

American Fire Bombing and Atomic Bombing of Japan in History and Memory

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Précis

Germany and Japan took the lead in the terror bombing of cities during World War II, acts that sparked outrage from President Roosevelt and many others. U.S. bombing, by contrast, hewed to strategic targets, prioritizing military installations and factories until 1944, when it supported Britain in the wholesale bombing of German cities. But the critical moment in US bombing and napalming of cities came with the firebombing and nuclear attacks that obliterated large areas of Japanese cities between February and August 1945, leaving an indelible imprint not only on the urban landscape but also on subsequent U.S. war making. This paper reflects on the meaning of the atomic age and the nature of U.S. strategic principles, in light of U.S. fire bombing in the final months of the war.

I US Firebombing and Atomic Bombing of Japan

This paper assesses the impact and historical significance of US firebombing and atomic bombing of Japan in World War II and its subsequent legacy. The focus is on the human and social consequences of the bombings, and their legacy in international law and the history of warfare and historical memory in the long twentieth century. Part one provides an overview of US bombing strategies culminating in the final year of the war in US prioritization for the first time on the bombing of civilians and assesses its impact in shaping the postwar global order and military strategy. Part two examines the bombing in Japanese and American historical memory including history,

literature, commemoration and education. What explains the power of the designation of the postwar as the atomic era while the area bombing of civilians by fire and napalm, which would so profoundly shape the future of warfare in general, American wars in particular, faded to virtual invisibility in Japanese, American and global consciousness?

World War II was a landmark in the development and deployment of technologies of mass destruction associated with air power, notably the B-29 bomber, napalm, fire bombing, and the atomic bomb. In Japan, the US air war reached peak intensity with area bombing and climaxed with the atomic bombing of Japanese cities between the night of March 9-10 and Japan's August 15, 1945 surrender.

The strategic and ethical implications and human consequences of German and Japanese bombing of civilians, and especially the nuclear bombing of Hiroshima and Nagasaki, have generated a vast, contentious literature. By contrast, the US destruction of more than sixty Japanese cities prior to Hiroshima has been slighted, at least until recently, both in the scholarly literatures in English and Japanese and in popular consciousness. It has been overshadowed by the atomic bombing and by heroic narratives of American conduct in the "Good War" that has been and remains at the center of American national consciousness.² Arguably, however, the central breakthroughs that would characterize the American way of war subsequently occurred in area bombing of noncombatants that built on German, Japanese and British bombing of cities prior to the

atomic bombing of Hiroshima and Nagasaki. A.C. Grayling explains the different responses to firebombing and atomic bombing this way:

“... the frisson of dread created by the thought of what atomic weaponry can do affects those who contemplate it more than those who actually suffer from it; for whether it is an atom bomb rather than tons of high explosives and incendiaries that does the damage, not a jot of suffering is added to its victims that the burned and buried, the dismembered and blinded, the dying and bereaved of Dresden or Hamburg did not feel.”³

Grayling goes on to note the different experiences of survivors of the two types of bombing, particularly as a result of radiation symptoms from the atomic bomb, with added dread in the case of the Hiroshima and Nagasaki hibakusha, not only for themselves but also for future generations.

As Michael Sherry and Cary Karacas have pointed out for the US and Japan respectively, prophecy preceded practice in the destruction of Japanese cities. Sherry observes that “Walt Disney imagined an orgiastic destruction of Japan by air in his 1943 animated feature *Victory Through Air Power* (based on Alexander P. De Seversky’s 1942 book),” while Karacas notes that the best-selling Japanese writer Unna Juzo, beginning in his early 1930s “air-defense novels”, anticipated the destruction of Tokyo by bombing.⁴ [And see Sheldon Garon’s discussion of civil defense in this symposium.]



Curtis LeMay was appointed commander of the 21st Bomber Command in the Pacific on January 20, 1945. Capture of the Marianas, including Guam, Tinian and Saipan in summer 1944 had placed Japanese cities within effective range of the B-29 “Superfortress” bombers, while Japan’s depleted air and naval power and a blockade that cut off oil supplies left it virtually defenseless against sustained air attack.

The full fury of firebombing and napalm was unleashed on the night of March 9-10, 1945 when LeMay sent 334 B-29s low over Tokyo from the Marianas.⁵ In contrast to earlier US tactical bombing strategies emphasizing military targets, their mission was to reduce much of the city to rubble, kill its citizens, force survivors to flee, and instill terror in the survivors. Stripped of their guns to make more room for bombs, and flying at altitudes averaging 7,000 feet to evade detection, the bombers carried two kinds of incendiaries: M47s, 100-pound oil gel bombs, 182 per aircraft, each capable of starting a major fire, followed by M69s, 6-pound gelled-gasoline bombs, 1,520 per aircraft in addition to a few high explosives to deter firefighters.⁶ The attack on an area that the US Strategic Bombing Survey estimated to be 84.7 percent residential succeeded beyond the wildest dreams of air force planners.

