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ARTICLES

‘The Rules of Civilized Warfare’: Scientists, Soldiers, Civilians, and American Nuclear Targeting, 1940–1945

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ABSTRACT This essay explores the evolution of American nuclear targeting during World War II. Initial discussions in Washington focused on the use of the bomb against a military target. The assumption that cities would be the primary target for the atomic bomb apparently originated at Los Alamos in 1943–44, largely as a result of technical concerns related to the delivery and functioning of the weapon. Some high-level officials in Washington voiced reservations about the use of nuclear weapons against primarily civilian targets. Ultimately, the accumulated momentum of previous technical decisions and a desire to use the bomb as quickly as possible for military-diplomatic reasons convinced the President and his advisors to overcome reservations about targeting Japanese cities and civilians.

KEY WORDS: nuclear targeting, atomic bomb, World War II

On 9 August 1945 an American B-29 bomber dropped an atomic bomb on the Japanese city of Nagasaki killing 35,000 people in an instant. Three days previously, an atomic bomb dropped in the center of Hiroshima had killed 80,000 people, the vast number of them civilians. In the weeks and months to come, thousands more Japanese civilians died of injuries and radiation sickness suffered in the two blasts.¹ On the

¹Estimated Japanese casualties caused by the two bombs vary widely. For immediate fatalities, I have used estimates provided by the United States Strategic Bombing Survey (USSBS), which cites 70,000–80,000 deaths at Hiroshima and 35,000 dead and 5,000 missing at Nagasaki. United States Strategic Bombing Survey, *The Effects of the Atomic Bombs on Hiroshima and Nagasaki* (Washington DC: Government Printing

same day as the Nagasaki bomb, Major Paul M. A. Linebarger in the Office of War Information (OWI) circulated a memorandum entitled 'Identification of Atomic Bomb Targets as Being Military in Character'.² In response to demands from 'high authorities' in the War Department, the memo stressed that all public statements on the atomic bomb should 'reaffirm . . . long-standing lines of identifying the targets of American air attack as possessing sufficient military character to justify attack under the rules of civilized warfare'. With respect to the atomic bomb, Linebarger explained, 'this became peculiarly necessary, because of the moral vulnerability which the use of such a new weapon involved'.³

Linebarger's memorandum was part of an active campaign by military and civilian officials to dispel any suggestion that the United States had deliberately targeted civilians in using nuclear weapons against Japan. The same day that Linebarger circulated his memo, President Harry S. Truman publicly asserted that 'the first atomic bomb was dropped on Hiroshima, a *military base* . . . because we wished in this first attack to avoid, insofar as possible, the killing of civilians'.⁴ In a comment worthy of Dr Strangelove, Chief of Staff of the 20th US Army Air Force Major General Lauris Norstad privately confided his hope that by releasing pictures of Hiroshima showing the aiming point in the center of the city, 'the accuracy with which this bomb was placed may counter a thought that the Centerboard [atomic bomb delivery] project involved wanton, indiscriminate bombing'.⁵

Repeated public assertions that the atomic bomb attacks were not aimed at civilians belied internal anxieties on this subject that reached up to the highest levels of the US government. On 10 August, Truman reasserted direct control over the use of the atomic bomb, which had previously been delegated to field commanders in the Pacific.

Office 1946), 3, 15. The USSBS numbers, which were only rough estimates to begin with, would certainly be higher if they included later deaths as result of radiation sickness and other injuries caused by the bombs. For a summary of the varying estimates of deaths caused by the two bombs see, Barton J. Bernstein, 'Truman and the A-Bomb: Targeting Noncombatants, Using the Bomb, and His Defending the "Decision"', *The Journal of Military History* 62/3 (July 1998), 565–6, n.43.

²Paul M. A. Linebarger, 'Memorandum for Colonel Butts: Identification of Atomic Bomb Targets as Being Military in Character', 9 Aug. 1945, Paul M. A. Linebarger Papers Prepared During World War II, Vol.5, Hoover Institution Archives on War, Peace and Revolution, Stanford, CA (hereafter Linebarger Papers).

³Ibid. Linebarger did not specify which 'high authority' in the War Department had made this request.

⁴*Public Papers of the Presidents of the United States: Harry Truman, 1945* (Washington DC: Government Printing Office 1961), 97. Emphasis added.

⁵Lauris Norstad to Carl Spaatz, 8 Aug. 1945, box 21, Carl T. Spaatz Papers, Library of Congress, Washington DC. (Hereafter Spaatz Papers).

In explaining the decision to his cabinet, the President ‘said the thought of wiping out another 100,000 people was too horrible. He didn’t like the idea of killing, as he said, “all those kids”’.⁶ The field commander responsible for overseeing the combat use of the bomb shared Truman’s qualms over the mass killing of civilians with atomic weapons. General Carl A. Spaatz confided to his diary on 11 August that ‘When the atomic bomb was first discussed with me in Washington I was not in favor of it just as I have never favored the destruction of cities as such with all inhabitants being killed.’⁷

Why Was the Atomic Bomb Used Against Cities and Civilians?

The seemingly schizophrenic discussion within the Truman administration about the ‘moral vulnerability’ posed by the use of the bomb highlights one of the most important questions surrounding the end of World War II: Why did the United States use nuclear weapons against Japanese cities in August 1945, thus ensuring that the vast majority of those killed and injured would be civilians?

A 1947 article entitled ‘The Decision to Use the Atomic Bomb,’ ostensibly authored by former Secretary of War Henry L. Stimson but in fact cobbled together by McGeorge Bundy out of drafts by prominent A-bomb insiders, was largely successful in preempting a serious discussion of the choice of cities and civilians as targets.⁸ Though lamenting the loss of life, Stimson and his silent co-authors suggested that the bomb had always been considered ‘as legitimate as any of the other of the deadly explosive weapons of modern war’, implying that its use against Japanese cities had raised no special moral concerns. In the specific case of Hiroshima and Nagasaki, the article

⁶The Diary of Henry A. Wallace, microfilm edition (Glen Rock, NJ: Microfilm Corp. of America), 10 Aug. 1945 (Hereafter Wallace Diary).

⁷Spaatz Diary, 11 Aug. 1945, box 21, Spaatz Papers.

⁸Henry L. Stimson, ‘The Decision to Use the Atomic Bomb’, *Harper’s Magazine* (Feb. 1947), 97–107. For more on the history of the *Harper’s* article see Bernstein, ‘Seizing the Contested Terrain: Stimson, Conant, and Their Allies Explain the Decision to Use the Atomic Bomb’, *Diplomatic History* 17 (Winter 1993), 35–72; James Hershberg, *James B. Conant: Harvard to Hiroshima and the Making of the Nuclear Age* (Stanford UP 1993), 279–304; Robert S. Norris, *Racing for the Bomb: General Leslie R. Groves, the Manhattan Project’s Indispensable Man* (South Royalton, VT: Steerforth Press 2002), 531; Kai Bird, *The Color of Truth: McGeorge Bundy and William Bundy: Brothers in Arms* (New York: Simon & Schuster 1998), 90–100; Gar Alperovitz, *The Decision to Use the Atomic Bomb* (New York: Knopf 1995), 448–71. The 1947 article was later reprinted in slightly expanded form in Stimson’s memoirs (with Bundy as an acknowledged coauthor). Henry Stimson and McGeorge Bundy, *On Active Service in Peace and War* (New York: Harper 1948), 612–33.

stressed that it was necessary to use the bomb against a populated area in order to 'shock' the Japanese into surrendering. Finally, the article built on rhetoric originally employed by the Truman administration in August 1945 stressing the military character of the targets.⁹

The Stimson article dominated public and historiographical understanding of the A-bomb decision in the decades after its publication. As late as 1966, historian Herbert Feis echoed Stimson's justifications for city targeting virtually unchanged, emphasizing the importance of the 'shock' factor while at the same time asserting that 'no exceptional justification for the use of the bomb need be sought or given...'.¹⁰ Without access to still-classified government documents, scholars were forced to rely on interviews, memoirs, and official government histories for clues on nuclear targeting.¹¹ A handful of high-level American military leaders, including General Dwight D. Eisenhower and Roosevelt and Truman Chief of Staff Admiral William D. Leahy, did raise moral concerns about the use of the bomb in their postwar memoirs. But neither Eisenhower nor Leahy had been closely involved in the A-bomb decision and neither specifically addressed the issue of city targeting.¹²

⁹Stimson, 'The Decision to Use the Atomic Bomb', 105.

¹⁰Herbert Feis, *The Atomic Bomb and the End of World War II* (Princeton UP 1966), 4, 47, 192.

¹¹The following memoirs address the targeting decision, at least obliquely: Henry H. Arnold, *Global Mission* (New York: Harper & Brothers 1949), 492, 485, 588–91; Ernest J. King and Walter Muir Whitehill, *Fleet Admiral King: A Naval Record* (New York: Norton 1952), 621; Harry S. Truman, *Years of Decision* (Garden City, NY: Doubleday 1955), 417, 419–21, 426; Leslie R. Groves, *Now It Can Be Told: The Story of the Manhattan Project* (New York: Harper 1962), 263–76; Arthur H. Compton, *Atomic Quest: A Personal Narrative* (New York: OUP 1956), 237–9. Groves offered the most detailed discussion of targeting, though like most accounts it focused almost exclusively on the period from spring 1945 onward. There was also some discussion of targeting in the major official histories produced after the war. The Manhattan Engineer District, *The Atomic Bombings of Hiroshima and Nagasaki* (Washington DC: Government Printing Office 1946), 6–7; Wesley Frank Craven and James Lea Cate (eds.), *The Army Air Forces in World War II, Volume Five, The Pacific: Matterhorn to Nagasaki* (Univ. of Chicago Press 1953), 721, 725; Richard G. Hewlett and Oscar E. Anderson, Jr, *The New World, 1939–1946* (University Park: Pennsylvania State UP 1962), 253, 358, 360, 365. As with the memoirs, all of these official histories focus almost exclusively on the period from spring 1945 through the use of the bomb in Aug. Hewlett and Anderson mention the May 1943 recommendation of the Military Policy Committee to use the bomb against a military target (p.253), but do not address the discontinuity between that early advice and the eventual decision to use the bomb against a city.

¹²Dwight D. Eisenhower, *Crusade in Europe* (Garden City, NY: Doubleday 1948), 483–4; Eisenhower, *Mandate for Change, 1953–1956: The White House Years* (Garden City, NY: Doubleday, 1963), 312; William D. Leahy, *I Was There*:

In his 1948 book *Fear, War and the Bomb*, British physicist P. M. S. Blackett perceptively noted the conflicted and seemingly contradictory rhetoric employed by the Truman administration in describing Hiroshima and Nagasaki as military targets. What ultimately drew more attention, however, was his assertion that ‘the dropping of the atomic bombs was not so much the last military act of the Second World War, as the first major military operation of the cold diplomatic war with Russia now in progress’.¹³ Gar Alperovitz’s controversial 1965 work *Atomic Diplomacy* revisited the Blackett thesis with the benefit of declassified archival materials. But while *Atomic Diplomacy* revitalized scholarly discussion of the A-bomb decision, it also polarized it, focusing discussion on Truman’s motives in deciding to use the bomb rather than on the more subtle issue of *how* it was used. As new documents were declassified in the 1970s and 1980s, they became fodder in the struggle between so-called orthodox and revisionist A-bomb scholars that reached bitter fruition in the public squabble over the Smithsonian’s abortive ‘Enola Gay’ exhibition in 1994–95.¹⁴

The Personal Story of the Chief of Staff to Presidents Roosevelt and Truman Based on His Notes and Diaries Made at the Time (New York: McGraw-Hill 1950), 441–2. Gar Alperovitz has made much of the military criticism of the bomb in *Atomic Diplomacy: Hiroshima and Potsdam* (London: Pluto Press 1994), 14–15, 54 and *The Decision to Use the Atomic Bomb*, 319–65. For a more critical take on Eisenhower’s postwar statements see Barton J. Bernstein, ‘Ike and Hiroshima: Did he Oppose It?’, *Journal of Strategic Studies* 10/3 (Sept. 1987), 377–89; Robert James Maddox, *Weapons for Victory: The Hiroshima Decision* (Columbia: Univ. of Missouri Press 2004), 4.

