombardment came in a conference on disarmament held in Geneva from February 1932 to the beginning of 1934. Although its opening coincided with news of the Japanese bombing of Shanghai, that impetus was not enough to overcome the complications of fashioning a treaty on general disarmament, of which bombers were only a part. Moreover, much had changed in the years since The Hague meeting, including – for aviators and air power theorists – the very idea that there was a meaningful distinction between the front and the rear. Few believed anymore, in the words of the 1923 draft, that bombing could be limited to "the immediate neighborhood of the operations of land forces."

Ultimately the negotiations in Geneva failed, including the efforts aimed at restricting bombers or banning them outright. In the wake of the failure, the International Committee of the Red Cross began seeking alternative ways to protect civilians -- for example, by designating towns against which bombing would be prohibited (villes sécurisés or villes de sécurité) or areas within towns (localités sécurisées or zones sanitaires). Although the proposals drew on the somewhat positive experience of protecting parts of Madrid and Shanghai during their recent experiences of bombardment, they did not make any headway.[43]

In the absence of any formal agreement, in June 1938 British Prime Minister Neville Chamberlain issued a unilateral statement to Parliament outlining British policy on bombing. The formulation is worth considering in light of subsequent British practices:

- In the first place, it is against international law to bomb civilians as such and to make deliberate attacks upon civilian populations…
- In the second place, targets which are aimed at from the air must be legitimate military objectives and must be capable of identification…
- In the third place, reasonable care must be taken in attacking those military objectives so that by carelessness a civilian in the neighborhood is not bombed.[44]

Three months later the League of Nations adopted nearly identical wording as the basis of its resolution on bombing. What is striking about the British statement is that, unlike the unsuccessful 1923 Hague regulations (Article 24-2), it left undefined such key terms as "legitimate military objectives." It implied an outright ban on harming civilians – with no mention of proportionality or double effect. The redundant British language – "reasonable care must be taken…so that by carelessness a civilian in the neighborhood is not bombed" becomes in the League's version the provision that military forces must ensure that "civilian populations in the neighborhood are not bombed through negligence."[45] Such blanket proscriptions risked breeding cynicism among military officials who knew that it was impossible to completely protect civilians from harm during military operations. Were the governments serious about protecting all civilians from the effects of bombing, simply by avoiding carelessness or negligence?

Despite the absence of formal legal norms on bombing, there remained a widely held sentiment against intentional killing of civilians. It was evident in the popular response to the destruction of Guernica in 1937 and in the reactions of British and US leaders to the German air campaign of 1939 and the Japanese attacks in Manchuria and Chungking. Winston Churchill, now Britain's prime minister, condemned Hitler's bombing of Warsaw and Rotterdam as "a new and odious form of attack" – although not in principle much different from

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Britain's bombing of Kurdish villages under Churchill's command a couple of decades earlier -- and vowed that his government would not "bomb nonmilitary objectives, no matter what the policy of the German Government may be." The US government issued a statement in response to Japan's bombing campaign, reinforcing its view that "any general bombing of an extensive area wherein there resides a large populace engaged in peaceful pursuits is unwarranted and contrary to the principles of law and humanity." At the outbreak of World War II, President Franklin Roosevelt invoked both the legal prohibition of the Hague Conventions and the broader moral principle of civilian immunity when he addressed "an urgent appeal to every government which may be engaged in hostilities publicly to affirm its determination that its armed forces shall in no event and in no circumstances, undertake the bombardment from the air of civilian populations or of unfortified cities."[46]



Lübeck, 1942

Leaving cities and legal restraints in ashes

The story of the rather rapid abandonment of those norms has been told well elsewhere.[47] One element worth highlighting is the strong motive for some Allied leaders of revenge for German or Japanese actions (and vice versa). Its closest legal counterpart is reprisal – although, technically, reprisals are supposed to be intended to coerce the other side into coming back into compliance with the law rather than to serve as a declaration that legal restraints no longer apply. To the extent that political leaders and publics believed that civilians should be immune from direct attacks, however, they also believed that such immunity disappeared as soon as the enemy side deliberately attacked civilians. And the Germans managed to kill some 43,000 British civilians during the Blitz of 1940-1941. Ironically, the first German bombing of civilians in London on 24 August 1940 happened "accidentally," as the group's intended targets were fuel depots along the Thames and at Rochester. Churchill responded the next day by ordering a series of raids against industrial and residential areas of the German capital, Berlin. Hitler, in turn, launched reprisal attacks against London.[48]

Churchill's penchant for revenge played some role in the subsequent escalation of Allied bombing. It was evident even when British lives were not at stake. In June 1942, for example, he and the ministers who formed his war cabinet learned that the Nazis had destroyed the villages of LidiceandLežáky in occupied Czechoslovakia and killed some 1,300 civilians in retaliation for the assassination of Nazi official Reinhard Heydrich. Churchill proposed that British bombers attack and "wipe out" three German villages in retaliation. Some of his colleagues supported the proposal, whereas others argued that larger towns should be the target. The main arguments against the proposal centered on pragmatic concerns, the diversion of bombing resources from military purposes. As the historian who reported on the discussion suggests, "it is a measure of how quickly total war had eroded traditional scruples in Britain that, even given the horrendous nature of Nazi excesses, the War Cabinet could discuss killing noncombatants at all – and that some of its most important

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members could seriously entertain doing so."[49]