Nature reinforced man's handiwork in the form

of akakaze, the red wind that swept with hurricane force across the Tokyo plain and propelled firestorms with terrifying speed and intensity. The wind drove temperatures up to eighteen hundred degrees Fahrenheit, creating superheated vapors that advanced ahead of the flames, killing or incapacitating their victims. "The mechanisms of death were so multiple and simultaneous—oxygen deficiency and carbon monoxide poisoning, radiant heat and direct flames, debris and the trampling feet of stampeding crowds—that causes of death were later hard to ascertain . . ."⁷

The Strategic Bombing Survey provided a technical description of the firestorm and its effects on Tokyo:

The chief characteristic of the conflagration . . . was the presence of a fire front, an extended wall of fire moving to leeward, preceded by a mass of pre-heated, turbid, burning vapors The 28-mile-per-hour wind, measured a mile from the fire, increased to an estimated 55 miles at the perimeter, and probably more within. An extended fire swept over 15 square miles in 6 hours The area of the fire was nearly 100 percent burned; no structure or its contents escaped damage.



Aerial photo of Tokyo after the bombing of March 9-10. US National Archives

The survey concluded—plausibly, but only for

events prior to August 6, 1945—that “probably more persons lost their lives by fire at Tokyo in a 6-hour period than at any time in the history of man. People died from extreme heat, from oxygen deficiency, from carbon monoxide asphyxiation, from being trampled beneath the feet of stampeding crowds, and from drowning. The largest number of victims were the most vulnerable: women, children and the elderly.”

How many people died on the night of March 9-10 in what flight commander Gen. Thomas Power termed “the greatest single disaster incurred by any enemy in military history?” The Strategic Bombing Survey estimated that 87,793 people died in the raid, 40,918 were injured, and 1,008,005 people lost their homes. The Tokyo Fire Department estimated 97,000 killed and 125,000 wounded. According to Japanese police statistics, the 65 raids on Tokyo between December 6, 1944 and August 13, 1945 resulted in 137,582 casualties, 787,145 homes and buildings destroyed, and 2,625,279 people displaced.⁸ The figure of roughly 100,000 deaths, provided by Japanese and American authorities, both of whom may have had reasons of their own for minimizing the death toll, seems to me arguably low in light of population density, wind conditions, and survivors’ accounts.⁹ With an average of 103,000 inhabitants per square mile and peak levels as high as 135,000 per square mile, the highest density of any industrial city in the world, 15.8 square miles of Tokyo were destroyed on a night when fierce winds whipped the flames and walls of fire blocked scores of thousands who attempted to flee. An estimated 1.5 million people lived in the burned out areas. Given the near total inability to fight fires of the magnitude produced that night¹⁰, it is possible, given the interest of the authorities in minimizing the scale of death and injury and the total inability of the civil defense efforts to respond usefully to the firestorm, to imagine that casualties may have been several times higher, more likely in the range of 200,000 than 100,000: this is an issue that merits the

attention of researchers, beginning with the unpublished records of the US Strategic Bombing Survey which are now available for researchers.

The single effective Japanese government measure taken to reduce the slaughter of US bombing was the 1944 evacuation to the countryside of 400,000 third to sixth grade children from major cities, 225,000 of them from Tokyo, followed by 300,000 first to third graders in early 1945.¹¹ In the absence of the evacuations, the carnage would have been far greater.

No previous or subsequent conventional bombing raid anywhere ever came close to generating the toll in death and destruction of the great Tokyo raid of March 9-10, 1945. Following the March 9-10 raid, the firebombing was extended nationwide. In the ten-day period beginning on March 9, 9,373 tons of bombs destroyed 31 square miles of Tokyo, Nagoya, Osaka and Kobe. Overall, bombing strikes destroyed 40 percent of the 66 Japanese cities targeted, with total tonnage dropped on Japan increasing from 13,800 tons in March to 42,700 tons in July.¹² If the British-American bombing of Dresden produced a ripple of public debate in Europe, no discernible wave of revulsion, not to speak of protest, took place in the US or Europe in the wake of the far greater destruction of Japanese cities and the slaughter of civilian populations on a scale that had no parallel in the history of bombing, perhaps a function of the wartime racism that John Dower has noted in American responses to Japan.