¹³P.M.S. Blackett, *Fear, War, and the Bomb* (New York: McGraw-Hill 1949), 139. The British edition of Blackett’s book was published a year prior to the American edition cited above.

¹⁴The most prominent contemporary ‘revisionist’ work critical of Truman’s decision is Alperovitz, *Decision to Use the Atomic Bomb*. In his most recent work, Alperovitz discusses the issue of targeting and morality, but his focus remains, as it was with *Atomic Diplomacy*, the more general question of Truman’s motives in choosing to use the bomb and the possible alternatives to combat use. Alperovitz, *Decision to Use the Atomic Bomb*, 53–4, 523–7. Another prominent revisionist work, Martin J. Sherwin’s *A World Destroyed*, pays only slight attention to the targeting question, locating it primarily in the context of postwar diplomacy. Sherwin, *A World Destroyed: Hiroshima and Its Legacies* (Stanford UP 2003), 229–31. The bomb’s ‘orthodox’ defenders have also largely ignored the specifics of the targeting question, focusing instead on the military and diplomatic necessity of using nuclear weapons in order to end the war with Japan. Truman defender Robert James Maddox emphasizes the role of the bombs in shocking the Japanese into surrender, a variation on the original argument set forth in the 1947 Stimson essay. Maddox, *Weapons for Victory*, 30–1. Other defenders of Truman’s decision have indirectly addressed the moral concerns over city targeting by citing Japanese atrocities: Robert P. Newman, *Truman and the*

In the acrimonious dispute over Truman's motives in using the bomb, few scholars have paused to seriously consider the question of why cities and civilians were chosen as targets. Most A-bomb scholars have been content to cite the precedents set by the escalating Allied conventional bombing campaigns in Europe and the Pacific – including the March 1945 firebombing of Tokyo that killed as many as 100,000 people – in explaining the city targeting decision. Studies of American strategic bombing in World War II by Michael Sherry, Tami Biddle Davis, and others have suggested that US leaders had crossed the moral threshold of targeting civilians well before Hiroshima and Nagasaki. Summing up the consensus on A-bomb targeting, historian J. Samuel Walker asserted that, 'The attacks on Hiroshima and Nagasaki were a logical extension of the rationales developed for terror bombing with conventional weapons.'¹⁵

While superficially appealing, the moral threshold argument fails to adequately explain the A-bomb targeting decision. Though Allied bombs had killed civilians inadvertently throughout the war, the American shift to deliberate area bombing did not occur until late 1944 and early 1945.¹⁶ By that point, important assumptions about the

Hiroshima Cult (East Lansing: Michigan State UP 1995), 131; Newman, *Enola Gay and the Court of History* (New York: Peter Lang 2004), 144, 146; David McCullough, *Truman* (New York: Simon & Schuster 1992), 439. None of the major works by either 'orthodox' or 'revisionist' historians have addressed the targeting question in depth, confining any discussion of targeting almost entirely to the period of spring-summer 1945. For a good survey of the literature on the atomic bomb decision see, J. Samuel Walker, 'The Decision to Use the Bomb: A Historiographical Update', *Diplomatic History* 14/1 (Winter 1990), 97–114 and Walker, 'Recent Literature on Truman's Atomic Bomb Decision: A Search for Middle Ground,' *Diplomatic History* 29/2 (April 2005), 311–34. On the *Enola Gay* dispute see Edward T. Linenthal and Tom Englehardt (eds.), *History Wars: The Enola Gay and Other Battles for the American Past* (New York: Henry Holt 1996); Philip Nobile (ed.), *Judgment at the Smithsonian* (New York: Marlowe 1995); Michael J. Hogan, 'The Enola Gay Controversy: History, Memory, and the Politics of Presentation', in idem (ed.), *Hiroshima in History and Memory* (Cambridge, UK: CUP 1996), 200–32.

¹⁵Walker, 'The Decision to Use the Bomb', 106. For examples of the 'moral threshold' argument with respect to the atomic bomb see Tami Davis Biddle, *Rhetoric and Reality in Air Warfare* (Princeton UP, 2003), 270, 288; Norris, *Racing for the Bomb*, 380; Robert P. Newman, 'Hiroshima and the Trashing of Henry Stimson', *New England Quarterly* 71/1 (March 1998), 22, 31; Lawrence Freedman and Saki Dockrill, 'Hiroshima: A Strategy of Shock', in Dockrill, *From Pearl Harbor to Hiroshima: The Second World War in Asia and the Pacific, 1941–1945* (New York: St. Martin's Press 1993), 196; Michael S. Sherry, *The Rise of American Air Power: The Creation of Armageddon* (New Haven, CT: Yale UP 1987), 341.

¹⁶On the eventual embrace of area bombing by the USAAF late in the war see Conrad Crane, *Bombs, Cities, and Civilians: American Air Power Strategy in World War II*

targeting of the atomic bomb had already crystallized. Though the final decision was not made until summer 1945, the origins of city targeting with the A-bomb predated the escalation of the Allied conventional bombing campaign. Moreover, while the precedents of the conventional attacks on Berlin, Dresden, and Tokyo may have led some American policymakers to more easily accept city targeting with atomic weapons, high-ranking officials within the military and Truman administration, including the President himself, expressed moral reservations about using the bomb against cities as late as July 1945. Whatever its philosophical merit, the moral threshold argument cannot and should not substitute for a searching examination of American nuclear targeting in World War II.

A handful of scholars, including Cary Otis, Leon V. Sigal, Arjun Makhijani, Barton J. Bernstein, and Robert S. Norris have seriously examined the origins of American nuclear targeting during World War II. Previous studies, however, have tended to focus narrowly on decision-making in Washington, with particular emphasis on the period from spring 1945 through the use of the bomb in August.¹⁷ This article expands on the existing literature on nuclear targeting in World War II

(Lawrence: Univ. of Kansas Press 1993), 108–42. As Crane notes, however (p.9), to the end of the war most AAF field commanders rejected area bombing. Curtis LeMay, who enthusiastically presided over the fire bombing over Tokyo, was the exception rather than the rule among AAF commanders in World War II.

¹⁷Otis Cary, who had been involved with the Target Committee during the war, wrote several articles discussing targeting in general and the decision to spare Kyoto specifically. Otis Cary, ‘The Sparing of Kyoto: Mr. Stimson’s “Pet City”’, *Japan Quarterly* 22 (Oct./Dec. 1975), 337–47; Cary, ‘Documents: Atomic Bomb Targeting – Myths and Realities’, *Japan Quarterly* 26/4 (Oct./Dec. 1979), 506–14. Though political scientist Leon V. Sigal’s 1988 work *Fighting to a Finish* is primarily focused on the politics of war termination in the United States and Japan, he also perceptively examines the question of nuclear targeting. Sigal, *Fighting to a Finish: The Politics of War Termination in the United States and Japan, 1945* (Ithaca, NY: Cornell UP 1988), 169–70, 175–6, 181, 185, 190–1, 197–8, 214. As with Cary, Sigal focuses entirely on decision-making in Washington from spring 1945 onward in discussing the targeting question. Arjun Makhijani traced the story back to May 1943 in a pair of brief articles in the *Bulletin of the Atomic Scientists* but again kept the focus centered entirely on events in Washington. Makhijani, ‘“Always” the Target?’ *Bulletin of the Atomic Scientists* 51/3 (May/June 1995), 23–7; Makhijani, ‘Nuclear Targeting: The First 60 Years’, *Bulletin of the Atomic Scientists* 59/3 (May/June 2003), 60–5. Robert S. Norris addressed nuclear targeting in his biography of Leslie R. Groves, again focusing almost exclusively on the period from May 1945 through the use of the weapon in Aug. Norris, *Racing for the Bomb*, 377–88. Finally, Barton J. Bernstein has touched on the targeting question in several articles, though without sharply focusing on the issue. Bernstein, ‘Truman and the A-Bomb’, 547–70; Bernstein, ‘Reconsidering the ‘Atomic General’: Leslie R. Groves’, *Journal of Military History* 67/3 (July 2003), 883–920;

by tracing the overlapping military, scientific, and diplomatic forces at work in Washington, Los Alamos, and Tinian from 1940 to 1945. While the fragmentary and oblique character of the official record makes it impossible to offer a definitive narrative, several conclusions are possible.

First, initial thinking about the use of the atomic bomb focused on military targets, specifically a Japanese fleet or naval base.

Second, the assumption that cities would be the primary target for the atomic bomb apparently originated not in Washington, but rather at Los Alamos in 1943–44, largely as a result of technical concerns related to the delivery and functioning of the weapon. Though there was no conscious conspiracy among Los Alamos personnel to shape the choice of targets, their work nevertheless played an important role in determining how the bomb would eventually be used.

Third, as the plan for using the bomb against Japanese cities flowed back up the chain of command to Washington in spring 1945, it was resisted by some high-level military and civilian officials – including Army Chief of Staff General George C. Marshall and Secretary of War Henry L. Stimson – who were deeply concerned about the moral and practical implications of using nuclear weapons against primarily civilian targets.

Fourth, the accumulated momentum of previous technical decisions, the advocacy of key figures inside the Manhattan Project (particularly J. Robert Oppenheimer), and a desire to use the bomb as quickly as possible for military-diplomatic reasons ultimately convinced Truman and his advisors to overcome any moral reservations about targeting Japanese cities and civilians.

