Technology and culture have interacted no more consequentially than in warfare and weapons. The development of the chariot, first by the Hittites and then by the Egyptians, shaped the history of the ancient Near East. The effects in Europe of the introduction of gunpowder ordnance are well-known; and the gunned man-o’-war led to European global hegemony, with both its modernizing and doleful consequences. During the nineteenth and twentieth centuries the pace of innovation in military technology quickened: dreadnoughts, the explosive shell, rapid-firing ordnance, the tank, self-propelled vehicles, the warplane, and weapons of mass destruction.

Traditionally, innovations in military technology were played out on the field of battle—soldier against soldier. But even then there were ambiguous legal and ethical issues: the definition of a soldier, the distinction between regular and irregular armies, the rights of prisoners of war, and the protection of noncombatants. Before international laws of war were conventionalized in the nineteenth and twentieth centuries, a few customary rules were already in place—prisoners were not to be sacrificed and noncombatants were not to be harmed. Then, in the era of conventional law there have been further restrictions and clarifications: poison gas was prohibited, sailors adrift after their ships are sunk are not legitimate targets, reprisals must be moderate, and the protective custody of prisoners was more clearly defined. But one tactic, enabled by twentieth-century technology, has escaped proper control—the aerial bombardment of cities.

Within fifteen years of the invention of the airplane, before passenger service or airmail delivery, warplanes were already used to attack urban targets. In step with technical developments in aviation, aerial bombardment became a common component of war during the 1920s and 1930s. When World War II began in 1939, President Franklin Roosevelt appealed to the
belligerents, on humanitarian grounds, to refrain from targeting cities, especially residential districts. But as we know, technological innovation has a logic and an agenda of its own; in this case it led to escalating reprisals and indiscriminate attacks culminating in the buzz bombing of London, the incineration of German cities, and the destruction of Hiroshima and Nagasaki.

The pluck of the Londoners in the face of indiscriminate bombing has been celebrated in word and film, and the political and ethical issues surrounding the atomic attacks on Japan have been hotly debated. But the fire-bombing of Germany has received much less attention, and even less scrutiny. Oddly, the reticence is on both sides. Britain and the United States, the perpetrators of the most destructive air raids, with by far the most civilian casualties, have been understandably reluctant to review the justice of their actions. At the end of the war many Germans were brought to trial and charged with war crimes, but none, not even Göring, the commander of the Luftwaffe, was ever charged with what were seen at the time as the German terror bombings of Warsaw, Rotterdam, and Coventry. Would it have been the pot calling the kettle black? On the other side, Germans have largely maintained, at least in public, a stoic silence about the destruction of their own cities. Could the deputies of mass murder have the brazen nerve to equate air raid casualties on the same scale as Auschwitz? ¹ The collective amnesia was described by the late German writer W. G. Sebald:

There was a tacit agreement, equally binding on everyone, that the true state of material and moral ruin in which the country found itself was not to be described. The darkest aspects of the final act of destruction as experienced by the great majority of the German population remained under a kind of taboo like a shameful family secret, a secret that perhaps could not even be privately acknowledged.²

Over the past few years the situation has been changing. German writers have begun to remember. Sebald himself led the way. Then the Nobel laureate Günter Grass published a novel about the German refugee ship Wilhelm Gustloff, which was torpedoed by a Soviet submarine in 1945 and went down with more than 9,000 passengers.³ And now, Jörg Friedrich’s harrowing account of the aerial bombardment of German cities has been published in English.⁴

Friedrich’s book is titled The Fire (Der Brand in the original German

¹. Some German defendants at Nuremberg did, in fact, use the tu quoque defense—“You did it too”—but the tribunal almost always rejected it.
³. Günter Grass, Crabwalk (Orlando, Fla., 2002).
edition) rather than *The Bombing*, because he is drawing attention to the
development by the British and American air commands, not simply of
familiar bombing tactics, but rather of a new method of incinerating entire
cities:

> When the researchers at the [British] Air Ministry consulted engi-
> neers from the fire departments, a new science was born. . . . Fire-
> raising required knowledge of the physical composition of the
> German settlement. The bomb had to burn for between eight and
> thirty minutes at the point of impact. That was the time needed
> for the seed to germinate. Determining how that seed spread, how
> the fire grew, how it passed over obstructions, crossed areas without
> streets, and caught hold of an area for miles were the jobs for the
> mathematicians, statisticians, and operation evaluators. 5

Some cities burned easily. Others (like Berlin) did not, and were at-
tacked again and again, in a few cases more than two hundred times. 6 In
these attacks, especially when firestorms were ignited, many civilians were
killed or injured—“collateral damage” in its current expression, a hideous
euphemism. In a bombing raid with high explosives, the aiming points may
be legitimate military facilities, and civilians may become accidental vic-
tims; in igniting a city there can be no such nicety—civilians are among the
targets. War is hell, but when is it criminal? Historians are not authorized
to judge. But they can present the case for the prosecution.