Viewed from another angle, it would be worth inquiring about Japanese responses to the bombing. Japanese ideological mobilization and control was such that there are no signs of resistance to the government's suicidal perpetuation of the war at any time during the bombing campaign. Whatever the suffering, most Japanese then and subsequently, like their counterparts in other countries facing massive

destruction, did not overtly oppose government mobilization efforts to continue fighting a hopeless war though many attempted to flee the bombing. Overall, by Sahr Conway-Lanz's calculation, the US firebombing campaign destroyed 180 square miles of 67 cities, killed more than 300,000 people and injured an additional 400,000, figures that exclude the atomic bombing of Hiroshima and Nagasaki which took 140,000 lives by the end of 1945.¹³ Cary Karacas and Bret Fisk conclude that the firebombing raids "destroyed a significant percentage of most of Japan's cities, wiped out a quarter of all housing in the country, made nine million people homeless, and killed at least 187,000 civilians, and injured 214,000 more," while suggesting that the actual figures are likely higher.¹⁴

Throughout the spring and summer of 1945 the US air war in Japan reached an intensity that is still perhaps unrivaled in the magnitude of human slaughter.¹⁵ That moment was a product of the combination of technological breakthroughs, the collapse of Japanese defenses, and American nationalism capable of overriding moral and political scruples pertaining to the killing of civilians. The point is not to separate the political-moral calculus of the United States from other participants in World War II, but to suggest that there is more common ground in the war policies of Japan, Germany, Britain and the United States in their disregard of citizen victims than is normally recognized in the annals of American history and journalism. As Tony documents in his *Postwar. A History of Europe Since 1945*, the destruction of cities and civilian populations was by no means limited to Germany and Japan but extended all across Eastern and Western Europe to the Soviet Union and China exacting a terrible toll in lives.

The targeting for destruction of entire populations, whether indigenous peoples, religious infidels, or others deemed inferior, threatening or evil, may be as old as human

history, but the forms it takes are as new as the latest technologies of destruction and strategic innovation, of which firebombing and nuclear weapons are particularly notable in defining the nature of war and power in the long twentieth century.¹⁶ The most important way in which World War II shaped the moral and technological tenor of mass destruction was the erosion in the course of war of the stigma associated with the systematic targeting of civilian populations from the air, and elimination of the constraints, which for some years had restrained certain air powers from area bombing. What was new was both the scale of killing made possible by the new technologies and the routinization of mass killing of non-combatants, or state terrorism. If area bombing remained controversial, indeed, fiercely debated within military circles throughout much of World War II, by the end it would become the acknowledged centerpiece of war making, emblematic above all of the American way of war. At the same time, the nature of the targets and the weapons were transformed by new technologies and confronted new forms of resistance, and US leaders then and subsequently would insist that their targets were military and strategic even as they patently zeroed in on civilian populations. In this I emphasize not US uniqueness but the quotidian character of targeting civilians found throughout the history of colonialism and carried to new heights by Germany, Japan, Britain and the US during and after World War II.

Concerted efforts to protect civilians from the ravages of war peaked in the late nineteenth century, with the League of Nations following World War I, in the 1929 Geneva Convention, and again in the aftermath of World War II with the founding of the United Nations, German and Japanese War Crimes Tribunals, and the 1949 Geneva Accords and its 1977 Protocol.¹⁷ The Nuremberg Indictment defined “crimes against humanity” as “murder, extermination, enslavement, deportation, and other inhumane

acts committed against any civilian population, before or during the war,” language that could be interpreted to resonate with the area bombing campaigns conducted not only by Japan and Germany but also by Britain and the US . . . resonate if only with the first of the categories listed.¹⁸ For the most part, these efforts have done little to stay the hand of power, though they have sometimes aroused public consciousness and provided a reference point for campaigns aiming to protect civilians from destruction. And while the atomic bomb would leave a deep imprint on the collective consciousness of the twentieth century, in most countries memory of the area bombings and firebombing of major cities soon disappeared from the consciousness of all but the surviving victims and their families.

The US has not unleashed an atomic bomb in the decades since the end of World War II, although it has repeatedly threatened their use in Korea, in Vietnam and elsewhere. It has, however, incorporated annihilation of noncombatants into the bombing programs that have been integral to the myriad “conventional wars” that it waged subsequently, notably in Korea and Indochina. With area bombing at the core of its strategic agenda, US attacks on cities and noncombatants would run the gamut from firebombing, napalming, and cluster bombing to the use of chemical defoliants and depleted uranium weapons and bunker buster bombs in an ever expanding circle of destruction.¹⁹

Less noted then and since in the United States and internationally were the systematic barbarities perpetrated by Japanese forces against resistant villagers, though this produced the largest number of the estimated ten to thirty million Chinese who lost their lives in the war, a number that far surpasses the half million or more Japanese noncombatants who died at the hands of US bombing, and may have exceeded Soviet losses to Nazi invasion conventionally estimated at 20 million lives.²² In

that and subsequent wars, it would be the signature barbarities such as the Nanjing Massacre, the Bataan Death March, and the massacres at Nogunri and My Lai rather than the quotidian events that defined the systematic daily and hourly killing, which would attract sustained attention, spark bitter controversy, and shape historical memory.