Initial Thinking About Targets, 1940–1943

In March 1940, two émigré physicists working independently in Great Britain, Rudolf Peierls and Otto Frisch, not only helped to spur the Allied program to develop an atomic bomb during World War II, but also posed a fundamental ethical dilemma with respect to the potential use of such a weapon. Frisch and Peierls concluded that the amount of uranium 235 (U-235) necessary to achieve a critical mass (and hence a nuclear explosion) might be as little as one kilogram. Pondering the practical implications of such a weapon, Frisch and Peierls concluded that it would have special qualities that raised ethical questions about its use in combat. ‘Owing to the spread of radioactive substances with the wind’, they concluded, ‘the bomb could probably not be used

Barton Bernstein, ‘Eclipsed by Hiroshima and Nagasaki: Early Thinking About Tactical Nuclear Weapons’, *International Security* 15/4 (Spring 1991), 149–73.

without killing large numbers of civilians, and this may make it unsuitable as a weapon for use by this country [Great Britain].¹⁸ As an alternative, they suggested that the bomb might be used as ‘a depth charge near a naval base...’.¹⁹

The first high-level American discussion of the issues surrounding nuclear targeting did not take place until 5 May 1943, at a meeting of the Military Policy Committee (MPC) including American scientist-administrators Vannevar Bush and James B. Conant and military representatives General William D. Styer, and Admiral W. R. Purnell. Major General Leslie R. Groves, military head of the Manhattan Engineer District (MED), was charged with implementing the Committee’s decisions. Two important recommendations emerged from this initial discussion. First, the consensus of the MPC was that the bomb should be used against Japan rather than Germany. The Germans, who were believed to be actively pursuing an atomic weapons program of their own, might exploit knowledge gained from the Allied use of the bomb to advance their own program. The Japanese, on the other hand, ‘would not be so apt to secure knowledge from it as would the Germans’.²⁰ American planners remained focused on Japan as the target for the first atomic bombs from May 1943 onward.²¹

Having settled on Japan as the target, the MPC also made a specific suggestion as to how the bomb ought to be used:

The point of use of the first bomb was discussed and the general view appeared to be that its best point of use would be on a

¹⁸Otto Frisch and Rudolf Peierls, ‘Memorandum on the Properties of a radioactive “Super-bomb”’, 19 March 1940 in Robert Serber, *The Los Alamos Primer: The First Lectures on How to Build an Atomic Bomb*, edited with an introduction by Richard Rhodes (Berkeley: Univ. of California Press 1992), 81.

¹⁹Frisch and Peierls conceded that even if used underwater in a port, it was still possible that there would ‘great loss of civilian life by flooding and by the radioactive radiations’. *Ibid.*, 81–2.

²⁰Leslie R. Groves, ‘Policy Meeting’, 5 May 1943, Correspondence (“Top Secret”) of the Manhattan Engineer District, 1942–46, National Archives microfilm publication M1109, file 23 (Hereafter Groves ‘Top Secret’).

²¹Despite some claims to the contrary (Groves, *Now It Can Be Told*, 184; Norris, *Racing for the Bomb*, 334), I have found only a single contemporary mention of possible use against Germany after May 1943: a July 1943 memo from Conant to Bush suggesting that the bomb might be used in retaliation in case the Germans used radioactive poisons against Allied troops. Conant to Bush, 8 July 1943, Bush-Conant File Relating to the Development of the Atomic Bomb, 1940–45, Records of the Office of Scientific Research and Development, Record Group 227, National Archives Microfilm Publication M1392, file 10 (Hereafter Bush-Conant).

Japanese fleet concentration in the Harbor of Truk. General Styer suggested Tokio [*sic*] but it was pointed out that the bomb should be used where, if it failed to go off, it would land in water of sufficient depth to prevent easy salvage.²²

There is no indication that moral concerns over radiation or civilian casualties played any part in this recommendation – which was tentative in any case given that the bomb would not be available for at least a year if not more. Nevertheless, the Committee’s deliberations offer an important insight into the military’s initial attitude toward nuclear weapons, which emphasized an isolated naval base rather than a city as a target. Following the 5 May 1943 meeting, nuclear targeting virtually vanished from the agenda in Washington until spring 1945. In the absence of firm direction from above, planning for the use of finished a weapon was substantially shaped by the scientists and soldiers working at Los Alamos.

Moving Targets: Los Alamos and the Ordnance Division, 1943–1944

Presumably in response to the MPC’s deliberations, scientists began studies on the use of atomic weapons against fleets and harbors shortly after the opening of the Los Alamos laboratory in spring 1943.²³ Overseeing the task of turning the scientists’ calculations into a working weapon that could be delivered against Japan was the Ordnance Division at Los Alamos headed by US Navy Captain William S. ‘Deak’ Parsons and his deputy (another naval officer), Commander Fredrick Ashworth.²⁴ Though neither Parsons nor the atomic scientists at Los Alamos initially set about to shape the targeting

²²Groves, ‘Policy Meeting’, 5 May 1943, Groves ‘Top Secret’, file 23. This recommendation has been noted by other scholars. See Hewlett and Anderson, *New World*, 253; Makhijani, “‘Always’ the Target?”, 23–7. Robert Maddox notes the decision to focus on Japan, rather than Germany, but neglects to mention that the initial recommendation of the Military Policy Committee also highlighted a military target. Maddox, *Weapons for Victory*, 25.

²³Barton J. Bernstein briefly discussed the underwater weapons program in Bernstein, ‘The Making of the Atomic Admiral: “Deak” Parsons and the Modernizing of the U.S. Navy’, *Journal of Military History* 63/2 (April 1999), 418; Bernstein, ‘It’s History – The Quest for an Atomic Torpedo’, *San Francisco Chronicle*, 5 Aug. 1997, A19. Also see David Hawkins, *Project Y: The Los Alamos Story, Part I: Toward Trinity* (Los Alamos National Laboratory 1961), 196.

²⁴Al Christman’s *Target Hiroshima: Deak Parsons and the Creation of the Atomic Bomb* (Annapolis, MD: Naval Institute Press 1998) is a brief, celebratory biography.

decision, their work nevertheless significantly narrowed the choices open to policymakers in summer 1945.

Initial studies at Los Alamos on the effectiveness of the atomic bomb as an anti-ship weapon produced mixed results. Calculations made by Oppenheimer and physicists Hans Bethe and John von Neumann indicated that the blast of a bomb detonated in the air above an enemy fleet would be 'of negligible usefulness against ships', though the accompanying radiation effects would be lethal within a two-third mile radius and would linger for up to two weeks.²⁵ More promising in terms of destructive results was an underwater detonation, which the scientists predicted might produce shock damage to ships over a radius of two miles.²⁶

As the Ordnance Division worked on an underwater (UW) bomb that would be delivered in a 'low altitude night attack' against enemy ships, they also designed an air-burst weapon to be delivered from high altitude for use against land targets.²⁷ By November 1943, Parsons and his team were designing no less than five different weapons, including air-burst and underwater versions of both the uranium 'gun-type' and the plutonium implosion atomic bombs. Serious discussions of converting the gun-type uranium bomb assembly 'to fit in the space occupied by a Mark 13 torpedo' were accompanied by tests in an experimental pond at the Anchor Ranch Proving Ground near Los Alamos.²⁸

By December 1943, Oppenheimer was concerned that the Ordnance Division was pursuing too many separate weapons designs.²⁹ Given that the UW program appeared to be more challenging in terms of design work, the Los Alamos director recommended that work on an atomic depth charge or torpedo be 'temporarily postponed'.³⁰

²⁵William S. Parsons to J. Robert Oppenheimer, 17 Nov. 1943, 'Performance of Gadget, as Estimated Oct. 28, 1943', Los Alamos National Laboratory Archives, Los Alamos, NM (hereafter LANL), copies acquired by author through a request under the Freedom of Information Act (FOIA).

²⁶Ibid. Oppenheimer and the other physicists were less sanguine about the possible effects of the bomb when used in a shallow harbor. In shallow water, they estimated that shock damage to ships might be limited to a 300-yard radius. However, they did suggest that additional damage might be inflicted in harbors 'due to flow of water'.

²⁷Parsons to Oppenheimer, 17 Nov. 1943, 'Performance of Gadget, as Estimated Oct. 28, 1943'.

²⁸Parsons to Ordnance Group Leaders, 22 Nov. 1943, LANL. The possibility of placing the bomb in a torpedo apparently received very serious consideration at least through the end of 1943. See also, Parsons to Ordnance Group Leaders, 27 Dec. 1943, LANL.

²⁹Oppenheimer to Parsons, 27 Dec. 1943, 'Design Schedule for Overall Assemblies', LANL.

³⁰Ibid.

Parsons initially resisted this attempt to suspend the UW program. After consulting with the Ordnance Division's group leaders, Parsons assured Oppenheimer that the underwater program could be continued without jeopardizing work on other means of delivery.³¹ In early Jan. 1944, the Ordnance Division was still considering building an underwater bomb for use during the war, as indicated by Parsons' urgent request for an expert in hydrodynamics in order to determine 'whether or not an extensive engineering development of one type of device is to be pursued'.³² Shortly thereafter, however, Parsons acquiesced to Oppenheimer's wishes and the UW program was functionally abandoned while the Ordnance Division staff focused their engineering effort on building a bomb to be used against a city.

A combination of factors, including continued uncertainty over the effectiveness of an underwater nuclear explosion, design challenges associated with underwater delivery, and the desire to produce a useable weapon as quickly possible regardless of design type, apparently led Parsons to abandon his interest in a bomb designed for use against naval targets, at least for the duration of the laboratory's wartime work.³³ This decision was made at Los Alamos, apparently without consulting high-level officials in Washington. But to the extent that the civilian overseers of the Manhattan Project were pushing the speedy development of a workable nuclear weapon for military and diplomatic reasons, they indirectly contributed to the shift toward city targeting as an air-burst bomb was the easiest (and hence quickest) type of weapon to design and build.

Having focused their energies on an air-burst weapon, Oppenheimer, Parsons, and the Ordnance Division found themselves inexorably

³¹Details of these events are drawn from Parsons' handwritten notations dated 30 Dec. on Oppenheimer's 27 Dec. memorandum.

³²Parsons to Conant, 3 Jan. 1944, Bush-Conant Papers, file 146.

³³Low-level theoretical work on an underwater bomb continued until at least Feb. 1945 but without the accompanying engineering work needed to design an actual underwater weapon. On 1 Feb. 1945, physicist William G. Penny informed Parsons and Oppenheimer that after investigating the matter he had concluded that 'the case for water delivery against capital ships is weak, and it is recommended that the gadget be not used in this way'. Parsons to William G. Penny, 'Damage to Capital Ships', 1 Feb. 1945, LANL. This conclusion, however, was reached long after the Ordnance Division had shifted its resources to work on an air burst weapon. Further studies on this subject were apparently shelved until the 1946 'Crossroads' tests, where the 'Baker' shot dramatically highlighted the effectiveness of the bomb against capital ships in even a shallow underwater detonation.

drawn toward cities as targets. In a May 1944 memorandum to Groves, Parsons reported that:

The primary and, so far, only contemplated method of delivery toward which the test program is oriented, is high altitude (about 30,000 feet above sea level), horizontal bombing, with provision for detonating the bomb well above ground, relying primarily on blast effect to do material damage. In this connection, the present thought is to use a height of detonation such that with the minimum probable efficiency, there will be the maximum number of structures (*dwelling and factories*) damaged beyond repair.³⁴

Contained within this brief progress report were the seeds of the decision to use the bomb against cities and civilians. Though Parsons had not yet rejected the possibility of a non-combat demonstration, the specifications he outlined virtually ensured that if the bomb were to be used in combat that cities would be target. The weapon contemplated by the Ordnance Division was designed to spread its destructive radius as widely as possible. Such a weapon would be highly effective against lightly-built structures but relatively ineffective against hardened targets such as bunkers, dugouts, armored vehicles, or warships. Given that Japanese cities contained large numbers of light ‘dwelling and factories’ easily susceptible to blast damage, they were ideal targets for the bomb that Parsons and the Ordnance Division were designing.

A second factor that pushed Parsons and the Ordnance Division toward cities had to do with the way in which the bomb would be delivered. Parsons assumed that the atomic bomb would be dropped from an Army Air Forces (AAF) bomber flying at high altitude. The requirement for high altitude delivery was dictated by the decision to use the bomb as an air-burst weapon to maximize its blast effects. Given the predicted explosive power of the bomb and the requirement of an air-burst detonation, it was necessary to drop it from very high altitude to give the carrying aircraft a chance to escape the radius of the blast.³⁵ This, in turn, raised questions about what targets the AAF could identify and hit from 30,000 feet.