By 1943 reluctance to harm noncombatants was no longer evident (except among a small number of civilians, such as Vera Brittain, who persistently criticized indiscriminate bombing, and certain religious leaders still committed to Just War principles).[50] That year a joint US-British operational plan for aerial bombardment envisioned "the progressive destruction and dislocation of the German military, industrial, and economic system, and the undermining of the morale of the German people to a point where their capacity for armed resistance is fatally weakened."[51] Allied leaders appeared to disregard completely the distinction between combatants and civilians. Some evidence conveys the impression that they sought to punish the latter for supporting aggressive dictatorships. This impression is strongest in Churchill's pronouncements, as when in 1943 he told the US Congress to "begin the process so necessary and desirable of laying the cities and the other military centres of Japan in ashes, for in ashes they must surely lie before peace comes to the world."[52] The fire bombing of cities such as Hamburg, Dresden, and Tokyo, with tens of thousands of victims each, made no distinctions between civilians and combatants.[53]

The limits of legalization

From the nadir of World War II, a number of observers have argued that the United States has become increasingly sensitive to civilian casualties of its wars and has acknowledged legal obligations to reduce civilian harm. Neta Crawford has made the case that the US military involvement in Vietnam marked a turning point, when carpet bombing and incendiary attacks with napalm killed more than a million Vietnamese, Cambodians, and Laotians.[54] By this account, US citizens were horrified at the policies of their government and their protests eventually made the White House and the Pentagon pay attention.[55] According to Crawford, the armed forces institutionalized new rules and procedures to improve compliance with the laws of war, especially those governing harm to civilians. The new approach emerged most clearly in practice during the air war against Iraq in 1991.[56] Other authors – most notably Janina Dill and Henry Shue – would agree that there has been a certain "legalization" of US practices, in the sense that military lawyers are increasingly involved in advising practitioners on the basis of their interpretation of legal requirements. Yet the legalization of US bombing practices has not necessarily led to greater protection to civilians because of the permissive way US officials have interpreted legal provisions that are notoriously indeterminate. Crawford's summary assessment of the 1991 war suggests that the views of the three authors are not so far apart: "The 1991 Gulf War is an important milestone in the institutionalization of concern for noncombatants, but at the same time illustrates how military necessity was understood permissively to allow for collateral damage."[57] Yet it is still worth exploring their differences.

What is the relevant law? Following World War II, the main developments in the laws of war – the Geneva Conventions of 1949 – concerned protections for wounded soldiers and sailors, prisoners of war, and civilians caught up in war (especially under military occupation). They did not deal with targeting of military objects or aerial bombardment. Moreover, thanks to the efforts of the United States, the 1949 Geneva Conventions had nothing to say about nuclear weapons – the most revolutionary military development to emerge out of the war.

Not until 1977 did we see the first serious success at codifying restrictions on bombing by emphasizing the principle of distinction and the protection of civilians: the First Additional Protocol of the 1949 Geneva Conventions. But it was a partial success, and not only because it still failed to provide a list of legitimate military

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objectives, as in Article 24-2 of the 1923 draft Hague rules. The United States and many other active military powers did not sign or ratify the protocol, implicitly rejecting the international attempt to constrain the use of air power through law. This judgment is somewhat in tension with Crawford's argument of a newfound US appreciation for the law. Eventually the United States came to recognize much of the First Additional Protocol as enjoying the status of customary law, but it did not want to bind itself by signing and ratifying the document.

Janina Dill, in her impressive study, Legitimate Targets, describes, as Crawford does, a growing legalization of US bombing practices. But she doubts whether those practices actually comply with what the law intends – and in any case she finds the law so indeterminate that US authorities can interpret it in such a way as to vitiate its purpose. Recognizing that deliberate attacks against civilians are clearly illegal, Dill focuses her attention on the law governing attacks on objects, including ones such as electricity grids, bridges, and other infrastructure[58] that profoundly affect civilian well-being, and – as we have seen – were the preferred targets of the US Air Force in Serbia, as well as in the earlier 1991 war against Iraq. She argues that to comply with the relevant law governing military objects – primarily Article 52(2) of the First Additional Protocol – states must adopt a "logic of sufficiency." In striving to observe the principles of distinction (between military and civilian objects) and proportionality when deciding what to attack, "belligerents have to bracket their larger political goals or moral aspirations" -- what Dill calls "sequencing." They must "sharply distinguish objects and persons directly connected to the competition among enemy militaries from everything else, which is immune from direct attack." This she calls "containment."[59]

Clearly the statements of US Air Force officers such as Dunlap and Short regarding pressure on civilians would lead us to doubt that they favor a logic of sufficiency. Dill's extensive research, including dozens of interviews with military officials at all levels, suggests that they embrace a different logic – one that resonates with General Short's remarks about the Kosovo War. Despite the fact that the United States has increasingly involved legal experts in choice of targets, those targets reflect a "logic of efficiency" -- one that seeks not "generic military victory" but broader political goals. The most prominent one is "regime change," a key goal in both US wars against Saddam Hussein's Iraq as well as the one against Milošević's Serbia.

In simple terms, under the logic of efficiency, the military campaign is intended to put pressure on the civilians to overthrow the dictator and eliminate the threat he poses. This interpretation is consistent with General Short's reluctance to "contain" military actions to engagement with Serbia's Third Army in favor of frightening and demoralizing civilians in Belgrade. It also fits the two US wars against Iraq. In 1990-1991, Iraq had invaded and occupied Kuwait and was, by some lights, threatening Saudi Arabia. Instead of limiting attacks to Iraqi forces in Kuwait, the United States launched a devastating attack against Baghdad. In the 2003 invasion of Iraq, the goal was ostensibly to find and destroy weapons of mass destruction and prevent state support of terrorists, but the means was to terrorize Saddam Hussein's supporters (and opponents) by destroying Baghdad again.