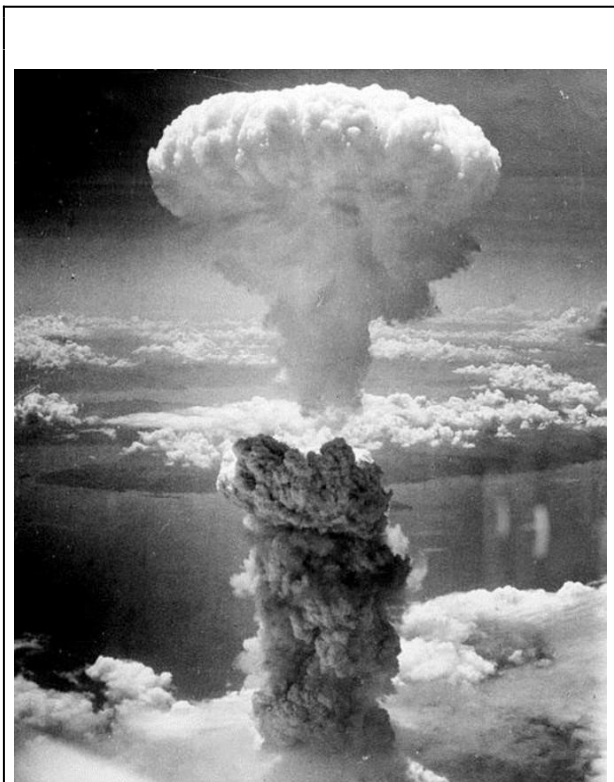
World War II remains indelibly engraved in American memory as the “Good War” and indeed, in confronting the war machines of Nazi Germany and Imperial Japan, the United States, together with the resistance in China and other colonial nations, played a critical role in defeating aggressors and opening the way for a wave of decolonization that swept the globe in subsequent decades. It was also, of course, a war that catapulted the United States to global supremacy, and established the institutional foundations for the projection of American power in the form of a vast array of insular territories and a network of permanent and ever growing military bases as well as unrivaled technological supremacy and military power.²³ Against these factors we turn to a consideration of the US firebombing and atomic bombing of Japan in history, memory, and commemoration.

II The Firebombing and Atomic Bombing of Japanese Cities: History, Memory, Culture, Commemoration

1. The US occupation and the shaping of Japanese and American memory of the bombing

Basic decisions by the Japanese authorities and by Washington and the US occupation authorities shaped Japanese and American perceptions and memories of the firebombing and atomic bombing. Throughout the six month period from the March 9 attack that destroyed Tokyo until August 15, 1945, and above all in the wake of the US victory in Okinawa in mid-June 1945, a Japanese nation that was defeated in all but name continued to spurn

unconditional surrender, eventually accepting the sacrifice of more than half a million Japanese subjects in Okinawa and Japan to secure a single demand: the safety of the emperor. In preserving Hirohito on the throne and choosing to rule indirectly through the Japanese government, the US did more than place severe constraints on the democratic revolution that it sought to launch under occupation auspices. It also assured that there would be no significant Japanese debate over war responsibility or the nature of the imperial or imperial-military system in general, and the decision to sacrifice Okinawa and Japan’s cities with massive loss of life in particular.



Nagasaki mushroom cloud. US National Archives

From the outset of the occupation, the US imposed tight censorship with respect to the bombing, particularly the atomic bombing. This included prohibition of publication of photographic and artistic images of the effects

of the bombing or criticism of it. Indeed, under US censorship, there would be no Japanese public criticism of either the firebombing or the atomic bombing. While firebombing never emerged as a major subject of American reflection or self-criticism, the atomic bombing eventually did. Of particular interest is conservative and military criticism of the atomic bombing, including that of Navy Secretary James Forrestal, and Gen. Dwight Eisenhower, John Foster Dulles and a range of Christian thinkers such as Reinhold Niebuhr . . . criticisms that emerged only in the wake of US victory. Sec. of War Henry Stimson would worry about the “growing feeling of apprehension and misgiving as to the effect of the atomic bomb even in our own country”²⁴ and take the lead in defending the US atomic bombing of Hiroshima and Nagasaki.