In Sept. 1944, as Parsons and his team refined designs for an air-burst weapon, the AAF was still committed to the doctrine of precision

³⁴Parsons to Groves, 19 May 1944, Groves ‘Top Secret’, file 5F. Emphasis added.

³⁵509th Composite Group, Mission Planning Summary, 2, n.d. [c. Aug. 1945], Records of the 509th Composite Group, Air Force Historical Records Agency, Maxwell Air Force Base, AL, microfilm reel B0679 (hereafter 509th Mission Planning Summary). Also see Groves to Marshall, ‘Atomic Fission Bombs – Present Status and Expected Progress’, 7 Aug. 1944, Groves ‘Top Secret’, file 25M.

bombing. Parson, however, was concerned by what he saw as the tendency of the AAF to overcome its difficulty in hitting precision targets by staging repeated missions with ever increasing numbers of aircraft.³⁶ While this might be a viable strategy with conventional munitions, it was clearly not acceptable when applied to the very small number of highly expensive atomic weapons that Los Alamos might be able to produce. Japanese cities not only contained a large number of light buildings susceptible to blast, but were also relatively easy to find from the air and large enough so that even an inaccurate delivery would result in substantial damage. Thus both the design of the weapon and the limitations of its delivery favored use against large urban areas.

The high-level officials in Washington who would ultimately bear responsibility for the use of a finished weapon do not appear to have fully understood the implications of the accretion of technical decisions about weapon design and delivery made at Los Alamos in 1943–44. This was not the result of any deliberate conspiracy on the part of those at Los Alamos to withhold information. Manhattan Project military leader General Groves was kept informed of all the developments taking place at the laboratory, including issues related to weapon design. In addition, James Conant, head of the National Defense Research Committee (NDRC), made several visits in summer 1944 in which he received briefings on projected damage that made it clear, at least indirectly, that cities were the intended target of the weapon being developed at Los Alamos.³⁷ This information, however, did not prompt any serious discussion of the targeting question in Washington. Stimson and General Marshall, who would later raise concerns about the use of the bomb against cities and civilians, either did not understand the implications of the design changes at Los Alamos or believed that it would be possible to revisit the issue at a later date.

Rejecting a Non-Combat Demonstration, 1943–1944

While inattention in Washington delayed a high-level debate over targeting until summer 1945, the shift toward designing a weapon for use against cities did not go unopposed within the gates of Los Alamos. As early as 1943, some scientists were already troubled by the moral implications of city targeting and were considering various

³⁶Parsons to Groves, 25 Sept. 1944, William S. Parsons Papers, Library of Congress, Washington DC Hereafter Parsons Papers.

³⁷James Conant, 'Findings of Trip to L.A. July 4, 1944'. –, file 3; Conant, 'Report on Visit to Los Alamos, Aug. 17, 1944', Bush-Conant, file 86.

alternatives.³⁸ In May 1944, Norman Ramsey, one of Parsons' deputies in the Ordnance Division, discreetly queried his boss as to whether 'the most effective use of the first unit may be as a demonstration in more or less uninhabited territory?'³⁹ By Sept. 1944, a worried Parsons confided to Groves that 'some tender souls are appalled at the idea of the horrible destruction which this bomb might wreak in battle delivery'.⁴⁰ Parsons went on to report that these concerns had already 'led to proposals in high and responsible quarters that if we are winning the war anyway, perhaps the best use of the gadget is in a staged field test in an American desert; to which could be invited such foreign observers as the United States desired to impress with our victory over the atom and our potential power to win victories over our future enemies'.⁴¹

Neither Parsons nor Oppenheimer shared the moral concerns of the 'tender souls' who advocated a non-combat demonstration. Parsons not only opposed the idea of a demonstration, but also specifically argued *for* use against a city in order to provide a suitably dramatic display of the bomb's destructive power:

To have our project culminate in a spectacularly expensive field test in the closing months of the war, or to have it held for such a demonstration after the war, is, in my opinion, one way to invite a political and military fizzle, regardless of the scientific achievement. The principal difficulty with such a demonstration is that it would not be held one thousand feet over Times Square, where the human and material destruction would be obvious, but in an uninhabited desert, where there would be no humans and only sample structures. From my observation of Port Chicago, I can give assurance that the reaction of observers to a desert shot would be one of intense disappointment. Even the crater would be disappointing.⁴²

Use of the bomb against a large, heavily populated city would provide a dramatic demonstration of what Parsons referred to as 'our potential

³⁸Gregg Herken, *Cardinal Choices: Presidential Science Advising from the Atomic Bomb to SDI* (Stanford UP 2000), 21–2; Herken, *Brotherhood of the Bomb: Robert Oppenheimer, Ernest Lawrence, and Edward Teller* (New York: Henry Holt 2002), 364, n.79.

³⁹Norman F. Ramsey to W. S. Parsons, 'Matters for Discussion by Military Use Committee', 18 May 1944, LANL.

⁴⁰Parsons to Groves, 25 Sept. 1944, Parsons Papers.

⁴¹Ibid. I have been unable to identify the 'high and responsible' sources at Los Alamos that Parsons refers to in this document.

⁴²Ibid. Emphasis in original.

power to win victories over our future enemies'.⁴³ Parson's dismissive reference to the catastrophic conventional munitions accident at the Port Chicago Naval Yard in July 1944 underlined his conviction that using the bomb against an isolated military target would produce 'disappointing' results. Oppenheimer concurred with Parsons' assessment. In a letter to Groves, the director of the Los Alamos lab pointedly remarked that, 'I agree completely with all of the comments of Captain Parsons' memorandum on the fallacy of regarding a controlled test as the culmination of the work of this laboratory'.⁴⁴ Thus while the Los Alamos scientists were far from unanimous on the subject of nuclear targeting, the most important figures within the lab were strongly committed to combat use against Japanese cities.

Proponents of a non-combat demonstration were also frustrated by the continuing indifference of higher-level policy makers to practical questions surrounding the use of the bomb prior to summer 1945. In Sept. 1944, Bush and Conant failed to interest Secretary of War Stimson in a non-combat demonstration as part of a larger plan for the international control of atomic energy.⁴⁵ Roosevelt was similarly disengaged. A frustrated Bush lamented in June 1943 that he had been unable to engage Roosevelt in a discussion of 'possible use [of the atomic bomb] against Japan or the Japanese fleet'.⁴⁶ The so-called Hyde Park agreement signed by Roosevelt and Churchill on 19 Sept. 1944 contained conditional language with respect to the use of the atomic bomb, noting that 'it might, perhaps, after mature consideration, be used against the Japanese'.⁴⁷ But Roosevelt's Sept. 1944 musings were more indicative of a general lack of high-level focus on the practical issues relating to the use of the bomb than they were of any firm moral or practical opposition.

The AAF and the Target Committee, Jan.–May 1945

As high-level officials ignored the targeting question, the momentum for city targeting grew at lower levels. By December 1944, the only

⁴³Ibid.

⁴⁴Oppenheimer to Groves, 6 Oct. 1944, M.E.D. Papers, National Archives College Park (document courtesy of Barton J. Bernstein).

⁴⁵Bush and Conant to Stimson, 30 Sept. 1944, Harrison-Bundy Files Relating to the Development of the Atomic Bomb, 1942–46, Records of the Office of the Chief of Engineers, Record Group 77, National Archives Microfilm Publication M1108 (hereafter Harrison-Bundy), file 69. Hereafter 'Harrison-Bundy'.

⁴⁶Bush, 'Memorandum of Conference with the President', 24 June 1943, Bush-Conant, file 10.

⁴⁷Hyde Park Aide Memoire, 19 Sept. 1944, Harrison-Bundy, file 3.

question so far as Parsons was concerned was which Japanese city would be targeted first.⁴⁸ In early 1945, the Army Air Forces entered into the A-bomb targeting debate. Up until that point, the AAF had had no involvement in nuclear targeting; the gradual shift toward assuming use against a city had been entirely driven by the work of the Ordnance Division at Los Alamos. Beginning in late Jan., however, AAF and Los Alamos personnel met with increasing frequency to discuss operational issues relating to the use of the atomic bomb, including the question of targeting. These meetings culminated in April with the formation of a group known as the Target Committee that included representatives from both Los Alamos and the AAF.⁴⁹

The first Target Committee meeting on 27 April 1945 officially ratified the strategy of city targeting that had evolved from the work of the Ordnance Division. The Committee decided that in picking a target the focus should be on 'large urban areas of not less than 3 miles in diameter existing in the larger populated areas'.⁵⁰ At a second series of meetings on 10–11 May in Oppenheimer's Los Alamos office, the Target Committee formally rejected the idea of attacking an isolated military target, concluding that 'any small and strictly military objective should be located in a much larger area subject to blast damage in order to avoid undue risks of the weapon being lost due to bad placing of the bomb'.⁵¹

The Target Committee's meetings have been scrutinized by several A-bomb scholars since the minutes were declassified. Previous studies, however, have failed to note the connection between these deliberations and earlier work on weapons design at Los Alamos. The Target Committee was not operating in a vacuum; its members were reacting to the same overlapping concerns about blast effects and accuracy that had originally led Parsons and Oppenheimer to favor city targeting in 1944.⁵² This logic led the Target Committee to almost exactly reprise Parsons' earlier recommendations. The bomb would be

⁴⁸Parsons to Purnell (via Groves), 12 Dec. 1944, Groves 'Top Secret', file 5D.

⁴⁹AAF Target Committee members included: Brig. Gen. Lauris R. Norstad, Col. William P. Fisher, Col. Paul W. Tibbets, Dr David M. Dennison, and Dr Robert Stearns. MED representatives were: Dr John von Neumann, Dr R. Bright Wilson, Dr William Penny, Dr Norman F. Ramsey, Col. Lyle E. Seeman, and Maj. Jack Derry (who wrote the summary notes after each meeting).

⁵⁰Jack Derry, 'Notes on Initial Meeting of the Target Committee', 27 April 1945, Groves 'Top Secret', file 5D.

⁵¹Derry, 'Summary of Target Committee Meetings on 10 and 11 May 1945', Groves, 'Top Secret', file 5D.

⁵²*Ibid*; Norstad to Director, Joint Target Group, 28 April 1945; Director, Joint Target Group to Norstad, 5 May 1945, both in Groves 'Top Secret', file 5D.

used in a large urban area where it would be sure to destroy large numbers of lightly constructed buildings and in the process kill many Japanese civilians.