One gets the impression that US military officials are aware of the extent to which they stretch the law to make it fit their goals of politically efficient wars, even at the expense of civilians. Evidence comes in the way they effect subtle changes to the language of the relevant legal instruments as they paraphrase them. Consider the authoritative document issued in 2013 by the Chair of the US Joint Chiefs of

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Staff, Joint Targeting. In an appendix devoted to the law, the authors write: "civilian populations and civilian/protected objects may not be intentionally targeted, although there are exceptions to this rule." In fact, there are no exceptions in the modern laws of war to the prohibition on intentional targeting of civilians. Further the authors state that "acts of violence solely intended to spread fear among the civilian population are prohibited." What is particularly insidious about this passage is that it is a close but deceptive paraphrase of the 1977 First Geneva Protocol's Article 51(2), which reads in part: "Acts or threats of violence the primary purpose of which is to spread terror among the civilian population are prohibited." The substitution of "sole" for "primary" would allow the targeting of dual-use objects where terror was the primary, but not the sole purpose, because a secondary purpose would be destroying the object for its military utility.[60]

Permissiveness in interpreting legal rules

The manipulation of the legal language in this fashion – and there are many such examples – suggests that remarks by commanders such as General Short are not simply their personal opinions, but are grounded in a certain understanding of what the US military authorities regard as legally permissible, one that is at variance with what most international legal specialists outside the United States would accept. Henry Shue has characterized the US approach as permissiveness. He describes it as "a recent deep tendency that cuts across both American torture and American warfare, namely, a loosening of restraints produced through the unilateral redefinition of pivotal terms in international law that are understood much more strictly by most societies other than America."[61] It is testimony to the discursive power the United States wields that a popular English-language website on the laws of war provides not the accepted international view but the minority US interpretation of key principles – for example that it is prohibited to attack civilians "for the sole purpose of terrorizing them," and that in attacking military objectives commanders must "to the extent consistent with military necessity, seek to avoid or minimize civilian casualties and destruction."[62]

The notion that US norms governing targeting (and torture) are becoming increasingly permissive of harm to (mainly) foreigners is at some variance with views that highlight a greater US popular, and consequently official, concern about killing innocent civilians. Crawford and Miller both date the concern to the Vietnam War protest movement. Dill also suggests that the US approach to war constitutes a response to public attitudes that find civilian casualties repugnant and are also averse to losses among combatants. She connects these attitudes to growing moral concerns about individual rights, which other scholars have associated with a human-rights revolution of the second half of the 20th century. US military strategies, such as "effects-based operations" and "shock and awe," seek to end war quickly, much as early pioneers of air power such as Giulio Douhet always promised, but at potentially great cost to individual lives of civilians.

The focus on individual rights finds a curious reflection in the main strategy governing the US use of armed drones: targeted killing.[63] Although the process is highly secretive, journalists have managed to find out quite a lot about how the Obama administration determines whom to kill with drones. It follows what Dill has called a "logic of liability," identifying individuals it considers guilty of participating in terrorism or insurgency and seeking to kill only them, with weapons that are touted for their precision. The president himself is directly involved in approving the kill list.[64]

President Obama seemed to invoke something

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like Dill's logic of liability in a major speech in May 2013, when he finally addressed questions about his administration's policy on drones. The speech came in the wake of revelations about the targeted killing of several US citizens, including Anwar al-Awlaki, a propagandist for al-Qaeda, and (in a separate attack) his 16-year old son, and ongoing concerns about civilian casualties. Obama's speech offers numerous rationales for the targeted killing program, but what is particularly noticeable was his promise regarding future drone use: "before any strike is taken, there must be near-certainty that no civilians will be killed or injured — the highest standard we can set." Indeed, this is an impossibly high standard, as the president seems to acknowledge three sentences later: "it is a hard fact that U.S. strikes have resulted in civilian casualties, a risk that exists in every war." Yet he returns to the logic of liability, averring that "by narrowly targeting our action against those who want to kill us and not the people they hide among, we are choosing the course of action least likely to result in the loss of innocent life."[65]

Persistent barriers to protecting civilians

Have we then come full circle in the legal requirements for protecting civilians from the harm of bombing? Perhaps we have achieved a consensus – with some quibbles from US Air Force representatives – that Neville Chamberlain and the League of Nations were right: "it is against international law to bomb civilians as such." Moreover, President Obama, at least regarding his drone strikes, has made a blanket statement much in the spirit of the League's 1938 one to guarantee that "civilian populations in the neighborhood are not bombed through negligence."

Three matters remain to keep us from finding comfort in this turn of events: 1) under the Obama administration, the definition of who deserves protection as a civilian shrunk considerably from the one familiar to us from international law – in Shue's terms the US government has adopted a highly permissive definition of who constitutes a legitimate target; 2) there are still thousands of nuclear weapons in the world, plans to use them, and no accepted legal barrier to doing so; and 3) the ready resort to war as an instrument of US foreign policy means that if there are too many wars underway – a reasonable assessment – then there are too many civilians being killed, even if the number per conflict has declined since the era of total warfare.