As Ian Buruma observes, “News of the terrible consequences of the atom bomb attacks on Japan was deliberately withheld from the Japanese public by US military censors during the Allied occupation—even as they sought to teach the natives the virtues of a free press. Casualty statistics were suppressed. Film shot by Japanese cameramen in Hiroshima and Nagasaki after the bombings was confiscated. Hiroshima, the famous account written by John Hersey for *The New Yorker*, had a huge impact in the US, but was banned in Japan. As [John] Dower says: ‘In the localities themselves, suffering was compounded not merely by the unprecedented nature of the catastrophe...but also by the fact that public struggle with this traumatic experience was not permitted.’”²⁵ The US occupation authorities maintained a monopoly on scientific and medical information about the effects of the atomic bomb through the work of the Atomic Bomb Casualty Commission, which treated the data gathered in studies of hibakusha as privileged information rather than making the results available for the treatment of victims or providing financial or medical support to aid victims. The US also stood by official denial of

the ravages associated with radiation.²⁶ Finally, not only was the press tightly censored on atomic issues, but literature and the arts were also subject to rigorous control prior.



Hiroshima after the bomb. The view from the ground. US National Archives

This did not mean suppression of all information about the atomic bombing or the firebombings. Washington immediately announced the atomic bomb’s destruction of Hiroshima and Nagasaki and released the iconic photographs of the mushroom cloud. It soon made available images of the total devastation of Hiroshima and Nagasaki depicting the ravages of cities reduced to rubble and devoid of human life, thereby demonstrating the Promethean power of the victor.



Atomic Bomb survivors at Miyuki Bridge, Hiroshima, two kilometers from Ground Zero. Aug. 6, 1945. Photo by Matsushige Yoshito. Under US censorship, Matsushige's photos could not be published until 1952 following the end of the occupation.

The US would celebrate the power of the bomb in powerful visual statements of the birth of the nuclear era that would be directed at the entire world on August 6, on August 9 and in the decades that followed, both in officially controlled photographic images and in privileged reportage, notably that of New York Times science reporter William R. Laurence. What was banned under the occupation were close-up images of victims whether of the firebombing or the atomic bombing captured on film by Japanese photographers, that is, the human face of the atomic holocaust that was captured on film in iconic photographs of Hiroshima, Nagasaki and Tokyo by Japanese photographers.



Bodies of people trapped and burned as they fled through a street during the attack on Tokyo on the night of March 9-10. Photograph by Ishikawa Koyo.

The Japanese authorities had reasons of their own for highlighting atomic bomb imagery while suppressing imagery of the firebombing. They include the fact that the dominant victimization narrative associated with an all-powerful atomic bomb was preferable to having to engage war issues centered on Japanese aggression and war atrocities. Moreover, Japanese authorities preferred to emphasize the atomic bomb over the fire bombing for at least two reasons. First, it suggested that there was little that Japanese authorities or any nation could have done in the face of such overwhelming technological power. The firebombing, by contrast raised uncomfortable issues about the government's decision to perpetuate the war through six months of punishing bombing with no alternative except defeat. Second, as Cary Karacas has argued, Japan's bombing of Chongqing and other Chinese cities, including the use of Unit 731's bio-weapons, raised uncomfortable questions about its own bombing.²⁷

Reflection

This article has reflected on the political dynamics that lie behind the differential treatment of the firebombing and atomic

bombing of Japan in both Japan and the United States, events that brought disaster to the Japanese nation, but also contributed to ending a bitter war and paved the way for the rebirth of a Japan stripped of its empire (but not its emperor) and prepared to embark on the rebuilding of the nation under American auspices. We have been equally interested in the human consequences of the US targeting civilian populations for annihilation as a central strategy for deploying airpower from late 1944 and the nature of subsequent US wars. While the atomic bomb has overshadowed the firebombing in most realms in the nearly seven decades since 1945, notably as a major factor in assessing US-Soviet conflict and explaining the structure of a “Cold War” in world politics, we have shown not only that the firebombing took a greater cumulative toll in human life than the atomic bombs, but importantly that it became the core of US bombing strategy from that time forward.

If other nations, notably Germany, England and Japan, led the way in area bombing during World War II, US targeting of entire cities with conventional weapons only emerged in 1944-45 on a scale that quickly dwarfed all previous destruction. Targeting for the most part then and subsequently essentially defenseless populations, it was an approach that combined technological predominance and allocation of vast financial resources with a priority on minimization of US casualties and maximization of enemy civilian casualties. This would become a hallmark of the American way of war, notably in campaigns from Korea and Indochina in the 1950s to 1975, but with new approaches that also took a devastating toll on civilians during the Gulf and Iraq Wars and throughout the Middle East in the new millennium. The result everywhere would be the decimation of noncombatant populations and extraordinary “kill ratios” favoring the US military. Yet for the US, victory in subsequent wars—Korea, Indochina, Afghanistan and Iraq being the most notable—would prove extraordinarily elusive.

This is one reason why, six decades on, World War II retains its aura for Americans as the “Good War”, a conception that renders it difficult to come to terms with the massive bombing of civilians in the final year of the war.