The third and final meeting of the Target Committee on 28 May 1945 culminated in the selection of Kyoto, Hiroshima, and Niigata as targets for the atomic bomb. All three cities harbored important Japanese war industries. However, in all of these cities the most significant military-industrial targets were located on the fringes of the larger urban area. Targeting these war plants risked the possibility that an inaccurate delivery might result in the bomb exploding entirely outside the city. Moreover, even an *accurate* attack on one of these factories would fail to make use of the full power of the bomb as there were fewer light structures susceptible to blast on the urban fringes than in the city center. Thus at the final meeting of the Target Committee, its members agreed to a chilling set of recommendations that endorsed targeting densely-populated urban areas at the expense of any effort to hit important military-industrial targets:

- (1) [The Target Committee agreed] not to specify aiming points, this is to be left to later determination at base when weather conditions are known.
- (2) to neglect location of industrial areas as pin point target, since on these three targets [Kyoto, Hiroshima, and Niigata] such areas are small, spread on fringes of cities and quite dispersed.
- (3) to endeavor to place the first gadget in center of selected city; that is not to allow for later 1 or 2 gadgets for complete destruction.⁵³

The bomb was to be used as a weapon for the obliteration of cities and the mass killing of civilians. This decision was directly related to the desire to maximize the technical effects of the bomb; the same motivation that had animated Parsons and the Ordnance Division at Los Alamos. The potential ‘shock’ effects of the bomb on the Japanese were discussed briefly during the Target Committee’s meetings at Los Alamos on 10–11 May. The previously cited technical concerns, however, had already dictated the choice of a city as a target – it was in picking *which city* to attack that so-called psychological factors came into play.⁵⁴

⁵³Derry, ‘Minutes of Third Target Committee Meeting – Washington, 28 May 1945’.

⁵⁴Kyoto was selected as the best initial target because its inhabitants were ‘more highly intelligent and hence better able to appreciate the significance of the weapon’. Derry, ‘Summary of Target Committee Meetings on 10 and 11 May 1945’.

May 1945: ‘The targets suggested . . . have been disapproved’

President Harry S. Truman was not initially involved in planning for the use of the atomic bomb. As Vice President, Truman had had no knowledge of the Manhattan Project. He received his first official briefing on the atomic bomb from Groves and Stimson on 25 April 1945, almost two weeks after taking the oath of office and only two days before the first meeting of the Target Committee.⁵⁵ This briefing did not raise the issue of targeting or the possibility of a non-combat demonstration, focusing instead on the postwar international implications of nuclear energy. Truman himself was apparently most concerned with the impact of the bomb on relations with the Soviet Union.⁵⁶ It was not Truman but rather two of his advisors who raised moral and practical objections to the use of the atomic bomb against Japanese cities in May 1945.

A vocal advocate of American participation in both World War I and World War II and a long-time supporter of Universal Military Training for America’s youth, Stimson was nobody’s pacifist. Since World War I, however, he had been greatly concerned with the danger that war posed to the underpinnings of what he referred to as ‘world industrial civilization’.⁵⁷ As Secretary of State under President Herbert Hoover, Stimson had strongly embraced the 1928 Kellogg–Briand Pact that outlawed war as a tool of state policy. If war itself could not be totally eliminated, he at least hoped to moderate its conduct to lessen the impact on noncombatants. In 1930, he pushed for an international agreement to outlaw submarines because they were ‘particularly susceptible to abuse . . . in a way that violates alike the laws of war and the dictates of humanity’.⁵⁸ Stimson’s lament in Sept. 1944 that ‘I, the man who had charge of the Department which did the killing in the war, should be the only one who seemed to have any mercy for the

⁵⁵Groves and Stimson briefed the President on the bomb on 25 April though Truman confidant (and soon-to-be Secretary of State) James F. Byrnes had informally informed the President of the project’s existence shortly after he was sworn in.

⁵⁶Groves, ‘Report of Meeting with The President’, 25 April 1945, Groves ‘Top Secret’, file 20.

⁵⁷For more on Stimson’s conception of ‘industrial civilization’ see the Henry Lewis Stimson Diaries (microfilm edition), Manuscripts and Archives, Yale Univ. Library, New Haven, CT, 27 Feb. 1933. Hereafter Stimson Diary. Also see Stimson, *Democracy and Nationalism in Europe* (Princeton UP 1934), 79.

⁵⁸Stimson, ‘Speech Delivered by the Chairman of the American Delegation, Henry L. Stimson at the Plenary Session of the Conference, London, Feb. 11, 1930’, Stimson Diary.

other side', reflected his genuine concern with the practical and moral consequences of unrestrained warfare in the industrial age.⁵⁹

Stimson was particularly disturbed by the escalating American air attacks on German and Japanese cities in early 1945. Indiscriminate attacks against civilians, he asserted, were not only immoral but also, by harming the international reputation of the United States, undermined American claims to leadership in the postwar world. Upon belatedly discovering the American role in the bombing of Dresden in February 1945, Stimson decried what appeared to the 'terrible and probably unnecessary' destruction and requested that the AAF make a 'careful investigation' of the incident.⁶⁰ By May 1945, the Secretary of War had begun to raise similar questions about the strategic bombing campaign against Japan. Declaring that the 'reputation of the United States for fair play and humanitarianism is the world's biggest asset for peace in the coming decades', Stimson stressed in a letter to Truman that he was 'anxious to hold our Air Force, so far as possible, to the "precision" bombing which it has done so well in Europe'.⁶¹

Stimson's sporadic efforts to restrain the conduct of the AAF's strategic bombing campaign met with little success. The debate over nuclear targeting, however, gave him a second chance to revisit this issue. In a discussion with Truman on 16 May, the Secretary of War explicitly linked his concerns over strategic bombing to the use of the atomic bomb. After advocating that the United States confine itself to precision bombing in Japan, he added that, 'I believe the same rules of sparing the civilian population should be applied as far as possible to the use of any new weapons.'⁶² Less than a week later, in a telephone conversation with Assistant Secretary of War John J. McCloy, Stimson discussed the question of the 'big bomb' and 'when it should be employed and how' with specific reference to 'the moral position of the United States and its responsibilities'.⁶³ McCloy confided to his diary that 'the moral position of the US weighs greatly upon [Stimson]' with respect to the use of the bomb.⁶⁴ Perhaps reflecting these concerns, a draft public statement prepared by one of Stimson's aides on 25 May 1945 declared that the United States would select 'a military target like a naval base if possible so that wholesale killing of

⁵⁹Stimson Diary, 5 Sept. 1944.

⁶⁰Stimson Diary, 5 March 1945.

⁶¹Stimson to Truman, 16 May 1945, Stimson Diary.

⁶²Ibid.

⁶³Diary of John J. McCloy, 21 May 1945, John J. McCloy Paper, Amherst College Archives, Amherst, MA (hereafter McCloy Diary).

⁶⁴Ibid.

civilians will be on the heads of the Japanese who refused to surrender at our ultimatum'.⁶⁵

Stimson's concerns about nuclear targeting and the mass killing of civilians were powerfully reinforced by support from an unlikely source in May 1945. Army Chief of Staff General George C. Marshall was less interested than Stimson in abstract issues of international law. Nor is there any evidence that Marshall shared the Secretary of War's angst over conventional bombing.⁶⁶ But the Army Chief of Staff harbored strong reservations about the use of the atomic bomb on Japanese cities, as he indicated in a meeting with the Secretary of War on 29 May 1945:

General Marshall said he thought these weapons might first be used against straight military objectives such as a large naval installation and then if no complete result was derived from the effect of that, he thought we ought to designate a number of large manufacturing areas from which the people would be warned to leave – telling the Japanese that we intend to destroy such centers. . . . Every effort should be made to keep our record of warning clear. We must offset by such warning methods the opprobrium which might follow from an ill considered employment of such force.⁶⁷

Marshall's emphasis on 'straight military objectives' and specifically 'a large naval installation' mirrored both the 1943 recommendation of the Military Policy Committee and Stimson's long-held moral and practical concerns about the mass killing of civilians. When they met on 29 May, neither Marshall nor the Secretary of War was aware of the consensus on targeting that had been ratified at the meetings of the Target Committee. On the very next day, however, these divergent approaches to nuclear targeting collided in Stimson's Pentagon office.

At 0920 on 30 May 1945, Stimson's personal assistant Harvey Bundy placed a call to Groves to inform him that the Secretary wanted

⁶⁵ Arthur Page, 'Objectives', [outline for draft of Presidential address] 25 May 1945, Harrison-Bundy, file 74.

⁶⁶ See, for example, 'General Marshall's conference today', 15 Nov. 1941, Larry Bland (ed.), *The Papers of George Catlett Marshall*, Vol.2 (Baltimore: Johns Hopkins UP 1986), 676–8; George C. Marshall, 'Memorandum for the Secretary of War, Subject: Bombing of Dresden', 6 March 1945. The Papers of George C. Marshall, Pentagon Office, Selected, Box 84, file 25, George C. Marshall Library, Lexington, VA.

⁶⁷ John J. McCloy, 'Memorandum of Conversation with General Marshall May 29, 1945, 11:45 AM', Henry Stimson's Safe File, National Archives II, College Park, MD (hereafter 'Safe File'), Box 12, 'S-1'.

to see him ‘right away’.⁶⁸ When the General arrived at the Pentagon he found that Stimson was intent on discussing the question of targeting, a discussion in which Marshall joined later that morning. Stimson’s diary was elliptical in its description of the ensuing debate, recording simply that ‘We talked over the subject very thoroughly of how we should use this implement in respect to Japan.’⁶⁹ Groves’ 1962 memoir described the discussion as centered on Kyoto. Stimson’s concern with attacks on Kyoto (either conventional or nuclear) has been well documented.⁷⁰ It seems unlikely, however, that Kyoto was the sole focus of Stimson and Marshall’s concerns that morning. The underlying logic of the Target Committee’s recommendations, with its narrow emphasis on technical factors and its endorsement of the deliberate destruction of an entire city, sharply contrasted with Stimson’s thinking about the conduct of the war as well as Marshall’s explicit suggestion that a military target should be given first priority.

A memorandum from Groves to General Norstad written immediately after the 30 May meeting in Stimson’s office strongly suggests that a larger controversy over targeting was brewing. ‘Will you please inform [AAF Chief of Staff] General [Henry] Arnold’, Groves wrote, ‘that this AM the Secretary of War and the Chief of Staff did not approve the three targets we had selected, particularly Kyoto.’⁷¹ The mention of Kyoto supports part of Groves’ post-facto account of the meeting. Yet the reference to ‘the *three targets* we had selected’ implies that Stimson and Marshall raised objections that went beyond Kyoto.⁷² When Norstad informed Arnold of the results of the 30 May meeting he omitted mention of Kyoto entirely, noting simply that ‘the targets suggested by General Groves for 509th Composite Group have been disapproved, supposedly by the Secretary of War’.⁷³

31 May: The Interim Committee ‘Compromise’

One day after the contentious meeting in Stimson’s office, the Secretary of War presided over another, more formal gathering on the subject of

⁶⁸Leslie R. Groves Diary, 30 May 1945, Papers of Leslie R. Groves, Box 3, RG 200, National Archives College Park, College Park, MD (hereafter Groves Diary).

⁶⁹Stimson Diary, 30 May 1945.

⁷⁰Groves, *Now It Can Be Told*, 275; on Stimson and Kyoto, see Cary, ‘The Sparing of Kyoto’.

⁷¹Groves, ‘Memorandum to General Norstad’, 30 May 1945, Groves ‘Top Secret’, file 5D.

⁷²Ibid. Emphasis added.

⁷³The Diary of Henry H. Arnold, 31 May 1945, Arnold Papers, Library of Congress, Manuscripts and Records Division, Washington DC (hereafter Arnold Diary).

the atomic bomb. In early May 1945, Truman had authorized the creation of a body known as the Interim Committee that would bring together high-level civilian advisors to discuss the future implications of atomic energy.⁷⁴ While the Interim Committee had not been intended to set policy with respect to targeting, its deliberations on 31 May spilled over to include a wide-ranging debate over how the bomb should be used.