In considering international law governing drone strikes we confront a definitional issue, a disagreement over who counts as a civilian, or perhaps we should say who does not count as a civilian. Among the terms we come across in various investigative reports and daily media stories are "terrorist," "militant" or "enemy." These are not legal terms, certainly that are not the terms found in the various treaties governing warfare. The relevant text for assessing the legality under international humanitarian law of targeted killings is the First Geneva Protocol (1977), Article 51(3): "Civilians shall enjoy the protection afforded by this section, unless and for such time as they take a direct part in hostilities." In 2009, the International Committee of the Red Cross issued an Interpretive Guidance, providing its views on the notion of "direct participation in hostilities," but it failed to resolve the most controversial issues.[66] As a former CIA lawyer put it, "What does 'take a direct part in hostilities' mean? You can't target someone just because he visited an Al Qaeda Web site. But you also don't want to wait until they're about to detonate a bomb. It's a sliding scale."[67]

The strongest critiques of drones claim that their use in Pakistan, Yemen, Somalia, and elsewhere constitutes multiple violations of international humanitarian law. According to most assessments, there was no legally recognized armed conflict on Pakistan's

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territory, as there was in Afghanistan and Iraq. Killing without warning is legally acceptable only during the hostilities of an armed conflict. The CIA operatives who carry out the drone attacks – not to mention the private security contractors who work with them – are not lawful combatants and are therefore engaging in murder.[68] Moreover under the Obama administration the target list of those eligible for long-distance killing was expanded beyond insurgents and terrorist suspects, to include drug traffickers, according to the New York Times. Relying on anonymous US government sources it reported in August 2009 that "Fifty Afghans believed to be drug traffickers with ties to the Taliban have been placed on a Pentagon target list to be captured or killed."[69]

In the United States, the narrowing of the category of civilian noncombatant who should be protected from attack continues apace. In its 2015 law of war manual, the US Department of Defense appeared to weaken the constraints on attacking civilians used as "human shields," for example, arguing that some of them took on those roles voluntarily.[70] The manual's treatment of journalists, equating them with spies and combatants, provoked a rebuke from the New York Times:

Journalists, the manual says, are generally regarded as civilians, but may in some instances be deemed "unprivileged belligerents," a legal term that applies to fighters that are afforded fewer protections than the declared combatants in a war. In some instances, the document says, "the relaying of information (such as providing information of immediate use in combat operations) could constitute taking a direct part in hostilities."[71]

Taking the presumed threat posed by civilians even further, an assistant professor of law at the US military academy at West Point proposed that disloyal professors in one's own country could also legally be treated as unprivileged belligerents and subject to attack. His analysis was dismissed as "bonkers" by a fellow neoconservative.[72]

Even without questioning the definitions of who counts as a civilian, observers have long doubted whether the Obama administration's policies followed the principles of distinction and proportionality. One of the earliest and strongest critics was David Kilcullen, chief counter-terrorism adviser to former Secretary of State Condoleezza Rice during the Bush administration. He claimed in May 2009 that "over the last three years drone strikes have killed about 14 terrorist leaders. But, according to Pakistani sources, they have also killed some 700 civilians. This is 50 civilians for every militant killed, a hit rate of 2 percent — hardly 'precision.'"[73] In his view, the administration was clearly not adhering to the norm of proportionality.

Journalists who have inquired into the process by which the United States determined its targets for drone strikes – the only way to know whether the principles of distinction and proportionality are being honored, given the secrecy that enshrouds the program – have described a highly centralized system. It was so centralized, in fact, that the ultimate decision for choosing targets – among them, US citizens – rested with President Obama himself. According to a detailed and well-documented account by the New York Times, the Obama administration's approach "in effect counts all military-age males in a strike zone as combatants, according to several administration officials, unless there is explicit intelligence posthumously proving them innocent."[74] In other words, the CIA and Pentagon assumed that people in a given area were combatants, unless someone convinced them after the attack that they have killed innocents. It is not surprising, then, that there is such a discrepancy between the Obama administration's claims of very few civilian casualties and its critics' protestations that civilians have suffered disproportionately. It is

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all a matter of definition. As the Times reported, "counterterrorism officials insist this approach is one of simple logic: people in an area of known terrorist activity, or found with a top Qaeda operative, are probably up to no good."[75] This is a far cry from the Geneva Protocol's requirement that civilians be protected "unless and for such time as they take a direct part in hostilities."

Recently journalists have been making a different kind of calculation. Based in part on leaked documents they have been comparing the number of specific people targeted for drone strikes to the number actually killed before those targeted people were successfully killed. So The Guardian newspaper, for example, gave a ratio of 41 targeted to 1,147 killed.[76] The Intercept reported from government documents that nearly 90 percent of the people killed by US drones strikes in 2012 and 2013, the years for which the journalists obtained documents, were not the originally intended target. They were nonetheless labeled Enemy Killed in Action, EKIA, after the fact.[77]

Defining everyone killed by a drone as an enemy is not a convincing way to demonstrate compliance with international law. Yet this is essentially the approach taken by defenders of the drone strikes, such as Michael Hayden, the retired US Air Force general and former CIA director. He acknowledged rare mistakes in killing innocent people and admitted attacking locations where the presence of the intended target was only suspected, and so others – EKIA -- were killed instead. "We made no excuses about killing lower-ranking terrorists," he wrote, because "in warfare it is regrettably necessary to kill foot soldiers, too."[78] The problem is that the people killed were not soldiers. Under international humanitarian law they are subject to the protections accorded civilians "unless and for such time as they take a direct part in hostilities" or if they can be identified as performing a "continuing combat function."[79] President Obama, along with Hayden, asserts that the people killed are all "terrorists who pose a continuing and imminent threat to the American people."[80] In the absence of adequate transparency about the standards the United States uses to choose its drone targets, however, it defies credibility that everyone killed was posing the threat of imminent attack against Americans. Moreover a "continuing and imminent threat" is a somewhat oxymoronic concept: the imminence of a threat usual precludes its continuation, because if it were imminent it would either be carried out or stopped, not continued.