We can view this from another angle. It appears that in the squaring off of the two superpowers, mutual targeting with atomic weapons was the centerpiece of direct conflict, while proxy fights, as in Korea, Vietnam, Iraq and Afghanistan, were fought with bombs ranging from firebombs to cluster bombs to defoliants. The drone opens a new page in this history of state terror. In each of these, the United States to a considerable extent has monopolized the skies in the dual sense that it alone carried out massive bombing, and its homeland, even its military bases in the US and throughout the world, for more than half a century, have remained virtually unscathed.

This would begin to change in the last decade, culminating in the 9.11 attack on the World Trade Center and the Pentagon, instantly shredding the image of US invulnerability to foreign attack short of nuclear attack, and giving rise to a language of weapons of mass destruction and terrorism. It was a language that elided state terrorism, notably the systematic killing of civilian populations that was a hallmark of US warfare from 1944 to the present, while focusing attention on non-state actors such as al-Qaeda and ISIS. There is a second major change in the international landscape of military conflict. That is the most important technological change of the postwar era: the use by (above all) the United States of drones to map and bomb on a world scale. Each of these, in different ways, highlights the possibilities of bombing independent of nuclear weapons but also with greater precision than in the heyday of area bombing.

In drawing attention to US bombing strategies deploying “conventional weapons” while keeping nuclear weapons in reserve since

1945, the point is not to deny the critical importance of the latter in shaping the global balance of power/balance of terror. Far from it.

It is, however, to suggest new perspectives on our nuclear age and the nature of warfare in the long twentieth century and into the new millennium.

SPECIAL FEATURE

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

Edited by Claire Andrieu and Mark Selden

Claire Andrieu and Mark Selden, [Introduction](#)

Sheldon Garon, [Defending Civilians against Aerial Bombardment: A Comparative/Transnational History of Japanese, German, and British Home Fronts, 1918-1945](#)

Matthew Evangelista, [Blockbusters, Nukes, and Drones: trajectories of change over a century](#)

Marine Guillaume, [Napalm in US Bombing Doctrine and Practice, 1942-1975](#)

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Notes

¹ I am grateful for critical responses to earlier drafts of this paper from John Gittings, Cary Karacas and Satoko Norimatsu.

² A small number of works have problematized the good war narrative by drawing attention to US atrocities in the Asia-Pacific War, typically centering on the torture, killing and desecration of captured Japanese soldiers. These include Peter Schrijvers, *The GI War Against Japan. American Soldiers in Asia and the Pacific During World War II* (New York: NYU Press, 2002) and John Dower, *War Without Mercy: Race and Power in the Pacific War* (New York: Pantheon, 1986). Two recent works closely assess the bombing of noncombatants in both Japan and Germany, and the ravaging of nature and society as a result of strategic bombing that has been ignored in much of the literature. A. C. Grayling, *Among the Dead Cities: The history and moral legacy of the WW II bombing of civilians in Germany and Japan* (New York: Walker & Company, 2006), provides a thoroughgoing assessment of US and

British strategic bombing (including atomic bombing) through the lens of ethics and international law. See also Michael Bess, in *Choices Under Fire. Moral Dimensions of World War II* (New York: Knopf, 2006), pp. 88-110.

³ Grayling, *Among the Dead Cities*, pp. 90-91.

⁴ Michael Sherry, "The United States and Strategic Bombing: From Prophecy to Memory," in Yuki Tanaka and Marilyn B. Young, eds., *Bombing Civilians: A twentieth century history* (New York: The New Press, 2009), pp. 175-90; Cary Karacas, "Imagining Air Raids on Tokyo, 1930-1945," paper presented at the Association for Asian Studies annual meeting, Boston, March 23, 2007. Sherry traces other prophecies of nuclear bombing back to H.G. Wells 1913 novel *The World Set Free*.

⁵ David Fedman and Cary Karacas. "A Cartographic Fade to Black: Mapping the Destruction of Urban Japan During World War II." *Journal of Historical Geography* 36, no. 3 (2012), pp. 306-28.

⁶ Robert Rhodes, *The Making of the Atomic Bomb* (New York: Simon & Schuster, 1986), pp. 596-97; Wesley Frank Craven and James Lea Gate, *The Pacific: Matterhorn to Nagasaki June 1944 to August 1945. Vol. 5, The Army Air Forces in World War II* (Chicago: University of Chicago Press, 1953; 1983 Office of Air Force History imprint) pp. 609-13; E. Bartlett Kerr, *Flames Over Tokyo* (New York: Fine, 1991), pp. 146-50; Barrett Tillman, *Whirlwind. The Air War Against Japan, 1942-1945*, (New York: Simon & Schuster, 2010) pp. 134-73; Kenneth P. Werrell, *Blankets of Fire. U.S. Bombers over Japan during World War II* (Washington: Smithsonian Institution Press, 1996) pp. 150-93.