At 1000, Stimson, Marshall, Groves, the regular members of the Interim Committee, and the newly created Scientific Advisory Panel, including physicists J. Robert Oppenheimer, Enrico Fermi, Arthur H. Compton, and Ernest O. Lawrence, assembled in the Secretary of War's Pentagon office. For most of the morning, the Committee debated the question of how to approach the Soviet Union, a discussion dominated by Truman's personal representative James F. Byrnes.

During an afternoon lunch break, at which time Marshall left to attend other business, the Committee informally discussed a non-combat demonstration of the bomb designed to impress the Japanese with the danger they faced.⁷⁵ Oppenheimer had already voiced his opposition to a noncombat demonstration and apparently did so again at the 31 May meeting. According to Lawrence, Oppenheimer and Groves joined in asserting that 'the only way to put on a demonstration would be to attack a real target of built-up structures'.⁷⁶ In stressing the importance of using the bomb in such a way as to maximize its blast effects against light structures, the two men were following the same logic that had guided development of the weapon at Los Alamos.

The issue that generated the most debate on the afternoon of 31 May was not a demonstration but rather the choice of targets for combat use within Japan. When the Interim Committee resumed its official deliberations after lunch, there was 'much discussion concerning the various types of targets and the effects to be produced'.⁷⁷ It is

⁷⁴Regular members of the Interim Committee included Stimson, Assistant Secretary of War George Harrison (who chaired Committee meetings in Stimson's absence), Bush, Conant, the President's personal representative (and soon to be Secretary of State) James F. Byrnes, Assistant Secretary of State William L. Clayton, Under Secretary of the Navy Ralph A. Bard, and MIT President and OSRD Chief of the Office of Field Service Karl T. Compton.

⁷⁵For varying accounts of this lunch discussion see Compton, *Atomic Quest*, 238–9; Ernest O. Lawrence to Dr. Karl K. Darrow, 17 Aug. 1945, E. O. Lawrence Papers, box 28, folder 20, Bancroft Library, Univ. of California, Berkeley (hereafter Lawrence Papers). Also see Hewlett and Anderson, *New World*, 358.

⁷⁶Lawrence to Darrow, 17 Aug. 1945.

⁷⁷Gordon Arneson, 'Notes of the Interim Committee Meeting', 31 May 1945, Harrison–Bundy, file 100.

impossible to determine from the highly elliptical official minutes exactly what form this discussion took. It seems likely, however, that the central issue was whether to use the bomb against 'straight military objectives' (as favored by Marshall and Stimson) or to target the 'center of [a] selected city' with the aim of 'complete destruction' (as suggested by the Target Committee on 28 May).⁷⁸ The outcome was an apparent compromise brokered by Stimson and scientist-administrator James Conant. 'We could not', Stimson insisted, 'concentrate on a civilian area'. But, he added, 'we should seek to make a profound psychological impression on as many inhabitants as possible'.⁷⁹ The solution to this dilemma was provided by Conant: 'At the suggestion of Dr. Conant the Secretary [of War] agreed that the most desirable target would be a vital war plant employing a large number of workers and closely surrounded by workers' houses.'⁸⁰

The Interim Committee deliberations set the tone for the schizophrenic discussion of nuclear targeting within the Truman administration that carried through the end of the war and beyond. It is clear that some of the Committee's members were troubled by city targeting and wished to avoid the mass killing of Japanese civilians. But ultimately the Interim Committee rejected either a noncombat demonstration or use against a strictly military target in favor of targeting Japanese cities. Despite Stimson's caveat that they would not 'concentrate on a civilian area', the 31 May targeting recommendation virtually ensured the bomb would be used against cities and civilians. The frustratingly opaque nature of the official minutes of the 31 May meeting makes it impossible to determine why the Committee acquiesced in the decision to target Japanese cities and civilians. General Marshall was not present for the afternoon discussion on targeting, which undoubtedly weakened the ranks of those opposed to city targeting.⁸¹ But what about Stimson? Why did he not more forcefully insist on use against a military target?

Perhaps the most important limiting factor in the 31 May discussion was the type of weapon that Los Alamos was on the verge of producing. From 1944 onward, Parsons and his staff at the Ordnance Division had been working on a bomb designed to destroy the kind of light structures found in abundance in Japanese cities. It was a concern

⁷⁸Derry, 'Minutes of Third Target Committee Meeting, 28 May 1945'.

⁷⁹Ibid.

⁸⁰Ibid.

⁸¹Historian Robert Newman, a strong supporter of the decision to use the atomic bombs against Japanese cities, has conceded that the outcome of the 31 May meeting might well have been different had Marshall been present that afternoon. Newman, *Truman and the Hiroshima Cult*, 85.

with maximizing the destructive effects of the type of weapon produced by Los Alamos that had led the Target Committee to recommend using ‘the first gadget in center of selected city’ on 28 May.⁸² Though Stimson and perhaps others on the Interim Committee were troubled by city targeting, as were scientists connected to the Manhattan Project, their reservations could not change the fact that the bomb as designed was optimized for the destruction of cities and civilians. Given the time and money spent developing the bomb, the ongoing war in the Pacific, and the fact that Groves, Oppenheimer, and the Target Committee all endorsed use against a city, it is likely that Stimson saw the ‘dual target’ suggested offered by Conant, combined with the removal of Kyoto from the target list, as a lamentable but ultimately acceptable compromise.⁸³

A desire to make ‘a profound psychological impression’ in hopes of shocking the Japanese into surrender clearly helped Stimson and others on the Interim Committee to rationalize the strategy of city targeting. Historians have long dwelled on the Secretary of War’s comments as evidence that the ‘shock’ motive was the primary factor in determining cities as targets.⁸⁴ But this conclusion, based on a narrow reading of the Interim Committee minutes, neglects the long chain of assumptions and decisions that preceded these deliberations.⁸⁵ Weapon design at Los Alamos had been driven by the pursuit of technical efficacy combined with pressure from above to produce a working weapon as soon as possible. The result was a bomb that had little utility against the kind of military targets favored by Stimson and Marshall. The primary importance of the ‘shock’ argument was thus to validate assumptions about the use of the bomb against cities that had their origins in technical decisions that long predated the 31 May meeting.

The ongoing incendiary bombing campaign against Japan almost certainly played a similar role in helping to validate the strategy of city targeting with nuclear weapons. As previously noted, the decisions that had led to the production of a bomb optimized for use against cities and civilians were both independent of and predate the violent incendiary campaign against Japan begun by the AAF in March 1945. But in struggling with the question of what to do with this new weapon, the

⁸²Derry, ‘Minutes of Third Target Committee Meeting – Washington, 28 May 1945’.

⁸³Michael Sherry has reached a similar conclusion regarding Stimson and the bomb. Sherry, *Rise of American Air Power*, 295.

⁸⁴Arneson, ‘Notes of the Interim Committee Meeting’, 31 May 1945. For examples of the ‘shock’ argument see, Hewlett and Anderson, *New World*, 358; Freedman and Dockrill, ‘Hiroshima: A Strategy of Shock,’ 193; McCullough, *Truman*, 395.

⁸⁵Leon Sigal has made a similar observation, though he does not trace the story back to Los Alamos. Sigal, *Fighting to a Finish*, 191.

precedent set by conventional attacks Tokyo and other Japanese cities almost certainly made it easier for the Interim Committee to consider the implications of using the weapon in the way envisioned by Parsons and the Target Committee.

A combination of self-deception and misleading information with respect to the nature of the target helped to seal Stimson's assent to the 31 May targeting recommendations. The self-deception came in the form of his willingness to accept that a 'vital war plant employing a large number of workers and closely surrounded by workers' houses' constituted a primarily military target. Stimson's self-deception was facilitated by Groves, who apparently withheld information about the targeting of the weapon at the 31 May meeting and in subsequent discussions prior to use. The Target Committee had previously rejected the kind of compromise suggested by Conant, recommending that the crew charged with delivering the bomb neglect exact aim points and shoot for the center of the targeted city. The 509th Composite Bomb Group subsequently adopted the Target Committee's recommendation in planning the strikes of 6 and 9 August. Aircrews on Tinian island were allowed to select their own aiming points in order to maximize the bomb's effect on the city as a whole.⁸⁶ There is no evidence, however, that Groves corrected either Stimson or Conant on 31 May (or at a later date) when they voiced the conclusion that the bomb would be used against a specific military-industrial installation rather than in a deliberate attempt to annihilate an entire city.

Even with the combination of rationalizations and justifications outlined above, some members of the Interim Committee remained uneasy about the city-targeting. The final report of the Scientific Advisory Panel on 16 June conceded that the 'opinions of our scientific colleagues on the initial use of these weapons are not unanimous'. Though Oppenheimer, who penned the Panel's final report, argued strongly for use against Japan, the Panel itself was badly divided on both the necessity and definition of 'military use'.⁸⁷ Meanwhile,

⁸⁶Group leader Paul Tibbets later emphatically asserted that 'the AIMING POINTS did not have to be cleared with anyone. Such matters were my responsibility.' Paul Tibbets to Dr Barton J. Bernstein, 18 June 1998. Personal communication, copy given to author by Dr Bernstein.

⁸⁷Scientific Advisory Panel, 'Recommendations on the Immediate Use of Nuclear Weapons', 16 June 1945, Harrison-Bundy, file 76. Lawrence apparently argued for the demonstration in subsequent meetings of the Scientific Advisor Panel. Herken, *Brotherhood of the Bomb*, 134; Barton J. Bernstein, 'Four Physicists and the Bomb: The Early Years, 1945-1950', *Historical Studies in the Physical and Biological Science* 18/2 (1988), 235; Kai Bird and Martin J. Sherwin, *American Prometheus: The Triumph and Tragedy of J. Robert Oppenheimer* (New York: Knopf 2005), 299.

Stimson, Marshall and others (including Interim Committee member Ralph Bard) continued to wrestle with the issue in the months prior to the first use of the bomb against Japan.⁸⁸

Stimson reported the Interim Committee's recommendations to Truman on 6 June 1945. The Secretary of War's presentation reflected the increasingly schizophrenic approach to the issue of targeting civilians that emerged from the 31 May meeting. In his audience with the president, Stimson explicitly reasserted his desire in 'to hold the Air Force down to precision bombing' in the campaign against Japan.⁸⁹ The Secretary offered two reasons for his continuing opposition to area bombing:

[F]irst, because I did not want to have the United States get the reputation of outdoing Hitler in atrocities; and second, I was a little fearful that before we could get ready the Air Force might have Japan so thoroughly bombed out that the new weapon would not have a fair background to show its strength.⁹⁰

In his linkage of area bombing to Nazi atrocities, Stimson was expressing long-held concerns about the need to restrain the conduct of the American war effort for both practical and moral reasons. With respect to the A-bomb, however, he appears to have succumbed to a logic that sought to maximize the technical effects of the new weapon regardless of its human consequences.

Truman's thinking about the bomb in May–June 1945 still remained firmly focused on its effect on relations with the Soviet Union and the shape of the postwar world. Preoccupied by the diplomatic preparations for Potsdam – his first international conference – the President appeared little interested in the question of targeting. In response to Stimson's tortured comments about atrocities, area bombing, and nuclear weapons, Truman simply 'laughed and said he understood'.⁹¹

Marshall has not yet given up on shaping the targeting decision in ways that might reduce civilians casualties. At a meeting on 13 June, Groves presented Marshall with three possible targets for the bomb: Kokura Arsenal (a new addition to the target list), Hiroshima, and Niigata.⁹² Marshall, according to a terse memorandum prepared by Groves, 'stated he thought Kokura would be the best target

⁸⁸On Ralph Bard's dissent see Alperovitz, *Decision to Use the Atomic Bomb*, 225–7.