In July 2016 the Obama administration released a long-anticipated set of guidelines for drone strikes, intended finally to provide some transparency to the process and resolve some of the doubts about selection of individuals for targeted killing. The timing of the press release -- on a Friday afternoon before a long holiday weekend -- suggested an expectation that the reports might fall short and disappoint critics, some of whom had suggested in advance the kind of information the guidelines should include. [81]

Most of the media commentary focused on the administration's low estimates of what were termed "non-combatant" deaths: between 64 and 116 – far lower than the lowest numbers documented by independent organizations.[82] They were contained in document produced by the US Director of National Intelligence (DNI), "Summary of Information Regarding US Counterterrorism Strikes Outside Areas of Active Hostilities." The DNI acknowledged the discrepancies between its estimates and those of nongovernmental organizations, but explained them on the basis of superior intelligence. It attributes the higher estimates in part to "the deliberate spread of misinformation by some actors, including terrorist organizations, in local media reports on which some non-governmental estimates rely." The US government uses its intelligence

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information "to determine whether an individual is part of a belligerent party fighting against the United States in an armed conflict; taking a direct part in hostilities against the United States; or otherwise targetable in the exercise of national defense." The last category would seem broad and vague enough to raise the sorts of concerns of permissiveness that Shue has identified. The jus ad bellum rules enshrined in the United Nations Charter for resort to military force are rather narrower and would presumably pose greater restrictions on bombing targets "outside areas of active hostilities," in effect using armed force against the territory of sovereign countries. As one analyst pointed out, "the DNI summary is not clear and specific enough about which are the 'areas outside active hostilities' and specifically how such areas are assessed and characterized." It only includes Afghanistan, Iraq, and Syria under that category. "Is everywhere else 'outside,' including all of Yemen and all of Pakistan at all times? On what basis?"[83]

At the opposite end of the spectrum from drones in explosive power, nuclear weapons surprisingly pose similar challenges to international law. Consider the problematic nature of the criterion President Obama adduced for when individuals could be attacked with drones -- only when they pose a "continuing, imminent threat to US persons." Assumptions about imminence of nuclear threat proved problematic – and dangerous -- during the Cold War, as well. The prospect, for example, of a short-notice or surprise attack, a "bolt from the blue," drove the United States and the Soviet Union to keep their nuclear weapons on hair-trigger alert. The forces were also geared to react quickly to an "imminent" attack to such an extent that the operational strategies for their use began to look more like preemption than retaliation.[84]

Asymmetries of power and the limits of law

Both nuclear weapons and drones reflect asymmetries of power ever present in the international system and characteristic of earlier eras in the history of bombing. The Turks and Arabs in Libya in 1911 had no means to defend themselves against Giulio Gavotti's attack. Likewise the countries and people targeted for drone strikes deploy no modern antiaircraft systems – radar, anti-aircraft artillery or missiles, fighter-interceptor aircraft. Otherwise, the drones, which fly at subsonic speeds, would be vulnerable and unable to operate. Even though we think of the drones themselves as relatively inexpensive, and a potential great equalizer, they are not. They are part of a worldwide system of satellite reconnaissance, military bases, and intelligence-processing facilities that only rich countries can afford, much as only rich countries could deploy military airplanes a century ago.

In the nuclear domain this asymmetry influences our understanding of nuclear weapons' compliance with international law. On the one hand, the unequal relationship between the nuclear haves and have-nots is enshrined in the Nuclear Nonproliferation Treaty of 1970. It was reinforced by the 2015 framework agreement with Iran: the nuclear-armed members of the United Nations Security Council insisted on keeping Iran from developing nuclear weapons, without any limitations on the arsenals of the nuclear superpowers or the nuclear-armed states in Iran's neighborhood (Israel and Pakistan, for example). In the absence of nuclear disarmament by the "haves," as mandated by the treaty, the nuclear regime remains fundamentally unjust.

On the other hand, there have been efforts to apply standards of international humanitarian law to nuclear weapons. The most prominent was the case brought before the International Court of Justice in 1996. The fact that the judges would hear a case put forward by the

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United Nations General Assembly, when the Security Council is the body most obviously charged with overseeing matters of war and peace, was a source of encouragement to anti-nuclear activists, a hint that the power asymmetry between the Council and the Assembly could be diminishing. Yet the outcome of the case disappointed them. The judges' opinions seemed to converge on a common-sense understanding that most conceivable nuclear attacks would violate basic principles of discrimination and proportionality. They agreed unanimously, for example, that "a threat or use of force by means of nuclear weapons that is contrary to Article2, paragraph4, of the UnitedNations Charter and that fails to meet all the requirements of Article51, is unlawful." That did not constitute any kind of legal breakthrough, however, as the relevant articles already forbid any threat or use of force that is not carried out in self-defense or with the authorization of the Security Council.