⁷ Sherry, *Air Power*, p. 276. A detailed photographic record, including images of scores of the dead, some burnt to a crisp and distorted beyond recognition, others apparently serene in death, and of acres of the city flattened as if by an immense tornado, is found in Ishikawa Koyo, *Tokyo daikushu no zenkiroku* (Complete Record of the Great Tokyo Air Attack) (Tokyo, 1992); *Tokyo kushu o kiroku suru kai ed.*, *Tokyo daikushu no kiroku* (Record of the Great Tokyo Air Attack) (Tokyo: Sanseido, 1982), and *Dokyumento: Tokyo daikushu* (Document: The Great Tokyo Air Attack) (Tokyo: Yukeisha, 1968). See the special issue of the *Asia-Pacific Journal* edited by Bret Fisk and Cary Karacas, [The Firebombing of Tokyo: Views from the Ground](#), *The Asia-Pacific Journal* Vol 9, Issue 3 No 1, January 17, 2011.

⁸ *Dokyumento. Toky o daikushu*, pp. 168-73.

⁹ The Survey's killed-to-injured ratio of better than two to one was far higher than most estimates for the atomic bombing of Hiroshima and Nagasaki where killed and wounded were approximately equal. If accurate, it is indicative of the immense difficulty in escaping for those near the center of the Tokyo firestorm on that windswept night. The Survey's kill ratio has, however, been challenged by Japanese researchers who found much higher kill ratios at Hiroshima and Nagasaki, particularly when one includes those who died of bomb injuries months and years later. In my view, the SBS estimates both exaggerate the killed to injured ratio and understate the numbers killed in the Tokyo raid. *The Committee for the Compilation of Materials on Damage Caused by the Atomic bombs in Hiroshima and Nagasaki, Hiroshima and Nagasaki: The Physical, Medical and Social Effects of the Atomic Bombing* (New York: Basic Books, 1991), pp. 420-21; Cf. U.S. Strategic Bombing Survey, *Field Report Covering Air Raid Protection and Allied Subjects Tokyo* (n.p. 1946), pp. 3, 79. In contrast to the atomic bombing of Hiroshima and Nagasaki, which for fifty years has been the subject of intense research by Japanese, Americans and others, the most significant records of the Tokyo attack

are those compiled at the time by Japanese police and fire departments. The U.S. Strategic Bombing Survey study of Effects of Air Attack on Urban Complex Tokyo-Kawasaki-Yokohama (n.p. 1947), p. 8, observes that Japanese police estimates make no mention of the numbers of people missing. In contrast to the monitoring of atomic bomb deaths over the subsequent six decades, the Tokyo casualty figures at best record deaths and injuries within days of the bombing at a time when the capacity of the Tokyo military and police to compile records had been overwhelmed. Many more who died in the following weeks and months go unrecorded.

¹⁰ Barrett Tillman, *Whirlwind*, pp. 144-45 documents the startling lack of preparedness of Japanese cities to cope with the bombing. "One survey noted, 'The common portable fire extinguisher of the C2, carbon tetrachloride, foam, and water pump can types were not used by Japanese firemen.' In one of the most urbanized nations on earth there were four aerial ladders: three in Tokyo and one in Kyoto. But in 1945 only one of Tokyo's trucks was operational . . . Their 500-gpm pumps were therefore largely useless."

¹¹ Karacas, "Imagining Air Raids," p. 22; Thomas R. Havens, *Valley of Darkness. The Japanese People and World War II*, (New York: WW Norton 1978), p. 163, puts the number of urban residents evacuated to the countryside overall at 10 million. He estimates that 350,000 students from national schools in grades three to six were evacuated in 1944 and 100,000 first and second graders in early 1945.

¹² John W. Dower, "Sensational Rumors, Seditious Graffiti, and the Nightmares of the Thought Police," in *Japan in War and Peace* (New York: The New Press, 1993), p. 117. United States Strategic Bombing Survey, Summary Report, Vol I, pp. 16-20.

¹³ Sahr Conway-Lanz, *Collateral Damage*, p. 1.

¹⁴ Bret Fisk and Cary Karacas, [The Firebombing of Tokyo and Its Legacy: Introduction](#), *The Asia-Pacific Journal* Vol 9, Issue 3 No 1, January 17, 2011. Fisk and Karacas draw on Overall Report of Damage Sustained by the Nation During the Pacific War, Economic Stabilization Agency, Planning Department, Office of the Secretary General, 1949, which may be viewed [here](#).