⁸⁹Stimson Diary, 6 June 1945.

⁹⁰Ibid.

⁹¹Ibid.

⁹²This document was reproduced in Cary, 'Documents: Atomic Bomb Targeting – Myths and Realities', 511.

primarily for reasons other than those presented in our description of the targets'.⁹³ It is easy to guess why Marshall favored targeting Kokura. The city was the site of the massive Kokura Arsenal, a sprawling arms workshop comprised of 36 major buildings churning out military vehicles, small arms, naval guns, artillery shells, and poison gas.⁹⁴ Though an atomic bomb dropped on Kokura would have killed civilians working in the plant and inevitably have spread its effects into the surrounding urban area, the Arsenal was the closest to being a 'straight military' target among the various sites suggested by Groves.⁹⁵

Despite Marshall's stated preference for Kokura Arsenal as the target for the first bomb, Groves still hoped to use the bomb on the 'Abandoned Target' of Kyoto and its population of over a million Japanese men, women, and children. During the Potsdam Conference in July 1945, Groves prevailed upon Stimson's aide George Harrison to send a telegraph requesting that the Secretary's 'pet city' be cleared as the 'first choice' of targets for the use of the atomic bomb.⁹⁶ But even as Groves renewed his pleas to attack Kyoto with nuclear weapons, Stimson and Truman were having second thoughts about targeting civilians with the atomic bomb.

July 1945: Hiroshima and Nagasaki by Way of Potsdam

Early in the morning on 16 July 1945, the blinding flash of the world's first atomic bomb illuminated the New Mexico desert. Later that day, the cruiser *Indianapolis* sailed from San Francisco bound for the Pacific island of Tinian with half of the uranium core for the 'Little Boy' atomic bomb. Outside Berlin, as the US delegation prepared for the formal opening of the Potsdam Conference, new indications of Japanese peace feelers arrived in the hands of the Secretary of War. It was amid this hectic and far-flung series of events that the final high-level American discussions about nuclear targeting took place.

When news of the successful test in the desert outside Los Alamos arrived in Potsdam it had a dramatic effect on Truman and his inner circle. Their first reaction was elation brought on by the belief the bomb would not only help end the war with Japan, but also greatly strengthen Truman's negotiating position with respect to Stalin and the Soviet

⁹³Groves, 'Memo to Files', 14 June 1945, Groves 'Top Secret', file 25.

⁹⁴This information on Kokura is drawn from a target information sheet found in the Groves 'Top Secret' papers, file 25.

⁹⁵McCloy, 'Memorandum of Conversation with General Marshall May 29, 1945, 11:45 AM'.

⁹⁶Harrison to Stimson, 21 July 1945, War 35987, Harrison-Bundy, file 64.

Union.⁹⁷ But the dramatic results of the atomic test also triggered anxiety among those charged with authorizing the bomb's use against Japan. Truman wrote in his diary that: 'We have discovered the most terrible bomb in the history of the world. It may be the fire destruction [*sic*] prophesied in the Euphrates Valley Era, after Noah and his fabulous Ark.'⁹⁸

Meanwhile, the combination of the successful atomic test and news of Japanese peace feelers led the Secretary of War to propose modifying American surrender terms to allow retention of the Emperor as part of a peace offer prior to the use of the bomb.⁹⁹ Such an offer, had it been accepted, might have ended the war without either the atomic bomb or the Allied invasion scheduled for November 1945. Truman and Byrnes, however, rejected issuing either a public or private statement on the future on the Japanese Emperor prior to the use of the bomb.¹⁰⁰

Perhaps upset by Truman's failure to pursue a diplomatic settlement prior to use (and with plenty of time on his hands given his otherwise marginal status at the conference), Stimson revisited the entire question of nuclear targeting while at Potsdam. On 22 July, one day after summarily rejecting Groves' plan to restore Kyoto to the target list, Stimson summoned AAF Chief of Staff Arnold for an hour-long discussion about the use of the bomb with an emphasis (as described in Arnold's diary) on 'Where, why and what effects'. The next day, they met again to discuss targeting, including the bomb's effects on 'surrounding communities'. Arnold later explained that among Stimson's concerns that day was 'the killing of women and children'.¹⁰¹

In response to the Secretary of War's insistent queries on targeting, Arnold ordered one of his aides to fly back to Washington immediately to consult with Groves and General Carl A. Spaatz (who was about to leave for the Pacific to take command of the strategic air wing charged with delivering the bomb).¹⁰² When an insistent Stimson badgered Arnold about targets for a third consecutive day, he demurred and told

⁹⁷Stimson Diary, 21 July 1945.

⁹⁸Truman Diary, 25 July 1945, reproduced in Dennis K. Merrill (ed.), *Documentary History of the Truman Administration*, Vol. 1, *The Decision to Drop the Atomic Bomb on Japan* (Bethesda, MD: Univ. Publications of America 1995), 156

⁹⁹Stimson, 'Memorandum for the President: The Conduct of the War with Japan', enclosed in Stimson to Byrnes, 16 July 1945, Henry Lewis Stimson Papers, Manuscripts and Archives, Yale Univ. Library, New Haven, CT (hereafter Stimson Papers).

¹⁰⁰Stimson Diary, 17, 24 July 1945. For discussion of Byrnes' motives at Potsdam, see David Robertson, *Sly and Able: a Political Biography of James F. Byrnes* (New York: Norton 1994), 391, 412–13, 417–19, 435–6.

¹⁰¹Arnold Diary, 22, 23 July 1945; Arnold, *Global Mission*, 589.

¹⁰²Col. Jack Stone's mission to Washington was outlined in a cable from Marshall to Handy, 22 July 1945, Harrison–Bundy, file 64.

the Secretary that he would simply have to await the outcome of the informal consultations in Washington. Arnold later claimed that during meetings with Stimson and Marshall at Potsdam he had suggested using the bomb against a Japanese harbor.¹⁰³ If so, Arnold's suggestion would have been consistent with earlier military thinking about nuclear weapons that predated the drift toward city targeting at Los Alamos.

On 24 July, Groves finally dispatched a draft directive to Stimson and Marshall at Potsdam. The directive would, upon approval from the Secretary of War, authorize the 509th Composite Group to deliver a bomb against Hiroshima, Kokura, Niigata, or Nagasaki 'after about 3 August' with 'additional bombs...delivered on the above targets as soon as made possible by project staff'.¹⁰⁴ The choice among which of the listed cities to strike first and the exact timing of both the initial and any subsequent attacks was to be left to the field commanders in the Pacific. The cities of Hiroshima and Niigata were holdovers from the Target Committee's initial recommendations of 28 May. Kokura and its massive arsenal were also included, presumably in response to Marshall's instructions. Nagasaki, the one new target, was added after Groves finally gave up on getting approval to strike Kyoto.

Truman met individually with Marshall and Stimson on 24–25 July to discuss targeting and presumably the Groves directive authorizing predelgation of the bomb for use against Japanese cities.¹⁰⁵ Following these meetings, Truman recorded his thoughts on targeting in his diary:

I have told the Sec. of War, Mr. Stimson to use it so that military objectives and soldiers and sailors are the target and not women and children. Even if the Japs are savages, ruthless, merciless, and fanatic, we as the leader of the world for the common welfare cannot drop this terrible bomb on the old Capitol [Kyoto] or the new [Tokyo]. He [Stimson] and I are in accord. The target will be a purely military one and we will issue a warning statement asking the Japs to surrender and save lives.¹⁰⁶

Taken at face value, this diary entry would seem to indicate the Truman was fully aware of the bomb's potential power and wanted to avoid using it against cities and civilians. In his emphasis on a selecting a 'purely military' target and his concern over killing 'women and children', Truman almost precisely echoed earlier concerns expressed

¹⁰³Arnold Diary, 24 July 1945; Arnold, *Global Mission*, 492, 590–1.

¹⁰⁴Handy to Marshall, 24 July 1945, Harrison–Bundy, file 64.

¹⁰⁵Arnold Diary, 25 July 1945; Kyle Notes, 25 July 1945, Stimson Papers.

¹⁰⁶Truman Diary, 25 July 1945, Merrill, *Decision to Drop the Atomic Bomb on Japan*, 156.

by Marshall and Stimson. This pre-Hiroshima statement also echoes some of the President's private post-Hiroshima regrets over killing 'all those kids'.¹⁰⁷

Other than this single diary entry, however, there is no other pre-Hiroshima evidence to indicate that Truman harbored moral concerns about the use of the bomb. Absent a contemporary account of the targeting discussions at Potsdam, it is impossible to definitively evaluate Truman's attitude toward nuclear targeting. The outlines, however, are clear. Contrary to claims by some historians, the President was indeed troubled by the prospect using nuclear weapons against Japanese civilians prior to Hiroshima, as indicated by his private insistence that 'women and children' not be targeted.¹⁰⁸ Ultimately, however, his desire to make use of those weapons as soon as possible in order to end the war with Japan and strengthen his hand in postwar dealing with the Soviets prevented him from acting on these concerns.

In making his decision, Truman, like Stimson, indulged in a willing self-deception encouraged by misleading information about the targets and the way that they were to be attacked. The language of the target reports furnished to American leaders at Potsdam heavily emphasized the military-industrial character of the targeted cities.¹⁰⁹ For a President anxious about the mass killing of civilians but unwilling to delay or derail a multi-billion dollar project that had produced weapons optimized for use against cities, these descriptions likely offered a welcome rationalization for the strategy of city targeting. There is no indication that Truman or his top advisors at Potsdam were told that mission planners in the Pacific would be choosing aim points with the goal of maximizing overall destruction at the expense of damaging or destroying the major war-related industries in three of the four targeted cities (Kokura and its arsenal being the exception).

Any last minute reservations that Truman might have entertained about city targeting were overwhelmed by the rush of events in late July. The President and his advisors had pushed the scientists at Los Alamos to speed up the 'Trinity' test so that they would have

¹⁰⁷Henry Wallace Diary, 10 Aug. 1945. For more evidence on Truman's postwar qualms about the use of the bomb see Alperovitz, *Decision to Use the Atomic Bomb*, 462–70.

¹⁰⁸For claims that Truman was untroubled by the use of the bomb prior to Hiroshima see Alperovitz, *Atomic Diplomacy*, 52, 285; Alperovitz, *Decision to Use the Atomic Bomb*, 527; Arnold A. Offner, *Another Such Victory: President Truman and the Cold War, 1945–1953* (Palo Alto: Stanford UP 2002), 92; Ronald Takaki, *Hiroshima: Why America Dropped the Bomb* (Boston: Little, Brown 1995), 9–10, 99–100, 146.

¹⁰⁹See the July 1945 target sheets in Groves, 'Top Secret', file 25 and Jack Stone to Henry Arnold, 'Groves Project,' 24 July 1945, Groves, 'Top Secret,' file 5.