The problem, however, is that nuclear-armed states that profess "deterrence" with nuclear weapons are posing a threat of their use if deterrence fails. And what gives that threat its potency is its terrorizing implications – not the destruction of military targets, but the wanton slaughter of people. So then the question becomes whether the use would be illegal even in self-defense, in which case the threat would also be illegal. The judges split seven to seven on a statement proposing that "the threat or use of nuclear weapons would generally be contrary to the rules of international law applicable in armed conflict, and in particular the principles and rules of humanitarian law," but that the "Court cannot conclude definitively whether the threat or use of nuclear weapons would be lawful or unlawful in an extreme circumstance of self-defence, in which the very survival of a State would be at stake." [85] The latter part of the statement is similar to an argument advanced by Michael Walzer in his celebrated Just and Unjust Wars – the notion of "supreme emergency" as a possible justification for indiscriminate mass murder of civilians.[86] Walzer's notion of supreme emergency is narrower than the Court's formulation, which suggests that any state facing defeat, if its leaders equate defeat with the "survival" of the state, can resort to the use of weapons whose indiscriminate or disproportionate effects would violate humanitarian law. And if those weapons, why not strictly illegal weapons as well, such as chemical or biological arms – if survival itself is at stake? If some states are allowed to use nuclear weapons when facing threats to their survival, should not all states have that right – to possess, threaten, and, in "an extreme circumstance," use nuclear weapons? Or do we bow again to the asymmetry of power and acknowledge that only the nuclear "haves" are allowed to ensure their survival by threatening nuclear annihilation of their enemies? Although Walzer's formulation of supreme emergency is indeed narrower than the Court's, it still constitutes a slippery slope of the same sort.[87]

A more recent recourse pursued by anti-nuclear activists has sought a link to law through the notion of "humanitarian consequences," and a series of international conferences with participation by most of the world's states (occasionally even some of the nuclear-armed ones).[88] As students of social movements would put it, they have sought to "graft" nuclear weapons onto a process that has seen the progressive stigmatization of a series of military technologies – from biological and chemical weapons, to anti-personnel landmines, to cluster munitions – yielding for each an international treaty banning the relevant weapons.[89] Yet there are reasons to doubt that such an effort will succeed, absent a genuine popular movement in its support. [90]

Let me close with a final paradox that brings together the elements of technology, harm to civilians, and the laws of war. The technical characteristics of drones permit their users to

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adhere more closely to jus in bello principles that protect civilians, even if highly permissive US targeting criteria in fact put civilians at risk; yet the ease of drone use for a rich, military superpower like the United States risks violation of ad bellum principles in the pursuit of endless war. In the meantime, drones aside, the United States – and the United States alone – remains engaged in multiple, simultaneous wars with old and new enemies, deploying its full panoply of bombs and other weapons. By May 2016, for example, the US-led coalition had dropped 41,697 bombs in its war against ISIS and the US Secretary of Defense planned to ask Congress for $1.8 billion to buy another 45,000 new ones. The commander of US forces in Korea complained that the "loss of cluster bombs could deplete the US military's stockpile in thePacific." By "loss," he did not have in mind the removal of these weapons from the arsenal because they violate the Convention on Cluster Munitions, signed by more than a hundred countries (but not the United States). He worried that they were being transferred to the Middle East for use against ISIS and would no longer be available to use in Asia.[91]

In contrast to the tens of thousands of conventional bombs dropped over the course of a couple of years, nuclear weapons have not been used in war since the destruction of Hiroshima and Nagasaki in 1945. Some observers optimistically believe there is a taboo against their use. If, however, nuclear weapons were used again, no matter how accurate their delivery systems, they would inflict vast damage on civilians, their environment, and future generations, and their use would clearly violate basic principles of discrimination and proportionality.[92]

Unfortunately these two variants – 1) frequent armed conflict with drones that inflict relatively little collateral damage or 2) the rare (we hope) prospect of a nuclear war that would devastate the planet – do not exhaust the possible types of war. The legacy of the global war on terror includes the ongoing "transnationalized" civil wars in Iraq and Afghanistan; violent unrest in Pakistan, Sudan, Somalia, Yemen, and Nigeria; the disastrous aftermath of "humanitarian intervention" in Libya; and the far-reaching consequences of armed rebellion, brutal state repression, terrorism, and foreign intervention in Syria. Even after a hundred years of evolution of technology and legal norms, civilians facing aerial bombardment and other forms of modern war cannot stake their survival on international law. It remains too thin a reed.

SPECIAL FEATURE

Perspectives on the Bombing of Civilians From World War II to the Present

Edited by Claire Andrieu and Mark Selden

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Marine Guillaume, Napalm in US Bombing Doctrine and Practice, 1942-1975

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Notes

[1] This is a revised version of a paper originally prepared for the conference, Civilians at Stake: Mass Violence in Asia and Europe from 1931 to the Present, Paris, 16-18 December 2015. I am grateful to the organizers of the conference and the participants who offered valuable comments, particularly Mark Selden, Neta Crawford, and Claire Andrieu. Thanks also to Janina Dill, Benoît Pelopidas, and Henry Shue for their close readings and suggestions, and to the participants of the Law and Libations colloquium at Cornell Law School.

[2] or a million times more powerful than a typical blockbuster. George Lewis (email correspondence, 16 June 2016) has pointed out that the largest nuclear weapon deployed by the United States – the B53 bomb or W53 for the missile warhead, with a yield of 9 megatons -- was nearly a million (0.9 million) times more powerful than the largest conventional bomb used in World War II, the British "Tallboy," at 10,000 kg. For information on nuclear arsenals and yields, see here.

[3] For discussion of these issues, see two publications of the Sciences Po, Mass Violence and Resistance -- Research Network: Bas von Benda-Beckmann, "England's sole responsibility? West German historians and the Bombenkrieg," 6 July 2016; and Johann Chapoutot, "'The Final Solution': The Term and the Plan," 28 February 2016.