¹⁵ The numbers killed, specifically the numbers of noncombatants killed, in the Korean, Vietnam, Afghanistan and Iraq wars were greater, but each of those wars extended over many years and bombing accounted for only a portion of deaths.

¹⁶ It may be tempting to consider whether the US willingness to kill such massive numbers of Japanese civilians can be understood in terms of racism, a suggestion sometimes applied to the atomic bomb. Such a view is, I believe, negated by US participation in area bombing attacks at Dresden in 1944. Cf. John Dower's nuanced historical perspective on war and racism in American thought and praxis in *War Without Mercy: Race and Power in the Pacific War* (New York: Pantheon Books, 1986). In *Year 501: The Conquest Continues* (Boston: South End Press, 1993) and many other works, Noam Chomsky emphasizes the continuities in Western ideologies that undergird practices leading to the annihilation of entire populations in the course of colonial and expansionist wars over half a millennium and more. Matthew Jones, *After Hiroshima. The United States, Race and Nuclear Weapons in Asia, 1945-1965* (Cambridge: Cambridge University Press, 2010). Jones emphasizes factors of race, but not racism in the Pacific War, the atomic bombing (there is no mention of the firebombing) and the Korean and Vietnam Wars. He considers US consideration of use of the atomic bomb in all of these, noting US plans to drop an atomic bomb on Tokyo when more bombs became available by the end of August, if Japan had not yet surrendered.

¹⁷ The master work on the world history of peace thought and activism is John Gittings, *The Glorious Art of Peace. From the Iliad to Iraq* (Oxford: Oxford University Press, 2012), chapters 5-7.

¹⁸ Geoffrey Best, *War and Law Since 1945*. Oxford: Clarendon Press, 1994) pp. 180-81. Could be interpreted . . . but at the Tokyo Trials, defense attempts to raise the issue of American firebombing and the atomic bombing were ruled out by the court. It was Japan that was on trial.

¹⁹ Bombing would also be extended from cities to the countryside, as in the Agent Orange defoliation attacks that destroyed the forest cover and poisoned residents of sprayed areas of Vietnam, Laos and Cambodia. See Fred A. Wilcox, *Scorched Earth. Legacies of Chemical Warfare in Vietnam* (New York: Seven Stories Press, 2011).

²² An insightful discussion of Japanese war crimes in the Pacific, locating the issues within a comparative context of atrocities committed by the US, Germany, and other powers, is Yuki Tanaka's *Hidden Horrors: Japanese Crimes in World War II*. Takashi Yoshida, *The Making of the "Rape of Nanking": History and Memory in Japan, China and the United States* (Oxford: Oxford University Press, 2006) examines the understanding of the Nanjing Massacre in each country.

²³ Mark Selden, "String of Pearls: The Archipelago of Bases, Military Colonization, and the Making of the American Empire in the Pacific," *International Journal of Okinawan Studies*, Vol 3 No 1, June 2012 (Special Issue on Islands) pp. 45-62.

²⁴ Jones, After Hiroshima, pp. 24-25. Peter Kuznick, "[The Decision to Risk the Future: Harry Truman, the Atomic Bomb and the Apocalyptic Narrative](#)," suggests that those who held that dropping atomic bombs on Japan was morally repugnant and/or militarily unnecessary in the immediate postwar period included Admiral William Leahy, General Dwight Eisenhower, General Douglas MacArthur, General Curtis LeMay, General Henry Arnold, Brigadier General Bonner Fellers, Admiral Ernest King, General Carl Spaatz, Admiral Chester Nimitz, and Admiral William "Bull" Halsey. The fact of the matter, however, is that, with the exception of a group of atomic scientists, these criticisms were raised only in the postwar.

²⁵ Ian Buruma, "Expect to be Lied to in Japan," *New York Review of Books*, November 8, 2012. See also, Monica Braw, *The Atomic Bomb Suppressed. American Censorship in Occupied Japan* (Armonk: M.E. Sharpe, 1991). See the extensive discussion of censorship in Takemae Eiji, *Inside GHQ: The Allied Occupation of Japan and Its Legacy* (London: Continuum, 2002), espec. pp. 382-404, and John W. Dower, *Embracing Defeat: Japan in the Wake of World War II*, espec. pp. 405-40.

²⁶ William R. Laurence, U.S. Atom Bomb Site Belies Tokyo Tales: Tests on New Mexico Range Confirm that Blast, and not Radiation Took Toll, *New York Times*, September 12, 1945. Quoting Gen. Leslie Groves, director of the atom bomb project and the point man on radiation denial: "The Japanese claim that people died from radiation. If this is true, the number was very small."

²⁷ Cary Karacas, "Place, Public Memory, and the Tokyo Air Raids." *Geographical Review* 100, no. 4 (October 1, 2010), pp. 521-37.