(in Stimson's words) a 'master card' to play in negotiations with Stalin at the Potsdam conference.¹¹⁰ The pressure only mounted after the successful test in New Mexico. The President was eager to use the bomb against Japan soon after the surrender ultimatum issued at Potsdam on 26 July.¹¹¹ Truman and Byrnes also hoped that the speedy use of the bomb would help force a Japanese surrender prior to Soviet entry into the war in the Pacific. The high-level push use the weapon as soon as possible, combined with anxiety about the notoriously bad summer weather over Japan, ruled out any last minute changes with respect to either the design or use of the city-busting weapons designed and produced at Los Alamos.

August 1945: Hiroshima and Nagasaki by Way of Tinian

On 25 July 1945, following meetings with Stimson and Truman, Marshall sent a one-line telegram to Washington: 'Reference to your WAR 37683 of July 24, S/W [Secretary of War] approves Groves directive.'¹¹² With that brief message, control of the bombs and their delivery was turned over to Spaatz and through him to the 509th Composite Group on Tinian.

As the 509th awaited favorable weather over Japan for a visual drop, there were still last minute decisions to be made about targeting. From the four cities authorized in the Groves directive, mission planners for the 509th immediately discarded Niigata as a possible target. It was believed that the physical layout of Niigata would not allow for a sufficiently dramatic demonstration of the bomb's blast effects.¹¹³ Then, on 31 July, Spaatz raised concerns about the remaining cities in two urgent messages to Washington. The US Army Strategic Air Forces commander was concerned by intelligence reports that indicated the presence of Allied prisoner of war (POW) camps in all of the cities listed in the directive with the exception of Hiroshima. He wanted high-level guidance before proceeding with the use of nuclear weapons against cities that might harbor Allied POWs.¹¹⁴ After some debate about whether Stimson should be asked to make the final decision, Groves took it upon himself to order Spaatz to continue with the operation as planned. Spaatz was instructed that 'Targets previously

¹¹⁰Stimson Diary, 15 May 1945; Norris, *Racing for the Bomb*, 400.

¹¹¹Stimson, 'Notes for Diary', 23 July 1945, Stimson Papers.

¹¹²Marshall to Handy, 25 July 1945, Harrison-Bundy, file 64.

¹¹³509th Mission Planning Summary, 41, 46.

¹¹⁴Messages number 1005 and 1007, Spaatz to Handy, 31 July 1945, Groves, 'Top Secret', file 5D. Barton J. Bernstein discussed this issue in 'Doomsday II', *New York Times Magazine*, 27 July 1975, 22, 28.

assigned . . . remain unchanged’, though he might choose Hiroshima as the first target given its apparent lack of POW camps.¹¹⁵

As suggested at the 28 May meeting of the Target Committee, the selection of aim points within the targeted cities was left to field commanders in the Pacific, with the caveat that they should be located so as to maximize damage to the city as a whole. The exact aim points were selected by the air crews on Tinian with input from British scientist William G. Penny.¹¹⁶ For the air crews, the primary consideration in picking aim points was they be easy to spot from 30,000 feet. In the case of Hiroshima, bombardier Thomas W. Ferebee and navigator Theodore Van Kirk selected the Aioi Bridge over the Ota river as the aim point because of its easily-recognizable ‘T’ shape and its location in the center of the city.¹¹⁷ The ‘Enola Gay’ under the command of Tibbets took off from Tinian on 5 August 1945 with the ‘Little Boy’ uranium bomb onboard. Also onboard was William Parsons, the ‘weaponeer’ in charge of arming the bomb in flight. The man who had played a crucial role in designing a weapon for use against cities at Los Alamos would now oversee its use against Japan. As anticipated by Parsons, the 15 kiloton (kt) air burst explosion devastated the lightly-built area of Hiroshima’s city center while leaving the major war plants located on the city’s periphery largely untouched.¹¹⁸

Operating under the predelgation authority granted in the 25 July directive, preparations for the use of a second atomic bomb (the plutonium implosion ‘Fat Man’) continued on Tinian even as the world struggled to grasp the revolutionary implications of the first bomb. The primary target for the second bomb was Kokura, with the aim point located within the city’s massive Arsenal.¹¹⁹ When pilot Charles Sweeney and the crew of the B-29 ‘Bock’s Car’ were unable to locate the Arsenal due to smoke from fires burning in nearby Yawata they proceeded to the secondary target of Nagasaki. The aiming point in

¹¹⁵Pasco to Spaatz, 31 July 1945, Groves, ‘Top Secret’, file 5D. Gregg Herken, *The Winning Weapon: The Atomic Bomb in the Cold War* (New York: Knopf 1980), 3. See also, Robert Karl Manoff, ‘American Victims of Hiroshima’, *New York Times Magazine*, 2 Dec. 1984.

¹¹⁶Harlow W. Russ, *Project Alberta: The Preparation of the Atomic Bombs for use in World War II* (Los Alamos, NM: Exceptional Books 1990), 57.

¹¹⁷Craven and Cate, eds., *The Pacific: Matterhorn to Nagasaki*, 721, 725; Norris, *Racing for the Bomb*, 657, n.41; Bernstein, ‘Reconsidering the “Atomic General”’, 904.

¹¹⁸US Strategic Bombing Survey, *The Effects of Atomic Bombs on Hiroshima and Nagasaki*, 8, 41. The yield estimate is from John Malik, *The Yields of the Hiroshima and Nagasaki Explosions* (Los Alamos, NM: Los Alamos National Laboratory 1986), 1.

¹¹⁹509th Mission Planning Summary, 46.

Nagasaki was located in the downtown residential section on the eastern side of the city's harbor.¹²⁰ With fuel running low and near solid cloud cover obscuring Nagasaki, Sweeny and Ashworth agreed that they would drop the bomb by radar if necessary. At the last instant, a hole in the cloud cover allowed bombardier Thomas Beehan to select a new aim point and drop the bomb visually.

Rather than exploding over the Nagasaki's residential area as originally planned, the bomb fell several miles to the north in the industrial area of the Urakami valley. By sheer chance, the bomb exploded between two major war plants. Surrounding hills helped to shield Nagasaki's main residential area from the worst effects of the blast. Though at 21 kilotons the plutonium 'Fat Man' was considerably more powerful than the uranium 'Little Boy', this accident of weather and topography meant that the immediate fatalities at Nagasaki were only half those at Hiroshima.¹²¹ This proved to be a lucky accident not only for the citizens of Nagasaki, but also for American leaders increasingly anxious about civilian deaths inflicted by the atomic bombs.

Fallout: Truman Reasserts Control

Truman and his advisors grappled with a series of choices about nuclear weapons in the aftermath of Hiroshima and Nagasaki. One question concerned the potential use of a third bomb against Japan. Groves informed Marshall on 10 August that the next bomb could be ready for use as early as the 17th.¹²² On that same day, Spaatz and the field commanders in the Pacific discussed potential targets for a third bomb.¹²³ However, before preparations for a third atomic strike could proceed any further, Truman intervened to put a halt to nuclear bombing. In response to Groves' report of the accelerated timetable for the use of the third bomb, Marshall penned a note informing him that 'It is not to be released over Japan without express authority from the President.'¹²⁴

¹²⁰On the Nagasaki aim point, see 509th Mission Planning Summary, 50; Groves, *Now It Can Be Told*, 343, 345; Norris, *Racing for the Bomb*, 666, n.84-5; Fredrick Ashworth, 'Dropping the Atomic Bomb on Nagasaki', *United States Naval Institute Proceedings* 84/1 (Jan. 1958), 17; Fred J. Olivi, *Decision at Nagasaki: That Mission That Almost Failed* (self published 1999), 124, 150; John Coster-Mullen, *Atomic Bombs: The Top Secret Inside Story of Little Boy and Fat Man* (self published 2003), 75.

¹²¹Malik, *Yields of the Hiroshima and Nagasaki Explosions*, 1.

¹²²Groves, 'Memorandum to the Chief of Staff [Marshall]', 10 Aug. 1945, Groves 'Top Secret', file 5B.

¹²³Spaatz to Norstad, 10 Aug. 1945, Spaatz Papers, box 21.

¹²⁴Handwritten notation by Marshall on Groves, 'Memorandum to the Chief of Staff [Marshall]', 10 Aug. 1945.

Marshall's note revoked the predelegation order of 25 July and placed any future use of the atomic bomb under the direct control of the President. In part this was prompted by Japan's offer of a conditional surrender contingent upon retention of the Emperor, news of which reached Washington on 10 August. Truman's decision to revoke predelegation authority for the use of nuclear weapons also appears to have been motivated by renewed concerns about the mass killings of civilians. Upon viewing pictures of the destruction of Hiroshima with Secretary of War Stimson, Truman remarked upon 'the terrible responsibility that such destruction placed upon us here and himself'.¹²⁵ In announcing his decision to halt atomic bombing on 10 August, the President lamented that 'the thought of wiping out another 100,000 people was too horrible' and specially cited his aversion to killing 'all those kids'.¹²⁶ In a letter to Senator Richard Russell, Truman voiced similar sentiments, declaring that while he hoped to save 'as many American lives as possible . . . I also have a humane feeling for the women and children in Japan'.¹²⁷

According to Groves, Marshall also expressed qualms over the killings of civilians in the tense days between the destruction of Nagasaki and the final Japanese surrender on 15 August.¹²⁸ And though Marshall did not directly challenge continued use of the bomb, after Nagasaki he did revive an earlier suggestion that nuclear weapons be stockpiled for tactical use against Japanese troops and fortifications in case the invasion still scheduled for November proved to be necessary.¹²⁹ This would not only have halted further attacks on cities and civilians, but also would have ensured that any future use of the bomb was directed at the kind of purely military targets that Marshall had originally favored. Meanwhile, in the Pacific, Spaatz expressed deep misgivings about the use of the first two bombs even as he participated in planning for use of a third.¹³⁰

The Japanese surrender on 15 August finally ended the quiet internal debate over what, if anything, should be done about the use of the additional atomic bombs. The end of the war did not, however, mark the end of the debate about the wisdom of targeting civilians with

¹²⁵Stimson, 'Memorandum of Conference with the President, Aug. 8, 1945', Stimson Papers.

¹²⁶Wallace Diary, 10 Aug. 1945.

¹²⁷Truman to Richard B. Russell, 9 Aug. 1945, Merrill, *Decision to Drop the Atomic Bomb on Japan*, 210.

¹²⁸Groves, *Now It Can Be Told*, 324.

¹²⁹Bernstein, 'Eclipsed by Hiroshima and Nagasaki', 150.

¹³⁰Spaatz Diary, 11 Aug. 1945; Telecon Conference, 14 Aug. 1945, Spaatz Papers, box 21, 'Aug. 1945 – Personal'.

atomic weapons. David Alan Rosenberg and other scholars have chronicled the postwar 'Origins of Overkill' in American nuclear doctrine, culminating in the 1960 Single Integrated Operational Plan (SIOP). This first SIOP projected the use of up to ten thermonuclear weapons on a single Soviet city and included enemy casualty estimates as high as 525 million, the vast majority of them civilians.¹³¹ Often overlooked, however, is the contingent nature of the original and precedent-setting decision to target Japanese cities during the dying days of World War II. The process by which Truman and his advisors ultimately allowed technical and political concerns to shape their use of the atomic bomb against cities and civilians offers important lessons for contemporary scholars and policymakers interested in nuclear issues.

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¹³¹David Allen Rosenberg, 'The Origins of Overkill: Nuclear Weapons and American Strategy, 1945–1960', *International Security* 7/4 (Spring 1983), 3–71.

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