Friedrich’s book is unrelenting in its descriptions of dismembered
bodies, deaths by asphyxiation in the basements of homes, a woman try-
ing to commit suicide with a child in her arms, and other Goyan images
along with strings of statistics testifying to the uncompromising determi-
nation and perseverance of the British and American air commands. (He
provides similar information about the *Luftwaffe.*) In our own era of ter-
rorism and counterterrorism we have become hardened to reports of such
atrocities. But the book also presents information that has a bearing on the
legal and ethical issues raised by the development of military aviation,
issues which, in this case, have been befogged by the uncomfortable polit-
ical context—the victimization of Nazi Germany by British and American
perpetrators.

The laws and customs of war are unclear as they pertain to reprisals. At
the very least, reprisals should not be motivated by vengeance; they should
be executed only to discourage a repetition of the action they are reprising,
and they should be moderated by the principle of proportionality. On 30
May 1942, the city of Cologne was attacked by more than one thousand

5. Ibid., 9.
6. Cologne was attacked 262 times, Essen 272 times, Düsseldorf 243, and Duisberg
299 (Friedrich, 83).
British bombers.\(^7\) Was it vengeance? Only a tribunal could judge by interrogating those who planned the attack. If it was reprisal or retaliation, was it proportionate to German attacks on British cities carried out by one-fifth as many bombers?\(^8\) Friedrich’s message is that even if a thousand-bomber raid was neither vengeance nor reprisal, we should still know about its effects on the ground and we should ponder its justice.

Quite apart from reprisals and proportionality, were civilians deliberately targeted? Friedrich cites evidence in the affirmative. In February 1942 the British Air Ministry sent a directive to Bomber Command: “It has been decided that the primary objective of your operations should now be focussed on the morale of the enemy civil population and, in particular, of the industrial worker. . . . I suppose it is clear that the aiming points are to be the built-up areas, not, for instance, the dockyards or aircraft factories. . . . This must be made quite clear if it is not already understood.”\(^9\) A British aviator who took part in a raid on Essen in 1943 later stated: “At that point we were not aware that we were bombing civilians as such, because we had always been given an aiming point like the docks, or a rubber factory, or railway yards. But on this occasion the briefing said that we were to bomb the workers’ houses or residential quarters and this came as something of a personal shock.”\(^10\) Near the end of the war, Winston Churchill’s conscience bestirred itself. On 28 March 1945 he wrote: “It seems to me that the moment has come when the question of bombing of German cities simply for the sake of increasing the terror, though under other pretexts, should be reviewed.”\(^11\) And for imaginative terrorism, few current methods can match Churchill’s interest in the possible use of anthrax bombs dropped from Lancasters: “Pray let me know when they will be available. . . . We should regard it as a first installment.”\(^12\)

Some of those who participated in the operations that resulted, deliberately or accidentally, in numerous civilian casualties were conscience-stricken. Many years after the war, physicist Freeman Dyson, who had conducted research for Bomber Command, wrote: “I felt sickened by what I knew. Many times I decided I had a moral obligation to run out into the

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\(^7\) Friedrich, 71–74.
\(^8\) A British leaflet stated that “on the night of May 23, 1943, within one hour the RAF dropped twice the bomb tonnage on Dortmund that the German Luftwaffe dropped on all of England in the six months from January 1 to June 30, 1943” (quoted in Friedrich, 262).
\(^9\) Friedrich, 70 (italics in original).
\(^10\) Ibid., 44.
\(^11\) Ibid., 145 (italics added).
\(^12\) Ibid., 87. Civilians would have been the main victims of anthrax bombs. Friedrich states (questionably) that their use was forestalled only by the D-day invasion of Western Europe. He also states that “Nothing can be found about the deliberate bombing of civilian targets in Luftwaffe records” (59).

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streets and tell the British people what stupidities were being done in their name. But I never had the courage to do it. I sat in my office until the end, carefully calculating how to murder most economically another hundred thousand people.”

Friedrich’s book is not only a contribution to the German literature of remembrance; it is also a passionate denunciation of the excesses of the air war that stands in contrast to Donald Miller’s recently published account of the exploits of the U.S. Eighth Air Force in the war against Nazi Germany. But Miller too writes of the deliberate targeting of civilians: “Later, the Eighth Air Force would officially deny it, but the Münster raid was a city-busting operation. Declassified mission reports and flight records clearly list the ‘center of town’ as the Aiming Point.” And he reports the reaction of an American navigator: “I’d been raised in a strict Protestant home. My parents were God-oriented people. . . . I was shocked to learn that we were to bomb civilians as our primary target for the first time in the war.”

If the excesses of aerial bombardment had been committed only, or even mainly, by the Germans we would easily explain it in terms of the depraved political culture of Nazism. But the major perpetrators were the British and Americans, and they may have overstepped permissible limits in their methods and in the “collateral damage” they caused. How, in retrospect, can we account for the “terror” bombing—civilians as aiming points and the destruction by fire of a whole city in a single night? The soldier, with his code of honor, flinches at the question. For statesmen, lacking such a code, the technological advantage along with the opportunity were evidently too irresistible to forego, even if it meant stretching the boundaries of civilized warfare. It might be asking too much of them to have mustered the political will to hold or restrain their bombers. Sometimes and in some measure technology is indeed destiny.

13. Quoted in ibid., 83.
15. Ibid., 11, 12.