[4] As a leading scholar of customary international law explains, "It is generally easier for more powerful states to engage in behavior which will significantly affect the maintenance, development, or change of customary rules than it is for less powerful states to do so." Michael Byers, "Custom, Power, and the Power of Rules --Customary International Law from an Interdisciplinary Perspective," Michigan Journal of International Law 17 (1995–1996), p. 115. For further discussion, see my introduction to Matthew Evangelista and Henry Shue, eds., The American Way of Bombing: Changing Ethical and Legal Norms, from Flying Fortresses to Drones (Ithaca, NY: Cornell University Press, 2014), from which some of this wording is borrowed.

[5] "Gavotti racconta del primo bombardamento aereo," quoting the letter of 1 November 1911, on the website of Corriere della Sera; Alan Johnston, "Libya 1911: How an Italian pilot began the air war era," BBC News, 10 May 2011; Marco Patricelli, L'Italia sotto le bombe: Guerra

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aerea e vita civile 1940-1945 (Roe: Editori Laterza, 2007), pp. 3-5.
[6] Richard. Overy, The Bombing War: Europe 1939-1945 (London: Penguin Books, 2013), p. 1681 (iBooks version).
[7] Sahr Conway-Lanz, Collateral Damage: Americans, Noncombatant Immunity, and Atrocity after World War II (London: Routledge, 2006).
[8] In the first years of US involvement in World War II, US bombing practices targeted militarily relevant facilities within cities, such as railroad junctures, and carried out strikes during daylight. By contrast, the British forces conducted obliteration bombing at night, when it was impossible to distinguish civilian from military targets. This US-British distinction should not be overdrawn, however, as the accuracy of the raids was such that US targeting of rail stations effectively meant aiming for the city center, and, in any case, by 1944-45, both Allies were simply trying to effect maximum destruction on cities. Henry D. Lytton, "Bombing Policy in the Rome and Pre-Normandy Invasion Aerial Campaigns of World War II: Bridge-Bombing Strategy Vindicated -- and Railyard-Bombing Strategy Invalidated," Military Affairs, vol. 47, no. 2 (April 1983), pp. 53-58. On the failure of US attempts at precision bombing during World War II, see Stephen F. McFarland, America's Pursuit of Precision Bombing, 1910-1945 (Washington, DC: Smithsonian Institution Press, 1995).
[9] Ibid.; Pierre-Etienne Bourneuf, Bombarder l'Allemagne : L'offensive alliée sur les villes pendant la Deuxième Guerre mondiale (Paris: Presses Universitaires de France 2014); Richard Overy,The Bombing War: Europe 1939-1945 (London: Penguin Books, 2013); Raphael Littauer and Norman Uphoff, eds., The Air War in Indochina, revised edition (Boston: Beacon Press, 1972).
[10] David Alan Rosenberg, "The Origins of Overkill: Nuclear Weapons and American Strategy, 1945-1960," International Security, vol. 7, no. 4 (Spring, 1983), pp. 3-71, at pp. 14-15; Edward Kaplan, To Kill Nations: American Strategy in the Air-Atomic Age and the Rise of Mutually Assured Destruction (Ithaca, NY: Cornell University Press, 2015).
[11] Donald MacKenzie, Inventing Accuracy: A Historical Sociology of Nuclear Missile Guidance (Cambridge, MA: MIT Press, 1990).
[12] Carol Cohn, "Sex and Death in the Rational World of Defense Intellectuals," Signs, vol. 12 (1987); see also Henry T. Nash, "The Bureaucratization of Homicide," Bulletin of the Atomic Scientists (April 1980).
[13] For the early development of "tactical" nuclear weapons in the US and USSR and the strategies for their use, see Matthew Evangelista, Innovation and the Arms Race: How the United States and the Soviet Union Develop New Military Technologies (Ithaca, NY: Cornell University Press, 1988).
[14] F.J. Dyson, R. Gomer, S. Weinberg, S.C. Wright, Tactical Nuclear Weapons in Southeast Asia, Study S-266, Institute for Defense Analyses, Jason Division, March 1967. A summary and link to the document.
[15] Hans M. Kristensen, "B61 LEP: Increasing NATO Nuclear Capability and Precision Low-Yield Strikes," 15 June 2011.
[16] For an analysis of these dynamics in the context of the Cold War, see Evangelista, Innovation and the Arms Race. For a recent evaluation, see Benoît Pelopidas, "A Bet Portrayed as a Certainty: Reassessing the Added Deterrent Value of Nuclear Weapons," in George P. Shultz and James E. Goodby, eds.,The War that Must Never Be Fought (Stanford:

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Hoover Press, 2015), pp. 14-19.
[17] Hans M. Kristensen, "General Cartwright Confirms B61-12 Bomb "Could Be More Useable," 5 November 2015; and "General Confirms Enhanced Targeting Capabilities of B61-12 Nuclear Bomb," 23 January 2014.
[18] Pelopidas, "A Bet Portrayed as a Certainty."
[19] Henry Shue, "Force Protection, Military Advantage, and 'Constant Care' for Civilians: The 1991 Bombing of Iraq," in Evangelista & Shue, eds., American Way of Bombing.
[20] "Gavotti racconta del primo bombardamento aereo."
[21] Donald Cameron Watt, "Restraints on War in the Air before 1945," ch. 4 in Michael Howard, ed., Restraints on War: Studies in the Limitation of Armed Conflict (Oxford, UK: Oxford University Press, 1979), p. 61.
[22] edn. (London: Palgrave Macmillan, 2004), p. 179. See also Yuki Tanaka, "British 'Humane' Bombing of Iraq during the Interwar Era," ch. 1 in Yuki Tanaka and Marilyn B. Young, eds., Bombing Civilians: A Twentieth Century History (New York: New Press, 2009). On the use of airpower in other colonies, see V.G. Kiernan, Colonial Empires and Armies, 1815-1960 (Montreal: McGill/Queen's Press, 1998), pp. 194-201.
[23] Rodolfo Sganga, Paulo G. Tripodi, Wray R. Johnson. "Douhet's antagonist: Amedeo Mecozzi's alternative vision of air power," Air Power History (Summer 2011).
[24] Reprinted as William Sherman, Air Warfare (Maxwell Air Force Base, AL: Air University Press, 2002), and discussed in Bourneuf, Bombarder l'Allemagne.
[25] Overy, Bombing War, pp. 1450-1451 (iBooks version).
[26] Robert S. Ehlers Jr., The Mediterranean Air War: Airpower and Allied Victory in World War II (Lawrence: University Press of Kansas, 2015).
[27] Mark Selden, "A Forgotten Holocaust: US Bombing Strategy, the Destruction of Japanese Cities and the American Way of War from World War II to Iraq," Japan Focus, 2 May 2007; Overy, Bombing War, p. 33 (iBooks version).
[28] Robert Pape, Bombing to Win: Air Power and Coercion in War (Ithaca, NY: Cornell University Press, 1996).
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[31] Interview with General Michael C. Short, Frontline, PBS, n.d.
[32] Ibid.
[33] William Drozdiak, "NATO General Predicts Victory in Two Months," Washington Post, 24 May 1999.
[34] Neta C. Crawford, Accountability for Killing: Moral Responsibility for Collateral Damage in America's Post-9/11 Wars (New York: Oxford University Press, 2013), esp. ch. 2.
[35] Richard W. Miller, "Civilian Deaths and American Power: Three Lessons from Iraq and Afghanistan," in Evangelista & Shue, eds., American Way of Bombing; Crawford, Accountability for Killing, pp. 288-293.
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[41] Matthew Evangelista, "Nuclear Abolition or Nuclear Umbrella: Choices and Contradictions in US Proposals," in Getting to Zero The Path to Nuclear Disarmament, Catherine McArdle Kelleher and Judith Reppy, eds. (Stanford, CA: Stanford University Press, 2011).
[42] The wording in this paragraph and parts of the subsequent discussion draw on Matthew Evangelista, Law, Ethics, and the War on Terror (Cambridge, UK: Polity, 2008), pp. 31-34.
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[49] Jonathan Schneer, Ministers at War: Winston Churchill and His War Cabinet (New York: Basic, 2014), pp. 100-101.
[50] Vera Brittain, "Massacre by Bombing: The Facts behind the British-American Attack on Germany," Fellowship, vol. 10, no 3 (March 1944); on the religious leaders, Batchelder, Irreversible Decision.
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[56] Crawford, "Targeting Civilians;" and Accountability for Killing, pp. 190-202.
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[61] See Henry Shue, "Target-selection Norms, Torture Norms, and Growing US Permissiveness," ch. 4 in his Fighting Hurt: Rule and Exception in Torture and War (Oxford: Oxford University Press, 2016). The quotation comes from the Introduction, p. 4.
[62] Rod Powers, "Law of Armed Conflict (LOAC) – The Rules of War," (emphasis added). The author, identified as a "US Military Expert," is elsewhere described as "a retired Air Force First Sergeant with 22 years of active duty service," and author, among other works, of Veterans Benefits for Dummies, and Basic Training for Dummies.
[63] For a multifaceted discussion, see Claire Finkelstein, Jens David Ohlin, and Andrew Altman, eds., Targeted Killings: Law and Morality in an Asymmetrical World (Oxford: Oxford University Press, 2012).
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[65] Obama, "Obama's Speech on Drone Policy."
[66] International Committee of the Red Cross, "Direct participation in hostilities: questions & answers," 2 June 2009.
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[80] Obama, "Obama's Speech on Drone Policy."
[81] White House, Office of the Press Secretary, "Executive Order -- United States Policy on Pre- and Post-Strike Measures to Address Civilian Casualties in US Operations Involving the Use of Force," and "FACT SHEET: Executive Order on the US Policy on Pre & Post-Strike Measures to Address Civilian Casualties in the US Operations Involving the Use of Force & the DNI Release of Aggregate Data on Strike Outside Area of Active Hostilities," 1 July 2016. In advance of release of the documents some useful discussions appeared on the Just Security website: Rita Siemion, "The Upcoming Release of Obama's Targeted Killing Policy and Casualty Numbers," 24 June 2016, https://www.justsecurity.org/31654/upcoming-release-obamas-targeted-killing-policy-casualty-numbers/; Jameel Jaffer, "A Less-Secret Drone Campaign," 27 June 2016.
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[84] See the discussions in Henry Shue and David Rodin, Preemption: Military Action and Moral Justification (Oxford: Oxford University Press, 2010), particularly the chapters by Marc Trachtenberg and Suzanne Unlacke.
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[88] For an idea of how the conferences work, see the website of the Vienna Conference on the Humanitarian Consequences of Nuclear War; for the perspective of a long-time activist, see Rebecca Johnson, "Gathering speed to ban nuclear weapons," 8 December 2014 and "Nuclear survivors' testimony: from hell to hope," openDemocracy website, 9 December 2014.

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[91] Marcus Weisgerber, "The US is Raiding its Global Bomb Stockpiles to FightISIS," Defense One, 26 May 2016. I am grateful to Judith Reppy for calling this report to my attention.

[92] If nuclear weapons were used against an isolated submarine or aircraft carrier, they would not produce such effects, but their use for a strictly military purpose would certainly undermine the notion of a taboo.

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